

U.S. Department of Agriculture Rural Utilities Service

As locally revised

for PUBLIC UTILITIES BOARD of the City of Brownsville, Texas, for NON-Federally Funded
Projects



B R O W N S V I L L E
PUBLIC UTILITIES BOARD

**ELECTRIC SYSTEM CONSTRUCTION CONTRACT
(LABOR ONLY FOR
NON-SITE SPECIFIC CONSTRUCTION)**

P038-23

Due: May 22, 2023 at 2:00 PM

Open: May 22, 2023 at 2:30 PM

Eliazar Perez, P.E.

(956) 983-6258

**ELECTRIC SYSTEM CONSTRUCTION CONTRACT
(LABOR ONLY FOR
NON-SITE SPECIFIC CONSTRUCTION)**

INDEX

	Page
NOTICE AND INSTRUCTIONS TO BIDDERS	1
 PROPOSAL	
ARTICLE I – GENERAL	5
Section 1 – Offer to Construct	5
Section 2 – Materials and Equipment	6
Section 3 – Owner Furnished Materials	6
Section 4 – Proposal of Unit Basis	6
Section 5 – Description of Contract.....	7
Section 6 – Due Diligence	7
Section 7 – License	7
Section 8 – Warranty of Good Faith	7
Section 9 – Financial Resources	7
Section 10 – Taxes.....	8
Section 11 – Changes in Quantities	8
Section 12 – Transmission Work.....	8
 ARTICLE II – CONSTRUCTION	 8
Section 1 – Time and Manner of Construction.....	8
Section 2 – Environmental Protection	10
Section 3 – Tools, Equipment and Qualified Personnel	10
Section 4 – Changes in Construction.....	10
Section 5 – Construction Not in Proposal.....	11
Section 6 – Supervision and Inspection.....	11
Section 7 – Defective Materials and Workmanship	13
 ARTICLE III – PAYMENTS AND RELEASE OF LIEN.....	 13
Section 1 – Payments to Bidder	13
Section 2 – Release of Liens and Certificate of Contractor.....	15
Section 3 – Payments to Material Suppliers and Subcontractors	15
 ARTICLE IV – PARTICULAR UNDERTAKINGS OF THE BIDDER	 16
Section 1 – Protection to Persons and Property	16
Section 2 – Insurance	18
Section 3 – Delivery of Possession and Control to Owner	18
Section 4 – Energizing the Project.....	19
Section 5 – Assignment of Guarantees	19

	Page
ARTICLE V – REMEDIES.....	19
Section 1 – Completion of Bidder’s Default	19
Section 2 – Cumulative Remedies	20
ARTICLE VI – MISCELLANEOUS	20
Section 1 – Definitions.....	20
Section 2 – Materials and Supplies.....	21
Section 3 – Patent Infringement.....	21
Section 4 – Permits and Explosives	21
Section 5 – Compliance with Laws	21
Section 6 – Equal Opportunity Provisions.....	21
Section 7 – Franchises and Rights-of-Way	21
Section 8 – Nonassignment of Contract.....	21
Section 9 – Successors and Assigns.....	22
Section 10 – Independent Contractor.....	22
Section 11 – Acceptance by the Owner	22
Notice of Award	NA-1
Acceptance of Notice	NA-2
Notice to Proceed	NA-3
Construction Unit Price Schedule.....	BS-1 thru BS-2
URD New Construction and Replacement	BS-3 thru BS-14
Hourly Rate Schedule – Labor & Equipment	BS-15 thru BS-16
BPUB Competitive Sealed Proposal Addendum.....	BS-17 thru BS-34
BPUB General Conditions Addendum	GCA-1 thru GCA-20
Exhibit “A” – Section Notice to Proceed Example	
Foms Check List.....	Bid Form 1 thru Bid Form 14
Bid Bond.....	BB-1 thru BB-2
Contractor Pre-bid Disclosure.....	CPBD-1 thru CPBD-4
Sub-Contractor Pre-bid Disclosure	SCPB-1 thru SCPB-4
Performance Bond	PE-B-1 thru PE-B-3

Payment Bond..... PA-B-1 thru PA-B-3
Supplemental General Conditions SGC-1 thru SGC-11
Wage Determination 1 thru 5
Electric Technical Specifications..... TS-1 thru TS-15
BPUB Distribution Standards and Specifications

NOTICE AND INSTRUCTIONS TO BIDDERS

**** THIS IS A 100% NON-FEDERALLY FUNDED PROJECT ****

- 1. Sealed proposals for *ELECTRIC SYSTEM CONSTRUCTION CONTRACT (LABOR ONLY FOR NON-SITE SPECIFIC CONSTRUCTION) P038-23* with a maximum aggregate contract price not to exceed \$3,500,000, and a maximum annual aggregate contract price not to exceed \$2,187,500 of the **PUBLIC UTILITIES BOARD OF THE CITY OF BROWNSVILLE, TEXAS**, (hereinafter called the "Owner" or "BPUB") will be received by the Owner on or before 2 o'clock PM., May 22, 2023, at its office: **BPUB Purchasing Department office; 1155 FM 511, Olmito, Texas 78575**, at which time and place the proposals will be publicly opened and read. Any proposals received subsequent to the time specified will be promptly returned to the Bidder unopened.**
- 2. Owner Furnished Materials.** *The unit prices in the Contractor's Proposal are to include labor and equipment only. All non-consumable materials will be provided by Owner herein after "Owner Furnished Materials."*
- 3. Obtaining Documents.** The Plans, Specifications and Construction Drawings, together with all necessary forms and other documents for bidders may be obtained from the Owner at the following website: https://www.brownsville-pub.com/rfp_status/open/.

Questions concerning terms, conditions, and technical specifications should be directed to:

Hugo E. Lopez, Purchasing
Tel. (956) 983-6375

or

Diane Solitaire, Purchasing Manager
(956) 983-6366

- 4. Manner of Submitting Proposals.** *Proposals and all supporting instruments must be submitted on the forms furnished by the Owner and must be delivered in a sealed envelope addressed to the Owner. The name and address of the Bidder, its license number if a license is required by the State, and the date and hour of the opening of bids must appear on the envelope in which the Proposal is submitted. Proposals must be completed in ink or typewritten. No alterations or interlineations will be permitted, unless made before submission, and initialed and dated. The successful Bidder will be required to execute two additional counterparts of the Proposal.*

Submit the original (and its accompanying copy) signed Bid to:

Public Utilities Board of the
City of Brownsville, Texas
1155 FM 511,
Olmito TX 78575

Attention: Diane Solitaire
Purchasing Department

5. **Due Diligence.** *Prior to the submission of the Proposal, the Bidder shall make and shall be deemed to have made a careful examination of the site of the project and of the Plans, Specifications, Construction Drawings, and forms of Contractor's Proposal and Contractor's Bond, and shall review the location and nature of the proposed construction, the transportation facilities, the kind and character of soil and terrain to be encountered, the kind of facilities required before and during the construction of the project, general local conditions, environmental and historic preservation considerations, and all other matters that may affect the cost and time of completion of the project. Bidder will be required to comply with all federal, state, and local laws, rules, and regulations applicable to its performance, including those pertaining to the licensing of contractors, and the Anti Kick-Back Act of 1986 (41 U.S.C. 51 et seq).*
6. **Proposals.** See BPUB COMPETITIVE SEALED PROPOSAL ADDENDUM. This is request for competitive sealed proposal (RFP) under BPUB's Purchasing Policies and Procedures for Electric Services as a municipally owned electric utility under TLGC 252.022I. The BPUB, through the use of this document, will competitively select the proposal which offers the best value for the BPUB based on the criteria and ranking as shown herein.¹
7. **The Time for Completion of Construction** *of the project is of the essence of the Contract and shall be as specified in each Section Notice to Proceed.*
8. **Bid Bond.** *Each bid must be accompanied by a certified or cash'er's check, or a bid bond prepared on the form of the bid bond attached hereto, duly executed by the BIDDER as principal and having as surety therein a surety company approved by the OWNER, and authorized to do business in the State of Texas, in the amount of not less than five (5%) percent of **maximum annual aggregate contract price of a not to exceed amount of \$2,187,500.** Such checks, or bid bonds will be returned to all except the three lowest BIDDERS within fifteen (15) days after the opening of bids, and the remaining checks, or bid bonds will be returned promptly after the OWNER and the accepted BIDDER have executed the contract or if no award has been made, within thirty (30) days after the date of the opening of bids. The bid security will be returned upon demand of the BIDDER at any time thereafter, so long as he has not been notified of the acceptance of his bid. The successful BIDDER, upon his failure or refusal to execute and deliver the contract, bonds and insurance certificates required within ten (10) days after he has received notice of the acceptance of his bid, shall forfeit to the OWNER, as liquidated damages (and not as a penalty) for such failure or refusal, the security deposited with his bid.²*
9. **Contractor's Bond.** See BPUB GENERAL CONDITIONS ADDENDUM: Payment and Performance Bond. The contractor shall provide payment and performance bonds, based on the amount or estimated amount of any future Section. For the purpose of this Proposal, Bidder shall attach a letter of intent from a qualifying surety company indicating the applicant's bond ability for this project of no less than the **maximum annual aggregate contract price not to exceed \$2,187,500** under this contract.³

¹ Local BPUB revision for NON-Federal Funded Projects.

² Local BPUB revision for NON-Federal Funded Projects.

³ Local BPUB revision for NON-Federal Funded Projects.

- 10. Failure to Furnish Contractor's Bond.** See BPUB GENERAL CONDITIONS ADDENDUM: Payment and Performance Bond
- 11. Debarment Certification.** See BPUB COMPETITIVE SEALED PROPOSAL ADDENDUM: Required Form
- 12. Contract is Entire Agreement.** The Contract to be effected by the acceptance of the Proposal shall be deemed to include the entire agreement between the parties thereto, and the Bidder shall not claim any modifications thereof resulting from any representation or promise made at any time by any officer, agent or employee of the Owner or by any other person.
- 13. Minor Irregularities.** The Owner reserves the right to waive minor irregularities or minor errors in any Proposal, if it appears to the Owner that such irregularities or errors were made through inadvertence. Any such irregularities or errors so waived must be corrected on the Proposal in which they occur prior to the acceptance thereof by the Owner.
- 14. Bid Rejection.** The Owner reserves the right to reject any or all Proposals.
- 15. Discrepancy in Unit Prices.** Reserved for labor only contract.⁴
- 16. Definition of Terms.** The terms "Administrator," "Engineer," "Completion of Construction," and "Completion of the Project" as used throughout this Contract shall be as defined in Article VI, Section I, of the Proposal.
- 17. The Owner Represent:**
- a. If by provisions of the Proposal the Owner shall have undertaken to furnish any materials for the construction of the project, such materials are on hand at locations specified or if such materials are not on hand, they will be made available by the Owner to the successful Bidder at the locations specified before the time such materials are required for construction.
 - b. All titles, easements and rights-of-way, except as shown on maps included in the Plans and Specifications, have been obtained from the owners of the properties on which the project is to be constructed (including tenants who may reasonably be expected to object to such construction). The remaining easements and rights-of-way, if any, will be obtained as required to avoid delay in construction.
 - c. All staking, except as shown on the maps included in the Plans and Specifications, has been completed and sufficient staking crews will be available to maintain stakes at all times in advance of construction.
 - d. Where underground distribution construction is required, permission has been obtained from state and local highway and road authorities to install underground distribution power facilities and set pedestals, if any, on the highway and road right-of-way in the project area. Notwithstanding such permission granted to the Owner, each Bidder is responsible for ascertaining that the equipment, methods of construction, and repair proposed to be used on the project will meet all requirements of public authorities

⁴ Local BPUB revision for NON-Federal Funded Projects.

having jurisdiction over highway and road right-of-way. The successful Bidder will be required to furnish proof satisfactory to the Owner of compliance with this requirement. If required by highway or road authorities, the successful Bidder will furnish to such authorities a bond or meet other guaranty requirements to assure the prompt repair of all damages to highways and roads and their associated rights-of-way caused by the Bidder during construction of the project. This requirement is in addition to and independent of the Contractor's Bond required under this Contract. The acceptance of a bid from any Bidder is not to be construed as approval of the Bidder's equipment or proposed construction methods by or on behalf of the highway and road authorities. Bidders may obtain information concerning the requirements of highway and road authorities by contacting them directly.

All funds necessary for prompt payment for the construction of the project will be available.

If the Owner shall fail to comply with any of the undertakings contained in the foregoing representation or if any of such representations shall be incorrect, the Bidder will be entitled to an extension of time of completion for a period equal to the delay, if any, caused by the failure of the Owner to comply with such undertakings or by any such incorrect representation; provided the Bidder shall have promptly notified the Owner in writing of its desire to extend the time of completion in accordance with the foregoing; provided, however, that such extension, if any, of the time of completion shall be the sole remedy of the Bidder for the Owner's failure, because of conditions beyond the control and without the fault of the Owner, to furnish materials in accordance with subparagraph "a.", above.

**ELECTRIC SYSTEM CONSTRUCTION CONTRACT
(LABOR ONLY FOR
NON-SITE SPECIFIC CONSTRUCTION)**

PROPOSAL

TO: Public Utilities Board of the City of Brownsville, Texas (hereinafter called the "Owner").

ARTICLE-I - GENERAL

Section 1. Offer to Construct. *The undersigned (hereinafter called the "Bidder") hereby proposes to receive and install such materials and equipment as may hereinafter be specified to be furnished by the Owner, and to furnish all other materials and equipment, all machinery, tools, labor, transportation and other means required to construct the project in strict accordance with the BPUB GENERAL CONDITIONS ADDENDUM (which shall take precedence and control over any conflicting provisions in this Proposal), Plans, Specifications and Construction Drawings for the prices hereinafter stated. The Bidder understands and agrees that the Project will consist of line extensions and additions and line changes or similar work usually associated with overhead or underground distribution and/or transmission system improvement or extension work to be completed during normal and abnormal weather events, and the work will be located within the area served or ultimately to be served by the Owner and that the exact location and scope of individual sections of the Project (hereinafter called "Sections") will be made known to the Bidder from time to time as provided in Article II, Section 1 hereof and on a form similar to "EXHIBIT "A" – SECTION NOTICE TO PROCEED EXAMPLE" attached hereto to the BPUB General Conditions Addendum issued by the Owner setting out the scope, location, specific specifications and start and completion time of the Section.⁵ The Contractor shall not be obligated to start construction of any Section unless the cost of construction of the Section computed on the unit prices of this Proposal shall amount to at least **One Thousand Five Hundred and No/100 Dollars (\$1,500.00)** and provide further that the Owner shall be obligated to release to the Contractor for Construction at least one Section pursuant to the provisions of this Proposal.⁶*

The total length of the project lines shall be determined by taking the sum of all straight horizontal span distances between pole stakes or from center to center of poles, or centerline of structures, carrying conductors, plus the length of service drops, if any, measured horizontally from center of last pole to the point of attachment to the consumer's building.

*The initial term of this contract will be for **two (2) years** from the date of award. Brownsville PUB may, unilaterally, extend the contract with the option to renew for*

⁵ Local BPUB revision for NON-Federal Funded Projects.

⁶ Local BPUB revision for NON-Federal Funded Projects.

three (3) additional one (1) year periods if price and services are satisfactory and agreed upon in writing by both parties.⁷

Section 2. Materials and Equipment. *The Bidder agrees to use only Owner Furnished Materials in the construction of the project.*⁸

Section 3. Owner Furnished Materials. *The Bidder understands and agrees that, if this Proposal is accepted, the Owner will furnish to the Bidder all non-consumable and non-expendable materials required in the specifications and standards for each Section issued under this contract which will be hereinafter referred to as “Owner Furnished Materials.” The Bidder will acknowledge in writing the receipt of all materials received as indicated on the List. The materials referred to are on hand at, or will be delivered to, the locations specified in the List and the Bidder will use such materials in constructing the project.*

*Materials, if any, not required for the project, which have been furnished to the Bidder by the Owner, shall be returned to the Owner by the Bidder upon completion of construction of the project or each Section. The value of all materials not installed in the project nor returned to the Owner shall be deducted from the final payment to the Bidder.*⁹

The Owner shall not be obligated to furnish materials in excess of the quantities, size, kind and type set forth in the attached Lists. If the Owner furnishes, and the Bidder accepts, materials in excess thereof the values of such excess materials shall be their actual cost as stated by the Owner.

Information on the shipping schedules of “Owner Furnished Materials” will be furnished to the Bidder as necessary during progress of the work.

Upon delivery, the Bidder shall promptly receive, unload, transport and handle all “Owner Furnished Materials” at its expense and shall be responsible for demurrage, if any.

Section 4. Proposal on Unit Basis. *The Bidder understands and agrees that the various Construction Units on which bids are made are defined by symbols and descriptions in this Proposal, that all said bids are on a unit basis, and that the Owner may specify any number or combination of Construction Units that the Owner may deem necessary for the construction of the project. Separate Construction Units are designated for each different arrangement which may be used in the construction of the project. This Proposal is based on a consideration of each unit in place and includes only the materials listed on the corresponding Construction Drawings or description of unit where no drawing exists.*

⁷ Local BPUB revision for NON-Federal Funded Projects.

⁸ Local BPUB revision for NON-Federal Funded Projects.

⁹ Local BPUB revision for NON-Federal Funded Projects.

Section 5. Description of Contract. *The Notice and Instructions to Bidders, BPUB Bidding Addendum, BPUB General Conditions Addendum, BPUB’s Supplemental Conditions for Wage and Labor Provisions for 100% Non-Federally Funded Construction, Payment and Performance Bond, Plans, Specifications, and Construction Drawings, which by this reference are incorporated herein, together with the Proposal and Acceptance constitute the “Contract” or “Contract Documents.” The Plans, Specifications, and Construction Drawings, including maps, special drawings, and approved modifications in standard specifications are attached hereto and identified as follows:*

- **BPUB Technical Specifications for Electrical Utility Work** available online at: https://www.brownsville-pub.com/rfp_status/open, or from BPUB’s Purchasing Department.
- **BPUB Distribution Construction Standards** available online at: https://www.brownsville-pub.com/rfp_status/open, or from BPUB’s Purchasing Department.
- **Bond Forms:** attached hereto or available at https://www.brownsville-pub.com/rfp_status/open, or from BPUB’s Purchasing Department
- **Section Notice to Proceed** issued by Owner pursuant to this Contract: example attached hereto as Exhibit “A” to the BPUB General Conditions Addendum.

Section 6. Due Diligence. *The Bidder has made a careful examination of the site of the project to be constructed and of the Plans, Specifications, Construction Drawings, and form of Contractor’s Bond attached hereto, and has become informed as to the location and nature of the proposed construction, the transportation facilities, the kind and character of soil and terrain to be encountered, and the kind of facilities required before and during the construction of the project, and has become acquainted with the labor conditions, federal, state, and local laws, rules, and regulations applicable to its performance.*

Section 7. License. *The Bidder warrants that a Contractor’s License is___, is not XX required, and if required, it possesses Contractor’s License No. _____for the State of _____in which the project is located and said license expires on_____, 20____.*

Section 8. Warranty of Good Faith. *The Bidder warrants that this Proposal is made in good faith and without collusion or connection with any person or persons bidding for the same work.*

Section 9. Financial Resources.

- a. *The Bidder warrants that it has or will obtain the financial resources necessary to ensure completion of the project.*
- b. *The Bidder agrees that in the event this Proposal is accepted and a Contractor’s Bond is required, it will furnish a Contractor’s Bond in the form attached hereto, in a penal sum not less than the maximum Contract price, with a surety or sureties listed by the United States Department of Treasury as Acceptable Sureties.*

Section 10. Taxes. *The unit prices for Construction Units in this Proposal include provisions for the payment of all monies which will be payable by the Bidder or the Owner in connection with the construction of the Project on account of taxes imposed by any taxing authority upon the sale, purchase or use of materials, supplies and equipment, or services or labor of installation thereof to be incorporated in the project as part of such Construction Units. The Bidder agrees to pay all such taxes, except taxes upon the sale, purchase or use of Owner Furnished Materials. The Bidder will furnish to the appropriate taxing authorities all required information and reports pertaining to the project, except as to the Owner Furnished Materials.*

Section 11. Changes in Quantities. *The Bidder understands and agrees that the quantities called for in this Proposal are approximate and that the total number of units upon which payment shall be made shall be as set forth in the inventory. If the Owner changes the quantity of any unit or units specified in this Proposal by more than fifteen percent (15%) and the materials cost to the Bidder is increased thereby to an extent which would not be adequately compensated by application of the unit prices in this Proposal to the revised quantity of such unit or units, such change, to the extent of the quantities of such units in excess of such fifteen percent (15%) shall be regarded as a change in the construction within the meaning of Article II, Section 1(d) of this proposal.*

Section 12. Transmission Work.¹⁰ *This contract will require the availability of at least one fully equipped transmission crew. In the event that BPUB requires services involving BPUB transmission assets, BPUB will notify the Bidder in writing forty (40) days in advance of when services are required, or within forty-eight (48) hours of a Storm Event. When such requests are made by the BPUB, Bidder will provide an hourly estimate using transmission personnel and equipment rate schedule complying with Article II, Section 5(a)(b)(c). This shall be done prior to BPUB releasing any Notice(s) to Proceed.*

ARTICLE II - CONSTRUCTION

Section 1. Time and Manner of Construction.

- a. *The Bidder agrees to commence construction of the project on a date (hereinafter called the "Commencement Date") which shall be determined by the Engineer after notice to the bidder in writing of acceptance of the proposal by the Owner and notice in writing from the Bidder that the Bidder has sufficient labor to warrant commencement and continuation of construction, but in no event will the Commencement Date be later than thirty (30) calendar days after acceptance of the proposal or issuance of any Section Notice to Proceed by the Owner. The Bidder further agrees to prosecute diligently and to complete construction in strict accordance with the Plans, Specifications and construction Drawings prior to the Completion Date indicated on any Section Notice to Proceed issued by the owner¹¹: Provided, however, that the Bidder will not be required to dig holes, set poles,*

¹⁰ Local BPUB revision for NON-Federal Funded Projects.

¹¹ Local BPUB revision for NON-Federal Funded Projects.

install anchors, install underground conduit, perform any plowing for the installation of underground cable, or dig trenches if there are more than six (6) inches of frost on the ground nor to perform any construction on such days when in the judgment of the Engineer snow, rain, or wind, or the results of snow, rain, or frost make it impracticable to perform any operation of construction; provided further that the Bidder will not be required to perform any plowing for the installation of underground cable on public roads or highways if there are more than two (2) inches of frost in the ground. To the extent of the time lost due to the conditions described herein and approved in writing by the Engineer, the time of completion set out above will be extended if the Bidder makes a written request therefore to the Owner as provided in subsection b. of this Section 1.

- b. The time for Completion of Construction shall be extended for the period of any reasonable delay which is due exclusively to causes beyond the control and without the fault of the Bidder due to Acts of God,¹² inability to obtain materials and acts or omissions of the Owner with respect to matters for which the Owner is solely responsible: Provided, however that no such extension of time for completion shall be granted the Bidder unless within ten (10) days after the happening of any event relied upon by the Bidder for such an extension of time the Bidder shall have made a request therefore in writing to the Owner, and provided further that no delay in such time of completion or in the progress of the work which results from any of the above causes except acts or omissions of the Owner, shall result in any liability on the part of the Owner.*
- c. The sequence of construction shall be as set forth below, the number or names being the designations of extensions or areas (hereinafter called the "Sections") corresponding to the numbers or names shown on the maps attached hereto, or if no Sections are set forth below, the sequence of construction shall be as determined by the Bidder, subject to the approval of the Engineer.*

To be determined by Owner and provided in each issued Section Notice to Proceed.

- d. The Owner, acting through the Engineer, may from time to time during the progress of the construction of the project make such changes, additions or subtractions from the Plans, Specifications, Construction Drawings, List of Materials and sequence of construction provided for in the previous paragraph which are part of the Contractor's Proposal as conditions may warrant: Provided, however, that if any change in the construction to be done shall require an extension of time, a reasonable extension will be granted if the Bidder shall make a written request therefore to the Owner within (10) days after any such change is made. And provided further, that if the cost to the Bidder of construction of the project shall be materially increased by any such change or addition, the Owner shall pay the Bidder for the reasonable cost thereof in accordance with a Construction Contract Amendment signed by the Owner and the Bidder, but no claim for additional compensation for any such change or addition will be considered unless the Bidder*

¹² Local BPUB revision for NON-Federal Funded Projects.

shall have made a written request therefore to the Owner prior to the commencement of work in connection with such change or addition.

- e. *It is understood and agreed that, notwithstanding any other provisions of this Contract, the Bidder will not be required to commence any construction after the expiration of four (4) year(s) following acceptance of this Proposal by the Owner.*
- f. *OWNER and CONTRACTOR recognize that TIME IS OF THE ESSENCE of this Agreement and any Section issued thereunder and that OWNER will suffer financial loss if the Work elements are not substantially complete within the time specified in any Section Notice to Proceed, plus any extensions thereof allowed in accordance with Section 1 herein. They also recognize the delays, expense and difficulties involved in proving in a legal proceeding the actual loss suffered by OWNER if the work in each sub-project is not substantially complete on time. Accordingly, instead of requiring such proof, OWNER and CONTRACTOR hereby mutually agree that as liquidated damages for the delay (but not as a penalty) CONTRACTOR shall pay OWNER, BPUB, **Five Hundred Dollars (\$500.00)** for each calendar day that expires after the time specified for substantial completion in each Section Notice to Proceed issued by Owner, until the Work in that Section is substantially complete.¹³*

Section 2. Environmental Protection. *The Bidder shall perform the work in compliance with all applicable Federal, State, and local Environmental Laws. For purposes of this Agreement, the term “Environmental Laws” shall mean all Federal, state, and local laws including statutes, regulations, ordinances, codes, rules, and other governmental restriction and requirements relating to the environment or solid waste, hazardous substances, hazardous waste, toxic or hazardous material, pollutants or contaminants including, but not limited to the Comprehensive Environmental Response, Compensation, and Liability Act, as amended, 42 U.S.C. §§ 9601, et seq., the Federal Water Pollution Control Act, as amended, 33 U.S.C. §§ 1251, et seq., and the Solid Waste Disposal Act, as amended, 42 U.S.C. §§ 6901, et seq., now or at any time hereafter in effect.*

Section 3. Tools, Equipment, and Qualified Personnel. *The Bidder agrees that in the event this Proposal is accepted it will make available for use in connection with the proposed construction all necessary tools and equipment and qualified supervisors and workers.*

Section 4. Changes in Construction. *The Bidder agrees to make such changes in construction previously installed in the project by the Bidder as required by the Owner for prices arrived at as follows:*

- a. *For substations and other units where only a portion of the complete unit is affected by the change, the compensation for such change shall be as agreed upon in writing by the Bidder and the Owner prior to the commencement of work in connection with such change.*

¹³ Local BPUB revision for NON-Federal Funded Projects.

- b. *For all other units, the compensation for such change shall be the reasonable cost thereof as agreed upon by the Bidder and the Owner, but in no event shall it exceed two (2) times the labor price quoted in the Proposal for the installation of the unit to be changed. Such compensation shall be in lieu of any other payment for the installation and removal of the original unit. (If a new or replacing unit is installed, payment for such new or replacing unit shall be made as shown in the final inventory.)*

No payment shall be made to the Bidder for materials or labor involved in correcting errors or omissions on the part of the Bidder which result in construction not in accordance with the Plans and Specifications.

Section 5. Construction Not in Proposal. *The Bidder also agrees that when it is necessary to construct units not shown in the Proposal, in absence of other mutual agreement or any individual Section Notice to Proceed issued by Owner providing for these additional Unit Prices¹⁴, it will construct such units for a price arrived at as follows:*

- a. *Owner will provide materials. The direct cost of materials will be given to the bidder by the Owner.*
- b. *The cost of labor shall be the reasonable cost thereof but in no event shall it exceed an amount determined by calculating the ratio of the total labor costs to the total material costs in the section of the Proposal involved, and multiplying the cost of materials for the unit in question by this ratio.*
- c. *The Contractor will furnish with the proposal a list of hourly personnel and equipment rates for any work which is not included in the construction units contained herein. Approval by the Owner is required in advance of any work being done on an hourly basis.¹⁵*

Section 6. Supervision and Inspection.

- a. *The Bidder shall give sufficient supervision to the work, using its best skill and attention. The Bidder will carefully study and compare all drawings, specifications and other instructions and will at once report to the Owner any error, inconsistency or omission which it may discover. The Bidder shall cause the construction work on the project to receive constant supervision by a competent superintendent (hereinafter called the "Superintendent") who shall be present at all times during working hours when construction is being carried on. The Bidder shall also employ, in connection with the construction of the project, capable, experienced and reliable supervisors and such skilled workers as may be required for the various classes of work to be performed. The Bidder shall be solely responsible for the*

¹⁴ Local BPUB revision for NON-Federal Funded Projects.

¹⁵ Local BPUB revision for NON-Federal Funded Projects.

means and methods of construction and for the supervision of the Bidder's employees.

- b. The Owner reserves the right to require the removal from the project of any employee of the Bidder if in the judgment of the Owner such removal shall be necessary in order to protect the interest of the Owner. The Owner shall have the right to require the Bidder to increase the number of its employees and to increase or change the amount or kind of tools and equipment if at any time the progress of the work shall be unsatisfactory to the Owner; but the failure of the Owner to give any such directions shall not relieve the Bidder of its obligations to complete the work within the time and in the manner specified in this Proposal.*
- c. The construction of the project and all materials and equipment used therein, shall be subject to the inspection, tests, and acceptance by the Owner and the Administrator and the Bidder shall furnish all information required by the Owner or by the Administrator concerning the nature or source of any materials incorporated or to be incorporated in the project. All Bidder procedures and records pertaining to the work shall be made available to the Owner and the Administrator for review prior to such inspections and tests. The Bidder shall provide all reasonable facilities necessary for such inspection and tests and shall maintain an office at the site of the project, with telephone service where obtainable and at least one office employee to whom communications from the Owner may be delivered. Delivery of such communications in writing to the employee of the Bidder at such office shall constitute delivery to the Bidder. The Bidder shall have an authorized agent accompany the Engineer when final inspection is made and, if requested by the Owner, when any other inspection is made. The performance of such inspections or tests by the Owner or the Administrator shall not relieve the Bidder of its obligations to perform the work in accordance with the requirements of this Contract.*
- d. In the event that the Owner, or the Administrator, shall determine that the construction contains or may contain numerous defects, it shall be the duty of the Bidder and the Bidder's Surety or Sureties, if any, to have an inspection made by an engineer approved by the Owner and the Administrator, if approval by the Administrator is required, for the purpose of determining the exact nature, extent and location of such defects.*
- e. The Engineer may recommend to the Owner that the Bidder suspend the work wholly or in part for such period or periods as the Engineer may deem necessary due to unsuitable weather or such other conditions as are considered unfavorable for satisfactory prosecution of the work or because of the failure of the Bidder to comply with any of the provisions of the Contract: Provided, however, that the Bidder shall not suspend work pursuant to this provision without written authority from the Owner so to do. The time of completion hereinabove set forth shall be increased by the number of days of any such suspension, except when such suspension is due to the failure of the Bidder to comply with any of the provisions of this Contract.*

Section 7. Defective Materials and Workmanship.

- a. *The acceptance of any materials, equipment (except Owner Furnished Materials) or any workmanship by the Owner or the Engineer shall not preclude the subsequent rejection thereof if such materials, equipment, or workmanship shall be found to be defective after delivery or installation, and any such materials, equipment or workmanship found defective before final acceptance of the construction shall be replaced or remedied, as the case may be, by and at the expense of the Bidder. Any such condemned material or equipment shall be immediately removed from the site of the project by the Bidder at the Bidder's expense. The Bidder shall not be entitled to any payment hereunder so long as any defective materials, equipment or workmanship in respect to the project, of which the Bidder shall have had notice, shall not have been replaced or remedied, as the case may be.*
- b. *Notwithstanding any certificate which may have been given by the Owner or the Engineer, if any materials, equipment (except Owner Furnished Materials) or any workmanship which does not comply with the requirements of this Contract shall be discovered within one (1) year after Completion of Construction of the project, the Bidder shall replace such defective materials or equipment or remedy any such defective workmanship within thirty (30) days after notice in writing of the existence thereof shall have been given by the Owner. If any such defective materials, equipment, or workmanship so replaced or repaired is found to be defective within one year after the completion of the replacement or repair, the Bidder shall replace or remedy such defective materials, equipment, or workmanship. If the Bidder shall be called upon to replace any defective materials or equipment or to remedy defective workmanship as herein provided, the Owner, if so requested by the Bidder shall deenergize that section of the project involved in such work. In the event of failure by the Bidder so to do, the Owner may replace such defective materials or equipment or remedy such defective workmanship, as the case may be, and in such event the Bidder shall pay to the Owner the cost and expense thereof.*
- c. *Notwithstanding anything in this Proposal to the contrary, Bidder shall not be responsible for the cost of replacing defective Owner Furnished Material to the extent Bidder knew, or should have known, such material was defective.¹⁶*

ARTICLE III - PAYMENTS AND RELEASE OF LIENS

Section 1. Payments to Bidder.

- a. *On or before the fifth (5th) day of each calendar month, the Bidder will make application for payment, and the Owner, on or before the fifteenth (15th) day of such month, shall make partial payment to the Bidder for construction accomplished during the preceding calendar month on the basis of completed*

¹⁶ Local BPUB revision for NON-Federal Funded Projects.

Construction Units furnished and certified to by the Bidder, recommended by the Engineer and approved by the Owner solely for the purposes of payment: Provided, however, that such approval shall not be deemed approval of the workmanship or materials. Only ninety-five percent (95%) of each such estimate approved during the construction of the project shall be paid by the Owner to the Bidder prior to Completion of a Section. Upon completion by the Bidder of the construction of a Section, the Engineer will prepare an inventory of the project showing the total number and character of Construction Units and, after checking such inventory with the Bidder, will certify it to the Owner. Upon the approval by the Owner of a Certificate of Completion showing the total cost of the construction performed, the Owner shall make payment to the Bidder of all amounts to which the Bidder shall be entitled thereunder which shall not have been paid: Provided, however, that such final payment shall be made not later than ninety (90) days after the date of Completion of Construction of the project, as specified in the Certificate Of Completion, unless withheld because of the fault of the Bidder.

- b. *The Bidder shall be paid on the basis of the number of Construction Units actually installed at the direction of the Owner shown by the inventory based on the staking sheets or structure lists; Provided, however, that the total cost shall not exceed the maximum Contract price for the construction of the Project, unless such excess shall have been approved in writing by the Owner.*

Stand-by hourly work shall be paid on actual hours worked when requested and authorized in writing by the Owner.¹⁷ If Bidder's labor units are not dispatched for work during the Owner's specified Stand-by period, the Bidder may bill a maximum of two (2) hours per each Owner-authorized labor and equipment unit. This provision is not applicable when the Bidder's Stand-by units are dispatched. In the event that the Bidder's labor units are dispatched, each Bidder Labor Unit must be at the address of the dispatch order within a maximum of 30 minutes after the time the dispatch order was given.¹⁸

It is understood and agreed that this maximum Contract price is for a not to exceed total aggregate of THREE MILLION FIVE HUNDRED THOUSAND dollars (\$3,500,000) and not to exceed annual aggregate of TWO MILLION ONE HUNDRED EIGHTY-SEVEN THOUSAND FIVE HUNDRED dollars (\$2,187,500). *It is also agreed that the Bidder shall not be entitled to any claim for damages on account of any reasonable additions to or subtractions from the Project, or of any delay occasioned thereby, or of any changes in the routing of the lines.*

- c. *Interest at the rate provided by Texas Government Code Chapter 2251 per month¹⁹ shall be paid by the Owner to the Bidder on all unpaid balances due on monthly estimates, commencing fifteen (15) days after the due date; provided the delay in*

¹⁷ Local BPUB revision for NON-Federal Funded Projects.

¹⁸ Local BPUB revision for NON-Federal Funded Projects.

¹⁹ Local BPUB revision for NON-Federal Funded Projects.

payment beyond the due date is not caused by any condition within the control of the Bidder. The due date for purposes of such monthly payment or interest on all unpaid balances shall be the fifteenth (15) day of each calendar month provided (1) the Bidder on or before the fifth (5) day of such month shall have submitted its certification of Construction Units completed during the preceding month and (2) the Owner on or before the fifteenth (15) day of such month shall have approved such certification. If for reasons not due to the Bidder's fault, such approval shall not have been given on or before the fifteenth (15) day of such month, the due date for purposes of this subsection c shall be the fifteenth (15) day of such month notwithstanding the absence of the approval of the certification.

- d. Interest at the rate provided by Texas Government Code Chapter 2251 per month²⁰ shall be paid by the Owner to the Bidder on the final payment for the project or any completed Section thereof commencing fifteen (15) days after the due date. The due date for purposes of such final payment or interest on all unpaid balances shall be the date of approval by the Owner of all of the documents requiring such approval, as a condition precedent to the making of final payment, or ninety (90) days after the date of Completion of Construction of the project, as specified in the Certificate of Completion, whichever date is earlier.*
- e. No payment shall be due while the Bidder is in default in respect of any of the provisions of this Contract and the Owner may withhold from the Bidder the amount of any claim by a third party against either the Bidder or the Owner based upon an alleged failure of the Bidder to perform the work hereunder in accordance with the provisions of this Contract.*
- f. The Owner and the Administrator shall have the right to inspect all payrolls, invoices of materials, and other data and records of the Bidder and of any subcontractor, relevant to the construction of the project.*

Section 2. Release of Liens and Certificate of Contractor. *Upon the completion by the Bidder of the construction of the project (or any Section thereof if the Bidder shall elect to receive payment in full for any Section when completed as provided above) but prior to final payment to the Bidder, the Bidder shall deliver to the Owner, in duplicate, releases of all liens and of rights to claim any lien, in the form provided by Texas Property Code Chapter 53²¹ from all manufacturers, material suppliers, and subcontractors furnishing services or materials for the project or such Section and a certificate in the form attached hereto to the effect that all labor used on or for the project or such Section has been paid and that all such releases have been submitted to the Owner.*

Section 3. Payments to Material Suppliers and Subcontractors. *The Bidder shall pay each material supplier (other than for Owner Supplied Materials) if any, within five (5) days*

²⁰ Local BPUB revision for NON-Federal Funded Projects

²¹ Local BPUB revision for NON-Federal Funded Projects.

after receipt of any payment from in the Owner, the amount thereof allowed the Bidder for and on account of materials furnished or construction performed by each material supplier or each subcontractor.

ARTICLE IV - PARTICULAR UNDERTAKINGS OF THE BIDDER

Section 1. Protection to Persons and Property. *The Bidder shall at all times take all reasonable precautions for the safety of employees on the work and of the public, and shall comply with all applicable provisions of federal, state, and local laws, rules, and regulations and building and construction codes, in addition to the safety rules and procedures of the Owner.*

The following provisions shall not limit the generality of the above requirements:

- a. The Bidder shall at no time and under no circumstances cause or permit any employee of the Bidder to perform any work upon energized lines, or upon poles carrying energized lines, unless otherwise specified in the Notice and Instructions to Bidders.*
- b. The Bidder shall transport and store all material in facilities and vehicles which are designed to protect the material from damage. The Bidder shall ensure that all vehicles, trailers, and other equipment used comply with all applicable licensing, traffic, and highway requirements.*
- c. The Bidder shall so conduct the construction of the project as to cause the least possible obstruction of public highways.*
- d. The Bidder shall provide and maintain all such guard lights and other protection for the public as may be required by applicable statutes, ordinances and regulations or by local conditions.*
- e. The Bidder shall do all things necessary or expedient to properly protect any and all parallel, converging and intersecting lines, joint line poles, highways and any and all property of others from damage, and in the event that any such parallel, converging and intersecting lines, joint line poles, highways or other property are damaged in the course of the construction of the project the Bidder shall at its own expense restore any or all of such damaged property immediately to as good a state as before such damage occurred.*
- f. Where the right-of-way of the project traverses cultivated or grazing lands, the Bidder shall limit the movement of its crews and equipment so as to cause as little damage as possible to crops, orchards or property and shall endeavor to avoid marring the lands. All fences which are necessarily opened or moved during the construction of the project shall be replaced in as good condition as they were found and precautions shall be taken to prevent the escape of livestock. Except as otherwise provided in the descriptions of underground plowing and trenching*

assembly units, the Bidder shall not be responsible for loss of or damage to crops, orchards or property (other than livestock) on the right-of-way necessarily incident to the construction of the project and not caused by negligence or inefficient operation of the Bidder. The Bidder shall be responsible for all other loss of or damage to crops, orchards, or property, whether on or off the right-of-way, and for all loss of or damage to livestock caused by the construction of the project.

*The typical right-of-way for purposes of this said section shall consist of an area extending ten (**10**) feet on both sides of the center line of the poles along the route of the project lines, plus such area reasonably required by the Bidder for access to the route of the project lines from Public roads to carry on construction activities.*

- g. The project, from the commencement of work to completion, or to such earlier date or dates when the Owner may take possession and control in whole or in part as hereinafter provided shall be under the charge and control of the Bidder and during such period of control by the Bidder all risks in connection with the construction of the project and the materials to be used therein shall be borne by the Bidder. The Bidder shall make good and fully repair all injuries and damages to the project or any portion thereof under the control of the Bidder by reason of any act of God or other casualty or cause whether or not the same shall have occurred by reason of the Bidder's negligence.*
 - (i) To the maximum extent permitted by law, Bidder shall defend, indemnify, and hold harmless Owner and Owner's directors, officers, and employees from all claims, causes of action, losses, liabilities, and expenses (including reasonable attorney's fees) for personal loss, injury, or death to persons (including but not limited to Bidder's employees) and loss, damage to or destruction of Owner's property or the property of any other person or entity (including but not limited to Bidder's property) in any manner arising out of or connected with the Contract, or the materials or equipment supplied or services performed by Bidder, its subcontractors and suppliers of any tier. But nothing herein shall be construed as making Bidder liable for any injury, death, loss, damage, or destruction caused by the sole negligence of Owner*
 - (ii) To the maximum extent permitted by law, Bidder shall defend, indemnify, and hold harmless Owner and Owner's directors, officers, and employees from all liens and claims filed or asserted against Owner, its directors, officers, and employees, or Owner's property or facilities, for services performed or materials or equipment furnished by Bidder, its subcontractors and suppliers of any tier, and from all losses, demands, and causes of action arising out of any such lien or claim. Bidder shall promptly discharge or remove any such lien or claim by bonding, payment, or otherwise and shall notify Owner promptly when it has done so. If Bidder does not cause such lien or claim to be discharged or released by payment, bonding, or otherwise, Owner shall have the right (but shall not be obligated) to pay all sums necessary to obtain*

any such discharge or release and to deduct all amounts so paid from the amount due Bidder.

(iii) Bidder shall provide to Owner's satisfaction evidence of Bidder's ability to comply with the indemnification provisions of subparagraphs i and ii above, which evidence may include but may not be limited to a bond or liability insurance policy obtained for this purpose through a licensed surety or insurance company.

- h. Any and all excess earth, rock, debris, underbrush and other useless materials shall be removed by the Bidder from the site of the project as rapidly as practicable as the work progresses.*
- i. Upon violation by the Bidder of any of the provisions of this section, after written notice of such violation given to the Bidder by the Engineer or the Owner, the Bidder shall immediately correct such violation. Upon failure of the Bidder so to do the Owner may correct such violation at the Bidder's expense: Provided, however, that the Owner may, if it deems it necessary or advisable, correct such violation at the Bidder's expense without such prior notice to the Bidder.*
- j. The Bidder shall submit to the Owner monthly reports in duplicate of all accidents, giving such data as may be prescribed by the Owner,*
- k. The Bidder shall not proceed with the cutting of trees or clearing of right-of-way without written notification from the Owner that proper authorization has been received from the owner of the property, and the Bidder shall promptly notify the Owner whenever any landowner objects to the trimming or felling of any trees or the performance of any other work on its land in connection with the project and shall obtain the consent in writing of the Owner before proceeding in any such case.*
- l. The Bidder will furnish, prior to the commencement of underground distribution construction, proof satisfactory to the Owner, of compliance with requirements of highway and road authorities having jurisdiction, including without limitation, the furnishing of a bond or other guaranty, and approval by such authorities of the equipment and methods of construction and repair to be used by the Bidder.*

Section 2. Insurance. SEE BPUB GENERAL CONDITIONS ADDENDUM

Section 3. Delivery of Possession and Control to Owner.

- a. Upon written request of the Owner the Bidder shall deliver to the Owner full possession and control of any portion of the project provided the Bidder shall have been paid at least ninety-five percent (95%) of the cost of construction of such portion. Upon such delivery of the possession and control of any portion of the project to the Owner, the risk and obligations of the Bidder as set forth in Article*

IV, Section 1.g. hereof with respect to such portion of the project so delivered to the Owner shall be terminated; provided, however, that nothing herein contained shall relieve the Bidder of any liability with respect to defective materials and workmanship as contained in Article II, Section 7 hereof.

- b. Where the construction of a Section as herein before defined in Article II, Section 1.c shall have been completed by the Bidder, the Owner agrees, after receipt of a written request from the Bidder, to accept delivery of possession and control of such work included in the Section upon the issuance by the Engineer of a written statement that the work included in the Section has been inspected and found acceptable by the Engineer. Upon such delivery of the possession and control of any such work included in the Section to the Owner, the risk and obligations of the Bidder as set forth in Article IV Section 1.g. hereof with respect to such work included in the Section so delivered to the Owner shall be terminated: Provided, however, that nothing herein contained shall relieve the Bidder of any liability with respect to defective materials or workmanship as contained in Article II, Section 7 hereof.*

Section 4. Energizing the Project.

- a. Prior to Completion of the project the Owner, upon written notice to the Bidder, may test the construction thereof by temporarily energizing any portion or portions thereof. During the period of such test the portion or portions of the project so energized shall be considered as within the possession and control of the Owner and governed by the provisions of Section 3 of this Article. Upon written notice to the Bidder by the Owner of the completion of such test and upon deenergizing the lines involved therein said portion or portions of the project shall be considered as returned to the possession and control of the Bidder unless the Owner shall elect to continue possession and control in the manner provided in Section 3 of this Article.*
- b. The Owner shall have the right to energize permanently any portion or portions of the project delivered to its possession and control pursuant to the provisions of Section 3 of this Article.*

Section 5. Assignment of Guarantees. *All guarantees of workmanship running in favor of the Bidder shall be transferred and assigned to the Owner prior to the time the Bidder receives final payment.*

ARTICLE V - REMEDIES

Section 1. Completion of Bidder's Default. *If default shall be made by the Bidder or by any subcontractor in the performance of any of the terms of this Proposal, the Owner, without in any manner limiting its legal and equitable remedies in the circumstances, may serve upon the Bidder and the Surety or Sureties, if any, upon the Contractor's Bond or Bonds a written notice requiring the Bidder to cause such default to be corrected forthwith. Unless within twenty (20) days after the service of such notice*

upon the Bidder such default shall be corrected or arrangements for the correction thereof satisfactory to both the Owner and the Administrator shall be made by the Bidder or its Surety or Sureties, if any, the Owner may take over the construction of the project and prosecute the same to completion by Contract or otherwise for the account and at the expense of the Bidder, and the Bidder and its Surety or Sureties, if any, shall be liable to the Owner for any cost or expense in excess of the Contract price occasioned thereby. In such event the Owner may take possession of and utilize, in completing the construction of the project, any materials, tools, supplies, equipment, appliances, and plant belonging to the Bidder or any of its subcontractors, which may be situated at the site of the project. The Owner in such contingency may exercise any rights, claims or demands which the Bidder may have against third persons in connection with this Contract and for such purpose the Bidder does hereby assign, transfer and set over unto the Owner all such rights, claims and demands.

Section 2. Cumulative Remedies. *Every right or remedy herein conferred upon or reserved to the Owner or the Government or the Administrator shall be cumulative, shall be in addition to every right and remedy now or hereafter existing at law or in equity or by statute and the pursuit of any right or remedy shall not be construed as an election.*

ARTICLE VI - MISCELLANEOUS

Section 1. Definitions.

- a. *The term "Administrator" shall be disregarded in its entirety in this Contract.²²*
- b. *The term "Engineer" shall mean the Engineer employed by the Owner, to provide engineering services for the project and said Engineer's duly authorized assistants and representatives.*
- c. *The term "Completion of Construction" shall mean full performance by the Bidder of the Bidder's obligations under the Contract and all amendments and revisions thereof except the Bidders obligations in respect of (1) Releases of Liens and Certificate of Contractor under Article III, Section 2 hereof, (2) the inventory referred to in Article III, Section 1 hereof, and (3) other final documents. The term "Completion of the Project" shall mean full performance by the Bidder of the Bidder's obligations under the Contract and all amendments and revisions thereof. The Certificate of Completion, signed by the Engineer and approved in writing by the Owner shall be the sole and conclusive evidence as to the date of Completion of Construction and as to the fact of Completion of the Project.*
- d. *The term "Work" shall mean all services, labor, supplies, and equipment which are required or reasonably inferable to complete the Projects and Sections in strict accordance with the requirements of the Contract Documents and any Section Notice to Proceeds (as such may be modified or amended). The term "reasonably inferable" takes into consideration the understanding of the parties hereto and that*

²² Local BPUB revision for NON-Federal Funded Projects.

*every detail will not necessarily be shown in the Contract Documents.*²³

Section 2. Materials and Supplies. *Reserved.*²⁴

Section 3. Patent Infringement. *The Bidder shall hold harmless and indemnify the Owner from any and all claims, suits and proceedings for the infringement of any patent or patents covering any materials or equipment used in construction of the project.*

Section 4. Permits for Explosives. *All permits necessary for the handling or use of dynamite or other explosives in connection with the construction of the project shall be obtained by and at the expense of the Bidder.*

Section 5. Compliance with Laws. *The Bidder shall comply with all federal, state, and local laws, rules, and regulations applicable to its performance under the contract and the construction of the project. Remainder omitted.*²⁵

Section 6. Equal Opportunity Provisions. *The CONTRACTOR shall not discriminate against any employee or applicant for employment because of race, religion, gender, sexual preference, national origin, age, physically challenged condition, or a political belief or affiliation, and will comply with all State and federal statutes applicable to CONTRACTOR which relate to employment discrimination.*²⁶

Section 7. Franchises and Rights-of-Way. *The Bidder shall be under no obligation to obtain or assist in obtaining: Any franchises, authorizations, permits or approvals required to be obtained by the Owner from Federal, State, County, Municipal or other authorities; any rights-of-way over private lands; or any agreements between the Owner and third parties with respect to the joint use of poles, crossings, or other matter incident to the construction and operation of the project.*

Section 8. Nonassignment of Contract. *The Bidder shall perform directly and without subcontracting not less than fifty-one percent (51%)²⁷ of the construction of the project, to be calculated on the basis of the total Contract price. The Bidder shall not assign the Contract effected by an acceptance of this Proposal or any interest in any funds that may be due or become due hereunder or enter into any contract with any person, firm or corporation for the performance of the Bidder's obligations hereunder or any part thereof without the approval in writing of the Owner and of the Surety or Sureties, if any, on any bond furnished by the Bidder for the faithful performance of the Bidder's obligations hereunder. If the Bidder, with the consent of the Owner and any Surety or Sureties on the Contractor's Bond or Bonds, shall enter into a subcontract with any subcontractor for the performance of any part of this Contract, the Bidder shall be as fully responsible to the Owner and the Government for the acts and omissions of such*

²³ Local BPUB revision for NON-Federal Funded Projects.

²⁴ Local BPUB revision for NON-Federal Funded Projects.

²⁵ Local BPUB revision for NON-Federal Funded Projects.

²⁶ Local BPUB revision for NON-Federal Funded Projects

²⁷ Local BPUB revision for NON-Federal Funded Projects.

subcontractor and of persons employed by such subcontractor as the Bidder would be for its own acts and omissions and those of persons directly employed by it.

The undersigned BIDDER proposes that he as the prime contractor will be primarily responsible to perform the majority (51%+) of work at the Project site(s) with his own forces and that specific portions of the work not performed by the undersigned BIDDER will be subcontracted and performed by the following subcontractors.²⁸

<i>Work Subcontracted</i>	<i>Name of Subcontractor</i>
_____	_____
_____	_____
_____	_____
_____	_____

Section 9. Successors and Assigns. *Each and all of the covenants and agreements herein contained shall extend to and be binding upon the successors and assigns of the parties hereto. The Owner and Bidder acknowledge that this Contract is assigned to the Government, acting through the Administrator, for security purposes under the Owner's mortgage and security instrument.*

Section 10. Independent Contractor. *The Bidder shall perform the work as an independent contractor, not as a subcontractor, agent, or employee of the Owner. Upon acceptance of this Proposal, the successful Bidder shall be the Contractor and all references in the Proposal to the Bidder shall apply to the Contractor.*

Section 11. Acceptance by the Owner: *The acceptance of a Proposal for a contract shall become effective the date of acceptance by the Owner.*

ATTEST:

_____	_____
<i>Secretary</i>	<i>Bidder</i>
_____	_____
<i>Dated</i>	<i>President</i>
_____	_____
<i>Address</i>	

The Proposal must be signed with the full name of the Bidder. If the Bidder is a partnership, the Proposal must be signed in the partnership name by a partner. If the Bidder is a corporation, the Proposal must be signed in the corporate name by a duly authorized officer and the corporate seal affixed and attested by the Secretary of the Corporation.

²⁸ Local BPUB revision for NON-Federal Funded Projects.



B R O W N S V I L L E
PUBLIC UTILITIES BOARD

NOTICE OF AWARD

TO: _____

Project Description: **ELECTRIC SYSTEM CONSTRUCTION CONTRACT (LABOR ONLY FOR NON-SITE SPECIFIC CONSTRUCTION) Work (P038-23)**

Dear:

The BPUB has considered the PROPOSAL submitted by you for the above-described Project work in response to its Legal Notice and Invitation for Bids dated May 22, 2023 and Instruction to Bidders.

You are hereby notified that your PROPOSAL has been accepted.

You are required to furnish to BPUB two (2) original Contract Documents within ten (10) calendar days from the date of this Notice to you.

You are required to furnish to BPUB a Performance Bond and Payment Bond within ten (10) calendar days from the issuance of any Section Notice to Proceed.

If you fail to furnish any required bonds and insurance certificates within ten (10) calendar days from the date of this Notice, Brownsville PUB will be entitled to consider any of your rights arising out of the BPUB's acceptance of your PROPOSAL as waived and abandoned.

The BPUB as a Texas public utility will be entitled to all such other rights as granted by Texas law.

You are required to return an originally signed and accepted copy of this NOTICE OF AWARD (See: next page) to the BPUB. Dated this _____ day of _____, 20__.

PUBLIC UTILITIES BOARD OF THE CITY OF BROWNSVILLE, TEXAS

By: _____
Name: _____
Title: _____



ACCEPTANCE OF NOTICE

Receipt of the above NOTICE OF AWARD is hereby acknowledged by:

_____ day of _____, 20_____.

By: _____

Name: _____

Title: _____



NOTICE TO PROCEED

DATE:

TO: _____

RE: P038-23, ELECTRIC SYSTEM CONSTRUCTION CONTRACT (LABOR ONLY FOR NON-SITE SPECIFIC CONSTRUCTION)

Dear _____:

The Brownsville PUB has received the executed Service Contract, Performance and Payment Bonds, and required Certificates of Insurance; therefore, this Notice to Proceed letter is being issued to proceed with the _____. As of _____, 20____, you are to start performing your obligations under the Contract Documents.

The duration of this Contract is for ____ () year in length and will end one year from the date of this letter. As you proceed and find the need for any information or assistance, please contact _____ at (956) 983-_____.

Thank you,

By: _____
Name: _____
Title: _____

CONSTRUCTION UNIT PRICE SCHEDULE

ALL OF THE FOLLOWING CONSTRUCTION UNITS WILL NOT BE LIMITED ONLY TO NEW DEVELOPMENT AREAS. On many occasions, Contractor will need to work on already developed areas.

Bidder shall refer to the following for general non-site specific Technical Specifications and Distribution Standards which are incorporated by reference herein:

- **BPUB Technical Specifications for Electrical Utility Work** available online at: https://www.brownsville-pub.com/rfp_status/open, or from BPUB’s Purchasing Department
- **BPUB Distribution Construction Standards** available online at: https://www.brownsville-pub.com/rfp_status/open, or from BPUB’s Purchasing Department

The unit prices below shall include all labor, equipment, excavation, bailing, shoring, removal, backfill, overhead, profit, insurance, etc., to cover the overall finished Project work of the several kinds called for in each sub-project, including the cost to provide “as built” maps showing work done, including any changes made in the field and attach to each invoice.

The unit prices should NOT include the cost of Owner Furnished Materials.

ALL OWNER FURNISHED MATERIAL ISSUED TO CONTRACTOR WILL BE COORDINATED THROUGH A BPUB REPRESENTATIVE. WHEN PICKING OWNER FURNISHED MATERIAL THE CONTRACTOR MUST BE ESCORTED TO THE BPUB YARD BY A BPUB REPRESENTATIVE.

For the duration of the Contract, the Contractor will supply all expendables/consumables including but not limited to: rags, colored electrical vinyl tape, glue for PVC pipes, worming tape, lubricant, 6” Red Terra Tape (Electrical), pulling rope ¼” poly or tape ½” with 500# capacity, at no cost to the Owner.

Prices shall remain firm for 12 months after date of execution of the Contract.

Seal affixed here
if BID is by a
Corporation:
Respectfully submitted,

By: _____
Signature – Failure to sign Bid will disqualify it

Title

Address

Attest:

URD NEW CONSTRUCTION AND REPLACEMENT

Item	Description	Unit of Measure	Install	Removal
URD Transformer Cabinets				
1	Compact Earth & Set 1 Phase Transformer pad	EA		
2	Compact Earth & Set 3 Phase Transformer pad	EA		
3	Compact Earth & Set 1 phase Junction box pad	EA		
4	Compact Earth & Set 3 phase Junction box pad	EA		
5	Compact Earth & Set 3 phase Switchgear pad	EA		
6	Set 25 KVA 1 Phase Pad-mount Transformer, 7200:120/240v or 7200:240/480V	EA		
7	Set 37.5 KVA 1 Phase Pad-mount Transformer, 7200:120/240v or 7200:240/480V	EA		
8	Set 50 KVA 1 Phase Pad-mount Transformer, 7200:120/240v or 7200:240/480V	EA		
9	Set 75 KVA 1 Phase Pad-mount Transformer, 7200:120/240v or 7200:240/480V	EA		
10	Set 100 KVA 1 Phase Pad-mount Transformer, 7200:120/240v or 7200:240/480V	EA		
11	Set 167 KVA 1 Phase Pad-mount Transformer, 7200:120/240v or 7200:240/480V	EA		
12	Set 45 KVA 3 Phase Pad-mount Transformer, 12.47/7.2kV:120/208	EA		
13	Set 75 KVA 3 Phase Pad-mount Transformer, 12.47/7.2kV:120/208	EA		
14	Set 112.5 KVA 3 Phase Pad-mount Transformer, 12.47/7.2kV:120/208V or 12.47/7.2kV:120/240V	EA		
15	Set 150 KVA 3 Phase Pad-mount Transformer, 12.47/7.2kV:120/208V or 12.47/7.2kV:277/480V	EA		

16	Set 225 KVA 3 Phase Pad-mount Transformer, 12.47/7.2kV:120/208V or 12.47/7.2kV:277/480V	EA		
17	Set 300 KVA 3 Phase Pad-mount Transformer, 12.47/7.2kV:120/208V or 12.47/7.2kV:120/240V or 12.47/7.2kV:277/480V	EA		
URD Transformer Cabinets / URD Cabinets				
18	Set 500 KVA 3 Phase Pad-mount Transformer, 12.47/7.2kV:120/208V or 12.47/7.2kV:120/240V or 12.47/7.2kV:277/480V	EA		
19	Set 750 KVA 3 Phase Pad-mount Transformer, 12.47/7.2kV:120/208V or 12.47/7.2kV:120/240V or 12.47/7.2kV:277/480V	EA		
20	Set 1000 KVA 3 Phase Pad-mount Transformer, 12.47/7.2kV:120/208V or 12.47/7.2kV:120/240V or 12.47/7.2kV:277/480V	EA		
21	Set 1500 KVA 3 Phase Pad-mount Transformer, 12.47/7.2kV:277/480V	EA		
22	Set 1 phase Junction box Cabinet	EA		
23	Set 3 phase Junction box Cabinet	EA		
24	Set 3 phase Switchgear Cabinet	EA		
25	Set Secondary Pedestal	EA		
Excavations Under Equipment and Sod Repair				
26	Excavation under switchgears	EA		(NA)
27	Excavation under Transformers	EA		(NA)
28	Excavation under Junction box	EA		(NA)
29	Pallet of grass	EA		(NA)
30	Extra time to make preparations per crew	Price Per Hour		(NA)
URD Primary and Secondary Cable				

31	1 Phase 1/0 Primary Cable	Per Linear Foot		(NA)
32	3 Phase 1/0 Primary Cable	Per Linear Foot		(NA)
33	3 Phase 500 MCM Primary Cable	Per Linear Foot		(NA)
34	1 – 4 AWG Duplex Cable or Smaller	Per Linear Foot		(NA)
35	1 – 350 MCM Triplex Cable or Smaller	Per Linear Foot		(NA)
High Density Polyethylene (HDPE) Duct Conduit				
36	1-2” High Density Polyethylene (HDPE) Duct Conduit	Per Linear Foot		(NA)
37	1-2.5” High Density Polyethylene (HDPE) Duct Conduit	Per Linear Foot		(NA)
38	1-4” High Density Polyethylene (HDPE) Duct Conduit	Per Linear Foot		(NA)
39	1-6” High Density Polyethylene (HDPE) Duct Conduit	Per Linear Foot		(NA)
PVC Elbows and Other PVC Fittings				
40	2” Sweep Elbows	EA		(NA)
41	2.5” Sweep Elbows	EA		(NA)
42	4” Sweep Elbows	EA		(NA)
43	6” Sweep Elbows	EA		(NA)
1-Phase Transformers				
44	UD-6, Typical Primary Connections for a Single Phase Grounded Front Pad Mounted Transformer (Loop Feed)	EA		

45	UD-7, Bushing Mounted Lighting Arrester for a Grounded-Front Pad-Mounted Transformer	EA		
46	UD-8, 1-Phase Grounded-Front Pad-Mounted Transformer with 1-Phase Tap	EA		
3-Phase Transformers				
47	UD-9, Dead Front, 3-Phase Grounded-Front-Pad Mounted Transformer Radial Feed	EA		
48	UD-10, Dead Front, 3-Phase Grounded-Front Pad-Mounted Transformer (Loop Feed)	EA		
Miscellaneous				
49	UD-11, 1-Phase Pad Mounted, Sectionalizing Assembly (200 Amp)	EA		
50	UD-12, Dead Front, 3-Phase Pad-Mounted Sectionalizing Assembly (200 Amp)	EA		
51	UD-12, Dead Front, 3-Phase Pad-Mounted Sectionalizing Assembly (600 Amp)	EA		
52	1/0 Primary Terminations	EA		(NA)
53	500 MCM Primary Terminations	EA		(NA)
54	4 AWG Duplex or Smaller Terminations	EA		(NA)
55	350 MCM Triplex or Smaller Terminations	EA		(NA)
56	Cable, Copper 350 MCM THW ISNUL 600V	Per Linear Foot		
57	Cable, Copper 500 MCM THW ISNUL 600V	Per Linear Foot		
58	Cable, Copper 750 MCM THW ISNUL 600V	Per Linear Foot		
59	Cable, Copper 1000 MCM THW ISNUL 600V	Per Linear Foot		
60	Cable, CU 250 MCM THHN ISNUL 600V	Per Linear Foot		

PVC Schedule 40 Electric Gray Conduits				
61	1-2" X 10' PVC Schedule 40 Electric Gray Pipe	Per Linear Foot		(NA)
62	1-4" X 10' PVC Schedule 40 Electric Gray Pipe	Per Linear Foot		(NA)
63	1-6 X 10' PVC Schedule 40 Electric Gray Pipe	Per Linear Foot		(NA)
Bi-Directional Bore				
64	1-2" Bi-Directional Bore	Per Linear Foot		(NA)
65	1-2.5" Bi-Directional Bore	Per Linear Foot		(NA)
66	1-4" Bi-Directional Bore	Per Linear Foot		(NA)
67	1-6" Bi-Directional Bore	Per Linear Foot		(NA)
68	1-8" Bi-Directional Bore	Per Linear Foot		(NA)
69	1-10" Bi-Directional Bore	Per Linear Foot		(NA)

**OVERHEAD POLE REMOVE & INSTALL
POLE REMOVALS**

Item	Description	Unit of Measure	Install	Remove
Anchors				
1	D-3, Anchor Assembly	EA		
2	D-4, Power Anchor Assembly	EA		

3	D-4A, Power Anchor Assembly	EA		
4	D-5, Sidewalk Anchor	EA		
5	D-6, Overhead Guy Wire Assembly	EA		
7.2kV Single Circuit				
6	D-7, 1-Phase Primary, Neutral on Pole	EA		
7	D-10, 7.2kV 1-Phase Fuse Cutout	EA		
8	D-11, 1-Phase Deadend, Neutral on Pole	EA		
9	D-11B, 1-Phase Large Angle, Neutral on Pole	EA		
12.5kV Single Circuit				
10	D-14, Primary Lateral Fusing	EA		
11	D-23, Deadend Crossarm	EA		
12	D-23A, Double Crossarm, Deadend Light Duty	EA		
13	D-23B, Double Crossarm, Deadend Heavy Duty	EA		
14	D-24, Tangent & Small Angle, Single Wooden Crossarm (Neutral on Pole)	EA		
15	D-24A, Tangent and Small Angle, Single Wooden Crossarm (neutral on Pole)	EA		
16	D-25, Tangent Structure, Heavy Duty Crossarm Assembly (Neutral on Pole)	EA		
17	D-25A, Tangent Structure, Heavy Duty Crossarm Assembly (Neutral on Pole)	EA		
18	D-25-23A, Tap Double Wooden Crossarm (Neutral on Pole)	EA		

19	D-27, Alley Arm, Single (A)	EA		
20	D-27, Alley Arm, Double (B)	EA		
21	D-28, Corner Deadend, Vertical Strain Assembly	EA		
22	D-28A, Corner Deadend, Horizontal Strain	EA		
23	D-32-D32A, Double In-Line Deadend, Wooden Crossarm (Neutral on Pole)	EA		
24	D-33, Corner Deadend, Wooden Crossarm (Neutral on Pole)	EA		
25	D-36, 1-Phase Transformer Bank On 1-Phase Tangent Structure with 10 KVA, 7200:120/240V or 7200:240/480V	EA		
25.a	D-36, 1-Phase Transformer Bank On 1-Phase Tangent Structure with 15 KVA, 7200:120/240V or 7200:240/480V	EA		
25.b	D-36, 1-Phase Transformer Bank On 1-Phase Tangent Structure with 25 KVA, 7200:120/240V or 7200:240/480V	EA		
25.c	D-36, 1-Phase Transformer Bank On 1-Phase Tangent Structure with 37.5 KVA, 7200:120/240V or 7200:240/480V	EA		
25.d	D-36, 1-Phase Transformer Bank On 1-Phase Tangent Structure with 50 KVA, 7200:120/240V or 7200:240/480V	EA		
25.e	D-36, 1-Phase Transformer Bank On 1-Phase Tangent Structure with 75 KVA, 7200:120/240V or 7200:240/480V	EA		
25.f	D-36, 1-Phase Transformer Bank On 1-Phase Tangent Structure with 100 KVA, 7200:120/240V or 7200:240/480V	EA		
26	D-37, Three Phase Open Wye-Open Delta Transformer Bank on Tangent Structure with (2) 10 KVA, 7200:120/240V or 7200:240/480V	EA		
26a	D-37, Three Phase Open Wye-Open Delta Transformer Bank on Tangent Structure with (2) 15 KVA, 7200:120/240V or 7200:240/480V	EA		
26b	D-37, Three Phase Open Wye-Open Delta Transformer Bank on Tangent Structure with (2) 25 KVA, 7200:120/240V or 7200:240/480V	EA		
26c	D-37, Three Phase Open Wye-Open Delta Transformer Bank on Tangent Structure with (2) 37.5 KVA, 7200:120/240V or 7200:240/480V	EA		
26d	D-37, Three Phase Open Wye-Open Delta Transformer Bank on Tangent Structure with (2) 50 KVA, 7200:120/240V or 7200:240/480V	EA		

27	D-38, Three Phase Wye-Delta Transformer Bank on Tangent Structure with (3) 10 KVA, 7200:120/240V or 7200:240/480V	EA		
27a	D-38, Three Phase Wye-Delta Transformer Bank on Tangent Structure with (3) 15 KVA, 7200:120/240V or 7200:240/480V	EA		
27b	D-38, Three Phase Wye-Delta Transformer Bank on Tangent Structure with (2) 15 KVA & (1) 25 KVA, 7200:120/240V or 7200:240/480V	EA		
27c	D-38, Three Phase Wye-Delta Transformer Bank on Tangent Structure with (3) 25 KVA, 7200:120/240V or 7200:240/480V	EA		
27d	D-38, Three Phase Wye-Delta Transformer Bank on Tangent Structure with (2) 25 KVA & (1) 37.5 KVA, 7200:120/240V or 7200:240/480V	EA		
27e	D-38, Three Phase Wye-Delta Transformer Bank on Tangent Structure with (3) 37.5 KVA, 7200:120/240V or 7200:240/480V	EA		
27f	D-38, Three Phase Wye-Delta Transformer Bank on Tangent Structure with (2) 37.5 KVA & (1) 50 KVA, 7200:120/240V or 7200:240/480V	EA		
27g	D-38, Three Phase Wye-Delta Transformer Bank on Tangent Structure with (3) 50 KVA, 7200:120/240V or 7200:240/480V	EA		
27h	D-38, Three Phase Wye-Delta Transformer Bank on Tangent Structure with (2) 50 KVA & (1) 75 KVA, 7200:120/240V or 7200:240/480V	EA		
28	D-39, Three Phase Wye-Wye Transformer Bank on Tangent Structure with (3) 10 KVA, 7200:120/208V**	EA		
28a	D-39, Three Phase Wye-Wye Transformer Bank on Tangent Structure with (3) 15 KVA, 7200:120/208V**	EA		
28b	D-39, Three Phase Wye-Wye Transformer Bank on Tangent Structure with (3) 25 KVA, 7200:120/208V**	EA		
28c	D-39, Three Phase Wye-Wye Transformer Bank on Tangent Structure with (3) 37.5 KVA, 7200:120/208V**	EA		
28d	D-39, Three Phase Wye-Wye Transformer Bank on Tangent Structure with (3) 50 KVA, 7200:120/208V**	EA		
28e	D-39, Three Phase Wye-Wye Transformer Bank on Tangent Structure with (3) 75 KVA, 7200:120/208V**	EA		
28f	D-39, Three Phase Wye-Wye Transformer Bank on Tangent Structure with (3) 100 KVA, 7200:120/208V**	EA		
28g	D-39, Three Phase Wye-Wye Transformer Bank on Tangent Structure with (3) 25 KVA, 7200: 277/480V	EA		
28h	D-39, Three Phase Wye-Wye Transformer Bank on Tangent Structure with (3) 37.5 KVA, 7200: 277/480V	EA		

28i	D-39, Three Phase Wye-Wye Transformer Bank on Tangent Structure with (3) 50 KVA, 7200: 277/480V	EA		
28j	D-39, Three Phase Wye-Wye Transformer Bank on Tangent Structure with (3) 75 KVA, 7200: 277/480V	EA		
28k	D-39, Three Phase Wye-Wye Transformer Bank on Tangent Structure with (3) 100 KVA, 7200: 277/480V	EA		
Risers				
29	UD-1, Single Phase Primary Riser Pole	EA		
30	UD-2, 3-Phase Primary Riser Pole	EA		
31	UD-3, Power Cable Riser, 3-Phase Knife Switch Disconnect	EA		
32	UD-5B , Typical 1-Phase Secondary Underground Service Riser Pole	EA		
Overhead Misc.				
33	D-2, Secondary Rack	EA		
34	D-8, Pole Ground	EA		
35	D-40, 1200 KVAR Capacitor Cluster Mount	EA		
36	D-42, 3-Ph Gang Operated Overhead Switch (900 & 1,200 Amp)	EA		
37	D-42, 3-Ph Gang Operated Overhead Switch (900 & 1,200 Amp)	EA		
38	D-43, Lighting Assembly (A) *	EA		
39	D-43, Lighting Assembly (B) *	EA		
40	D-44, Area Light, Typical Floodlight Installation on Wood Pole *	EA		
41	D-46, Primary Metering	EA		

Pole Installations and Removals				
42	30' Fiberglass Pole (Lighting)	EA		
43	35' Concrete Pole (Lighting)	EA		
44	35' Wood Pole, Class 4	EA		
45	40' Wood Pole, Class 3	EA		
46	45' Wood Pole, Class 3	EA		
47	50' Wood Pole, Class 3	EA		
48	55' Wood Pole, Class 3	EA		
49	90' to 120' Wood Transmission Pole, H5 and Attachments	EA		
49a	90' Transmission Concrete Dead-end Pole, H5 and Attachments	EA		
49b	90' Transmission Concrete Tangent Pole, H5 and Attachments	EA		
Overhead Conductor Installations				
50	1 Phase 1/0 STR, Al., Bare AAAC (Azusa), and system neutral	Per Linear Foot		
51	3 Phase 1/0 STR, Al., Bare AAAC (Azusa), , and system neutral	Per Linear Foot		
52	3 Phase 477 MCM Al., Bare AAC (Cosmos), and 4/0 STR, Al., Bare AAAC (Alliance) system neutral.	Per Linear Foot		
53	3 Phase 795 MCM Al., Bare AAC (Arbutus), and 477 MCM Al., Bare AAC (Cosmos) system neutral	Per Linear Foot		
54	3 Phase 954 MCM Al., Bare AAC (Magnolia), and 16M Alumoweld, system static wire (Transmission)	Per Linear Foot		
Overhead Conductor Miscellaneous				

55	Primary Jumper Replacement (#2 7/STR Bare Cu. Soft Drawn per phase)	EA		
56	Wire 10M Alumoweld Guy 500 Ft Coils	Per Linear Foot		
57	Wire 16M Alumoweld Guy 500 Ft Coils	Per Linear Foot		
58	Cable, AL. #4 STR 2/C HDP Insulated St Lighting	Per Linear Foot		
59	Cable, AL. #4 STR HDP Insulated, Bare Neutral Wire	Per Linear Foot		
60	Cable, AL. #2 STR 3/C HDP Insulated Neutral (E0202-00)	Per Linear Foot		
61	Cable, AL. #2 STR 3/C HDP Insulated Neutral (E0202-01)	Per Linear Foot		
62	Cable, AL. #2 STR 3/C HDP Insulated Service (E0203-00)	Per Linear Foot		
63	Cable, AL #1/0 STR 3/C XLP Service Drop	Per Linear Foot		
64	Cable, AL. #1/0 STR 4/C HDP Insul Service Drop	Per Linear Foot		
65	Cable, AL. #4/0 STR 3/C HDP Insul Service Drop	Per Linear Foot		
66	Cable, AL. #4 STR 4/C HDP/XLP Insul Service Drop	Per Linear Foot		
67	Cable, #1/0 15kV AAAC Tree Wire 3 Layer 7 STR	Per Linear Foot		
68	Cable, AL. #4/0 STR Bare AAAC Code Alliance	Per Linear Foot		
69	Cable, CU #1/0 STR THW/THHN/THWN Insul 600V Black	Per Linear Foot		
70	Cable, CU #2/0 STR THHN Insul 600V, Black	Per Linear Foot		
71	Cable, CU #4/0 STR THW Insul 600V, Black	Per Linear Foot		
72	Cable, #6 SOL Bare CU S/D, 25# Spool (315 Ft)	Per Linear Foot		

73	Cable, #6 SOL Copperweld, 25# Spool (343 Ft)	Per Linear Foot		
74	Cable, #4 SOL Bare CU S/D	Per Linear Foot		
75	Cable #4 SOL Alum Tie, 25# Spool (200 Ft/Rl)	Per Linear Foot		
76	Cable, #2 7STR Bare Copper Soft Drawn	Per Linear Foot		
77	Cable, 1/0 7STR Bare Copper	Per Linear Foot		
78	Cable, 4/0 SR Bare CU Soft Drawn 19 STR 1000' Reel	Per Linear Foot		
79	Cable, 500 MCM Bare Copper	Per Linear Foot		
80	Cable, #10 STR 7/Conductor THHN Insul CU, VNTC	Per Linear Foot		
81	Cable , #6 STR 1-Conductor THHN/THWN Insul CU Black	Per Linear Foot		
82	Cable, #4 STR 1-Conductor THHN Insul CU	Per Linear Foot		
83	Cable, #2 STR Copper THHN Insulation	Per Linear Foot		
84	Cable, #10 AWG 2/Conductor THHN INSU CU 600V	Per Linear Foot		
85	Cable, #10 STR 3/Conductor THHN INSU CU	Per Linear Foot		

OTHER

PASS-THROUGH COST	
Item	Description
1	Traffic Control is to be Invoiced Pass-through Cost.

HOURLY RATE SCHEDULE – LABOR & EQUIPMENT

Company Name: _____

Hourly Prices effective through _____, 20__.

Electric Distribution PERSONNEL:	RATE:	Reg Time	OT
Foreman			
A Lineman			
B Lineman			
C Lineman			
Groundman			
Operator			
Truck driver			

EQUIPMENT:	RATE:	Off System storm
Pickup		
Digger Truck		
Pressure Digger		
Bucket Truck(up to 60')		
Bucket Truck(up to 100')		
Pole Trailer		
Material Trailer		
Other Equipment		
Boring Machine		
Crane (up to 20 TON)		

OTHER – (Overtime, Travel Expenses, Etc.):	RATE:

Company Name: _____

Hourly Prices effective through _____, 20____.

Electric Transmission PERSONNEL:	RATE:	Reg Time	OT
Foreman			
A Lineman			
B Lineman			
C Lineman			
Groundman			
Operator			
Truck driver			

Transmission EQUIPMENT:	RATE:	Off System storm
Pickup		
Digger Truck		
Pressure Digger		
Bucket Truck(up to 60')		
Bucket Truck(up to 100')		
Pole Trailer		
Material Trailer		
Other Equipment		
Boring Machine		
Crane (up to 20 TON)		

OTHER – (Overtime, Travel Expenses, Etc.):	RATE:
Contractor's Markup on subcontracted work for Contractor's supervision and managment (percentage)	



BPUB COMPETITIVE SEALED PROPOSAL ADDENDUM

The following provisions in this BPUB COMPETITIVE SEALED PROPOSAL ADDENDUM shall take precedence and control over any conflicting provisions in the “Notice and Instructions to Bidders.”

INTRODUCTION

1.1 Brownsville Public Utilities Board (BPUB) Introduction

The BPUB is a combined public utility agency established in 1960 by the City of Brownsville, Texas, under Article VI of the City Charter. The BPUB is organized for the purpose of aiding and acting on behalf of the City to manage and control the City’s municipally owned electric, water and wastewater. The BPUB is located on the U.S.-Mexico border abutting the Gulf of Mexico. BPUB is governed by the Board of Directors, which has control and management supervision of all affairs of the agency. The BPUB Board is comprised of seven members, six of whom are appointed by the City Commission for four-year terms, and the seventh member being the City’s Mayor serving ex-officio. The Board appoints a General Manager and Chief Executive Officer who is responsible for the management of all BPUB employees and for administering all affairs of the BPUB. The Board holds a regular meeting once a month, usually on the second Monday, and occasionally holds special meetings and workshops.

The BPUB employs approximately 585 employees. The BPUB executive management team includes a General Manager & CEO, an Assistant General Manager & COO, and a Chief Financial Officer that are responsible for the day to day operations of the utility.

The electric system was established in 1904 to provide street lighting and electric service to the area. It provides retail electric service through its electric facilities to consumers inside and outside the city limits. The existing customer service area of the electric facilities encompasses approximately 133 square miles of Cameron County. The electric system serves a growing base of about 52,041 customers and serves a peak load of 308 megawatts during Fiscal Year 2019.

The BPUB has a diverse electric system that includes three power generation plants, 14 substations, and more than 730 miles of distribution power. The electrical capacity of the system is 378 MWs with a diverse blend of natural gas, coal, and wind energy.

BPUB is proud to provide reliable electric service with local support. BPUB recently received a highest possible recognition, ‘**Diamond**’ RP₃[®] level designation, from the American Public Power Association. The ‘**Diamond**’ RP₃[®] designation recognizes public power utilities that demonstrate

proficiency in four key disciplines: reliability, safety, workforce development, and system improvement.

1.2 Description of the Brownsville Public Utilities Board (BPUB) Project

The Brownsville Public Utilities Board (BPUB) is seeking to engage with a qualified firm with extensive experience working on or near live energized equipment to provide labor and equipment composing of at least three (3) crews, with two (2) crews specializing in overhead electrical distribution construction and one (1) crew specializing in underground residential distribution (URD) to provide non-site specific construction, repair and maintenance in rural and non-rural areas of BPUB electrical distribution and transmission system. BPUB will supply all non-consumable and non-expendable materials for each work assignment. BPUB, in its sole discretion, may seek additional crews from the selected firm.

Representative Sections and approximate budgets which may, at BPUB’s sole discretion, be included under this Project are as follows:

REPRESENTATIVE SECTIONS Table 1.2.1

SECTION TITLE	SECTION TYPE	MATERIAL BUDGET	SECTION DESCRIPTION
Install Electrical Conductor and Conduit for Brownsville Subdivision A.	New URD Subdivision Project	\$180,000.00	Install 5,500 ft of primary URD conductor, 4,700 ft of secondary URD conductor , 1,240ft of OH 3-PH 1/0 STR AAC, 6 – 45 ft wooden poles, 22 - 35ft concrete pole and associated LED Fixtures, 11 pad mounted transformers (and other equipment).
Install Electrical Conductor and Conduit for Brownsville Subdivision B.	New URD Subdivision Project	\$135,000	Install 2 Most 9 Switchgears, 6 Junction Boxes, 12 - 1-Phase UG Transformers, Install 3,400 ft. 500 MCM 15 KV 3-Phase Primary Conductor 6,300 ft. of 350 MCM 3/C AL 1-Phase secondary Conductor. Install 4,5000 ft. of 1/0 STR 15 KV 1-Phase Primary Conductor.
Install Electrical Conductor and Conduit for Brownsville Subdivision C.	New URD Subdivision Project	\$190,000.00	Install 8,300 ft of primary 1-1/0 15kV URD conductor, 5 - 75 kVA pad mounted transformers & 12 - pad mounted 100 kVA transformer, 1 - single-phase pad mounted sectionalizer, 7,230 ft of 350MCM secondary conductor, 73 underground electric enclosures, and 20 - concrete street lights with related equipment to serve 172 residential lots.

SECTION TITLE	SECTION TYPE	MATERIAL BUDGET	SECTION DESCRIPTION
Install Electrical Conductor and Conduit for Brownsville Subdivision D.	New URD Subdivision Project	\$80,000.00	50 lot subdivision which includes 1,700ft. of underground single phase primary cable and duct, 9 single-phase transformers and concrete pads, 7 light poles, 21 secondary pedestals, 2,200 ft. of 350MCM underground triplex cable.
COB Fiber Installation for Location A	URD fiber cable pull	\$37,078.04	Underground fiber project to install 8,000 ft of 48 STR fiber, 3 UG vaults, and 2 risers.
COB Fiber Installation for Location B	Overhead Fiber installation	\$106,804.18	Overhead fiber project to install 45,000 ft of 48 STR fiber, 5 splice boxes, 263 tangents, and 32 dead ends on poles.
Recloser Controls	Recloser installation	\$250,000.00	Install 800A reclosers on poles in various locations.
Brownsville Apartment Complex A	URD cable and Equipment installation	\$50,000.00	Underground distribution project to install UG 1-PH transformers, pedestals, 1/0 15kV, 350 MCM.
Brownsville Apartment Complex B	URD cable and Equipment installation	\$50,000.00	Underground distribution project to install UG 1-PH transformers, pedestals, 1/0 15kV, 350 MCM.
Replace existing conduit and conductor for Brownsville Subdivision E.	URD Re-cabling Project	\$260,000.00	Underground residential distribution project to replace existing direct buried URD Cable. Project consists of installing 1/0 15kV in pipe by directional bore or open trench.
Residential OH to URD Conversion	Residential OH - UG conversion	\$800,000	overhead to underground conversion of facilities
BPUB Facility Fiber Optic Extension	URD fiber installation	\$1,500,000.00	Underground fiber project to install approximately 21 miles of 48 STR fiber cable.

SECTION TITLE	SECTION TYPE	MATERIAL BUDGET	SECTION DESCRIPTION
BPUB Substation Feeder A & B	New overhead feeder A & B	\$393,200.00	Overhead feeder extension that includes 2- circuits of 4,734 ft of 3 phase 795MC AAC, 50 – 45 ft class 3 poles, and associated equipment.
BPUB Substation Feeder C	New overhead feeder C	\$560,200.00	Overhead feeder extension that includes 8,400 ft of 3 phase 795MC AAC, 110 – 45 ft class 3 poles, and associated equipment.
Underground Feeder A & B	New underground feeder A & B	\$310,000.00	Two (2) underground circuits of 1,500 ft of 3 phase 500MCM AL through trench and bore in 6” conduit, 1 – Most 11 S/G and concrete pad, 3 - 600A J-Boxes and concrete pads.
Underground Feeder C	New underground feeder C	\$205,000.00	2,000 ft of 3 phase 500MCM AL through trench and bore in 6” conduit, 1 – Most 9 S/G and concrete pad, 4 - 600A J-Boxes and concrete pads.
Feeder Extension and 500MCM URD	Feeder Extension	\$199,975.24	Upgrade 350 ft. of single-phase overhead feeder with 4/0 AAC, install a 1 – 45 ft class 3 wooden pole, extend 4,501 ft of underground 500MCM AL three-phase circuit via open trench and bore, 7 junction boxes, 1 MOST 9 switchgear, and 16,088ft of 2.3 in duct.
Feeder Extension & Air Gang Switch	New overhead feeder extension & tie	\$69,344.22	Overhead feeder extension NW Brownsville that includes 1,610 ft of 3 phase 795 AAC, 1 - 12.5kV 3 phase gang operated overhead switch, 11-45 ft. class 3 poles, and associated equipment.
Branch Line Feeder Extension	Overhead feeder extension	\$75,266.31	Overhead feeder extension in SE Brownsville that includes 4,317 ft of 1/0 AAAC, 26 – 45 ft class 3 poles and associated equipment, Install 219 ft of UG 1/0 AL STR, and radial feed 150kVA, 120/240V pad mount transformer.

SECTION TITLE	SECTION TYPE	MATERIAL BUDGET	SECTION DESCRIPTION
Light Commercial Construction	New Commercial Construction	\$27,551.60	Install 2 - 45 ft wood poles, extend 130 ft of primary OH 4-1/0 15 kV conductor, 450 ft of primary 3-1/0 15kV URD conductor, and 1- 750 kVA pad mounted transformer.
Feeder Reconductor	Feeder Upgrade	\$180,000.00	Reconduct Overhead feeder that includes 2.2 miles of 3-phase 795MCM AAC and 477MCM AAC Neutral, 64 - 55ft. Class 3 wooden poles, relocate existing overhead transformers, and associated equipment. Remove existing poles and overhead lines.
Capacitor Bank and Controller Installations	Load/Capacity Relief	\$85,000.00	Install 16 capacitor banks with controllers and communication equipment for four feeders.

BPUB reserves the right to change the above project list, or the scope/budgets therein, without notice to Bidder. BPUB also reserves the right to award projects listed herein outside of this procurement or any contract that may result from this request for proposals.

1.3 Public Information

The BPUB considers all information, documentation and other materials requested to be submitted in response to this solicitation to be of a non-confidential and/or non-proprietary nature and therefore shall be subject to public disclosure under the Texas Public Information Act (Texas Government Code, Chapter 552.001, et seq.) after a contract is awarded.

Respondents are hereby notified that the BPUB strictly adheres to all statutes, court decisions, and opinions of the Texas Attorney General with respect to disclosure of RFP information.

1.4 Contract Award Process

BPUB shall receive, publicly open, and read aloud the names of the offerors and read aloud the fees and prices stated in each proposal as the proposal is opened.

The BPUB will then appoint a Selection Review Committee (“SRC”) consisting of BPUB Staff and/or Management to review, score and rank all the RFP submittals received. After

ranking the RFP respondents, the SRC will develop a shortlist of responsive companies. If there are no more than four (4) responsive companies, all responsive companies will be shortlisted. If there are greater than four (4) responsive companies, then in addition to the four (4) highest ranked respondents, the short list will also include any responsive companies whose score is no more than twenty-five (25) points lower than that of the highest scoring respondent. The selection of the shortlist will be based solely on proposals and ranked according to the criteria outlined in this RFP.

The shortlisted respondents must be present and deliver a presentation up to ten (10) minutes in length followed by a five (5) minute question and answer session (if needed). A video conference call can be schedule under certain circumstances approved by BPUB. The Board reserves the right to revise the duration of the presentations and the question and answer periods. Upon the conclusion of the firm presentations and Q&A periods, the Board will determine and select the respondent that submits the proposal that offers the best value for the BPUB based on the published selection criteria and on its ranking evaluation and presentation and determine the final rankings of the remaining shortlisted respondents.

The BPUB will first attempt to negotiate a satisfactory contract with the BPUB Board selected offeror. If the BPUB is unable to negotiate a satisfactory contract with the selected offeror, the BPUB shall, formally and in writing, end negotiations with that offeror and proceed to negotiate with the next offeror in the order of the selection ranking until a contract is reached or negotiations with all ranked offerors end. The BPUB may not disclose any information derived from the proposals submitted from competing offers in conducting such discussions. The BPUB reserves the right to award a Contract for all or any portion of the requirements proposed by reason of this request, award multiple Contracts, or to reject any and all proposals if deemed to be in the best interests of the BPUB and to re-solicit for proposals, or to temporarily or permanently abandon the procurement.

Not later than the seventh day after the date the contract is awarded, the BPUB shall make the rankings public.

1.5 Criteria for Qualification

The Respondent selected will be the offeror that submits the proposal that offers the best value for the BPUB based on the criteria and ranking outlined herein. Consideration may also be given to any additional information and comments at each selection phase if they should increase the benefits to the BPUB.

A. BIDDER Qualifications (25%)

1. BIDDER / Contractor Experience

- a. Hotline Work Experience – Based on the number of documented years of experience the BIDDER has working on or near live energized equipment, with a preference for those exceeding five (5)

years.

2. BIDDER / Contractor Work Force

- a. Qualified Employees – The BIDDER and all listed subcontractors must each employ a Department of Labor Journeyman Line worker for every two (2) crews listed. Exceptions to this requirement will require approval from BPUB Engineering. BPUB reserves the right to reject any Bid from a BIDDER and any subcontractors not meeting this requirement for non-responsibility and non-responsiveness.
- b. Number of Crews – The BIDDER must submit a list of crews that includes the names and titles of each crew member (i.e. Contractor's Field Organization outlined in Section 4.22 of this document). The Bidder must have the capability of working on four (4) sub-projects simultaneously.

3. BIDDER / Contractor Equipment Capabilities

- a. Safety Equipment – BIDDER and all listed subcontractors must provide safety equipment for all staff. In addition, BPUB reserves the right to request recent Contractor/subcontractor equipment calibration test results for any of the proposed digital/mechanical safety equipment prior to contract execution. The safety equipment includes but is not limited to:
 - o Personal protective equipment (i.e. eyewear, HV Gloves, work gloves, hardhats, Hi-Vis FR Vests and Safety shoes, etc.)
 - o ARC Flash apparel with a min 8 cal./cm² rating
 - o Insulated high voltage hotline tools such as hot sticks, shotguns, “rubber guts” and insulating blankets.
- b. Light to Heavy Equipment - The BIDDER must submit a list of equipment that will be utilized throughout the contract. The equipment must be listed in Section CPBD and SPBD.

B. Price to Perform Work (25%)

- 1. Unit Prices under the Construction Unit Price Schedule

C. Quality of Performance (20%)

- 1. BIDDER / Contractor will be evaluated with respect to its experience and their personnel assigned to the projects both in terms of the following:
 - a. Previous work on similar BPUB contracts, and/or
 - b. Recent work for other owners on similar contracts

D. Financial, Legal and Contract Document Compliance (20%)

1. Financial
 - a. The BIDDER must be in good financial standing with lending, bonding and financial institutions
2. Legal
 - a. Submit Bid Bond
 - b. Submit Performance and Payment Bonds from reputable Surety, assuming Contract Price exceeds Texas law minimum limits requiring such Bonds. (See pg. IB-10).
3. Contract Document Compliance
 - a. Properly prepare and submit all required documentation according to the requirements of this Bid Advertisement and the Contract Documents.

E. Safety (10%)

1. Safety Record
 - a. Safety record will be considered when determining the responsibility of the Bidder to perform this proposed work.
 - b. Staff should be trained and knowledgeable in Arc Flash sources and safety.

1.6 Respondent's Acceptance of Evaluation Methodology

Submission of Proposals indicates Respondent's acceptance of the evaluation technique and Respondent's recognition that some subjective judgments must be made by the BPUB during the determination of qualification.

1.7 Commitment

Respondent understands and agrees that this RFP is issued predicated on anticipated requirements for the BPUB and that the BPUB has made no representation, written or oral, that any such requirements be furnished under a Contract arising from this RFP. Furthermore, Respondent recognizes and understands that any cost borne by the Respondent which arises from Respondent's performance hereunder shall be at the sole risk and responsibility of Respondent.

SECTION 2

PROPOSAL GENERAL INSTRUCTIONS

2.1 General Instructions

- A. Respondents should carefully read the information contained herein, and submit a complete response to all requirements and questions as directed.
- B. Submittals and any other information submitted by Respondents in response to this RFP shall become the property of BPUB.
- C. The BPUB will not provide compensation to Respondents for any expenses incurred by the Respondents for submittal preparation or for any demonstrations that may be made, unless otherwise expressly stated or required by law. Respondents submit Proposals and other submittal information in response to this RFP at their own risk and expense.
- D. Submittals which are qualified with conditional clauses, or alterations, or items not called for in the RFP documents, or irregularities of any kind are subject to disqualification by the BPUB, at its option. **OWNER RESERVES THE ABSOLUTE AND UNCONDITIONAL RIGHT TO BE SOLE DETERMINANT OF WHAT IS DEEMED “AN IRREGULARITY” AND TO WAIVE OR INTERPRET ANY IRREGULARITY TO ITS BENEFIT, IN ITS SOLE DISCRETION.**
- E. Each submittal should be prepared simply and economically, providing a straightforward, concise description of your firm's ability to meet the requirements of this RFP. Emphasis should be on completeness, clarity of content, responsiveness to the requirements, and an understanding of the BPUB's needs.
- F. The BPUB makes no guarantee that an award will be made as a result of this RFP and reserves the right to accept or reject any or all submittals, waive any formalities or minor technical inconsistencies, or delete any item/requirements from this RFP or contract when deemed to be in the BPUB's best interest. Representations made within the Proposals submittal will be binding on responding firms. The BPUB will not be bound to act by any previous communication or submittal submitted by the firms other than this RFP.
- G. Firms wishing to submit a “No-Response” are requested to return the Acknowledgement Form. The returned form should indicate your company's name and include the words “No-Response” in the right-hand column.
- H. Failure to comply with the requirements contained in this RFP may result in a finding that the respondent is not qualified and is ineligible to submit a proposal or subsequent contract.

- I. Only individual firms or formal joint ventures may apply. Two firms may not apply jointly unless they have formed a joint venture. Any associates will be disqualified. (This does not preclude an applicant from having consultants.)
- J. When ten related projects are requested, do not list more than ten. When up to three project examples are requested, do not list more than three.

2.2 Preparation and Submittal Instructions

- A. Respondents must complete, sign and return the attached Acknowledgement Form as part of their Proposals submittal response. Submittals must be signed by Respondent's company official(s) authorized to commit such submittals. **FAILURE TO SIGN AND RETURN THESE FORMS WILL SUBJECT YOUR SUBMITTAL TO DISQUALIFICATION.**
- B. Page Size, Binders and Dividers
Submittals must be typed on letter-size (8-1/2" x 11") paper. The BPUB requests that submittals be bound, but no 3-ring binders, please. Preprinted material should be referenced in the submittal and included as labeled attachments. Sections should be divided by tabs for ease of reference. Number each side of each page consecutively, including letter of interest, brochures, licenses, resumes, supplemental information, etc. Submittals are limited to one hundred **(100) letter size pages** (front and back, for a total of fifty **(50) sheets** of information) with minimum font size of 10.
Covers, table of contents and divider tabs will not count as pages, provided no additional information is included on those pages. Provide the number of copies of the submittal specified in the advertisement. **Any submittals exceeding the 100-page limit including all supplemental information will be disqualified.**
- C. Table of Contents
Include with the submittal a Table of Contents that includes page number references. The Table of Contents should be in sufficient detail to facilitate easy reference of the sections of the submittal as well as separate attachments (which should be included in the main Table of Contents). Supplemental information and attachments included by your firm (i.e., not required) should be clearly identified in the Table of Contents and provided as a separate section.
- D. Pagination
All pages of the submittal should be numbered sequentially within each section in Arabic numerals (1, 2, 3, etc.) Attachments should be numbered or referenced separately.

E. Number of Copies

Submit a total of three (3) complete copies of the entire response. An original signature must appear on the Letter of Interest on at least one (1) copy submitted.

F. Submission

1. Three (3) identical copies and one (1) electronic version (PDF format on either USB stick or CD/DVD) of the submittal, including any supplemental printed material referenced with the RFP, must be submitted and received in the BPUB Purchasing Department on or before the time and date specified, pursuant to the Notice to Respondents (ref. Subsection 2.2) and delivered to:

Brownsville Public Utilities Board
Purchasing Department
1155 FM 511
Olmito, TX 78575

NOTE: Show the Request for Proposals number and submittal date in the lower left-hand corner of your sealed submittal envelope (box/container).

2. The materials submitted must be enclosed in a sealed envelope (box or container); the package must show clearly the submittal deadline; the RFP number must be clearly visible; and name and the return address of the Respondent must be clearly visible.
3. Late submittals properly identified will be returned to Respondent unopened. Late submittals will not be considered under any circumstances.
4. Telephone submittals are not acceptable when in response to the Request for Proposals.
5. Facsimile ("FAX") or electronic submittals are not acceptable when in response to this Request for Proposals.

SECTION 3

PROPOSAL SPECIAL CONDITIONS

3.1 Contract with Vendor/Entity Indebted to BPUB

It is a policy of the BPUB to refuse to enter into a contract or other transaction with an individual, sole proprietorship, joint venture, Limited Liability Company or other entity indebted to BPUB.

3.2 Vendor ACH (Direct Deposit) Services

The BPUB has implemented a payment service for vendors by depositing the payment directly to the vendor's bank account. Successful vendor(s) will be required to receive payments directly through Automated Clearing House (ACH) in lieu of a paper check. **The awarded vendor must agree to receive payments via ACH (Direct Deposit).**

3.3 Tax Identification Number (TIN)

In accordance with IRS Publication 1220, aW9 form, or a W8 form in cases of a foreign vendor, will be required of all vendors doing business with the Brownsville PUB. If a W9 or W8 form is not made available to Brownsville PUB, the first payment will be subject to income tax withholding at a rate of 28% or 30% depending on the U.S. status and the source of income as per IRS Publication 1220. **The W9 or W8 form must be included with bid response.** Attached are sample forms.

3.4 Taxes

The Brownsville Public Utilities Board is exempt from Federal Excise Tax, State Tax and local Taxes. Do not include tax in the bid. If it is determined that tax was included in the bid it will not be included in the tabulation or any awards. Tax exemption certificates will be furnished upon request.

3.5 As needed basis

Quantities/services are estimated for an annual usage basis. BPUB has the right to increase or decrease service as deemed necessary. Construction jobs will be provided in releases and will be invoiced as such.

3.6 Signing of Bid

Failure to sign bid will disqualify it. Person signing bid should show title or authority to bind their firm to a contract.

3.7 EEOC Guidelines

During the performance of this contract, the contractor agrees not to discriminate against any employee or applicant for employment because of race, national origin, age, religion, gender, marital or veteran status, or physically challenging condition.

3.8 Living Wage Statement

On October 16, 2007, the BPUB Board of Directors approved a local "living wage" policy that requires all Contractors and Subcontractors performing 100% Non-Federally funded Work for the BPUB to pay a minimum wage rate of \$8.00/hour. The BPUB-requires that all Contractors and Subcontractors comply with this policy. Otherwise, the BPUB adopts the Federal Department of Labor Wage scales for Cameron County on 100% Non-Federally funded projects as specified later herein in the BPUB Wage and Labor Provisions for 100% Non-Federally Funded Construction.

3.9 Contract and Purchase Order

The electric utility work shall be performed FOB Brownsville Public Utilities Board at various locations, to be determined throughout the year, in and near the City of Brownsville, Texas. A contract for the electric utility work will be placed into effect by means of a purchase order issued by the Brownsville Public Utilities Board after tabulation and final approval by the Board.

3.10 Brownsville Public Utilities Board Rights

- A. If only one or no bid is received by “submission date”, the BPUB has the right to reject, re-bid, accept and/or extend the bid by up to an additional two (2) weeks from original submission date.
- B. The right to reject any/or all bids and to make awards as they may appear to be advantageous to the Brownsville Public Utilities Board. The bidder must indicate “all or none” in the bid if the above-stated condition is not acceptable.
- C. The right to hold bid for ninety (90) days from submission date without action, and to waive all formalities in bidding.
- D. The right to extend the total bid quote beyond the original 90-day period prior to an award if agreed upon in writing by both parties and if low bid holds firm
- E. The right to terminate for cause or convenience all or any part of the unfinished portion of the Project resulting from this solicitation within thirty (30) calendar days written notice; for cause: upon default by the vendor/contractor, for delay or non-performance by the vendor/contractor; or if it is deemed in the best interest of the BPUB for BPUB’s convenience.
- F. In bid, stipulate whether the increase or decrease will affect bid price. The bid prices will remain firm for twelve (12) months from date of Purchase Order, unless otherwise stipulated.
- G. Brownsville PUB has the right to increase or decrease services or number of crews.
- H. The Brownsville PUB has the right to refuse to enter into a contract or other transaction with any individual or entity indebted to the municipality as per Local Government Code 252.0436.

3.11 Withdrawal of Bids

Bids may be withdrawn on written, electronic, or facsimile request dispatched by the BIDDER in time for delivery in the normal course of business to the time fixed for opening; provided, that written confirmation of any facsimile or electronic withdrawal over the signature of the BIDDER is placed in the mail and postmarked prior to the time set for bid opening. The bid security of any BIDDER withdrawing his bid in accordance with the foregoing conditions will be returned promptly.

3.12 Execution of Agreement: Performance and Payment Bond

Subsequent to the award and within ten (10) days after the issuance of any Section Notice to Proceed, the successful BIDDER shall execute and deliver to the OWNER an agreement in the form included in the contract documents in such number of copies as the OWNER may require.

Having satisfied all conditions of award as set forth elsewhere in these documents, the successful BIDDER shall, within the period specified in the preceding paragraph, furnish a Performance Bond and Payment Bond, in accordance with the following parameters:

- A. For a Section in excess of \$100,000.00, a Performance Bond shall be executed in the full amount of the Contract conditioned upon the faithful performance of the Work in accordance with the plans, specifications, and Contract Documents. Said Bond shall be solely for the protection of the OWNER.
- B. For a Section in excess of \$50,000.00, a Payment Bond shall be executed in the full amount of the Contract, solely for the protection of all proper claimants supplying labor and material in the prosecution of the Work provided for in the Contract, for the use of each such claimant perfecting a proper claim.

When bonds are required they shall serve as security for the faithful performance of the contract, and for the payment of all persons, firms or corporations to whom the Contractor may become legally indebted for labor, materials, tools, equipment, or services of any nature including utility and transportation services, employed or used by him in performing the work. Such bonds shall be in the same form as that included in the contract documents and shall bear the same date as, or a date subsequent to that of the agreement. The current power of attorney for the person who signs for any surety company shall be attached to such bonds. These bonds shall be signed by a guaranty or surety company legally authorized to do business in the State of Texas.

The failure of the successful BIDDER to execute such agreement and to supply the required bonds and insurance certificates within ten (10) days after the prescribed forms are presented for signature, or within such extended period as the OWNER may grant in writing, based upon reasons determined sufficient by the OWNER, shall constitute a default, and the OWNER may either award the contract to the next lowest responsive and responsible BIDDER or re-advertise for bids, and may charge against the defaulting BIDDER the difference between the amount of the defaulted bid and the amount for which a contract for the work is subsequently executed, irrespective of whether the amount thus due exceeds the amount of the bid bond. If a more favorable bid is received by re-advertising, the defaulting BIDDER shall have no claim against the OWNER for a refund.

3.13 Addenda and Interpretations

No oral interpretations by OWNER and its representatives shall be binding upon OWNER as to the meaning of the plans, specifications, contract documents, or other pre-bid documents.

Every request for such interpretation should be made in writing, addressed to the Purchasing Department of the Public Utilities Board, 1155 FM 511, Olmito, Texas 78575. Addenda will be issued as expeditiously as possible. It will be the BIDDER's responsibility to inquire as to any

addenda issued and failure of any BIDDER to receive any such addenda or interpretation shall not relieve such BIDDER from any obligation under his bid as submitted. All addenda so issued shall become part of the contract documents. Addenda may be posted on BPUB's webpage.

3.14 Facsimile Modification

Any BIDDER may modify his bid by facsimile communication at any time prior to the scheduled closing time for receipt of bids, provided such facsimile communication is received by the OWNER prior to the closing time, and provided further, the OWNER is satisfied that a written confirmation of the facsimile modification over the signature of the BIDDER was also mailed prior to the closing time. The facsimile communication should not reveal the total bid price, but should provide the addition or subtraction, or other modification, so that the final prices or terms will not be known by the OWNER until the original sealed bid is opened.

Revised bids submitted before the opening of bids, whether forwarded by mail, electronically or by facsimile if representing an increase in excess of two percent (2%) of the original bid, must have the bid security adjusted accordingly; otherwise the bid will not be considered responsive.

If written confirmation is not received within two (2) days from the closing time, no consideration will be given to the modification.

3.15 Notice of Special Conditions

Attention is particularly called to those parts of the contract documents and specifications, which deal with the following:

- A. Inspection and testing of materials
- B. Insurance requirements
- C. Wage and Hour Provisions
- D. State Sales and Use Tax Exemption Provisions
- E. BPUB Required Procurement Forms

3.16 Laws and Regulations

The BIDDER's attention is directed to the fact that all applicable federal, state and local laws, statutes, ordinances, codes and the rules and regulations of all authorities having jurisdiction over construction of the project shall apply to the contract throughout, and they will be deemed to be included in the contract the same as though herein written out in full.

3.17 Equal Employment Opportunity

Attention of BIDDERS is particularly called to the requirement for ensuring that employees and applicants for employment are not discriminated against because of their race, religion, gender, physically challenged condition or national origin.

3.18 Safety Provisions

BIDDER shall provide barricades, flares, warning signs, and/or flagmen so that danger and inconvenience to the public, railroad and job site working personnel will be eliminated. In addition to any other requirements of the Contract Documents, the BIDDER shall be responsible for familiarity and compliance with all Federal (OSHA), State, Railroad and local safety rules, laws and requirements with particular attention to be given to excavation and trench safety requirements. A Job Safety Analysis (JSA) form is to be completed, executed, and submitted by the vendor prior to entering into a contractual agreement with the OWNER. The JSA form will be valid for a period of 1 month after which an updated JSA form is to be completed, executed and submitted by the vendor. The completed JSA form must be included along with other Contract Documents included herein. Assistance in completing this form is available from Adolfo Vazquez, BPUB Safety Department, at (956) 983-6254. Sample form can be obtained from the BPUB Purchasing Department, or page, bid forms-10.

3.19 Wages and Hours

The most recent wage rate determination from the U.S. Department of Labor for Cameron County, Texas as amended within the previous three (3) years and as locally adopted by the BPUB, is a part of these Specifications and controls minimum wage, hour and any fringe benefits, with the exception that no wage shall be paid below \$8.00 as established locally by the BPUB.

A copy of the appropriate (building and/or heavy/highway) wage rate schedule(s) must be posted at the job site in both English and Spanish and kept posted in a conspicuous place on the site of the Project at all times during construction. The BIDDER shall familiarize himself with BPUB's Supplemental Conditions for Wage and Labor Provisions for 100% Non-Federally Funded Construction which can be obtained online at https://www.brownsville-pub.com/rfp_status/open/ or from the BPUB Purchasing Department. BIDDER further acknowledges that it has received or been provided electronic access to copies said rates, but the responsibility for initial posting and keeping same posted, rests upon the BIDDER.

3.20 State Sales and Use Tax Exemption

Pursuant to 34 Texas Administrative Code 3.291, in order for the Brownsville P.U.B. to benefit from its status as a State Sales and Use Tax Exempt Organization, construction contracts must be awarded on a "separated contract" basis. A "separated contract" is one that distinguishes the value of the tangible personal property (materials such as pipe, bricks, lumber, concrete, paint, etc.) to be physically incorporated into the project realty from the total contract price. Under the "separated contract" format, the contractor in effect becomes a "seller" to the Brownsville P.U.B. of materials that are to be physically incorporated into the project realty. As a "seller", the contractor will issue a "Texas Certificate of Resale" to the supplier in lieu of paying the sales tax on materials at the time of purchase. The contractor will also issue a "Certificate of Exemption" to the supplier demonstrating that the personal property is being purchased for resale and that the resale is to the Brownsville P.U.B., which is a sales tax-exempt entity under UTCA Tax Code Section 151.309(5). Contractors should be careful to consult the most recent guidelines of the

State Comptroller of Public Accounts regarding the sales tax status of supplies and equipment that are used and/or consumed during project work (gas, oil, rental equipment), but that are not physically incorporated into the project realty. Such items are generally not tax exempt. Contractors that have questions about the implementation of this policy are asked to inquire directly with the State Comptroller of Public Accounts, Tax Administration Division, State of Texas, Austin, Texas 78774. Bidders will not include any federal taxes in bid prices since the Brownsville P.U.B. is exempt from payment of such federal taxes. "Texas Certificates of Exemption", "Texas Certificates of Resale" and "Texas Sales Tax Permits" are forms available to the contractor through the regional offices of the State Comptroller of Public Accounts.

3.21 Required Bidding Forms

Contractor must submit the following Forms which are available upon request from the BPUB Purchasing Department on via the BPUB website at: https://www.brownsville-pub.com/rfp_status/open/

1. Acknowledgement Form
2. Debarment Certification
3. Ethics Statement
4. Conflict of Interest Questionnaire
5. W9 or W8 Form
6. Residence Certification form
7. CONTRACTOR'S PRE-BID DISCLOSURE STATEMENT
8. SUBCONTRACTOR'S PRE-BID DISCLOSURE STATEMENT
9. OSHA 300 Log
10. Contractor JSA Form
11. Previous Customer Reference Worksheet
12. Key Employee Resume and Certifications

3.22 Information to be Submitted with Bid:

Each BIDDER shall submit with his bid pertinent information concerning proposed equipment and proposed construction organization.

- A. Contractor's Field Organization. Each BIDDER shall submit with his bid an organization chart showing the names of field management, supervisory, and technical personnel, and the details of the management, supervisory, and technical organization, which he proposes to use for this project. The successful BIDDER's organizational concept will be subject to the review and acceptance of the OWNER. The experience record of the Contractor's field superintendent shall be submitted with the bid.

B. Contractor's Safety Review & Evaluation. Each BIDDER shall submit with his bid their health & safety program. In addition, BIDDER shall provide citations received from regulatory organizations, such as OSHA, as well as any accidents the BIDDER has experienced while performing a job in the last three years. **Each BIDDER must provide OSHA 300 log.**



BPUB GENERAL CONDITIONS ADDENDUM

The following provisions in this BPUB GENERAL CONDITIONS ADDENDUM shall take precedence and control over any conflicting provisions in the "Proposal"

ARTICLE 1. SUSPENSION OF WORK AND TERMINATION

Suspension of Work:

1.1 The Work may be suspended upon the following:

1.1.1 OWNER may, at any time and without cause, suspend the Work or any portion thereof for a period of not more than ninety (90) cumulative (not necessarily consecutive) calendar days notice by issuing a stop-work order in writing to CONTRACTOR ("stop-work order"), which will fix the date on which Work will be resumed. Upon receipt of the order, the CONTRACTOR shall immediately comply with its terms and take all reasonable steps to minimize the incurrence of costs allocable to the work covered by the order during the period of work stoppage. Upon the expiration of the order, CONTRACTOR shall resume the Work on the date so fixed unless BPUB extends the order or BPUB terminates the contract for convenience as provided by this Contract. CONTRACTOR may be allowed an increase in the Contract Price (excluding profit, or overhead on work not performed) or an extension of the Contract Time, or both, only to the extent such increase or extension is actually and directly attributable to any suspension and unavoidable (by exercising reasonable care), and such claim is presented in writing no later than 30 days after the expiration of the stop work period. However, no adjustment shall be made under this clause for any suspension, delay, or interruption to the extent that performance would have been so suspended, delayed, or interrupted by any other cause, including the fault or negligence of the CONTRACTOR, or for which an equitable adjustment is provided for or excluded under any other term or condition of this contract. Any increase or decrease in the Contract Price shall be governed by all State and local laws, statutes, codes, ordinances, rules and regulations governing public competitive bidding and Change Orders. Nothing herein shall be deemed to prevent OWNER and CONTRACTOR from agreeing in writing to a suspension or stop work order in excess of the cumulative calendar day limit herein.

1.1.2 CONTRACTOR may, upon forty-eight (48) hours written notice and written approval of OWNER (which may be withheld in OWNER's sole discretion), suspend the Work or any portion thereof for a period of not more than fifteen (15)

calendar days by issuing a request to suspend in writing to OWNER. Such notice requesting suspension shall include the requested start date and duration of suspension and email and phone number for emergency notices. CONTRACTOR shall not be entitled, and OWNER shall not be required to pay, any increase in Contract Price or any re-mobilization or similar costs as a result of such suspension. OWNER, without cause, damage, or cost, reserves the right to immediately retract such prior written approval prior to the approved duration of suspension and demand **immediate resumption of services, upon twenty-four (24) hours** of such notice to emergency phone number and email, in the following event (a “Storm Event”):

1.1.2.1 When a storm is designated as a hurricane or tropical storm by the NOAA National Weather Service or NOAA National Hurricane Center, and

1.1.2.2 The designated hurricane or tropical storm is within the Gulf of Mexico or the boundaries of 80 degrees west longitude and 18 degrees north latitude.

Owner May Terminate:

1.2 Upon the occurrence of any one or more of the following events:

1.2.1 if CONTRACTOR commences a voluntary case under any chapter of the Bankruptcy Code (Title 11, United States Code), as now or hereafter in effect, or if CONTRACTOR takes any equivalent or similar action by filing a petition or otherwise, under any other federal or State law in effect at such time, relating to the bankruptcy or insolvency;

1.2.2 if a petition is filed against CONTRACTOR under any chapter of the Bankruptcy Code as now or hereafter in effect at the time of filing, or if a petition is filed seeking any such equivalent or similar relief against CONTRACTOR under any other federal or State law in effect at the time relating to bankruptcy or insolvency;

1.2.3 if CONTRACTOR makes a general assignment for the benefit of creditors;

1.2.4 if a trustee, receiver, custodian or agent of CONTRACTOR is appointed under applicable law or under contract, whose appointment or authority to take charge of the property of CONTRACTOR is for the purpose of enforcing a lien against such CONTRACTOR property, or for the purpose of general administration of such CONTRACTOR property, for the benefit of CONTRACTOR's creditors;

1.2.5 if CONTRACTOR admits in writing an inability to pay its debts generally as they become due;

1.2.6 if CONTRACTOR persistently fails to perform the Work in accordance with the Contract Documents (including but not limited to, failure to supply sufficient skilled workers or equipment, or failure to adhere to the Progress Schedule established under any Section Notice to Proceed, as revised from time to time);

1.2.7 if CONTRACTOR disregards Laws or Regulations of any public body having jurisdiction;

1.2.8 if CONTRACTOR disregards the rights of OWNER; or

1.2.9 if CONTRACTOR otherwise violates in any substantial and material way, any provisions of the Contract Documents;

OWNER may, after giving CONTRACTOR and the surety seven (7) calendar days written notice, and to the extent permitted by Laws and Regulations: terminate the services of CONTRACTOR under this contract or any Section Notice to Proceed issued thereunder; exclude CONTRACTOR from the site and take possession of the Work and of all CONTRACTOR's tools, appliances, construction equipment and machinery at the Project site; and use the same to the full extent they could be used by CONTRACTOR (without OWNER liability to CONTRACTOR for trespass or conversion), and finish the Work as OWNER may deem expedient. In such case, CONTRACTOR shall not be entitled to receive any further payment until the Work is finished. If the unpaid balance of the Contract price exceeds the OWNER's direct, indirect and consequential costs of completing the Work (including but not limited to fees and charges of engineers, architects, attorneys and other professionals and court costs), such excess will be paid to CONTRACTOR or surety. If such OWNER costs exceed such unpaid balance, CONTRACTOR or surety shall pay the difference to OWNER. Such costs incurred by OWNER will be incorporated in a Change Order, but when exercising any rights or remedies under this paragraph, OWNER shall not be required to obtain the lowest price for the Work performed.

1.3 Where CONTRACTOR's services have been so terminated by OWNER, the termination will not affect any rights or remedies of OWNER against CONTRACTOR then existing, or which may thereafter accrue. Any retention or payment of moneys due CONTRACTOR by OWNER will not release CONTRACTOR from ongoing liability.

1.4 Upon seven (7) calendar days written notice to CONTRACTOR, OWNER may, without cause and without prejudice to any other right or remedy, elect to abandon the Work and terminate the Agreement or any Section thereunder. In such case, CONTRACTOR shall mitigate demobilization costs as best as possible and be paid for all Work executed and expenses sustained, plus reasonable termination expenses, which will include, but not be limited to, direct, indirect and consequential costs (including, but not limited to, fees and charges of engineers, architects, attorneys and other professionals and court costs). Notwithstanding the foregoing, OWNER shall not be liable, and CONTRACTOR shall not be entitled to payment for work not performed, nor to overhead or provide on Work not performed

Force Majeure:

1.5 In the event either Party is delayed or unable to perform any part of its obligations under this Contract due to circumstances that were not foreseeable and were beyond the reasonable control of such Party, due to war, riot, insurrection, military action, terrorist activity, economic sanction, blockade or embargo, sabotage, earthquake, or action or restraint by the order or act of a government authority properly exercising its jurisdiction (each, an "Act of God" event), such Party

shall be excused from the performance of such obligation to the extent that performance is prevented, hindered, or delayed by such Act of God. For clarity, in no event shall (i) lack of funds or economic hardship; (ii) failure to obtain necessary licenses or approvals; (iii) import or export restrictions or customs clearance or compliance; (iv) strikes by or lockouts of unionized employees or other labor unrest or (v) emergency work due to weather events, including abnormal storm or weather such as (by way of example and not limitation) Storm Event(s), winter storm events, wind events, etc constitute an Act of God. Upon the occurrence of an Act of God event, the affected Party shall notify the other Party of same and use its reasonable efforts to remedy or correct the delay or failure to perform as soon as possible. In no circumstances shall the Party prevented or delayed from performing any part of its obligations be liable to the other Party for any damage caused by the Act of God. In the event that such Act of God results in a delay exceeding thirty (30) days, the other Party may suspend the Contract pending resolution of the Act of God, or terminate the Contract.

ARTICLE 2. LAWS AND REGULATIONS

2.1 CONTRACTOR shall give all notices and comply with all Laws and Regulations applicable to furnishing and performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, OWNER shall not be responsible for monitoring CONTRACTOR's compliance with any Laws or Regulations.

2.2 If CONTRACTOR has actual knowledge that the Specifications or Drawings are at variance with any Laws or Regulations, CONTRACTOR shall give OWNER's Engineer prompt written notice thereof, and any necessary changes will be authorized by OWNER. If CONTRACTOR performs any Work knowing, or having reason to know, that it is contrary to such Laws or Regulations, and without such notice to OWNER's Engineer, CONTRACTOR shall bear all costs arising there from; however, it shall not be CONTRACTOR's primary responsibility to make certain that the Specifications and Drawings are in accordance with such Laws and Regulations.

ARTICLE 3. BONDS AND INSURANCE

Performance and Payment Bonds:

For any Section in excess of \$100,000.00, a Performance Bond shall be executed in the full amount of the Section conditioned upon the faithful performance of the Work in accordance with the Plans, Specifications and Contract Documents. Said Bond shall be solely for the protection of the OWNER.

For a Section in excess of \$50,000.00, a Payment Bond shall be executed in the full amount of the Section, solely for the primary protection of all proper claimants against the surety for payment in supplying labor and material in the prosecution of the Work provided for in the Contract, for the use of each such claimant timely perfecting a proper claim against surety.

3.1 CONTRACTOR shall furnish Performance and Payment Bonds, each in an amount at least equal to the Contract Price of the Section as security for the faithful performance of the Work and payment of all CONTRACTOR's labor, materials and supply obligations under the Contract Documents. **These bonds shall remain in effect at least until one year after the date when final payment becomes due**, except as otherwise provided by Law or Regulation or by the Contract Documents. All Bonds shall be in the forms prescribed by Law or Regulation or by the Contract Documents and be executed by such sureties as are authorized to do business in the State of Texas. All Bonds signed by an agent must be accompanied by a certified copy of the authority to act on behalf of the surety.

3.2 If the surety on any Bond furnished by CONTRACTOR is declared a bankrupt or becomes insolvent, or its right to do business is terminated in Texas or it ceases to meet the requirements of paragraph 3.1, CONTRACTOR shall within five (5) calendar days thereafter substitute another Bond or surety, both of which must be acceptable to OWNER.

Contractor's Liability Insurance:

3.3 CONTRACTOR shall purchase and maintain such commercial general liability and other insurance coverages as are appropriate for the Work being performed and furnished, and as will provide protection from claims set forth below which may arise out of, or result from, CONTRACTOR's performance and furnishing of the Work and CONTRACTOR'S other obligations under the Contract Documents; whether it is to be performed or furnished by CONTRACTOR, by any Subcontractor, by anyone directly or indirectly employed by any of them to perform or furnish any of the Work; or by anyone for whose acts and/or omissions any of them may be liable:

- 3.3.1** Claims under workers' compensation, disability benefits and other similar employee benefit acts. This is a Texas public works Contract and rejection of the worker's compensation act, and thereby substituting a CONTRACTOR'S self-insurance reserve, is specifically disallowed.
- 3.3.2** Claims for damages because of bodily injury, occupational sickness or disease, or death of CONTRACTOR's employees traditionally covered by employer's liability insurance;
- 3.3.3** Claims for damages because of bodily injury, sickness or disease, or death of any person other than CONTRACTOR's employees;
- 3.3.4** Claims for damages insured by personal injury liability coverage which are sustained (a) by any person as a result of an offense directly or indirectly related to the employment of such person by CONTRACTOR; or (b) by any other person for any other reason;
- 3.3.5** Claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting there from;

- 3.3.6 Claims arising out of operation of Laws or Regulations for damages because of bodily injury or death of any person or for damage to property; and
- 3.3.7 Claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance or use of any owned or hired motor vehicle.

The various insurance coverages required by these paragraphs 3.3 and 3.6 shall include the specific type coverage and be written for not less than the limits of liability and coverage amounts provided herein below, or required by law, whichever is greater. The commercial general liability insurance shall include completed operations insurance. All of the policies of insurance so required to be purchased and maintained (or the certificates or other evidence thereof) shall be of an "occurrence"-type, when applicable, and shall contain a provision or endorsement that the coverage afforded will not be canceled, materially changed or renewal refused until at least (30) thirty days prior written notice has been given to OWNER by certified mail. All such insurance shall remain in effect until final payment and at all times thereafter when CONTRACTOR may be correcting, removing or replacing defective Work. In addition, CONTRACTOR shall maintain such completed operations insurance for at least two (2) years after final payment and furnish OWNER with evidence of continuation of such insurance at final payment and one year thereafter. All insurance coverage furnished under the Contract Documents shall include the City of Brownsville and BPUB as OWNER, and their respective public officials, officers, board members, and employees, as named additional insureds and hereinafter known as "additional insureds."

Contractual Liability Insurance:

3.4 The Commercial general liability insurance required by paragraph 3.3 will include contractual liability insurance applicable to CONTRACTOR's INDEMNITY obligations under paragraphs 5.8 and 5.9.

3.5 Specific Coverages of Insurance Required by Owner:

3.5.1 Workmen's Compensation and Employer's Liability. This insurance shall protect the laborer, and insure the CONTRACTOR, and insulate the additional insureds, against all claims under applicable Texas workmen's compensation laws, pursuant to Section 3.3.1. The additional insureds shall also be protected under an Employer's Liability policy against claims for injury, disease, or death of employees which, for any reason, may not fall within the provisions of a workmen's compensation law. This Employer's Liability policy shall include an "all states" endorsement. The CONTRACTOR shall provide coverage, based on proper reporting of classification codes and payroll amounts and filing of any coverage agreements, which meets the statutory requirements of Texas Labor Code, § 401.011(44) for all employees of the CONTRACTOR providing services on the Project, for the duration of the Project, and the Language of **TWCC Rule 28 TAC Sect. 110.110 is hereby incorporated by reference herein for all purposes.**

The liability limits shall not be less than:

Workmen's compensation	Texas Statutory Limits
Employer's liability	\$100,000.00 each occurrence

- 3.5.3** Comprehensive Business Automobile Liability. This insurance shall be written in comprehensive business form and shall protect the CONTRACTOR and the additional insureds against all claims described under Section 3.3.6. of the General Conditions of the Contract Documents and arising from the use of motor vehicles, and shall cover, on or off the Project site, all motor vehicles licensed for highway use, whether they are owned, non-owned, or hired.

The liability limits shall not be less than:

Bodily Injury and property damage	\$500,000.00 combined single limit each occurrence
-----------------------------------	--

- 3.5.4** Commercial General Liability. This insurance shall be an “occurrence” type policy written in commercial form and shall protect the CONTRACTOR and the additional insureds against all claims described in Sections 3.3.2., 3.3.3., 3.3.4., and 3.3.5. of the General Conditions of the Contract Documents arising out of any intentional or negligent act and/or omission of the CONTRACTOR or his agents, employees, or subcontractors. This policy shall also include protection against claims insured by usual personal injury liability coverage.

The liability limits shall not be less than:

Personal Injury and property damage	\$1,000,000.00 combined single limit each occurrence and \$1,000,000.00 aggregate
-------------------------------------	---

If the CONTRACTOR'S Work, or Work under his direction, requires blasting, explosive conditions, or underground operations, the commercial general liability coverage shall contain no exclusion relative to blasting, exploding, collapse of structures, or damage to underground property.

- 3.5.5** Excess Umbrella Liability Policy. This insurance shall protect the CONTRACTOR and the additional insureds against all claims in excess of the limits provided under the employer's liability, comprehensive business automobile liability, and commercial general liability policies. The liability limits of the umbrella policy shall not be less than \$2,000,000.00. The policy shall be an “occurrence” type policy.

- 3.5.6** Transportation Insurance. This insurance shall be of the “all risks” type and shall protect the CONTRACTOR and the OWNER from all insurable risks of physical loss or damage to equipment and materials in transit to the Project jobsite and until

the OWNER receives the equipment and materials at the Project jobsite. The coverage amount shall be not less than one-half of the full amount of the total Contract.

Transportation insurance shall provide for losses to be payable to the CONTRACTOR and the OWNER as their interests may appear.

- 3.5.7** All policies required under Section 3.5 herein shall contain a “cross liability” or “severability of interest” clause or endorsement. Notwithstanding any other provision of these policies, the insurance afforded shall apply separately to each insured, named insured, or additional insured with respect to any claim, suit, or judgment made or brought by or for any other insured, named insured, or additional insured, as though a separate policy had been issued to each, except the insurer's liability shall not be increased beyond the amount or amounts for which the insurer would have been liable had only one insured been named.
- 3.5.8** CONTRACTOR shall require each of his Subcontractors to procure and maintain during the life of his subcontract, Subcontractor's Commercial General Liability and Property Damage Insurance of the type specified in subparagraph 3.5.1, 3.5.2, 3.5.3, 3.5.4 and paragraph 3.6 hereof, in amounts approved by OWNER.
- 3.5.9** The insurance required under subparagraphs 3.5.2, 3.5.3, 3.5.4 and paragraph 3.6 hereof shall provide adequate protection for CONTRACTOR and his Subcontractors respectively against damage claims which may arise from operations under this Contract, whether such operation is by the insured or by anyone directly or indirectly employed by him, and also, against any special hazards which may be encountered in the performance of this Contract.
- 3.5.10** CONTRACTOR shall not commence any Work under this Contract until he has obtained all the insurance coverage required under this Article and such insurance has been approved by OWNER; nor shall CONTRACTOR allow any Subcontractor to commence Work on this Contract until the insurance required by the Subcontractor has been so obtained and approved.

Property Insurance:

3.6 CONTRACTOR shall purchase and maintain property insurance upon the Work at the Project site to the full insurable value thereof (subject to such deductible amounts established by current customary construction industry standards given the type of Work and value thereof, or as may be required by Laws and Regulations). This insurance shall include the interests of OWNER, CONTRACTOR, and Subcontractors, in the Work, all of whom shall be listed as insured or additional insured parties, which shall insure against the perils of fire and extended coverage and shall include "all risk" insurance for physical loss and damage including theft, vandalism and malicious mischief, collapse and water damage; and shall include damages, losses and expenses arising out of or resulting from any insured loss or cost incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers, architects, attorneys and other professionals). If not covered under the "all risk" insurance, CONTRACTOR

shall purchase and maintain similar property insurance on portions of the Work stored on and off the site or in transit when such portions of the Work are to be included in an Application for Payment. The policies of insurance required to be purchased and maintained by CONTRACTOR in accordance with this paragraph shall be of an “occurrence”-type, when applicable, and contain a provision that the coverage afforded will not be canceled or materially changed until at least (30) thirty days prior written notice has been given to OWNER by certified mail.

3.6.1 Property Insurance Coverage. This insurance shall protect CONTRACTOR and the additional insureds against all claims described in Section 3.6 and shall provide the following minimum amounts:

Property Insurance Coverage: Provide Full Contract Amount or \$100,000.00 Minimum, whichever is greater.

Waiver of Rights:

3.11 Waiver

3.11.1 CONTRACTOR waives all rights against OWNER, unless OWNER was solely negligent, for all losses and damages caused by any of the perils covered by the policies of insurance provided in response to paragraph 3.6 and any other property insurance applicable to the Work, and also waives all such rights against all other parties named as additional insureds in such policies for losses and damages so caused. Each subcontract between CONTRACTOR and a Subcontractor will contain similar waiver provisions by the Subcontractor in favor of OWNER, and all other parties named as additional insureds.

3.11.2 CONTRACTOR intends that any policies provided in response to paragraph 3.6 shall protect all of the parties insured and provide primary coverage for all losses and damages caused by the perils covered thereby. Accordingly, all such policies shall contain provisions to the effect that in the event of payment of any loss or damage, the insurer will have no rights of recovery against any of the parties named as insured or additional insured, and if the insurers require separate waiver forms to be signed by any Subcontractor, CONTRACTOR will obtain the same.

Acceptance of Insurance:

3.12 If OWNER has any objection to the coverage afforded by or other provisions of the insurance required to be purchased and maintained by CONTRACTOR in accordance with paragraphs 3.3 and 3.4 on the basis of the coverages not complying with the Contract Documents, OWNER will attempt to notify CONTRACTOR in writing thereof within ten (10) calendar days of the date of delivery of such certificates to OWNER. CONTRACTOR shall provide to the OWNER such additional information regarding the insurance provided by CONTRACTOR as the OWNER may reasonably request. Failure on the part of the OWNER or its agents to detect an insurance deficiency as compared to the insurance requirements of the Contract shall not constitute a waiver by the OWNER of the insurance requirements which CONTRACTOR and/or

Subcontractor must contractually meet compliance herewith.

Partial Utilization - Property Insurance:

3.13 If OWNER finds it necessary to occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work, CONTRACTOR shall have the obligation to inform the insurers of OWNER's intent to so occupy or use a portion or portions of the Work. The insurers of CONTRACTOR providing the property insurance shall consent to such use or occupancy by endorsement on the policy or policies, but the property insurance shall not be canceled or lapse on account of any such partial use or occupancy by OWNER.

ARTICLE 4. DISPUTES AND GOVERNING LAW

Dispute Resolution

4.1 In the event a dispute arises between the parties to this Contract, then as a condition precedent to any legal action by either party, or binding arbitration, the parties shall first refer the dispute to upper management for good faith negotiations for ten (10) calendar days, and if not resolved, then the parties agree to participate in at least one session of mediation, as needed, in an effort to resolve the dispute. The parties agree to split the mediator's fees equally, but each party shall bear their own legal fees for the mediation. The mediation shall be administered by a mutually agreeable mediation service and shall be held in Cameron County, Texas, unless another location is mutually agreed upon. If the parties cannot agree on a mediation service or mediator, then the matter shall be submitted to the American Arbitration Association, Dallas, for administration.

Attorney's Fees

4.2 If it is necessary for either party herein to file a cause of action at law or in equity against the other party, the prevailing party shall be entitled to reasonable attorney's fees and costs, and any necessary disbursements, in addition to any other relief to which it is entitled.

Governing Law

4.3 This Contract is governed by the laws of the State of Texas and all obligations of the parties, and venue for any legal action under this Contract, are performable and shall take place in Cameron County, Texas.

ARTICLE 5. CONTRACTOR'S RESPONSIBILITIES

5.1 CONTRACTOR shall confine construction equipment, the storage of materials and equipment and the operations of workers to the Project site and land and areas identified in and permitted by the Contract Documents, or otherwise privately acquired by the CONTRACTOR, and other land and areas permitted by Laws and Regulations, rights-of-way, permits (including but not limited to TxDOT, construction permits and construction licenses)

and easements. CONTRACTOR shall assume full responsibility for any damage to any Project land or area, or to the owner or occupant thereof, or of any land or areas contiguous thereto, resulting from the performance of the Work. Should any claim be made against OWNER by any such adjacent owner or occupant because of the performance of the Work, CONTRACTOR shall promptly attempt to settle with such other party by agreement, or otherwise resolve the claim by mediation, arbitration or at law. **CONTRACTOR SHALL, TO THE FULLEST EXTENT PERMITTED BY LAWS AND REGULATIONS, INDEMNIFY, AND HOLD HARMLESS OWNER FROM AND AGAINST ALL CLAIMS, DAMAGES, LOSSES AND EXPENSES (INCLUDING, BUT NOT LIMITED TO, FEES OF ENGINEERS, ARCHITECTS, ATTORNEYS AND OTHER PROFESSIONALS AND COURT COSTS) ARISING DIRECTLY, INDIRECTLY OR CONSEQUENTIALLY OUT OF ANY ACTION, LEGAL OR EQUITABLE, BROUGHT BY ANY SUCH OTHER PARTY AGAINST OWNER, TO THE EXTENT BASED ON A CLAIM ARISING OUT OF CONTRACTOR'S PERFORMANCE OF THE WORK. IT IS THE EXPRESSED INTENT OF THE PARTIES HERETO THAT THE INDEMNITY PROVIDED FOR IN THIS PARAGRAPH IS INDEMNITY BY CONTRACTOR TO INDEMNIFY AND PROTECT OWNER FROM THE CONSEQUENCES OF OWNER'S OWN NEGLIGENCE, WHEN THAT NEGLIGENCE ON THE PART OF THE OWNER IS A CONCURRING CAUSE OF THE INJURY, DEATH OR DAMAGE.**

FURTHERMORE, THE INDEMNITY PROVIDED FOR IN THIS PARAGRAPH SHALL HAVE NO APPLICATION TO ANY CLAIM, LOSS, DAMAGE, CAUSE OF ACTION, SUIT, AND LIABILITY WHERE THE INJURY, DEATH OR DAMAGE RESULTS FROM THE SOLE NEGLIGENCE OF THE OWNER, INDEPENDENT OF THE FAULT OF ANY OTHER PERSON OR ENTITY.

5.2 During the progress of the Work, CONTRACTOR shall keep the premises free from accumulations of waste materials, rubbish and other debris resulting from the Work. At the completion of the Work, CONTRACTOR shall remove and legally dispose of all waste materials, rubbish and debris from and about the premises, as well as all tools, appliances, construction equipment and machinery, and surplus materials, and shall leave the Project site clean and ready for occupancy by OWNER. CONTRACTOR shall restore to original condition all property not designated for alteration by the Contract Documents.

5.3 CONTRACTOR shall be confined to all working easements provided by OWNER, unless CONTRACTOR separately and privately secures at his own cost, additional private temporary construction easements. Generally, storage of excavation material and all CONTRACTOR equipment and material shall remain within the limits of Project working easements.

5.4 CONTRACTOR shall not weight load or permit any part of any structure or utility to be loaded in any manner that will endanger the structure or utility, nor shall CONTRACTOR subject any part of the Work or adjacent property to surcharge stresses or pressures, or loss of subjacent or lateral support, that will endanger it.

Safety and Protection:

5.5 CONTRACTOR shall be solely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. CONTRACTOR shall take all necessary precautions for the safety of employees and the general public, and shall provide the necessary protection to prevent damage, injury or loss to:

- 5.5.1** all employees on the Work and other persons and organizations who may be required to properly visit the Project site and be affected thereby;
- 5.5.2** all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Project site; and
- 5.5.3** other property at the Project site or adjacent thereto, including drainage gradients, trees, shrubs, lawns, walks, pavements, roadways, structures, utilities and underground facilities not designated for removal, relocation or replacement in the course of construction.
- 5.5.4** Driveways, culverts, storm sewer inlets and laterals, and other public or private property that is destroyed or removed during the construction shall be replaced to its original or better condition by CONTRACTOR. Temporary drainage and any subgrade dewatering are to be provided by CONTRACTOR as necessary to protect and complete the Work.
- 5.5.5** CONTRACTOR is responsible for locating any underground obstacles. It is not represented that the Plans show all previous or current sewers, waterlines, electric lines, gas lines, telephone lines and other underground obstacles and utilities. CONTRACTOR shall exercise caution to prevent damage to existing utility facilities during the progress of the construction Work, taking care to locate same in advance of the actual Work. OWNER will render all assistance possible to CONTRACTOR in the matter of determining the location of existing utilities by making available such existing maps, records, and other available existing information as may be accessible to OWNER, when requested to do so, but the accuracy of such information will not be guaranteed by OWNER. CONTRACTOR shall make repairs and/or replacements to all damage to existing utilities resulting from his operations. Where a pipe, duct or other structure of a utility is exposed, which, in the opinion of OWNER requires strengthening, altering or moving, CONTRACTOR shall perform such Work on same, as OWNER may order, which Work may be paid for as extra Work. Should CONTRACTOR, in the layout of his Work, encounter any pipe, underground utility or structure, the location of which has been furnished to him by OWNER, he shall bring such conditions to the attention of OWNER for OWNER and CONTRACTOR discussion to determine the CONTRACTOR'S method to be used to pin in place, remove or bypass such obstructions.

5.5.6 It is essential that in the event of any damage being caused to existing utilities that immediate attention be given to their repair. Any repair work carried out shall be at the cost of CONTRACTOR and shall be performed to the complete satisfaction of OWNER, who will acknowledge same in writing. It is therefore, the duty of CONTRACTOR, prior to the commencement of construction, to inspect and accurately record in writing to OWNER, the condition of any utility which he reasonably suspects or knows to be damaged, faulty, or defective. In addition, any such utilities so recorded, which in the opinion of CONTRACTOR may deteriorate further as a result of the proposed mode of construction operations, should be protected, and/or other remedial measures employed as agreed to with OWNER.

CONTRACTOR shall comply with all applicable Laws and Regulations of any public body having jurisdiction for the safety of persons or property, or to protect them from damage, injury or loss; and shall erect and maintain all necessary safeguards for such safety and protection. CONTRACTOR shall notify owners of adjacent property and of Underground Facilities and utility owners, when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, restoration and replacement of their property. All damage, injury or loss to any property caused, directly or indirectly, in whole or in part by CONTRACTOR, any Subcontractor, Supplier or any other person or organization directly or indirectly employed by any of them to perform or furnish any of the Work; or anyone for whose acts any of them may be liable; shall be remedied by CONTRACTOR. CONTRACTOR's duties and responsibilities for the safety and protection of the Work shall continue until such time as all the Work is completed and OWNER'S Engineer has issued a notice to OWNER and CONTRACTOR in accordance with the Contract Documents that the Work is acceptable to OWNER (except as otherwise expressly provided in connection with Substantial Completion).

5.6 CONTRACTOR shall designate in writing to OWNER a responsible representative at the Project site whose duty shall be the management of risk and safety, and that person shall make a concerted effort to assist workers and visitors at the Project site to prevent accidents. This person shall be CONTRACTOR's superintendent, unless otherwise designated in writing by CONTRACTOR to OWNER.

Emergencies:

5.7 In emergencies affecting the safety or protection of persons, or the Work, or property at the Project site or adjacent thereto, CONTRACTOR, without special written or oral instruction or authorization from OWNER, is obligated to act to prevent threatened damage, injury or loss. CONTRACTOR shall give OWNER's Engineer prompt written notice if CONTRACTOR believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby. If OWNER's Engineer determines that a change in the Contract Documents is required because of the CONTRACTOR's prompt action taken in response to an emergency, a Work Directive Change or Change Order will be issued to document the consequences of any changes or variations.

INDEMNIFICATION:

5.8 CONTRACTOR AGREES TO AND SHALL INDEMNIFY AND HOLD HARMLESS OWNER, ITS PUBLIC OFFICIALS, OFFICERS, BOARD MEMBERS, AND EMPLOYEES, FROM AND AGAINST ANY AND ALL CLAIMS, LOSSES, DAMAGES, CAUSES OF ACTION, SUITS, AND LIABILITY OF EVERY KIND, INCLUDING ALL EXPENSES OF LITIGATION, COURT COSTS, AND ATTORNEY'S FEES, FOR INJURY TO OR DEATH OF ANY PERSON, OR FOR DAMAGE TO ANY PROPERTY, ARISING OUT OR IN CONNECTION WITH THE PERFORMANCE OF THE WORK, PROVIDED THAT SUCH CLAIM, DAMAGE, LOSS, LIABILITY OR EXPENSE (A) IS ATTRIBUTABLE TO BODILY INJURY, SICKNESS, DISEASE OR DEATH OR TO INJURY OR DESTRUCTION OF TANGIBLE PROPERTY, INCLUDING THE LOSS OF USE RESULTING THERE FROM AND (B) IS CAUSED IN WHOLE OR IN PART BY ANY CONDITION OF THE WORK OR MATERIALS, OR BY ANY NEGLIGENT ACT OR OMISSION OF CONTRACTOR, ANY SUB TIER SUBCONTRACTOR, ANYONE DIRECTLY OR INDIRECTLY EMPLOYED BY CONTRACTOR OR ANY SUBCONTRACTOR OR ANYONE FOR WHOSE ACTS CONTRACTOR OR ANY SUBCONTRACTOR MAY BE LIABLE UNDER THIS CONTRACT.

SUCH INDEMNITY SHALL APPLY WHERE THE CLAIMS, LOSSES, DAMAGES, CAUSES OF ACTION, SUITS, OR LIABILITY ARISE IN PART FROM THE CONCURRENT NEGLIGENCE OF OWNER.

IT IS THE EXPRESSED INTENTION OF THE PARTIES HERETO, BOTH CONTRACTOR AND OWNER, THAT THE INDEMNITY PROVIDED FOR IN THIS PARAGRAPH IS INDEMNITY BY THE CONTRACTOR, TO INDEMNIFY AND PROTECT OWNER FROM THE CONSEQUENCES OF OWNER'S OWN NEGLIGENCE, WHERE THAT NEGLIGENCE IS A CONCURRING CAUSE OF THE INJURY, DEATH OR DAMAGE. FURTHERMORE, HOWEVER, THE INDEMNITY PROVIDED FOR IN THIS PARAGRAPH SHALL HAVE NO APPLICATION TO ANY CLAIM, LOSS, DAMAGE, CAUSE OF ACTION, SUIT, AND LIABILITY WHERE THE INJURY OR DEATH OR DAMAGE RESULTS FROM THE SOLE NEGLIGENCE OF THE OWNER, INDEPENDENT OF THE FAULT OF ANY OTHER PERSON OR ENTITY.

5.9 IN ANY AND ALL CLAIMS AGAINST OWNER OR ANY OF ITS CONSULTANTS, AGENTS OR EMPLOYEES BY ANY EMPLOYEE OF CONTRACTOR, ANY SUBCONTRACTOR, ANY PERSON OR ORGANIZATION DIRECTLY OR INDIRECTLY EMPLOYED BY ANY OF THEM TO PERFORM OR FURNISH ANY OF THE WORK, OR ANYONE FOR WHOSE ACTS ANY OF THEM MAY BE LIABLE, THE INDEMNIFICATION OBLIGATION UNDER PARAGRAPH 5.8 SHALL NOT BE LIMITED IN ANY WAY BY ANY LIMITATION ON THE AMOUNT OR TYPE OF DAMAGES, COMPENSATION OR BENEFITS PAYABLE BY OR FOR CONTRACTOR, OR ANY SUCH SUBCONTRACTOR, OR OTHER PERSON OR ORGANIZATION UNDER WORKERS' OR WORKMEN'S COMPENSATION ACTS, DISABILITY BENEFIT ACTS OR OTHER EMPLOYEE BENEFIT ACTS.

5.10 THE OBLIGATIONS OF CONTRACTOR UNDER PARAGRAPH 5.8 SHALL NOT EXTEND TO ANY LIABILITY OF OWNER, OWNER'S ENGINEER, CONSULTANTS, AGENTS OR EMPLOYEES ARISING OUT OF THE PREPARATION OR APPROVAL OF PROJECT MAPS, DRAWINGS, PLANS, OPINIONS, REPORTS, SURVEYS, CHANGE ORDERS, DESIGNS, OR SPECIFICATIONS.

Concerning Subcontractors, Suppliers and Others:

5.11 CONTRACTOR shall not employ and Subcontractor or other person or organization for the WORK without prior written approval of OWNER, which may be withheld at OWNER's sole discretion. CONTRACTOR shall not employ any Subcontractor or other person or organization, whether initially or as a substitute, against whom OWNER may have reasonable objection. CONTRACTOR shall not be required to employ any Subcontractor or other person or organization to furnish or perform any of the Work against whom CONTRACTOR has reasonable objection.

5.12 OWNER's acceptance (either in writing or by failing to make written objection thereto) of any such Subcontractor or other person or organization so identified by CONTRACTOR may be revoked by OWNER on the basis of reasonable objection after due investigation, in which case CONTRACTOR shall submit an acceptable substitute. The Contract Price may be increased by the difference in the cost occasioned by such substitution and an appropriate Change Order or written Amendment may be executed by the OWNER and CONTRACTOR. All increases or decreases in the Contract Price shall be governed by all State and local statutes, codes, laws, ordinances, rules and regulations governing public competitive bidding and maximum Change Order limits. No acceptance by OWNER of any such Subcontractor or other person or organization shall constitute a waiver of any right of OWNER to reject any defective or non-compliant Work.

5.13 CONTRACTOR shall be fully responsible to OWNER for all acts and/or omissions of the Subcontractors, Suppliers and other persons and organizations performing or furnishing any of the Work under a direct contract or indirect relationship with CONTRACTOR, just as CONTRACTOR is responsible to the OWNER for CONTRACTOR's own acts and/or omissions. Nothing in the Contract Documents shall create any contractual relationship between OWNER and any such Subcontractor, subtier subcontractor, Supplier or other person or organization, nor shall it create any obligation on the part of OWNER to pay or to supervise the payment of any moneys due any such Subcontractor, subtier subcontractor, Supplier or other person or organization, except as may otherwise be required by Laws and Regulations.

5.14 All Work performed for CONTRACTOR by a Subcontractor will be pursuant to an appropriate written agreement between CONTRACTOR and the Subcontractor, which specifically binds the Subcontractor through appropriate "flow down" provisions, to the applicable terms and conditions of the Contract Documents for the benefit of OWNER, and contains waiver provisions as required by paragraph 3.11.

5.15 CONTRACTOR shall not markup any Subcontractor's fees in excess of the percentage indicated on CONTRACTOR's bid documents, which shall be CONTRACTOR's total compensation for any management, coordination, of overhead of Subcontractor, or any similar

services or fees.

ARTICLE 6. LIVING WAGE

6.1 This is a 100% Non-Federally funded and competitively bid Public Works Contract and Texas Government Code Section 2258.001 et seq., as amended, requires that not less than the general prevailing wage rates (minimum hourly base pay and minimum hourly fringe benefit contribution) for Work of similar character be paid to CONTRACTOR and subcontractor employees. CONTRACTOR will comply with the latest versions of BPUB's Supplemental Conditions for Wage and Labor Provisions for 100% Non-Federally Funded Construction with respect to the Work, and such Provisions are incorporated herein by reference into this document for all purposes. CONTRACTOR further acknowledges that it has received or been provided electronic access to copies of BPUB's Supplemental Conditions for Wage and Labor Provisions for 100% Non-Federally Funded Construction. The local prevailing and adopted wage rates are derived from the most current applicable pre-Bid federal prevailing wage rates for Cameron County, Texas, as published by the United States Department of Labor, Dallas, Texas pursuant to the original intent and authority of the Resolution passed by the Public Utilities Board of Brownsville on February 24, 1992 (hereinafter referred to as "BPUB"). Copies of the wage rates can be obtained through BPUB Purchasing Department, which CONTRACTOR acknowledges it has reviewed or been provided electronic access to copies thereof and such rates are included instruments of this Contract and incorporated by reference herein and full compliance with same shall be required.

Additionally, on October 16, 2007, the BPUB Board of Directors approved a local "living wage" policy that requires all Contractors and Subcontractors performing 100% Non-Federally funded Work for the BPUB to pay a minimum wage rate of \$8.00/hour, regardless of any lower federal wage rate for Cameron County. BPUB requires that all Contractors and Subcontractors also comply with this policy. Otherwise, BPUB adopts the Federal Department of Labor Wage scales for Cameron County on 100% Non-Federally funded projects.

Any deviation from Wage and Labor Standard Provisions compliance may be cause for OWNER's withholding either interim or final payment to the CONTRACTOR until such deviations are properly corrected.

ARTICLE 7. MISCELLANEOUS PROVISIONS:

7.1 Statutory Requirements:

7.1.1 Civil Rights Pursuant to Chapters 106 and 110 of the Texas Civil Practice and Remedies Code and BPUB local policies, no person shall, on the grounds of race, religion, gender, sexual orientation, age, physically challenged condition, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity of CONTRACTOR and BPUB.

7.1.2 Prohibition of Contracts with Companies Engaged in Business with Iran, Sudan, or Foreign Terrorist Organizations

- A. See: Tex. Gov't Code Section 2252.152, Subchapter F, which prohibits the award of governmental contracts to companies engaged in business with Iran, Sudan, or foreign terrorist organizations.
- B. By signing this Agreement, CONTRACTOR certifies that it is not ineligible to be awarded this Contract under said Chapter 2252, Subchapter F.

7.1.3 Prohibition of Contracts with Certain Companies that Boycott Israel

- A. See: Tex. Gov't Code Chapter 2271 which prohibits the award of governmental contracts to companies boycotting Israel.
- B. By signing this Agreement, CONTRACTOR certifies that it does not boycott Israel and will not boycott Israel during the term of this Contract.

7.1.4 Entities that Boycott Energy Companies. Pursuant to Tex. Gov't. Code §2274.002, CONTRACTOR certifies that either (i) it meets an exemption criteria under Tex. Gov't. Code §2274.002, or (ii) it does not boycott companies that engage in the exploration, production, utilization, transportation, sale, or manufacturing of fossil fuel-based energy and do not commit or pledge to meet environmental standards beyond applicable federal and state law (“Energy Companies”) and will not boycott Energy Companies during the term of the Agreement. “Boycott Energy Company” has the meaning provided in Tex. Gov't. Code §809.001. CONTRACTOR shall state any facts that make it exempt from verification.

7.1.5 Entities that Discriminate against Firearms Entities or Trade Associations. Pursuant to Tex. Gov't. Code §2274.002, CONTRACTOR certifies that either, (i) it meets an exemption criteria under Tex. Gov't. Code §2274.002, or (ii) it does not have a practice, policy, guidance, or directive that discriminates against a firearm entity or firearm trade association (as defined under Tex. Gov't Code §2274.001) and will not discriminate during the term of the Agreement against a firearm entity or firearm trade association. CONTRACTOR shall state any facts that make it exempt from verification.

7.1.6 CONTRACTOR certifies that, it has complied with Tex. Gov't. Code §2252.908 and 1 Tex. Admin. Code §§46.1 through §46.3 as implemented by the Texas Ethics Commission (TEC), if applicable, and has provided BPUB with a fully executed TEC Form 1295, certified by the TEC and signed and notarized by the CONTRACTOR.

7.1.7 Equal Employment Opportunities. The CONTRACTOR shall not discriminate against any employee or applicant for employment because of race, religion, gender, sexual preference, national origin, age, physically challenged condition, or a political belief or affiliation, and will comply with all State and federal statutes applicable to CONTRACTOR which relate to employment discrimination.

7.1.8 Veterans Preference. Pursuant to Texas Revised Civil Statutes, Article 4413(31), including the latest amendments thereto, CONTRACTOR shall give preference in employment to honorably discharged veterans who were engaged in the military services of the United States in time of war or conflict and who are, and have been, citizens of Texas for not less than five (5) years.

7.1.9 Immigration Reform. Immigration Reform and Control Act of 1986, as amended, the Immigration Act of 1990, and the Illegal Immigration Reform and Immigrant Responsibility Act of 1996, require that all employees hired since 1986 provide proof of identity and employment eligibility before they can work in the United States. BPUB is committed to complying with all applicable immigration laws of the United States and requires compliance by all contractors, subcontractors, and contractors who contract with BPUB. CONTRACTOR shall not place any employee of CONTRACTOR at a worksite, nor shall CONTRACTOR permit any employee, nor any Subcontractor or contractor, to perform any work on behalf of, or for the benefit of, BPUB without first confirming said employee's authorization to lawfully work in the United States. CONTRACTOR states that CONTRACTOR: (i) maintains and follows an established policy to verify the employment authorization of its employees and to ensure continued compliance for the duration of employment; (ii) has verified the identity and employment eligibility of all employees in compliance with Applicable Law; (iii) has established internal safeguards and reporting policies to encourage its employees to report any suspected violations of immigration policies or of immigration law promptly to CONTRACTOR's senior management; and (iv) is without knowledge of any fact that would render any employee, any CONTRACTOR, or any CONTRACTOR ineligible to legally work in the United States. CONTRACTOR further acknowledges, agrees, and states that it: (i) has complied, and shall at all times during the term of the Agreement comply, in all respects with the Immigration Reform and Control Act of 1986 and 1990, the Illegal Immigration Reform and Immigrant Responsibility Act of 1996, as amended, and all of the laws, rules, and regulations relating thereto; (ii) has properly maintained, and shall at all times during the term of the Agreement properly maintain, all records required by the Department of Homeland Security, Immigration and Customs Enforcement, including, without limitation, the completion and maintenance of the Form I-9 for each of CONTRACTOR's employees; and (iii) has responded, and shall at all times during the term of the Agreement respond, in a timely fashion to any inspection requests related to such I-9 Forms. During the term of the Agreement, CONTRACTOR shall, and shall cause its directors, officers, managers, agents and employees to, fully cooperate in all respects with any audit, inquiry, inspection or investigation that may be conducted by BPUB. CONTRACTOR acknowledges, agrees, and represents that all contractors and Subcontractors permitted by it to perform services hereunder will be required to agree to these same terms as a condition to being awarded a contract for the performance of such services.

7.1.10 Public Records. Notwithstanding any provisions of the Agreement to the contrary, CONTRACTOR understands that BPUB will comply with the Texas Public Information Act, Tex. Gov't. Code Ch. 552. If contacted by BPUB, CONTRACTOR will cooperate with BPUB in the production of documents responsive to the request. CONTRACTOR agrees to provide the documents responsive to the request in the format and within the time frame specified by BPUB. CONTRACTOR may request that BPUB seek an opinion from the Office of the Attorney General of Texas. However, the final decision whether to seek a ruling from the Office of the Attorney General of Texas will be made by BPUB in

its sole discretion to comply with the legal requirements of the Texas Public Information Act. Additionally, CONTRACTOR will notify BPUB's general counsel within twenty-four (24) hours of receipt of any third-party requests for information written, produced, collected, assembled, or maintained in connection with the Agreement and/or any amendment to the Agreement. The Agreement and/or any amendment to the Agreement and all data and other information generated or otherwise obtained in its performance is subject to the Texas Public Information Act. CONTRACTOR agrees to maintain the confidentiality of information received from BPUB during the performance of the Agreement, including information which discloses confidential personal information particularly, but not limited to, social security numbers. Furthermore, CONTRACTOR is required to make any information created or exchanged with the State pursuant to the Agreement, and not otherwise excepted from disclosure under the Texas Public Information Act, available in a format that is accessible by the public, as specified by BPUB, at no additional charge to BPUB.

7.2. Incorporation of Provisions Required by Law

Each applicable provision and clause required by law to be inserted into the Contract shall be deemed to be enacted herein and the Contract shall be read and enforced as though each were included herein. If through mistake or otherwise any such provision is not inserted or is not correctly inserted, the Contract shall be amended to make such insertion on application by either party.

7.3 Entire Agreement

This Contract constitutes the entire agreement and supersedes all prior agreements and understandings between the parties concerning the subject matter of this Contract.

7.4 Waiver

The failure on the part of any party herein at any time to require the performance by any other party of any portion of this Contract shall not be deemed a waiver of, or in any way affect that party's rights to enforce such provision or any other provision. Any waiver by any party herein of any provision hereof shall not be taken or held to be a waiver of any other provision hereof or any other breach hereof.

7.5 Severability

The invalidity or unenforceability of any provision of this Contract shall not affect the validity or enforceability of any other provision of this Contract.

7.6 Survival

Any and all obligations under Section 5, representations, conditions and warranties made by CONTRACTOR under this Contract ARE OF THE ESSENCE OF THIS CONTRACT and

shall survive the execution, delivery and termination of it, and all statements contained in any document required by the BPUB, whether delivered at the time of the execution or at a later date, shall constitute representations and warranties hereunder.

7.7 Cumulative Remedies

In the event of default by any party herein, all other parties shall have all rights and remedies afforded to it at law or in equity to recover damages and interpret or enforce the terms of the Contract. The exercise of any one right or remedy shall be without prejudice to the enforcement of any other right or remedy allowed at law or in equity.

7.8 State or Federal Laws

This Contract is subject to all applicable Federal and State laws, statutes, codes, and any applicable permits, ordinances, rules, orders and regulations of any local, state or federal government authority having or asserting jurisdiction, but nothing contained herein shall be construed as a waiver of any right to question or contest any such law, ordinance, order, rule or regulation in any forum having jurisdiction.

7.9 No Third-Party Beneficiary

The parties are entering into this contract solely for the benefit of themselves and agree that nothing herein shall be construed to confer any right, privilege or benefit on any person or entity other than the parties hereto.



EXHIBIT “A SECTION NOTICE TO PROCEED EXAMPLE

SECTION NUMBER _____

This Section Notice to Proceed Number _____ is issued pursuant to an Agreement dated _____, and Project **ELECTRIC SYSTEM CONSTRUCTION CONTRACT (LABOR ONLY FOR NON-SITE SPECIFIC CONSTRUCTION) B038-23** (collectively the “Agreement”) by and between **PUBLIC UTILITIES BOARD OF THE CITY OF BROWNSVILLE, TEXAS** (“BPUB”) and [Company Name] (“Company”). Any term not otherwise defined herein shall have the meaning ascribed to it in such Agreement or Exhibits. In the event of a conflict between any term of this NOTICE TO PROCEED and the Agreement, with the exception of rate variances, the terms of this NOTICE TO PROCEED shall prevail.

Section Name:	
BPUB Project Manager Name:	
Work Location:	
Commencement Date:	
Substantial Completion Date:	

SCOPE OF WORK:

TERMS AND CONDITIONS: *(NOTE: Use this section to address any terms and conditions for this project that are DIFFERENT or IN ADDITION TO the terms outlined in the Agreement).*

IN WITNESS WHEREOF, the parties hereto have signed this Section Notice to Proceed in triplicate. One counterpart each has been delivered to OWNER and CONTRACTOR.

EXECUTED original on this ____ day of _____, 20____.

PUBLIC UTILITIES BOARD OF THE CITY OF BROWNSVILLE, TEXAS

By: _____

Name: _____

Title: _____

Receipt of the above is hereby acknowledged by:

_____ day of _____, 20____.

CONTRACTOR

By: _____

Name: _____

Title: _____

FORM CHECKLIST

The following forms are to be submitted as a part of the Bid/RFP/RFQ document

NAME	FORM DESCRIPTION	SUBMITTED WITH BID	
		YES	NO
Legal Notice	Acknowledgement Form	<input type="checkbox"/>	<input type="checkbox"/>
	Debarment Certification	<input type="checkbox"/>	<input type="checkbox"/>
	Ethics Statement	<input type="checkbox"/>	<input type="checkbox"/>
	Conflict of Interest Questionnaire	<input type="checkbox"/>	<input type="checkbox"/>
	W9 or W8 Form	<input type="checkbox"/>	<input type="checkbox"/>
	Residence Certification form	<input type="checkbox"/>	<input type="checkbox"/>
Special Instructions	Construction Unity Price Schedule completed and signed	<input type="checkbox"/>	<input type="checkbox"/>
	Cashier Check or Bid Bond of 5% of Total Amount of Bid (if applicable)	<input type="checkbox"/>	<input type="checkbox"/>
	OSHA 300 Log (if applicable)	<input type="checkbox"/>	<input type="checkbox"/>
	Contractor Pre-Bid Disclosure completed, signed and notarized (if applicable)	<input type="checkbox"/>	<input type="checkbox"/>
	Sub-Contractor Pre-Bid Disclosure completed, signed, and notarized (if applicable)	<input type="checkbox"/>	<input type="checkbox"/>
	Key Employee Resume and Certifications	<input type="checkbox"/>	<input type="checkbox"/>
References	Complete the Previous Customer Reference Worksheet for each reference provided	<input type="checkbox"/>	<input type="checkbox"/>
Addenda			

Prospective Bidders are respectfully reminded to completely read and thoroughly respond to the BPUB Instructions for Bidders and Pre-Bid Disclosure Statement. When BPUB evaluates the Bids, it reviews indices regarding the prospective contractors' responsibility to perform the project based upon prior job performances for BPUB and other public owners. Additionally, BPUB carefully reviews the prospective contractors' responsiveness to the BPUB Bid Advertisement. Bidders should thoroughly check their submittal for completeness prior to responding to BPUB. Do not imbalance your Bid line items to overload portions of the work. Remember to answer all written questions in the Pre-Bid Disclosure Statement and then notarize it when signing. Bidders are often required to submit OSHA 300 Logs from prior job performance records as well. BPUB can, has, and will reject Bids that fail the responsibility and/or responsiveness standards so as to protect the integrity of the bidding process for all participants. The Bidding community's compliance with these guideline standards will be appreciated by the BPUB.

Please submit this page upon receipt
Acknowledgment Form
P038-23
ELECTRIC SYSTEM CONSTRUCTION CONTRACT
(LABOR ONLY FOR
NON-SITE SPECIFIC CONSTRUCTION)

For any clarifications, please contact Hugo E. Lopez at the Brownsville Public Utilities Board, Purchasing Department at (956) 983-6375 or (956) 983-6364 or via e-mail: hlopez@brownsville-pub.com

Please e-mail this page upon receipt of the bid package or legal notice. If you only received the legal notice and you want the bid package mailed, please provide a method of shipment with account number in the space designated below.

Check one:

Yes, I will be able to send a bid; obtained bid package from website.

Yes, I will be able to send a bid; please email the bid package.

Email: _____

Yes, I will be able to send a bid; please mail the bid package using the carrier & account number listed below:

Carrier: _____

Account: _____

No, I will not be able to send a bid for the following reason:

If you are unable to send your bid, kindly indicate your reason for "No bid" above and return this form **via email to:** hlopez@brownsville-pub.com or to dsolitaire@brownsville-pub.com. This will ensure you remain active on our vendor list.

Date _____

Company: _____

Name: _____

Address: _____

City: _____ State: _____ Zip Code: _____

Phone: _____ Fax: _____

Email: _____

IF SPECIFICATIONS ARE DOWNLOADED FROM WEBSITE PLEASE E-MAIL THIS PAGE

ETHICS STATEMENT (Complete and return with bid)

The undersigned bidder, by signing and executing this bid, certifies and represents to the Brownsville Public Utilities Board that bidder has not offered, conferred or agreed to confer any pecuniary benefit, as defined by (1.07 (a) (6) of the Texas Penal Code, or any other thing of value as consideration for the receipt of information or any special treatment of advantage relating to this bid; the bidder also certifies and represents that the bidder has not offered, conferred or agreed to confer any pecuniary benefit or other thing of value as consideration for the recipient's decision, opinion, recommendation, vote or other exercise of discretion concerning this bid, the bidder certifies and represents that bidder has neither coerced nor attempted to influence the exercise of discretion by any officer, trustee, agent or employee of the Brownsville Public Utilities Board concerning this bid on the basis of any consideration not authorized by law; the bidder also certifies and represents that bidder has not received any information not available to other bidders so as to give the undersigned a preferential advantage with respect to this bid; the bidder further certifies and represents that bidder has not violated any state, federal, or local law, regulation or ordinance relating to bribery, improper influence, collusion or the like and that bidder will not in the future offer, confer, or agree to confer any pecuniary benefit or other thing of value of any officer, trustee, agent or employee of the Brownsville Public Utilities Board in return for the person having exercised their person's official discretion, power or duty with respect to this bid; the bidder certifies and represents that it has not now and will not in the future offer, confer, or agree to confer a pecuniary benefit or other thing of value to any officer, trustee, agent, or employee of the Brownsville Public Utilities Board in connection with information regarding this bid, the submission of this bid, the award of this bid or the performance, delivery or sale pursuant to this bid.

THE VENDOR SHALL DEFEND, INDEMNIFY, AND HOLD HARMLESS THE CITY OF BROWNSVILLE AND THE BROWNSVILLE PUBLIC UTILITIES BOARD, ALL OF THEIR OFFICERS, AGENTS AND EMPLOYEES FROM AND AGAINST ALL CLAIMS, ACTIONS, SUITS, DEMANDS, PROCEEDING, COSTS, DAMAGES, AND LIABILITIES, ARISING OUT OF, CONNECTED WITH, OR RESULTING FROM ANY ACTS OR OMISSIONS OF CONTRACTOR OR ANY AGENT, EMPLOYEE, SUBCONTRACTOR, OR SUPPLIER OF CONTRACTOR IN THE EXECUTION OR PERFORMANCE OF THIS BID.

I have read all of the specifications and general bid requirements and do hereby certify that all items submitted meet specifications.

COMPANY: _____

AGENT NAME: _____

AGENT SIGNATURE: _____

ADDRESS: _____

CITY: _____

STATE: _____ ZIP CODE: _____

TELEPHONE: _____ TELEFAX: _____

FEDERAL ID#: _____ AND/OR SOCIAL SECURITY #: _____

DEVIATIONS FROM SPECIFICATIONS IF ANY:

NOTE: QUESTIONS AND CONCERNS FROM PROSPECTIVE CONTRACTORS SHOULD BE RAISED WITH OWNER AND ITS CONSULTANT (IF APPLICABLE) AND RESOLVED IF POSSIBLE, PRIOR TO THE PROPOSAL SUBMITTAL DATE. ANY LISTED DEVIATIONS IN A FINALLY SUBMITTED PROPOSAL MAY ALLOW THE OWNER TO REJECT A PROPOSAL AS NON-RESPONSIVE.

CERTIFICATION REGARDING DEBARMENT, SUSPENSION,
AND OTHER RESPONSIBILITY MATTERS
(Complete and Return with Bid)

Name of Entity: _____

The prospective participant certifies to the best of their knowledge and belief that they and their principals:

- a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;
- b) Have not within a three year period preceding this bid been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
- c) Are not presently indicted for or otherwise criminally or civilly charged by a government entity (Federal, State, Local) with commission of any of the offenses enumerated in paragraph (b) of this certification; and
- d) Have not within a three year period preceding this bid had one or more public transactions (Federal, State, Local) terminated for cause or default.

I understand that a false statement on this certification may be grounds for rejection of this bid or termination of the award. In addition, under 18 USC Section 1001, a false statement may result in a fine up to a \$10,000.00 or imprisonment for up to five (5) years, or both.

Name and Title of Authorized Representative (Typed)

Signature of Authorized Representative

Date

I am unable to certify to the above statements. My explanation is attached.

THIS FORM MUST BE COMPLETED IN ITS ENTIRETY & SUBMITTED WITH BID RESPONSE

CONFLICT OF INTEREST QUESTIONNAIRE		FORM CIQ
For vendor doing business with local governmental entity		OFFICE USE ONLY
<p>This questionnaire reflects changes made to the law by H.B. 23, 84th Leg., Regular Session.</p> <p>This questionnaire is being filed in accordance with Chapter 176, Local Government Code, by a vendor who has a business relationship as defined by Section 176.001(1-a) with a local governmental entity and the vendor meets requirements under Section 176.006(a).</p> <p>By law this questionnaire must be filed with the records administrator of the local governmental entity not later than the 7th business day after the date the vendor becomes aware of facts that require the statement to be filed. See Section 176.006(a-1), Local Government Code.</p> <p>A vendor commits an offense if the vendor knowingly violates Section 176.006, Local Government Code. An offense under this section is a misdemeanor.</p>	<p>Date Received</p>	
<p>1 Name of vendor who has a business relationship with local governmental entity.</p>		
<p>2 <input type="checkbox"/> Check this box if you are filing an update to a previously filed questionnaire. (The law requires that you file an updated completed questionnaire with the appropriate filing authority not later than the 7th business day after the date on which you became aware that the originally filed questionnaire was incomplete or inaccurate.)</p>		
<p>3 Name of local government officer about whom the information is being disclosed.</p> <p style="text-align: center;">_____</p> <p style="text-align: center;">Name of Officer</p>		
<p>4 Describe each employment or other business relationship with the local government officer, or a family member of the officer, as described by Section 176.003(a)(2)(A). Also describe any family relationship with the local government officer. Complete subparts A and B for each employment or business relationship described. Attach additional pages to this Form CIQ as necessary.</p> <p style="margin-left: 40px;">A. Is the local government officer or a family member of the officer receiving or likely to receive taxable income, other than investment income, from the vendor?</p> <p style="margin-left: 80px;"><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p style="margin-left: 40px;">B. Is the vendor receiving or likely to receive taxable income, other than investment income, from or at the direction of the local government officer or a family member of the officer AND the taxable income is not received from the local governmental entity?</p> <p style="margin-left: 80px;"><input type="checkbox"/> Yes <input type="checkbox"/> No</p>		
<p>5 Describe each employment or business relationship that the vendor named in Section 1 maintains with a corporation or other business entity with respect to which the local government officer serves as an officer or director, or holds an ownership interest of one percent or more.</p>		
<p>6 <input type="checkbox"/> Check this box if the vendor has given the local government officer or a family member of the officer one or more gifts as described in Section 176.003(a)(2)(B), excluding gifts described in Section 176.003(a-1).</p>		
<p>7</p> <p style="text-align: center;">_____</p> <p style="text-align: center;">Signature of vendor doing business with the governmental entity</p> <p style="text-align: right; margin-right: 100px;">_____</p> <p style="text-align: right; margin-right: 100px;">Date</p>		

CONFLICT OF INTEREST QUESTIONNAIRE
For vendor doing business with local governmental entity

A complete copy of Chapter 176 of the Local Government Code may be found at <http://www.statutes.legis.state.tx.us/Docs/LG/htm/LG.176.htm>. For easy reference, below are some of the sections cited on this form.

Local Government Code § 176.001(1-a): "Business relationship" means a connection between two or more parties based on commercial activity of one of the parties. The term does not include a connection based on:

- (A) a transaction that is subject to rate or fee regulation by a federal, state, or local governmental entity or an agency of a federal, state, or local governmental entity;
- (B) a transaction conducted at a price and subject to terms available to the public; or
- (C) a purchase or lease of goods or services from a person that is chartered by a state or federal agency and that is subject to regular examination by, and reporting to, that agency.

Local Government Code § 176.003(a)(2)(A) and (B):

(a) A local government officer shall file a conflicts disclosure statement with respect to a vendor if:

(2) the vendor:

(A) has an employment or other business relationship with the local government officer or a family member of the officer that results in the officer or family member receiving taxable income, other than investment income, that exceeds \$2,500 during the 12-month period preceding the date that the officer becomes aware that

- (i) a contract between the local governmental entity and vendor has been executed;
- or
- (ii) the local governmental entity is considering entering into a contract with the vendor;

(B) has given to the local government officer or a family member of the officer one or more gifts that have an aggregate value of more than \$100 in the 12-month period preceding the date the officer becomes aware that:

- (i) a contract between the local governmental entity and vendor has been executed; or
- (ii) the local governmental entity is considering entering into a contract with the vendor.

Local Government Code § 176.006(a) and (a-1)

(a) A vendor shall file a completed conflict of interest questionnaire if the vendor has a business relationship with a local governmental entity and:

- (1) has an employment or other business relationship with a local government officer of that local governmental entity, or a family member of the officer, described by Section 176.003(a)(2)(A);
- (2) has given a local government officer of that local governmental entity, or a family member of the officer, one or more gifts with the aggregate value specified by Section 176.003(a)(2)(B), excluding any gift described by Section 176.003(a-1); or
- (3) has a family relationship with a local government officer of that local governmental entity.

(a-1) The completed conflict of interest questionnaire must be filed with the appropriate records administrator not later than the seventh business day after the later of:

(1) the date that the vendor:

- (A) begins discussions or negotiations to enter into a contract with the local governmental entity; or
- (B) submits to the local governmental entity an application, response to a request for proposals or bids, correspondence, or another writing related to a potential contract with the local governmental entity; or

(2) the date the vendor becomes aware:

- (A) of an employment or other business relationship with a local government officer, or a family member of the officer, described by Subsection (a);
- (B) that the vendor has given one or more gifts described by Subsection (a); or
- (C) of a family relationship with a local government officer.

BROWNSVILLE PUBLIC UTILITIES BOARD
RESIDENCE CERTIFICATION

In accordance with Art. 601g, as passed by the 1985 Texas Legislature, the following will apply. The pertinent portion of the Act has been extracted and is as follows:

Section 1. (a)

(1) "Nonresident bidder" means a bidder whose principal place of business is not in this state, but excludes a contractor whose ultimate parent company or majority owner has its principal place of business in this state.

(2) "Texas resident bidder " means a bidder whose principal place of business is in this state, and includes a contractor whose ultimate parent company or majority owner has its principal place of business in this state.

Section 1. (b)

The state or governmental agency of the state may not award a contract for general construction, improvements, services, or public works projects or purchases of supplies, materials or equipment to a nonresident bidder unless the nonresident's bid is lower than the lowest bid submitted by a responsible Texas resident bidder by the same amount that a Texas resident bidder would be required to underbid a nonresident bidder to obtain a comparable contract in the state in which the nonresident's principal place of business is located.

I certify that _____
(Company Name) is a **resident Texas bidder** as defined in Art. 601g.

Signature: _____

Print Name: _____

I certify that _____
(Company Name) is a **nonresident bidder** as defined in Art. 601g. and our principal place of
business is: _____
(City and State)

Signature: _____

Print Name: _____

Organization Name
State Law Verifications

I, _____ (Person's name), the undersigned representative of (Company or Business name) _____ (hereafter referred to as the "Company") being an adult over the age of eighteen (18) years of age, after being duly sworn by the undersigned notary, do hereby depose and verify under oath as follows:

- **IRAN, SUDAN AND FOREIGN TERRORIST ORGANIZATIONS:** By submission of a response to City of Brownsville Public Utilities Board ("BPUB") Request for Qualifications Q018-23 (the "RFQ"), the responding Company represents that, to the extent this proposal submission or any contracts executed in response to this proposal constitutes a governmental contract within the meaning of Section 2252.151 of the Texas Government Code, as amended, solely for purposes of compliance with Section 2252.152 of the Texas Government Code, and except to the extent otherwise required by applicable federal law, neither the responding Company, nor any wholly owned subsidiary, majority-owned subsidiary, parent company or affiliate of the Company is a company listed by the Texas Comptroller of Public Accounts under Sections 806.051, 807.051, or 2252.153 of the Texas Government Code.
- **ANTI-BOYCOTT ISRAEL VERIFICATION:** By submission of a response to the BPUB RFQ, the responding Company represents that, to the extent this proposal submission, or any contracts executed in response to this proposal, constitutes a contract for goods or services within the meaning of Section 2271.002 of the Texas Government Code, as amended, solely for purposes of compliance with Chapter 2271 of the Texas Government Code, and subject to applicable federal law, including without limitation, 50 U.S.C. Section 4607, the responding Company, as well as any wholly owned subsidiary, majority-owned subsidiary, parent company or affiliate of the Company, (1) does not boycott Israel and (2) will not boycott Israel through the term of any such contract. The term "boycott Israel" as used in this paragraph has the meaning assigned to such term in Section 808.001 of the Texas Government Code, as amended.
- **VERIFICATION REGARDING NO DISCRIMINATION AGAINST FIREARMS:** By submission of a response to the BPUB RFQ, the responding Company represents that, to the extent this proposal submission, or any contracts executed in response to this proposal, constitutes a contract for goods or services for which a written verification is required under Section 2274.002, Texas Government Code (as added by Senate Bill 19, 87th Texas Legislature, Regular Session), as amended, the responding Company hereby verifies that it, as well as any wholly owned subsidiary, majority-owned subsidiary, parent company or affiliate of the Firm, (1) does not have a practice, policy, guidance, or directive that discriminates against a firearm entity or firearm trade association; and (2) will not discriminate during the term of any such contract against a firearm entity or firearm trade association. The foregoing verification is made solely to comply with Section 2274.002, Texas Government Code (as added by Senate Bill 19, 87th Texas Legislature, Regular Session), as amended, to the extent such section does not contravene applicable Texas or

federal law. As used in the foregoing verification, “discriminate against a firearm entity or firearm trade association” shall have the meaning assigned to such term in Section 2274.001, Texas Government Code (as added by Senate Bill 19, 87th Texas Legislature, Regular Session).

- **VERIFICATION REGARDING NO ENERGY COMPANY BOYCOTTS:** By submission of a response to the BPUB RFQ, the responding Company represents that, to the extent this proposal submission, or any contracts executed in response to this proposal, constitutes a contract for goods or services for which a written verification is required under Section 2274.002, Texas Government Code (as added by Senate Bill 13, 87th Texas Legislature, Regular Session), as amended, the responding Company hereby verifies that the responding Company, as well as any wholly owned subsidiary, majority-owned subsidiary, parent company or affiliate of the Firm, (1) does not boycott energy companies and (2) will not boycott energy companies during the term of any such contract. The foregoing verification is made solely to comply with Section 2274.002, Texas Government Code (as added by Senate Bill 13, 87th Texas Legislature, Regular Session), as amended, to the extent such section does not contravene applicable Texas or federal law. As used in the foregoing verification, “boycott energy companies” shall have the meaning assigned to such term in Section 809.001(1), Texas Government Code.

DATE

SIGNATURE OF COMPANY REPRESENTATIVE

On this the ____ day of _____, 20____, personally appeared

_____, the above-named person, who after by me being duly sworn, did swear and confirm that the above is true and correct.

NOTARY SEAL _____

NOTARY SIGNATURE _____

Date

A Job Safety Analysis (JSA) form is to be completed, executed, and submitted by the vendor prior to entering into a contractual agreement with the OWNER. The JSA form will be valid for a period of 1 month after which an updated JSA form is to be completed, executed and submitted by the vendor. The completed JSA form must be included along with other Contract Documents included herein. Assistance in completing this form is available from Adolfo Vasquez, BUB Safety Department, at (956) 983-6254.



Contractor JSA Form



JOB SAFETY ANALYSIS FORM

PROJECT NAME: [REDACTED]		DATE: [REDACTED]
PROJECT CONTRACTOR: [REDACTED]	POINT OF CONTACT & TEL #: [REDACTED]	ANALYSIS BY: [REDACTED]
BPUB DEPARTMENT: [REDACTED]	SECTION: [REDACTED]	REVIEWED BY: [REDACTED]
REQUIRED AND/OR RECOMMENDED PERSONAL PROTECTIVE EQUIPMENT: [REDACTED]		APPROVED BY: [REDACTED]
SEQUENCE OF BASIC JOB STEPS <i>Beware of being too detailed; record only the information needed to describe each job action. Rule of thumb, nor more than 10 steps/task being evaluated.</i>	POTENTIAL ACCIDENTS OR HAZARDS <i>HAZARD CLASSIFICATION CATEGORIES: Struck By/Against, Caught In/Between, Slip, Trip, or Fall, Overexertion, Ergonomic (Awkward Postures, Excessive Force, Vibration, Repetitive Motion)</i>	RECOMMENDED SAFE JOB PROCEDURE <i>HAZARD CONTROL CATEGORIES: Engineer Out (New Way to Do, Change Physical Conditions or Work Procedures, Adjust/Modify/Replace Work Station Components/Tools, Decrease Performance Frequency), Personal Protective Equipment (PPE), Training, Improve Housekeeping.</i>
• [REDACTED]	• [REDACTED]	• [REDACTED]
• [REDACTED]	• [REDACTED]	• [REDACTED]
• [REDACTED]	• [REDACTED]	• [REDACTED]
• [REDACTED]	• [REDACTED]	• [REDACTED]
• [REDACTED]	• [REDACTED]	• [REDACTED]

• █	• █	• █
• █	• █	• █
• █	• █	• █

JOB SAFETY ANALYSIS WORKSHEET

Comments:

█

Contractor Representative & Title	Signature	Date
█		█
█		█
█		█

Previous Customer Reference Worksheet

Name of Customer:		Customer Contact:
Customer Address:		Customer Phone Number:
		Customer Email:
Name of Company Performing Referenced Work:		

What was the Period of Performance?		What was the Final Acceptance Date?
From:		
To:		
Dollar Value of Contract? \$ _____		What Type of Contract? <input type="checkbox"/> Firm Fixed Price <input type="checkbox"/> Time and Material <input type="checkbox"/> Not to Exceed <input type="checkbox"/> Cost Plus Fixed Fee <input type="checkbox"/> Other, Specify: _____

Provide a brief description of the work performed for this customer (add additional page if required)

CONFIDENTIAL

Form **W-9**
(Rev. October 2018)
Department of the Treasury
Internal Revenue Service

Request for Taxpayer Identification Number and Certification

Give Form to the
requester. Do not
send to the IRS.

Go to www.irs.gov/FormW9 for instructions and the latest information.

Print or type. See Specific Instructions on page 3.	1 Name (as shown on your income tax return). Name is required on this line; do not leave this line blank.	
	2 Business name/disregarded entity name, if different from above	
	3 Check appropriate box for federal tax classification of the person whose name is entered on line 1. Check only one of the following seven boxes. <input type="checkbox"/> Individual/sole proprietor or single-member LLC <input type="checkbox"/> C Corporation <input type="checkbox"/> S Corporation <input type="checkbox"/> Partnership <input type="checkbox"/> Trust/estate <input type="checkbox"/> Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=Partnership) ▶ _____ Note: Check the appropriate box in the line above for the tax classification of the single-member owner. Do not check LLC if the LLC is classified as a single-member LLC that is disregarded from the owner unless the owner of the LLC is another LLC that is not disregarded from the owner for U.S. federal tax purposes. Otherwise, a single-member LLC that is disregarded from the owner should check the appropriate box for the tax classification of its owner. <input type="checkbox"/> Other (see instructions) ▶ _____	4 Exemptions (codes apply only to certain entities, not individuals; see instructions on page 3): Exempt payee code (if any) _____ Exemption from FATCA reporting code (if any) _____ <small>(Applies to accounts maintained outside the U.S.)</small>
	5 Address (number, street, and apt. or suite no.) See instructions.	Requester's name and address (optional)
	6 City, state, and ZIP code	
	7 List account number(s) here (optional)	

Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the instructions for Part I, later. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN*, later.

Note: If the account is in more than one name, see the instructions for line 1. Also see *What Name and Number To Give the Requester* for guidelines on whose number to enter.

Social security number									

or

Employer identification number									

Part II Certification

Under penalties of perjury, I certify that:

- The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me); and
- I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and
- I am a U.S. citizen or other U.S. person (defined below); and
- The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions for Part II, later.

Sign Here

Signature of U.S. person ▶

Date ▶

General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Future developments. For the latest information about developments related to Form W-9 and its instructions, such as legislation enacted after they were published, go to www.irs.gov/FormW9.

Purpose of Form

An individual or entity (Form W-9 requester) who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) which may be your social security number (SSN), individual taxpayer identification number (ITIN), adoption taxpayer identification number (ATIN), or employer identification number (EIN), to report on an information return the amount paid to you, or other amount reportable on an information return. Examples of information returns include, but are not limited to, the following.

- Form 1099-INT (interest earned or paid)

- Form 1099-DIV (dividends, including those from stocks or mutual funds)
- Form 1099-MISC (various types of income, prizes, awards, or gross proceeds)
- Form 1099-B (stock or mutual fund sales and certain other transactions by brokers)
- Form 1099-S (proceeds from real estate transactions)
- Form 1099-K (merchant card and third party network transactions)
- Form 1098 (home mortgage interest), 1098-E (student loan interest), 1098-T (tuition)
- Form 1099-C (canceled debt)
- Form 1099-A (acquisition or abandonment of secured property)

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN.

If you do not return Form W-9 to the requester with a TIN, you might be subject to backup withholding. See *What is backup withholding*, later.

Form **W-8BEN-E**

(Rev. October 2021)
Department of the Treasury
Internal Revenue Service

**Certificate of Status of Beneficial Owner for
United States Tax Withholding and Reporting (Entities)**

▶ For use by entities. Individuals must use Form W-8BEN. ▶ Section references are to the Internal Revenue Code.
▶ Go to www.irs.gov/FormW8BENE for instructions and the latest information.
▶ Give this form to the withholding agent or payer. Do not send to the IRS.

OMB No. 1545-1621

Do NOT use this form for:

Instead use Form:

- U.S. entity or U.S. citizen or resident W-9
- A foreign individual W-8BEN (Individual) or Form 8233
- A foreign individual or entity claiming that income is effectively connected with the conduct of trade or business within the United States (unless claiming treaty benefits) W-8ECI
- A foreign partnership, a foreign simple trust, or a foreign grantor trust (unless claiming treaty benefits) (see instructions for exceptions) W-8IMY
- A foreign government, international organization, foreign central bank of issue, foreign tax-exempt organization, foreign private foundation, or government of a U.S. possession claiming that income is effectively connected U.S. income or that is claiming the applicability of section(s) 115(2), 501(c), 892, 895, or 1443(b) (unless claiming treaty benefits) (see instructions for other exceptions) W-8ECI or W-8EXP
- Any person acting as an intermediary (including a qualified intermediary acting as a qualified derivatives dealer) W-8IMY

Part I Identification of Beneficial Owner

1 Name of organization that is the beneficial owner	2 Country of incorporation or organization
--	---

3 Name of disregarded entity receiving the payment (if applicable, see instructions)

4 Chapter 3 Status (entity type) (Must check one box only):

<input type="checkbox"/> Simple trust	<input type="checkbox"/> Tax-exempt organization	<input type="checkbox"/> Corporation	<input type="checkbox"/> Partnership
<input type="checkbox"/> Central Bank of Issue	<input type="checkbox"/> Private foundation	<input type="checkbox"/> Complex trust	<input type="checkbox"/> Foreign Government - Controlled Entity
<input type="checkbox"/> Grantor trust	<input type="checkbox"/> Disregarded entity	<input type="checkbox"/> Estate	<input type="checkbox"/> Foreign Government - Integral Part
	<input type="checkbox"/> International organization		

If you entered disregarded entity, partnership, simple trust, or grantor trust above, is the entity a hybrid making a treaty claim? If "Yes," complete Part III. Yes No

5 Chapter 4 Status (FATCA status) (See instructions for details and complete the certification below for the entity's applicable status.)

<input type="checkbox"/> Nonparticipating FFI (including an FFI related to a Reporting IGA FFI other than a deemed-compliant FFI, participating FFI, or exempt beneficial owner).	<input type="checkbox"/> Nonreporting IGA FFI. Complete Part XII.
<input type="checkbox"/> Participating FFI.	<input type="checkbox"/> Foreign government, government of a U.S. possession, or foreign central bank of issue. Complete Part XIII.
<input type="checkbox"/> Reporting Model 1 FFI.	<input type="checkbox"/> International organization. Complete Part XIV.
<input type="checkbox"/> Reporting Model 2 FFI.	<input type="checkbox"/> Exempt retirement plans. Complete Part XV.
<input type="checkbox"/> Registered deemed-compliant FFI (other than a reporting Model 1 FFI, sponsored FFI, or nonreporting IGA FFI covered in Part XII). See instructions.	<input type="checkbox"/> Entity wholly owned by exempt beneficial owners. Complete Part XVI.
<input type="checkbox"/> Sponsored FFI. Complete Part IV.	<input type="checkbox"/> Territory financial institution. Complete Part XVII.
<input type="checkbox"/> Certified deemed-compliant nonregistering local bank. Complete Part V.	<input type="checkbox"/> Excepted nonfinancial group entity. Complete Part XVIII.
<input type="checkbox"/> Certified deemed-compliant FFI with only low-value accounts. Complete Part VI.	<input type="checkbox"/> Excepted nonfinancial start-up company. Complete Part XIX.
<input type="checkbox"/> Certified deemed-compliant sponsored, closely held investment vehicle. Complete Part VII.	<input type="checkbox"/> Excepted nonfinancial entity in liquidation or bankruptcy. Complete Part XX.
<input type="checkbox"/> Certified deemed-compliant limited life debt investment entity. Complete Part VIII.	<input type="checkbox"/> 501(c) organization. Complete Part XXI.
<input type="checkbox"/> Certain investment entities that do not maintain financial accounts. Complete Part IX.	<input type="checkbox"/> Nonprofit organization. Complete Part XXII.
<input type="checkbox"/> Owner-documented FFI. Complete Part X.	<input type="checkbox"/> Publicly traded NFFE or NFFE affiliate of a publicly traded corporation. Complete Part XXIII.
<input type="checkbox"/> Restricted distributor. Complete Part XI.	<input type="checkbox"/> Excepted territory NFFE. Complete Part XXIV.
	<input type="checkbox"/> Active NFFE. Complete Part XXV.
	<input type="checkbox"/> Passive NFFE. Complete Part XXVI.
	<input type="checkbox"/> Excepted inter-affiliate FFI. Complete Part XXVII.
	<input type="checkbox"/> Direct reporting NFFE.
	<input type="checkbox"/> Sponsored direct reporting NFFE. Complete Part XXVIII.
	<input type="checkbox"/> Account that is not a financial account.

6 Permanent residence address (street, apt. or suite no., or rural route). Do not use a P.O. box or in-care-of address (other than a registered address).

City or town, state or province. Include postal code where appropriate.	Country
---	---------

7 Mailing address (if different from above)

City or town, state or province. Include postal code where appropriate.	Country
---	---------

BID BOND

STATE OF TEXAS §

KNOW ALL MEN BY THESE PRESENTS:

COUNTY OF CAMERON §

THAT WE, the undersigned, _____ as Principal, and _____ as Surety, are hereby held and firmly bound unto the PUBLIC UTILITIES BOARD OF THE CITY OF BROWNSVILLE, TEXAS as OWNER in liquidated damages (not as a penalty) of _____ for the payment of which, well and truly to be made, we hereby jointly and severally bind ourselves, successors and assigns.

Signed, this _____ day of _____, 20__.

The Condition of the above obligation is such that whereas the Principal has submitted to the OWNER a certain BID attached hereto and hereby made a part hereof to enter into a contract in writing, for **ELECTRIC SYSTEM CONSTRUCTION CONTRACT (LABOR ONLY FOR NON-SITE SPECIFIC CONSTRUCTION)**.

NOW, THEREFORE,

- (a) If said BID shall be rejected, or
- (b) If said BID shall be accepted and the Principal shall execute and deliver a contract in the form of Agreement attached hereto (properly completed in accordance with said BID) and shall furnish payment and performance bonds for his faithful performance of said contract, and for the payment of all persons performing labor or furnishing materials in connection therewith, and shall furnish insurance certificates, and shall in all other respects perform the agreement created by the acceptance of said BID, then this obligation shall be void. Otherwise the same shall remain in force and effect, it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall, in no event, exceed the penal amount of this obligation as herein stated.

The Surety, for value received, hereby stipulates and agrees that the obligations of said Surety and its BOND shall be in no way impaired or affected by an extension of the time within which the OWNER may accept such BID; and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, the day and year first set forth above.

Signed, this ____ day of _____, 20__.

Principal

Surety

By:_____

IMPORTANT - Surety companies executing BONDS must be legally authorized by the State Board of Insurance to transact business in the State of Texas, and be listed as approved federal sureties in the most recently issued (as of the date of legal notice) edition of the U. S. Treasury Circular 570.

CONTRACTOR'S PRE-BID DISCLOSURE STATEMENT

All questions must be answered or your Bid will be deemed non-responsive and subject to rejection. The data given must be clear and comprehensive. **This statement must be notarized.** If necessary, questions may be answered on separate attached sheets. The BIDDER may submit any additional information he desires so long as it does not render the BIDDER'S Bid qualified or conditional, and therefore subject to rejection for non-responsiveness.

1. This Pre-Bid Disclosure Statement is submitted to the Brownsville Public Utilities Board by: _____
 ___ a Corporation, ___ a Partnership, ___ a Texas Joint Venture, or ___ an Individual.
 Address: _____ Contractor's #: _____
 City _____ State _____ Zip Code _____

2. Years in business under present business name: _____

3. Years of experience in construction work of the type called for in this contract as: A General Contractor _____, A Subcontractor _____.

4. What projects has your organization completed? List most recent FIRST.

Contract	Type of Work	Date Completed	Owner's Name and Address	Amount

5. What projects does your organization have under way as of this date?

Contract	Type of Work	Date Completed	Owner's Name and Address	Amount

6. Have you ever failed to complete any work awarded to you?
___ Yes ___ No. If "Yes", state where and why. _____

7. Are you at present in any lawsuits involving construction work of any type?
___ Yes ___ No. If "Yes", explain: _____

8. Explain in detail the manner in which you have inspected the work and jobsite proposed in this contract: _____

9. Explain in detail your plan or layout for performing the work proposed in this contract: _____

10. If this contract is awarded to you, your company's office administrative manager for the work will be Mr. (Ms.) _____, and your resident construction superintendent will be Mr. (Ms.) _____.

11. What experience in this type of work does the individual designated as resident superintendent above have? _____

12. What portions of the work do you intend to subcontract ($\leq 49\%$)? _____

13. What equipment do you own that is available for the proposed work?

Quantity	Description, Size Capacity, Etc.	Condition	Make / Model	Years in Service	Present Location

14. Have you received firm offers from suppliers or manufacturers for all major items of material and/or equipment within the price totals used in preparing your bid? __ Yes __ No

15. Attach resumes for the principal members of your organization, including the officers as well as the proposed superintendent for the project.

16. What safety equipment do you own that is available for the proposed work?

Quantity	Description	Condition	Rating	Inspected Date

Credit available: \$ _____ Bank Reference: _____

Bonding Capacity available: \$ _____

The undersigned hereby authorizes and requests any person, firm or corporation to furnish any information requested by the Engineer and Owner, BPUB, in verification of the recitals comprising this Pre-Bid Disclosure Statement.

The signatory of this questionnaire guarantees the truth and accuracy of all statements herein made and all answers herein expressed.

Dated this ____ day of _____, 20__.

By: _____

Title: _____

STATE OF _____)

COUNTY OF _____)

Subscribed and sworn to before me this ____ day of _____, 20__.

Notary Public

My commission expires: _____

SUBCONTRACTOR'S PRE-BID DISCLOSURE STATEMENT

All questions must be answered or the prime contractor's (BIDDER) Bid will be deemed non-responsive and subject to rejection. The data given must be clear and comprehensive. **This statement must be notarized.** If necessary, questions may be answered on separate attached sheets. The subcontractor may submit any additional information he desires so long as it does not render the BIDDER'S prime contract Bid qualified or conditional, and thereby subject to rejection for non-responsiveness.

1. This Pre-Bid Disclosure Statement is submitted to the Brownsville Public Utilities Board by:

_____ a Corporation, _____ a Partnership, _____ a Texas Joint Venture, or _____ an Individual.
 Address: _____ Contractor's #: _____
 City _____ State _____ Zip Code _____

2. Years in business under present business name: _____

3. Years of experience in construction work of the type called for in this contract as: A General Contractor _____, A Subcontractor _____.

4. Have you ever previously worked as subcontractor for this general contractor?
 ___Yes ___No; If yes, list three most recent projects in which your company has served as a subcontractor to this general contractor.

5. What projects has your organization completed? List most recent FIRST.

Contract	Type of Work	Date Completed	Owner's Name and Address	Amount

6. What projects does your organization have under way as of this date?

Contract	Type of Work	Date Completed	Owner's Name and Address	Amount

7. Have you ever failed to complete any work awarded to you?
 ___ Yes ___ No. If "Yes", state where and why. _____

8. Are you at present in any lawsuits involving construction work of any type?
 ___ Yes ___ No. If "Yes", explain: _____

9. Explain in detail the manner in which you have inspected the work and jobsite(s) proposed in this Sub-contract: _____

10. Explain in detail your plan or layout for performing the work proposed in this sub-contract: _____

11. If this sub-contract is awarded to you by BIDDER, your company's office administrative manager for the work will be Mr. (Ms.) _____, and your resident construction superintendent will be Mr. (Ms.) _____.

12. What experience in this type of work does the individual designated as resident superintendent above have? _____

13. What if any portions of the subcontract work do you intend to subcontract? _____

14. What equipment do you own that is available for the proposed work?

Quantity	Description, Size Capacity, Etc.	Condition	Make / Model	Years in Service	Present Location

15. Have you received firm offers from suppliers or manufacturers for all major items of material and/or equipment within the price totals used in preparing your subcontract bid to BIDDER?

___Yes ___No

16. Attach resumes for the principal members of your organization, including the officers as well as the proposed superintendent for the project.

17. What safety equipment do you own that is available for the proposed work?

Quantity	Description	Condition	Rating	Inspected Date

Credit available: \$_____ Bank Reference:_____

Bonding Capacity available: \$_____

The undersigned hereby authorizes and requests any person, firm or corporation to furnish any information requested by the Engineer and Owner in verification of the recitals comprising this Subcontractor's Pre-Bid Disclosure Statement.

The signatory of this questionnaire guarantees the truth and accuracy of all statements herein made and all answers herein expressed.

Dated this ____ day of _____, 20__.

By: _____

Title: _____

STATE OF _____)

COUNTY OF _____)

Subscribed and sworn to before me this ____ day of _____, 20__.

Notary Public

My commission expires: _____

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS:

THAT _____
(Name of Contractor)

(Address of Contractor)

a _____
(corporation, partnership, or individual)

Hereinafter _____ called _____ Principal, _____ and

(Name of Surety)

(Address of Surety)

hereinafter called Surety, are held and firmly bound unto the PUBLIC UTILITIES BOARD of the City of Brownsville, Texas, hereinafter called OWNER, in liquidated damages (not as a penalty) of _____ Dollars (\$_____) in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that whereas, the Principal entered into a certain Contract with the OWNER, dated the _____ day of _____, 20____, a copy of which is hereto attached and made a part hereof, for the construction of the: **ELECTRIC SYSTEM CONSTRUCTION CONTRACT (LABOR ONLY FOR NON-SITE SPECIFIC CONSTRUCTION).**

NOW, THEREFORE, if the Principal shall well, truly and faithfully perform its duties, all the undertakings, covenants, terms, conditions, and agreements of said Contract during the original term thereof, and any extensions thereof which may be granted by the OWNER, with or without notice to the Surety and during the one (1) year post-construction workmanship guaranty and materials/equipment warranty period, and if he shall satisfy all claims and demands incurred under such Contract, and **SHALL FULLY INDEMNIFY AND SAVE HARMLESS THE OWNER FROM ALL COSTS AND DAMAGES WHICH IT MAY SUFFER BY REASON OF FAILURE TO DO SO**, and shall reimburse and repay the OWNER all outlay and expense which the OWNER may incur in making good any default, then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, FURTHER, that the said surety, for value received, hereby stipulates and agrees that no written change, extension of time, alteration or addition to the terms of the Contract or to WORK to be performed thereunder, or the SPECIFICATIONS accompanying the same, shall in any ways affect its obligation on this BOND, and it does hereby waive notice of any such written change, extension of time, alteration or addition to the terms of the Contract, or to the WORK, or to the SPECIFICATIONS.

PROVIDED, FURTHER, that no final settlement between the OWNER and the CONTRACTOR shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

This bond is subject to and governed by Section 2253.02 of the Texas Government Code (Vernon's Texas Codes Annotated) and Article 7.19-1 of Vernon's Texas Insurance Code and all amendments thereto.

IN WITNESS WHEREOF, this instrument is executed in triplicate, each counterpart of which shall be deemed an original, this the ____ day of _____, 20__.

ATTEST: _____
(Principal)

(Principal) Secretary By: _____(s)
(Signature)

(SEAL)

(Witness as to Principal) (Address)

(Address)

ATTEST: _____
(Surety)

(Surety) Secretary By: _____
(Attorney-in-Fact)

(SEAL)

(Witness as to Surety) (Address)

(Address)_

NOTE: Date of BOND must not be prior to date of Contract. If Contractor is a Partnership, all partners should execute BOND.

IMPORTANT: Surety companies executing BONDS must be legally authorized by the State Board of Insurance to transact business in the State of Texas.

ATTACHED POWER OF ATTORNEY

PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS:

THAT _____
(Name of Contractor)

(Address of Contractor)

a _____
(corporation, partnership, or individual)

hereinafter called Principal, and

(Name of Surety)

(Address of Surety)

hereinafter called Surety, are held and firmly bound unto the PUBLIC UTILITIES BOARD of the City of Brownsville, Texas, hereinafter called OWNER, in liquidated damages (not as a penalty) of _____ Dollars (\$_____) in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that whereas, the Principal entered into a certain Contract with the OWNER, dated the ____ day of _____, 20 ____, a copy of which is hereto attached and made a part hereof, for the construction of the: **ELECTRIC SYSTEM CONSTRUCTION CONTRACT (LABOR ONLY FOR NON-SITE SPECIFIC CONSTRUCTION)**.

NOW, THEREFORE, if the Principal shall promptly make payment to all persons, firms, SUBCONTRACTORS, and corporations furnishing materials, for or performing labor in, the prosecution of the WORK provided for in such Contract, and any authorized extension or modification thereof, including all amounts due for materials, lubricants, oil, gasoline, repairs on machinery, equipment and tools, consumed or used in connection with the construction of such WORK, and all insurance premiums on said WORK, and for all labor, performed in such WORK whether by SUBCONTRACTOR or otherwise, then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, FURTHER, that the said surety, for value received hereby stipulates and agrees that no written change, extension of time, alteration or addition to the terms of the Contract or to WORK to be performed there under, or the SPECIFICATIONS accompanying the same, shall in any ways affect its obligation on this BOND, and it does hereby waive notice of any such written change, extension of time, alteration or addition to the terms of the Contract, or to the WORK, or to the SPECIFICATIONS.

PROVIDED, FURTHER, that no final settlement between the OWNER and the CONTRACTOR

shall abridge any remaining legal right of any beneficiary hereunder, whose timely filed and legally perfected claim may be unsatisfied.

This bond is subject to and governed by Section 2253.02 of the Texas Government Code (Vernon's Texas Codes Annotated) and Article 7.19-1 of Vernon's Texas Insurance Code and all amendments thereto.

IN WITNESS WHEREOF, this instrument is executed in triplicate, each counterpart of which shall be deemed an original, this the ____ day of _____, 20____.

ATTEST: _____
(Principal)

(Principal) Secretary By: _____ (s)
(Signature)

(SEAL)

(Witness as to Principal) _____
(Address)

(Address)

ATTEST: _____
(Surety)

(Surety) Secretary By: _____
(Attorney-in-Fact)

(SEAL)

(Witness as to Surety) _____
(Address)

(Address)

NOTE: Date of BOND must not be prior to date of Contract. If Contractor Partnership, all partners should execute BOND.

IMPORTANT: Surety companies executing BONDS must be legally authorized by the State Board of Insurance to transact business in the State of Texas.

ATTACHED POWER OF ATTORNEY



ELECTRIC UTILITY WORK

SUPPLEMENTAL GENERAL CONDITIONS

WAGE AND LABOR PROVISIONS

For

100% NON-FEDERALLY FUNDED CONSTRUCTION

SUPPLEMENTARY GENERAL CONDITIONS

SECTION 1 - WAGE AND LABOR STANDARD PROVISIONS-100% NON-FEDERALLY FUNDED CONSTRUCTION

Contents

1. GENERAL STATEMENT..... SGC-1

2. BROWNSVILLE PUBLIC UTILITIES BOARD (BPUB) RESPONSIBILITIES.. SGC-1

3. CLAIMS & DISPUTES PERTAINING TO WAGE RATESSGC-2

4. BREACH OF WAGE & LABOR STANDARDS PROVISIONS..... SGC-2

5. EMPLOYMENT OF LABORERS/MECHANICS NOT LISTED IN WAGE DETERMINATION DECISION SGC-3

6. MINIMUM WAGE SGC-3

7. OVERTIME COMPENSATION ON NON-FEDERALLY FUNDED PROJECTS.....SGC-4

8. PAYMENT OF CASH EQUIVALENT FRINGE BENEFITS..... SGC-4

9. WORK CONDUCTED ON HOLIDAYS-NON-FEDERALLY FUNDED PROJECTS SGC-4

10. UNDERPAYMENT OF WAGES OR SALARIESSGC-4

11. POSTING WAGE DETERMINATION DECISION/STATEMENT AND "NOTICE TO EMPLOYEES" SGC-5

12. NOTICE TO LABORERS/MECHANICS..... SGC-6

13. PAYROLLS & BASIC PAYROLL RECORDSSGC-6

14. LABOR DISPUTES SGC-7

15. COMPLAINTS, PROCEEDINGS, OR TESTIMONY BY EMPLOYEES SGC-8

16. EMPLOYEE INTERVIEWS TO ASSURE WAGE & LABOR STANDARD COMPLIANCE SGC-7

17. “ANTI-KICKBACK” PROVISION..... SGC-8

18.	<u>“FALSE INFORMATION” PROVISION</u>	SGC-8
19.	<u>EMPLOYMENT OF APPRENTICES/TRAINEES</u>	SGC-9
20.	<u>JOBSITE CONDITIONS</u>	SGC-10
21.	<u>EMPLOYMENT OF CERTAIN PERSONS PROHIBITED</u>	SGC-10
22.	<u>PROVISIONS TO BE INCLUDED IN SUBCONTRACTS</u>	SGC-11

1. GENERAL STATEMENT

- a. This is a 100% Non-Federally funded and competitively bid Public Works Contract and Texas Government Code Section 2258.001 et seq., as amended, requires that not less than the general prevailing wage rates (minimum hourly base pay and minimum hourly fringe benefit contribution) for Work of similar character be paid to CONTRACTOR and subcontractor employees. These local prevailing and adopted wage rates are derived from the most current applicable pre-Bid federal prevailing wage rates for Cameron County, Texas, as published by the United States Department of Labor, Dallas, Texas pursuant to the original intent and authority of the Resolution passed by the Public Utilities Board of Brownsville on February 24, 1992 (hereinafter referred to as "BPUB"). Copies of the wage rates are contained immediately behind these Supplementary General Conditions, and are included instruments of this Contract and full compliance with same shall be required.
- b. Additionally, on October 16, 2007, the BPUB Board of Directors approved a local "living wage" policy that requires all Contractors and Subcontractors performing 100% Non-Federally funded Work for the BPUB to pay a minimum wage rate of \$8.00/hour, regardless of any lower federal wage rate for Cameron County. The BPUB requires that all Contractors and Subcontractors also comply with this policy. Otherwise, the BPUB adopts the Federal Department of Labor Wage scales for Cameron County on 100% Non-Federally funded projects as specified later herein behind these Supplementary General Conditions.
- c. Any deviation from Wage and Labor Standard Provisions compliance may be cause for OWNER's withholding either interim or final payment to the CONTRACTOR until such deviations are properly corrected.

2. WAGE & HOUR OFFICE, PUBLIC WORKS, RESPONSIBILITIES

The OWNER's Engineer or the BPUB Wage & Hour Monitor is primarily responsible for all Wage and Labor Standard Provisions investigation and enforcement and will monitor Contractor/subcontractor practices to assure the BPUB General Manager and CEO that:

- a. Appropriate weekly compliance statements and payroll records are submitted to the BPUB by the Contractor/subcontractors and that such are reviewed for compliance with Wage and Labor Standard Provisions.
- b. Any Apprentices/trainees designated by CONTRACTOR as working on the Project are properly identified by Contractor/subcontractor on payroll records and documented as being included in programs currently sanctioned by appropriate federal or state regulatory agencies.

- c. Applicable Wage Determination Decisions, including any applicable modifications and related statements are posted at the Work-site by the Contractor and that proper job classifications and commensurate minimum hourly base and any fringe wage rates are paid.
- d. Employees are periodically interviewed (at random) on the Project as required.
- e. That no person employed by Contractor/subcontractor is induced against his will, by any means, to give up any part of the compensation to which he is otherwise entitled.
- f. That any and all periodic administrative directives to the OWNER'S Engineer and/or Wage & Hour Monitor from the Board and General Manager and CEO are being implemented.

3. CLAIMS & DISPUTES PERTAINING TO WAGE RATES

Claims and disputes not promptly and routinely settled by the CONTRACTOR/subcontractor and employees pertaining to wage rates, or to job classifications of labor employed upon the Work covered by this Contract, shall be reported by the employee in writing, within sixty (60) calendar days of employee's receipt of any allegedly incorrect classification, wage or benefit report, to the OWNER'S Engineer and/or Wage & Hour Monitor, BPUB for further investigation. Claims and disputes not reported by the employee to the OWNER in writing within the sixty (60) calendar day period shall be deemed waived by the employee for the purposes of the OWNER administering and enforcing the OWNER's Contract rights against the CONTRACTOR on behalf of the employee. Waiver by the employee of this OWNER intervention shall not constitute waiver by the OWNER or employee to independently pursue contractual rights it may have against the CONTRACTOR/subcontractor for breach of contract and other sanctions available to enforce the Wage and Labor Standard Provisions.

4. BREACH OF WAGE AND LABOR STANDARD PROVISIONS

The OWNER reserves the right to terminate this Contract for cause if the Contractor/subcontractors shall knowingly and continuously breach, without timely restitution or cure, any of these governing Wage and Labor Standard Provisions. A knowing and unremedied proven violation of these Wage and Labor Standard Provisions may also be grounds for debarment of the CONTRACTOR/subcontractor from future OWNER contracts for lack of responsibility, as later determined by the OWNER. Recurrent violations, whether remedied or not, will be considered by the General Manager and CEO when assessing the responsibility history of a potential contractor/subcontractor prior to competitive award of future Public Works projects. The general remedies stated in this paragraph 4. above are not exhaustive and not cumulative, for the OWNER reserves legal and contractual rights to other specific remedies outlined herein below and in other parts of this Contract and as are allowed by applicable OWNER resolutions, State and

federal statutes.

5. EMPLOYMENT OF LABORERS/MECHANICS NOT LISTED IN WAGE DETERMINATION DECISION

In the event that a CONTRACTOR/subcontractor discovers that construction of a particular Work element requires a certain employee classification and skill that is not listed in the Wage Determination Decision contained in the original Contract Documents, CONTRACTOR/subcontractors will make prompt inquiry (before bidding, if possible) to the OWNER identifying that class of laborers/mechanics not listed in the Wage Determination Decision who are intended to be employed, or who are being employed, under the Contract. Using his best judgment and information resources available to him at the time, and any similar prior local or federal decisions, the General Manager and CEO of the OWNER, shall classify said laborers/mechanics by issuing a special local wage determination decision to the CONTRACTOR/subcontractor, which shall be enforced by the OWNER.

6. MINIMUM WAGE

All laborers/mechanics employed to construct the Work governed by this Contract shall be paid not less than weekly the full amount of wages due (minimum hourly base pay and any applicable minimum hourly fringe benefit contribution for all hours worked, including overtime) for the immediately preceding pay period, computed at wage and any fringe rates not less than those contained in the Wage Determination Decision included in this Contract. Only payroll deductions as are mandated by State or federal law, and those legal deductions previously approved in writing by the employee, or as are otherwise permitted by State or federal law, may be withheld by the CONTRACTOR/subcontractor.

Should the CONTRACTOR/subcontractor subscribe to fringe benefit programs for employees, such programs shall be fully approved by the OWNER in adopting a previous U.S. Department of Labor decision on such fringe benefit programs or by applying DOL criteria, in rendering a local decision on the adequacy of the CONTRACTOR's fringe benefit programs. The approved programs shall be in place at the time of OWNER Contract execution and provisions thereof disclosed to the OWNER's Engineer or Wage and Hour Monitor, for legal review prior to Project commencement.

Regular CONTRACTOR/subcontractor contributions made to, or costs incurred for, approved fringe benefit plans, funds or other benefit programs that cover periods of time greater than the one-week payroll period (e.g. monthly or quarterly, etc.) shall be prorated by the CONTRACTOR/subcontractor on weekly payroll records to reflect the equivalent value of the hourly and weekly summary of fringe benefits per employee.

7. OVERTIME COMPENSATION ON NON-FEDERALLY FUNDED PROJECTS

No CONTRACTOR/subcontractor contracting for any part of the non-federally funded Contract Work (except for worksite related security guard services), which may require or involve the employment of laborers/mechanics, shall require or permit any laborer/mechanic in any seven (7) calendar day Work period in which he, she is employed on such Work, to Work in excess of 40 hours in such Work period, unless said laborer/mechanic receives compensation at a rate not less than one and one-half times the basic hourly rate of pay for all hours worked in excess of 40 hours in a seven (7) calendar day Work period. Any applicable fringe benefits must be paid for straight time and overtime; however, fringe benefits are not included when computing the overtime rate.

8. PAYMENT OF CASH EQUIVALENT FRINGE BENEFITS

The CONTRACTOR/subcontractor is allowed to pay a minimum hourly cash equivalent of any applicable minimum hourly fringe benefits listed in the Wage Determination Decision, in lieu of the contribution of benefits to a permissible fringe benefit plan, for all hours worked, including overtime. An employee is not allowed to receive less than the local \$8.00 pr. hour minimum living wage or the minimum hourly basic rate of pay specified in the Wage Determination Decision, whichever is greater.

9. WORK CONDUCTED ON HOLIDAYS-NON-FEDERALLY FUNDED PROJECTS

If a laborer/mechanic is employed in the normal course and scope of his or her Work on the jobsite on New Year's Day, Martin Luther King Day, Memorial Day, Fourth of July, Labor Day, Thanksgiving Day, Christmas Day, or the calendar days observed as such in any given year, along with additional OWNER-designated local holidays to be annually determined by OWNER and provided in writing to CONTRACTOR, Work shall be paid for at no less than one and one half (1 1/2) times the regular minimum hourly base pay regardless of the total number of hours the laborer/mechanic has accumulated during the pay period.

10. UNDERPAYMENT OF WAGES OR SALARIES

- a. When a "full investigation" (as called for in and as construed under Texas Government Code Section 2258.001 et seq. and as further generally described in an administrative directive to the OWNER's Engineer and BPUB's Wage & Hour Monitor from the General Manager and CEO entitled "Conducting Wage and Labor Standards Investigations on 100% Non-Federally Funded BPUB Construction Projects", as may be amended) evidences underpayment of wages by CONTRACTOR/subcontractor to laborers/mechanics employed upon the Work covered by this Contract, the OWNER, in addition to such other rights as may be

afforded it under State and/or federal law and/or this Contract, shall withhold from the CONTRACTOR, out of any payments (interim progress and /or final) due the CONTRACTOR, so much thereof as the OWNER may consider necessary to secure ultimate payment by the appropriate party to such laborers/mechanics, of full wages required by this Contract, plus possible penalty (See b. below). The amount so withheld, excluding any possible penalty to be retained by the OWNER, may be disbursed at an appropriate time after "full investigation" by the OWNER, for and on behalf of the CONTRACTOR/subcontractor (as may be appropriate), to the respective laborers/mechanics to whom the same is due, or on their behalf to fringe benefit plans, funds, or programs for any type of minimum fringe benefits prescribed in the applicable wage determination decision.

- b. Texas Government Code Section 2258.001 et seq., as amended, states that the CONTRACTOR shall forfeit as a penalty to the OWNER the sum of sixty dollars (\$60.00) for each calendar day, or portion thereof, for each laborer, workman, or mechanic, who is paid less than the said stipulated rate for any Work done under this Contract, whether by the CONTRACTOR himself, or by any subcontractor working under him. Pursuant to and supplemental to this statutory authority, the OWNER and the CONTRACTOR/subcontractor contractually acknowledge and agree that said sixty dollar (\$60.00) statutory penalty shall be construed by and between the OWNER and the CONTRACTOR/subcontractor as liquidated damages, and not as a penalty, and will apply to any violations of paragraphs 6, 7, or 9 herein, resulting from CONTRACTOR/subcontractor underpayment violations.
- c. If unpaid or underpaid workers cannot be located by the CONTRACTOR or the OWNER after diligent efforts to accomplish same, unpaid or underpaid wages shall be reserved by the OWNER in a special "unfound worker's account" established by the OWNER, for such employees. If after one (1) year from the final acceptance of the Project by the OWNER, workers still cannot be located, in order that the OWNER can make effective interim re-use of the money, such wages and any associated liquidated damages may be used to defray actual costs incurred by the OWNER in attempting to locate said workers, and any remaining monies may then revert back to the OWNER's original funding source for the Project. However, unpaid or underpaid workers for which money was originally reserved are eligible to claim recovery from the OWNER for a period of not-to-exceed three (3) years from the final acceptance of the Project by the OWNER. Recovery after expiration of the three-year period is prohibited.

11. DISPLAYING WAGE DETERMINATION DECISIONS/AND NOTICE TO LABORERS/MECHANICS STATEMENT

The applicable Wage Determination Decision as described in the "General Statement" (and as specifically included in the Project Contract), outlining the various worker classifications and mandatory minimum wages and minimum hourly fringe benefit

deductions, if any, of laborers/mechanics employed and to be employed upon the Work covered by this Contract, shall be displayed by the CONTRACTOR/subcontractor at the site of Work in a conspicuous and prominent public place, readily and routinely accessible to workmen for the duration of the Project. In addition, the CONTRACTOR/subcontractor agrees with the contents of the following statement, and shall display same, in English and Spanish, near the display of the wage determination decision at the site of Work:

12. NOTICE TO LABORERS/MECHANICS

Both the OWNER and the CONTRACTOR/subcontractor agree that you must be compensated with not less than the minimum hourly base pay of \$8.00 pr. hour or other greater minimum hourly base pay based upon job classification, and minimum hourly fringe benefit contribution in accordance with the wage rates publicly posted at this jobsite, and as are applicable to the classification of Work you perform.

Additionally, you must be paid not less than one and one-half times your basic hourly rate of pay for any hours worked over 40 in any seven (7) calendar day Work period, and for any Work conducted on New Year's Day, Martin Luther King Day, Presidents' Day, Cesar Chavez Day, Good Friday, Memorial Day, Emancipation Day, Fourth of July, Labor Day, Veterans Day, Thanksgiving Day, Day after Thanksgiving, and Christmas Day or the calendar days observed as such in any given year, along with additional OWNER-designated local holidays to be annually determined by OWNER and provided to CONTRACTOR.

Apprentice and trainee hourly wage rates and ratios apply only to apprentices and trainees recognized under approved Federal, or State, apprenticeship training programs registered with the Bureau of Apprenticeship and Training, U.S. Dept. of Labor.

If you believe that your employer is not paying the appropriate minimum wage for the type of Work you do, you must make direct inquiry to the CONTRACTOR/subcontractor and inquire in writing, within sixty (60) calendar days of your receipt of any allegedly incorrect wage or benefit check or report, to the BPUB (OWNER's) Engineer and/or BPUB Wage & Hour Monitor, 1425 Robinhood Drive, Brownsville, Texas 78520. It is mandatory that you promptly file written inquiry of any allegedly incorrect wage or benefit checks or reports with the BPUB within the sixty (60) calendar day period, so that you do not waive your potential right of recovery under the provisions of the BPUB (OWNER) construction Contract that governs this Project.

Both the OWNER and the Contractor/subcontractor agree that no laborer/mechanic who files a complaint or inquiry concerning alleged underpayment of wages or benefits, shall be discharged by the employer, or in any other manner be discriminated against by the employer, for filing such complaint or inquiry.

13. PAYROLLS & BASIC PAYROLL RECORDS

- a. The CONTRACTOR and each subcontractor shall prepare payroll reports in accordance with the "General Guideline" instructions furnished by the OWNER's Engineer or Wage & Hour Monitor of the BPUB. Such payroll submittals shall contain the name and address of each such employee, his correct labor classification, rate of pay, daily and weekly number of hours worked, any deductions made, and actual basic hourly and fringe benefits paid. The CONTRACTOR shall submit payroll records each week, and no later than seven (7) working days following completion of the workweek being processed, to the OWNER's Engineer or Wage & Hour Monitor, BPUB. These payroll records shall include certified copies of all payrolls of the CONTRACTOR and of his subcontractors, it being understood that the CONTRACTOR shall be responsible for the submission and general mathematical accuracy of payrolls from all of his subcontractors. Each such payroll submittal shall be on forms deemed satisfactory to the OWNER's Engineer or Wage & Hour Monitor, and shall contain a "Weekly Statement of Compliance", as called for by the Contract Documents. Such payrolls will be forwarded to OWNER's Engineer or Wage & Hour Monitor, 1425 Robinhood Drive, Brownsville, Texas 78520.
- b. Copies of payroll submittals and basic supporting payroll records of the CONTRACTOR/subcontractors accounting for all laborers/mechanics employed under the Work covered by this Contract, shall be maintained by CONTRACTOR/subcontractor during the course of the Work, and preserved for a period of three (3) years after completion of the Project. The CONTRACTOR/subcontractors shall maintain records which demonstrate: any CONTRACTOR/subcontractors commitment to provide fringe benefits to employees as may be mandated by the applicable Wage Determination Decision; that the plan or program is adjudged financially responsible by the appropriate approving authority, (i.e. U.S. Department of Labor, U.S. Department of Treasury, etc.); and that the provisions, policies, certificates, and description of benefits of the plan or program as may be periodically amended, have been clearly communicated in a timely manner and in writing, to the laborers/mechanics affected prior to their performing Work on the Project.
- c. The CONTRACTOR/subcontractor shall make the above records available for inspection, copying, or transcribing by authorized OWNER's Engineer or Wage & Hour Monitor of the BPUB at reasonable times and locations for purposes of monitoring compliance with this Contract.

14. LABOR DISPUTES

The CONTRACTOR/subcontractor shall immediately notify the BPUB General Manager and CEO or his designated representative of any actual or impending CONTRACTOR/subcontractor labor dispute which may affect, or is affecting, the Schedule of the CONTRACTOR's or any other contractor's/subcontractor's Work. In

addition, the CONTRACTOR/subcontractor shall consider all appropriate measures to eliminate or minimize the effect of such labor disputes on the Schedule, including but not limited to such measures as: promptly seeking injunctive relief if appropriate; seeking appropriate legal or equitable actions or remedies; taking such measures as establishing a reserved gate, as appropriate; if reasonably feasible, seeking other sources of supply or service; and any other measures that may be appropriately utilized to mitigate or eliminate the jobsite and Scheduling effects of the labor dispute.

15. COMPLAINTS, PROCEEDINGS, OR TESTIMONY BY CONTRACTOR / SUBCONTRACTOR EMPLOYEES

No laborers/mechanics to whom the wage, salary, or other labor standard provisions of this Contract are applicable shall be discharged, or in any other manner discriminated against by the CONTRACTOR/subcontractors, because such employee has filed any formal inquiry or complaint, or instituted or caused to be instituted, any legal or equitable proceeding, or has testified, or is about to testify, in any such proceeding under or relating to the wage and labor standards applicable under this Contract.

16. EMPLOYEE INTERVIEWS TO ASSURE WAGE AND LABOR STANDARD COMPLIANCE

CONTRACTOR/subcontractors shall allow expeditious jobsite entry of the OWNER's Engineer and/or Wage & Hour Monitor displaying and presenting proper BPUB identification credentials to the jobsite superintendent or his representative. While on the jobsite, the OWNER's Engineer and/or Wage & Hour Monitor shall observe all jobsite rules and regulations concerning safety, internal security and fire prevention. CONTRACTOR/subcontractors shall allow Project employees to be separately and confidentially interviewed at random for a reasonable duration by the OWNER's Engineer and/or Wage & Hour Monitor to facilitate compliance determinations regarding adherence by the CONTRACTOR/subcontractor to these Wage and Labor Standard Provisions.

17. "ANTI-KICKBACK" PROVISION

No person employed in the construction or repair of any BPUB public works Project shall be induced, by any means, to give up to the CONTRACTOR/subcontractor or City of Brownsville or BPUB public official or employee, any part of the hourly and/or fringe benefit compensation to which he or she is otherwise entitled.

18. "FALSE OR DECEPTIVE INFORMATION" PROVISION

Any person employed by the CONTRACTOR/subcontractor in the construction or repair of any BPUB public works project, who is proven to have knowingly and willfully falsified, concealed or covered up by any deceptive trick, scheme, or device a material fact,

or made any false, fictitious or fraudulent statement or representation, or made or used any false writing or document knowing the same to contain any false, fictitious or fraudulent statement or entry, shall be permanently removed from the jobsite by the CONTRACTOR/subcontractor. The OWNER reserves the right to terminate this Contract for cause as a result of serious and uncured violations of this provision.

19. EMPLOYMENT OF APPRENTICES/TRAINEES

- a. Apprentices will be permitted to work at less than the predetermined rate for the Work they perform when they are employed and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Bureau of Apprenticeship & Training, or with a State Apprenticeship Agency recognized by the Bureau, or if a person is employed in his first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Bureau of Apprenticeship & Training or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen in any craft classification shall not be greater than the ratio under the registered program. Any employee listed on a payroll at an apprentice wage rate, who is not a trainee as defined in (b) below, or is not registered or otherwise employed as stated above, shall be paid the wage rate for the classification of work he actually performs. The CONTRACTOR/subcontractor is required to furnish to the OWNER'S Engineer or Wage & Hour Monitor of the BPUB, a copy of the certification, along with the payroll record that the employee is first listed on. The wage rate paid apprentices shall be not less than the specified rate in the registered program for the apprentice's level of progress expressed as the appropriate percentage of the journeyman's rate contained in the applicable Wage Determination Decision.

- b. Trainees will be permitted to work at less than the predetermined rate for the Work performed when they are employed pursuant to an individually registered program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen shall not be greater than that permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for his/her level of progress. Any employee listed on the payroll at a trainee wage rate, who is not registered and participating in a training plan approved by the Employment and Training Administration, shall be paid not less than the wage rate determined by the classification of Work he actually performs. The CONTRACTOR/subcontractor is required to furnish a copy of the trainee program certification, registration of employee-trainees, ratios and wage rates prescribed in the program, along with the payroll record that the employee is first listed on, to the OWNER's Engineer or Wage & Hour Monitor of the BPUB. In the event the

Employment and Training Administration withdraws approval of a training program, the CONTRACTOR/subcontractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the Work performed until an acceptable program is approved by the Employment and Training Administration.

- c. Paragraphs 19.a. and b. above shall not operate to exclude training programs approved by the OFCCP, United States Department of Labor and as adopted by the Associated General Contractors (AGC) of Texas, Highway, Heavy, Utilities and Industrial Branch. Guidelines for these training programs shall be the same as those established for federally funded projects. This sub-paragraph 19.c. shall not apply to those portions of a project deemed to be building construction.
- d. RATIOS, APPRENTICE TO JOURNEYMAN:

The Ratio of Apprentice to Journeyman for this Project shall be the same as the Ratio permitted under the plan approved by the Employment and Training Administration, Bureau of Apprenticeship and Training, U.S. Department of Labor, by craft. A copy of the allowable Ratios is included with the applicable Wage Determination Decision in the Specifications for this Project.

When a “full investigation” (as called for in, and as construed under Texas Government Code Section 2258.001 et. seq., and as further generally described in an administrative directive to the OWNER’s Engineer and BPUB’s Wage & Hour Monitor from the General Manager entitled "Conducting Wage and Labor Standards Investigations on 100% Non-Federally Funded BPUB Construction Projects", as may be amended) evidences a violation of the Apprentice or Trainee to Journeyman ratios effective for CONTRACTOR/subcontractor employees working on this Contract, the OWNER, in addition to such other rights as may be afforded it under State and/or federal law and/or other sections of this Contract (especially paragraph 10, of these Supplementary General Conditions “Underpayment of Wages”), shall withhold from the CONTRACTOR, out of any payments (interim progress and/or final) due the CONTRACTOR, the liquidated damages (not a penalty) sum of seventy-five dollars (\$75.00) for each calendar day, or portion thereof, for each certified Apprentice or Trainee employee assigned to a Journeyman that exceeds the maximum allowable Apprentice/Trainee to Journeyman ratio stipulated for any Work done under this Contract, whether by the CONTRACTOR himself, or by any subcontractor working under him.

20. JOBSITE CONDITIONS

CONTRACTOR/subcontractor will not allow any person employed for the Project to work in surroundings or under construction conditions which are unsanitary, unhealthy, hazardous, or dangerous as governed by industry standards and appropriate City of Brownsville, State and federal statutes, ordinances, and regulatory guidelines.

21. EMPLOYMENT OF CERTAIN PERSONS PROHIBITED

- a. The CONTRACTOR/subcontractor shall knowingly only employ persons of appropriate ages commensurate with the degree of required skill, strength, maturity and judgment associated with the activity to be engaged in, but not less than the age of fourteen (14) years, as governed by Chapter 51 "Employment of Children", Texas Labor Code, (Vernon's Texas Codes Annotated) (as may be amended), and Texas Department of Labor and Standards rulings and interpretations associated with that statute. It is hereby noted that in some circumstances generally governed by this section, a federal statute (see: Fair Labor Standards Act, 29 USCS Section 212; Volume 6A of the Bureau of National Affairs Wage Hour Manual at Paragraph 96:1; "Child Labor Requirements in Nonagricultural Occupations" WH Publication 1330, July 1978 as may be amended), could pre-empt the Texas Statute and therefore be the controlling law on this subject. The CONTRACTOR/subcontractor should seek clarification from State and federal agencies and CONTRACTOR's legal counsel when hiring adolescent employees for particular job classifications.
- b. Prohibited persons not to be employed are also those persons who, at the time of employment for this Contract, are serving sentence in a penal or correctional institution, except that prior approval by the BPUB General Manager is required to employ any person participating in a supervised work release or furlough program that is sanctioned by appropriate State or federal correctional agencies.
- c. The CONTRACTOR/subcontractors shall be responsible for compliance with the provisions of the "Immigration Reform and Control Act of 1986" Public Law 99-603, and any related State enabling or implementing statutes, especially as they in combination apply to the unlawful employment of aliens and unfair immigration-related employment practices affecting this Contract.

22. PROVISIONS TO BE INCLUDED IN SUBCONTRACTS

The CONTRACTOR shall cause these Wage and Labor Standard Provisions, or reasonably similar contextual adaptations hereof, and any other appropriate State and federal labor provisions, to be inserted in all subcontracts relative to the Work to bind subcontractors to the same Wage and Labor Standards as contained in these terms of the General Conditions and other Contract Documents, insofar as applicable to the Work of subcontractors or sub-tier subcontractors, and to give the CONTRACTOR similar, if not greater, general contractual authority over the subcontractor, or sub-tier subcontractors, as the OWNER may exercise over the CONTRACTOR.

General Decision Number: TX20230003 01/06/2023
Superseded General Decision Number: TX20220003
State: Texas

Construction Types: Heavy and Highway
Counties: Cameron, Hidalgo and Webb Counties in Texas.

HEAVY & HIGHWAY CONSTRUCTION PROJECTS

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60).

If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022, Executive Order 14026 generally applies to the contract. The contractor must pay all covered workers at least \$16.20 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2022.

If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022, Executive Order 13658 generally applies to the contract. The contractor must pay all covered workers at least \$12.15 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2022.

The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must still submit a conformance request.

Additional information on contractor requirements and worker protections under the Executive Orders is available at <http://www.dol.gov/whd/govcontracts>.

Modification Number	Publication Date
0	01/06/2023
SUTX2011-003	08/02/2011

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER (Paving & Structures).....	\$ 12.46	**
FORM BUILDER/FORM SETTER (Structures).....	\$ 12.30	**
FORM SETTER (Paving & Curb).....	\$ 12.16	**
LABORER		
Asphalt Raker.....	\$ 10.61	**
Flagger.....	\$ 9.10	**
Laborer, Common.....	\$ 9.86	**

Laborer, Utility.....\$ 11.53 **
 Pipelayer.....\$ 11.87 **
 Work Zone Barricade
 Servicer.....\$ 12.88 **

POWER EQUIPMENT OPERATOR:

Asphalt Distributor.....\$ 13.48 **
 Asphalt Paving Machine.....\$ 12.25 **
 Broom or Sweeper.....\$ 10.33 **
 Crane, Lattice Boom 80
 Tons or Less.....\$ 14.39 **
 Crawler Tractor.....\$ 16.63
 Excavator, 50,000 lbs or
 less.....\$ 12.56 **
 Excavator, over 50,000 lbs.....\$ 15.23 **
 Foundation Drill, Truck
 Mounted.....\$ 16.86
 Front End Loader Operator,
 Over 3 CY.....\$ 13.69 **
 Front End Loader, 3 CY or
 less.....\$ 13.49 **
 Loader/Backhoe.....\$ 12.77 **
 Mechanic.....\$ 15.47 **
 Milling Machine.....\$ 14.64 **
 Motor Grader Operator,
 Rough.....\$ 14.62 **
 Motor Grader, Fine Grade.....\$ 16.52
 Scraper.....\$ 11.07 **

Servicer.....\$ 12.34 **
 Steel Worker (Reinforcing).....\$ 14.07 **

TRUCK DRIVER

Lowboy-Float.....\$ 13.63 **
 Single Axle.....\$ 10.82 **
 Single or Tandem Axle Dump.....\$ 14.53 **
 Tandem Axle Tractor with
 Semi Trailer.....\$ 12.12 **

WELDER.....\$ 14.02 **

 WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.
 =====

** Workers in this classification may be entitled to a higher minimum wage under Executive Order 14026 (\$16.20) or 13658 (\$12.15). Please see the Note at the top of the wage determination for

more information.

Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year.

Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at <https://www.dol.gov/agencies/whd/government-contracts>.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of ""identifiers"" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four-letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example,

is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier. Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

- 1.) Has there been an initial decision in the matter? This can be:
- * an existing published wage determination
 - * a survey underlying a wage determination
 - * a Wage and Hour Division letter setting forth a position on a wage determination matter
 - * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour National Office because National Office has responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

- 2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by

any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

=====
END OF GENERAL DECISION



TECHNICAL SPECIFICATIONS for ELECTRIC UTILITY WORK

SECTION 1 – CONTRACTOR SAFETY	TS-2 to TS-3
SECTION 2 – TECHNICAL SUMMARY OF THE WORK	TS-3 to TS-4
SECTION 3 - EARTH WORK AND SITE PREPARATION	TS-5 to TS-6
SECTION 4 - CONTRACTOR'S TRENCH EXCAVATION SYSTEM AND SHORING SAFETY PLAN	TS-6 to TS-9
SECTION 5 - BACKFILL.....	TS-9 to TS-12
SECTION 6 – UNDERGROUND ELECTRICAL CONDUIT	TS-12
SECTION 7 – POLE INSTALLATIONS AND REMOVALS.....	TS-12 to TS-13
SECTION 8 – POLE ATTACHMENT AND HOTLINE WORK.....	TS-13 to TS-14
SECTION 9 - RETIRED MATERIALS	TS-14 to TS-15
<u>DISTRIBUTION STANDARDS & SPECIFICATIONS.....</u>	ATTACHMENT

SECTION 1 – CONTRACTOR SAFETY

- 1.0 Safety- All Contractor vehicles and equipment must be easily identified as owned or under the control of the contractor by means of signs with easily identifiable company logos and vehicle numbers. In addition, all vehicles and equipment must be insured in accordance with BPUB insurance requirements and current with all state required safety inspection requirements and vehicle registrations. Drivers and operators of these vehicles / equipment must be appropriately licensed to operate said vehicles / equipment.
- 1.1 Contractor employees are required to wear arc rated uniforms complete with company logos. Clothing and apparel must be clean and pressed- torn clothing and un-tucked shirt tails are considered unprofessional and will not be allowed.
- 1.2 Contractor must provide their employees with appropriately rated personal protective equipment that at a minimum includes:
 - 1.2.1 Arc Flash Uniform
 - 1.2.2 Arc rated face shield
 - 1.2.3 Appropriately rated rubber gloves
 - 1.2.4 Steel-toe boots
- 1.3 Vehicles must carry and deploy sufficient warning signs for pedestrians and vehicles warning them of present dangers as required by law or industry standards.
- 1.4 The contractor's employees must be trained to perform first aid, CPR, pole/bucket rescues and to handle other potentially dangerous situations they may encounter. Proof of certification is required.
- 1.5 A Job Safety Analysis (JSA) form is to be completed, executed, and submitted by the contractor prior to entering into a contractual agreement with the ENGINEER. The JSA form will be valid for a period of 6 months after which an updated JSA form is to be completed, executed and submitted by the CONTRACTOR. The completed JSA form must be included along with other Contract Documents included herein. Assistance in completing this form is available from Adolfo Vazquez, BPUB Safety Department, at (956) 983-6254.
- 1.6 Contractor is responsible for calling Dig Tess (811) and/or other underground locating services or underground equipment as required by law to clear the area prior to commencing jobs.
- 1.7 All construction debris must be legally disposed of on the same working day prior to the CONTRACTOR leaving the work site.
- 1.8 Poles installations or removals within three (3) feet from distribution lines and four (4) feet from transmission lines are considered Hot Pole installations / removals. Hot Pole installation / removals require that an appropriately rated rubber sleeve insulate the nearest

conductor(s).

- 1.9 The ENGINEER reserves the right to suspend/terminate work if any of these minimum requirements are not met.

SECTION 2 – TECHNICAL SUMMARY OF THE WORK

- 2.0 GENERAL. This is a general description of the work as outlined by the ENGINEER. It is by no means a complete summary of all the conditions to be encountered nor is it a complete listing of the work required to complete the project.
- 2.1 TRENCHING/CONDUIT. Trenching / Conduit work generally consists of trenching and installation of 1”, 2”, 4”, and 6” electrical conduit, with all fittings, glue, and backfilling; the installation of 1”, 2”, 4”, and 6” electrical conduit by boring; and the installation of cables and terminations within new or existing conduits. Contractor must label/identify cable on both ends with color coded electric tape, i.e. 1, 2, 3 or A, B, C, etc. Installation will be in accordance with manufacturer’s recommendations, BPUB standards, and industry practices.
- 2.2 **TRANSFORMER/CABINETS. Transformer / Cabinet work generally consist of installing transformers, low voltage secondary pull boxes (i.e. secondary pedestals), high voltage pad mounted equipment and high voltage cabinets. Also included in the section of work is concrete pad and landscape repair work for before or after installation of pad mounted equipment.**
- 2.3 BORING AND PULLING CONDUIT. Boring and pulling conduit work consists of performing pit excavations to perform a directional bore to pull in / install a 1”, 2”, 4”, and 6” electrical duct conduit. Installation will be in accordance with manufacturer’s recommendations, BPUB standards, and industry practices.
- 2.4 UNDERGROUND WIRE PULLING. Underground wire pulling consists of pulling high voltage and low voltage single phase / poly phase wires of various gauges in existing conduit. Installation will be in accordance with manufacturer’s recommendations, BPUB standards, and industry practices.
- 2.5 POLE REMOVAL AND INSTALLATION Pole removals and installations consist of removing and installing utility poles of various classes and heights. Bid quantities differentiate between pole removals / installations that will be performed around energized (Hot) and de-energized lines (Cold). Installations and removals of poles will be in accordance with manufacturer’s recommendations, BPUB standards, and industry practices.
- 2.6 **POLE ATTACHMENTS. Pole attachment installations consist of installing a specific list of hardware /components according to an ENGINEER’s specification drawing. Bid quantities differentiate between pole attachment installations that will be performed around energized (Hot) and de-energized lines (Cold). Pole attachment installations will be in accordance with**

manufacturer's recommendations, BPUB ENGINEER's specification drawings, and best industry practices.

- 2.7 OVERHEAD WIRE PULLING. Overhead wire pulling consists of installing single and poly phase overhead conductors of various gauges and securing them to pole attachments. Overhead wire pulling will be in accordance with manufacturer's recommendations, BPUB standards, and best industry practices.
- 2.8 LIMITED ACCESS. Some work may have limited access. Special attention is called to the fact that this work may be completed as part of a major construction and rehabilitation project being conducted by another contractor. Access to the site will be granted by the Brownsville Public Utilities Board, however, coordination and reasonable cooperation with the contractor on site will be expected.
- 2.9 NO GUARANTEE OF WORK. There is no guaranteed minimum amount of work for any of the quantities in this annual bid document. Work will be released by sub-project(s) intermittently as it is required by BPUB.
- 2.10 ASSIGNING OF WORK. The ENGINEER's designated representative will assign sub-project Work to the CONTRACTOR by providing the Contractor with a set of drawings that details the work to be performed. On occasion, it may be convenient to send the drawings via email or facsimile, therefore, it will be necessary for the CONTRACTOR to provide a working facsimile number and email address to the BPUB address. It will also be necessary for the Contractor to inform the ENGINEER of any changes in communication channels prior to the change taking effect.
- 2.11 CONTRACT WORK COMPLETION. Upon sub-project Work being released, the CONTRACTOR shall confirm that the on-site Work will commence within five (5) calendar days of the BPUB release date. Also, within that time frame, the CONTRACTOR shall provide the ENGINEER the anticipated date of Substantial Completion of the Work, which shall be presumed to be ≤30 calendar days on each sub-project. If the Substantial Completion date given by the CONTRACTOR is unacceptable or impractical to the BPUB ENGINEER, the ENGINEER reserves the right to first attempt to negotiate an acceptable Substantial Completion date with Contractor, or negotiate a schedule through a separate contract (with alternate construction contractors if necessary) or for BPUB to self-complete work to meet completion date requirements.
- 2.12 PAYMENTS. Contractor will submit invoices to the ENGINEER's designated representative on a weekly basis. Payments will be remitted based on ENGINEER's check processing schedule, usually within 30 calendar days.
- 2.13 EQUIPMENT. Equipment CONTRACTOR should include in his bid the price necessary to provide all equipment necessary to complete the specified work. This will include, but is not limited to hand tools, power tools, vehicles and trailers of any kind...etc. BPUB will at no time allow contractor to use BPUB equipment nor will it allow work to be delayed for an unusual amount of time due to CONTRACTOR not having necessary equipment. CONTRACTOR should include in his price necessary provisions to have equipment ready and in good working condition.

SECTION 3 - EARTH WORK AND SITE PREPARATION

- 3.0 SCOPE. This Section shall cover the removal and disposal of all materials, in both open cut and tunnel excavations, necessary for performing the Work as shown on the drawings or called for in the bid or special provisions, including sheeting and bracing, drainage, and other Work incidental to the preparation of the site for subsequent construction Work.
- 3.1 PREPARATION OF THE SITE. Prior to commencing construction operations, the CONTRACTOR shall make all the provisions necessary to assure the protection of all existing improvements, both public and private. He shall protect trees, shrubs, planting and grass areas and shall make provisions for maintaining public travel in an acceptable manner.
- 3.2 PROTECTION OF EXISTING IMPROVEMENTS. Before any excavation is started, adequate protection shall be provided for all lawns, trees, shrubs, landscape work, fences, sidewalks, hydrants, utility poles, street, alley and driveway paving, curbs, storm sewers, ditches, headwalls, catch basins, surface inlets and all other improvements that are to remain in place. Such protection shall be provided as long as necessary to prevent damage from the CONTRACTOR's operations. Shrubs, bushes, small trees and flowers, which have to be removed to permit excavation for the waterline, shall be protected and replanted or replaced when the backfill is completed. The CONTRACTOR shall exercise every precaution to prevent damage to property within and outside easements. He shall remove all debris and rock from the site and restore the ground surfaces to the original grade after proper compaction, replace or repair all driveways, buildings, fences, retaining walls, culverts, drains, paving, sidewalks, etc. which are removed or damaged during construction. Repair, restoration or replacements of any improvements damaged or removed shall be the obligation of the CONTRACTOR at no additional cost to ENGINEER.
- 3.3 PERMITS. Permit terms in the Electric System Construction Contract shall prevail.
- 3.4 DRAINAGE. The CONTRACTOR shall make provisions for temporarily handling all flows in existing creeks, ditches, sewers, and trenches by employing pipes, flumes, or other approved methods at all times when his operations would, in any way, interfere with the natural functioning of said creeks, ditches, sewers and drains. The CONTRACTOR shall at all times during construction provide and maintain sufficient equipment for the lawful disposal of all water which enters the excavation, both in open cut trenches and in tunnels, to render such excavations firm and dry, until structures to be built thereupon are completed.
- 3.5 METHODS. Pipe under drains, well point systems, deep well pumps or other suitable equipment and methods shall be used to keep all excavations firm and dry, at no additional cost to ENGINEER unless otherwise provided in the bid.
- 3.6 EXCAVATED MATERIALS. Materials of excavation shall be classified as earth excavation or as rock excavation and shall include whatever materials are encountered to the depth shown on the drawings, or as directed by the ENGINEER.
- 3.7 DISPOSAL OF UNSUITABLE MATERIALS. Excavated materials which are both surplus and not required, or are unsuitable for backfilling, shall be removed from the site of operations as soon as excavated. All excavated materials so removed shall be disposed of, at no additional cost to ENGINEER on privately owned property for which the CONTRACTOR has made prior arrangements

and shall not be disposed of on property of BPUB, the City of Brownsville or Cameron County, unless by permission of the ENGINEER.

- 3.8 STORAGE OF SUITABLE MATERIALS. Excavated materials suitable and required for backfill shall be stored in neat piles adjacent to the excavation in a manner so as to interfere as little as possible with traffic, but shall not be placed at such heights above or closer to, the sidewalls of the excavations to endanger such operations due to weight surcharges, slides, or cave-ins.
- 3.9 OPEN CUT EXCAVATION. Open cut excavation, in earth or other material, shall be safely supported and of sufficient width and depth to provide adequate room for the construction or installation of the Work to the lines, grades and dimensions called for by the drawings.
- 3.10 TRENCH PREPARATION. The trench shall be dug so that conduits can be laid to the alignment and depth required. It shall be excavated only so far in advance of conduit laying as permitted by BPUB. Unless otherwise ordered by the ENGINEER, all trenches shall be excavated to a width not less than specified on the bid forms. The CONTRACTOR shall do all excavation of whatever substances encountered to depths specified. The trench shall be excavated to the depth required so as to provide for the installation of the pipe bedding material to the depth specified on the drawings and elsewhere in these specifications.
- 3.11 UNAUTHORIZED EXCAVATION. Excavation shall not be carried below the required level. Excess excavation below the required level shall be backfilled at CONTRACTOR's expense with earth, sand or gravel as directed by ENGINEER and shall be compacted to a minimum 95% Standard Proctor density.
- 3.12 EARTH EXCAVATION. Earth materials shall be excavated so that the open cut trenches conform with the lines, grades and dimensions shown and/or specified on the drawings. When the bottom of the excavation is unsuitable as a foundation, it shall be excavated below sub-grade and then filled with gravel which shall be mechanically compacted in 6" (six inch) layers to a minimum density of 95% Standard Proctor. ENGINEER will determine depth of removal and replacement of unstable soil. CONTRACTOR shall furnish pumps or well points to keep excavation free of water and also any necessary sheeting, shoring or bracing in conformance with Section 11 of these Standard Specifications to prevent cave-ins. Basis of payment shall be as indicated in the above-mentioned specification.
- 3.12.1 Excavated earth materials may be used for a backfill in, however, subject to the approval of the ENGINEER.
- 3.13 BORING. Installation of electrical conduits by boring methods will be required at times as specified in the Plans and Specifications.

SECTION 4 - CONTRACTOR'S TRENCH EXCAVATION SYSTEM AND SHORING SAFETY PLAN

- 4.0 SCOPE. This Section shall cover CONTRACTOR'S furnishing a Safety System Plan, and all labor and materials for installation and maintenance of the Trench Safety System.
- 4.1 APPLICATION. For any trench excavation at a depth of five (5) feet or greater, or where shown on plans, provide trench safety system. Trench safety system shall be in accordance with details shown on CONTRACTOR's Trench Excavation and Shoring Safety Plan.

- 4.2 **QUALITY ASSURANCE.** Trench safety system to meet appropriate requirements established in Section 756.022 of the Texas Health and Safety Code and Occupational Safety and Health Administration (OSHA) Safety & Health Regulations, 29 CFR 1926, Subpart P - Excavations, Trenching and Shoring, as may be amended, and OSHA's proposed standards on trenching excavation published in Volume 54, No. 209 of the Federal Register, October 31, 1989; Pages 45959-45991. Those standards are incorporated into these specifications by reference. Should the applicable OSHA standards be modified or amended, the more stringent standards shall apply.
- 4.3 **SUBMITTALS.** The CONTRACTOR shall provide Trench Safety System Plan for Project prior to Award of the Contract. The Plan shall incorporate the detailed plans and specifications for a Trench Safety system conforming to OSHA standards. The Plan shall account for project site conditions, CONTRACTOR's trench construction means, methods, techniques or procedures, the relationship of spoil to edge of trench, and CONTRACTOR's equipment to be used in construction of project facilities requiring trench Safety System(s). CONTRACTOR shall submit a certificate signed and sealed by a Registered Professional ENGINEER licensed in the State of Texas stating that CONTRACTOR's Trench Safety System Plan has been designed in conformance with appropriate OSHA standards and applicable specifications as required by this item. CONTRACTOR's Trench Safety System Plan shall demonstrate the type(s) of Trench Safety System to be used on the project.
- 4.4 **MATERIALS.** The materials used in the Trench Safety System shall be furnished by the CONTRACTOR, as approved by the ENGINEER, to comply with the requirements of the work of the CONTRACTOR as specified therein.
- 4.4.1 **TIMBER.** Trench sheeting materials to be full size, a minimum of two inches in thickness, solid and sound, free from weakening defects such as loose knots and splits.
- 4.4.2 **STEEL SHEET PILING.** Steel sheet piling shall at a minimum conform to one of the following specifications:
a. ASTM A328.
b. ASTM A572, Grade 50.
c. ASTM A690.
Steel for stringers (wales) and cross braces shall conform to ASTM A588.
- 4.4.3 **STEEL TRENCH BOXES.** Portable steel trench box shall at a minimum be constructed of steel conforming to ASTM Specification A-36. Connecting bolts used shall conform to Specifications ASTM A-307. Welds to conform to requirements of AWS Specification D1.1.
- 4.4.4 **OTHER MATERIALS.** Other materials to be utilized shall at a minimum conform to applicable ASTM standards.
- 4.5 **INSTALLATION.** Trench safety system shall be constructed, installed, and maintained in accordance with the Trench Safety System Plan prepared by the CONTRACTOR's Registered Professional ENGINEER.
- 4.5.1 **TIMBER SHEETING.** Timber sheeting and size of uprights, stringers (wales), and cross bracing to be installed in accordance with CONTRACTOR's plan. Place cross

braces in true horizontal position, spaced vertically, and secured to prevent sliding, falling, or kickouts. Cross braces to be placed at each end of stringers (wales), in addition to other locations required. Cross braces and stringers (wales) to be placed at splices of uprights, in addition to other locations required.

- 4.5.2 STEEL SHEET PILING. Steel sheet piling of equal or greater strength may be used in lieu of timber trench shoring shown in the OSHA tables (proposed standards). Drive steel sheet piling to at least minimum depth below trench bottom as recommended by CONTRACTOR's Registered Professional ENGINEER providing design. Place cross braces in true horizontal position, spaced vertically and secured to prevent sliding, falling, or kickouts. Cross braces to be placed at each end or stringers (wales), in addition to other locations required.
- 4.5.3 TRENCH BOXES. Portable trench box may be used in lieu of timber trench shoring shown in the OSHA tables (proposed standards) and shall be designed to provide equal or greater protection than timber trench shoring shown in the OSHA tables. In cases where top of portable trench box will be below top of trench, the trench must be sloped to the maximum allowable slope for the soil conditions existing on the Project. In areas where a sloped trench will affect the integrity of existing structures, CONTRACTOR to protect structures prior to sloping trench.
- 4.5.4 TRENCH JACKS. When trench jacks are used for cross bracing and/or stringers (wales), the trench jacks shall provide protection greater than or equal to the timber cross bracing shown in the OSHA tables (proposed standards). Trench jacks to be placed at each end of stringers (wales) in addition to other locations required.
- 4.6 SUPERVISION. CONTRACTOR must provide competent supervisory personnel at each trench while Work is in progress to ensure CONTRACTOR's methods, procedures, equipment, and materials pertaining to the safety systems in this Item are sufficient to meet requirements of current Texas Law and OSHA Standards.
- 4.7 MAINTENANCE OF SAFETY SYSTEM. The safety system shall be maintained in the condition as shown on the Trench Excavation and Shoring Safety Plan as designed by the CONTRACTOR's Registered Professional ENGINEER. The CONTRACTOR shall take all necessary precaution to ensure the safety systems are not damaged during their use. If at any time during its use a safety system is damaged, personnel shall be immediately removed from the trench excavation area and the safety system repaired. The CONTRACTOR shall take all necessary precautions to ensure no loads, except those provided for in the plan, are imposed upon the trench safety system.
- 4.8 INSPECTION. CONTRACTOR shall make daily inspection of trench safety system to ensure that the system meets OSHA requirements. Daily inspection to be made by competent personnel. If evidence of possible cave-ins or slides is apparent, all Work in the trench shall cease until necessary precautions have been taken to safeguard personnel entering trench. CONTRACTOR to maintain permanent record of daily inspections.
- 4.9 REMOVAL. Bed and backfill pipe to a point at least one (1) foot above top of pipe or other embedded items prior to removal of any portion of trench safety system. Bedding and backfill to be in accordance to other applicable specification items. Backfilling and removal of trench supports shall be in accordance with CONTRACTOR's Trench Excavation and Shoring Safety Plan. Removal of trench

safety system to be accomplished in such a manner to cause no damage to pipe or other embedded items. Remove no braces or trench supports until all personnel have evacuated the trench. Backfill trench to within five (5) feet of natural ground prior to removal of entire trench safety system.

SECTION 5 - BACKFILL

- 5.0 **WORK INCLUDED.** Under this section is included the filling of excavated trenches and spaces around the completed structures to the original grades, unless otherwise shown on the drawings or set forth in the bid.
- 5.1 **OPEN CUT BACKFILL.** Backfilling of excavated trenches in open cut shall be commenced as soon as possible after the water or sewer line is laid and the jointing and alignment are approved, but not until authorized by the ENGINEER.
- 5.2 **MATERIALS.** The following materials shall be used to backfill the trenches in accordance with and in the manner indicated by the requirements specified herein, unless otherwise set forth in drawings or bid.
- 5.2.1 **SANDY BACKFILL MATERIALS.** Backfill in trenches for waterlines, sewer lines, property sewer service connections, and structures within the limits of existing or proposed paved surfaces shall be made with sand or sandy materials containing not more than 20 percent clay, and free from rocks, lumps and debris. The sand or sandy material shall be furnished by the CONTRACTOR, but shall be subject to the approval of the ENGINEER.
- 5.2.2 **SELECTED EXCAVATED MATERIALS.** Backfill in trenches for waterlines, sewer lines, property service connections, and structures outside the limits of existing or proposed paved surfaces, shall be made with selected excavated materials taken from the trench excavation, free from rocks and lumps greater than six (6) inches in their largest dimension, and free from debris. The ENGINEER will, at his discretion, reject any material he deems unsuitable for backfill.
- 5.3 **BEDDING PROCEDURES.** The following bedding procedures will be used for Polyvinyl Chloride (PVC) Electrical Conduits. In the absence of Rock, no bedding procedures shall be used and ditch shall be backfilled as noted in 3.3.1. Where Rock is encountered the Contractor shall notify the ENGINEER and allow time for inspection of the ditch. With agreement of the ENGINEER that rock conditions exist the ENGINEER shall provide on-site sufficient sand to be the electrical conduits. Sand bedding zone shall extend from a point at least 4 inches below bottom of pipe to a point at least 4 inches above top of pipe, as well as at least 4 inches on each side of conduit(s) and shall be compacted to at least 90% of maximum density as determined by ASTM Standard D698, latest revision. Sand bedding from 4 inches below bottom of pipe to bottom of pipe shall be placed in one lift and shall be mechanically tamped. Sand bedding from bottom of pipe to spring line of pipe shall be placed by hand in 4-inch lifts and shall be hand tamped with proper tools. Sand bedding from spring line of pipe to 4 inches above top of pipe shall be placed in 4-inch lifts and shall be mechanically tamped. When trench bottom is unstable, or when conduit is to be placed under groundwater (below water table) Contractor shall notify ENGINEER immediately.

At that point ENGINEER and Contractor shall negotiate costs for additional work required or change to a boring installation.

- 5.3.1 FINAL BACKFILL ABOVE PIPE ZONE (4" ABOVE CONDUIT TO TOP OF GROUND). The backfill above the conduit zone shall be, until otherwise indicated on the drawings, in accordance with the following.
- 5.3.2 CLASS "A" MECHANICAL COMPACTION. Trench under flexible pavements and gravel surfaces - place Type "D" sand backfill material in layers not to exceed six (6) inches loose measurement. Compact with mechanical tampers to a dry density of at least 95% of maximum density as determined by ASTM Standard D698, latest revision. Each layer, before compaction, shall be leveled and evenly distributed on both sides of the pipe so as not to disturb, displace or damage the water or sewer line in any way. When the material does not contain sufficient moisture to obtain thorough compaction, it shall be moistened or wetted as directed by the ENGINEER. Use under proposed road.
- 5.3.3 CLASS "B" MECHANICAL COMPACTION. Trench under unimproved roadways, un-surfaced road shoulders, unimproved driveways and under turf or seeded lawn areas - place Type "E" excavated material in backfill layers not to exceed twelve (12) inches loose measurement. Compact with mechanical tampers to at least 90% of maximum density as determined by ASTM Standard D698, latest revision. Each layer, before compaction, shall be leveled and evenly distributed on both sides of the pipe so as not to disturb, displace or damage the water or sewer line in any way. When the material does not contain sufficient moisture to obtain thorough compaction, it shall be moistened or wetted as directed by the ENGINEER.

- 5.4 SPECIAL BACKFILL CONDITIONS. The trenches need not be completely backfilled until conduits have been pigged and pull strings are installed to conform to the requirements specified. Trenches improperly backfilled shall be reopened to the depth required for proper compaction, and refilled and compacted as specified, or the condition shall be otherwise corrected as permitted by the ENGINEER. The surface shall be restored to its original condition as nearly as practicable and as hereinafter specified. Immediately after the pipe, or utility lines, is bedded and joined, as indicated on the drawings or specified, the backfill material shall be deposited within the pipe zone in uniform layers not to exceed six (6) inches and at the proper moisture content. The layers shall be compacted with mechanical hand tampers or other approved equipment to the density herein specified. The backfill shall rise the same on each side of the pipe and coincidentally be tamped in layers until there is a cover of 12 inches over the top of the pipe. Walking or working over the pipe will not be permitted until the trench is backfilled to 12 inches above the pipe. Where pavement on a State Highway is cut, final backfill material and pavement shall be replaced in accordance with Texas Department of Transportation requirements. Where pavement is cut in locations other than State Highways, whether gravel topping or hard surfaced, the surfacing shall be restored to its original finish and in equal condition and quantities as found at the beginning of construction. Trenches on hard surfaced roads and State Highways shall be backfilled to a density of 95% as determined by the American Association of State Highway Officials Method T99 for compaction and density of soils. Successful CONTRACTOR shall determine all requirements of various controlling agencies in connection with backfilling, pavement replacement and general construction before starting construction. In traffic areas including individual driveways,

CONTRACTOR shall restore traffic surfaces to usable condition immediately upon completion of pipe installation. In such locations, ENGINEER will rely upon hydrostatic test to determine acceptability of construction. All excess dirt from all construction work shall be disposed of promptly by CONTRACTOR, either by hauling or at directions of ENGINEER.

- 5.5 **BACKFILLING AT STRUCTURES.** Shall not begin until construction below finish grade has been approved, underground utilities systems have been inspected, tested and approved, forms removed, and the excavation cleaned of trash and debris. Backfill shall be brought to indicated finish grade. All forms, shoring and bracing shall be removed before backfilling is started. Care shall be taken to prevent any wedging action of backfill against a structure, and slopes bounding the excavation shall be stepped or serrated to prevent such wedge action. Backfill shall be placed in uniform layers, dried or moistened as required to obtain approximate optimum moisture content and tamped with mechanical hand tampers or other approved equipment to a density of at least 95 percent of maximum density at optimum moisture. The thickness of each loose layer shall not exceed six inches.
- 5.6 **BACKFILLING WALLS OF LIFT STATION STRUCTURES.**
(NONE)
- 5.7 **COMPACTION - General.** Backfill materials shall be placed in uniform layers and compacted to percentage of density hereinafter specified. Moisture shall be controlled between optimum and 2 percentage points over. Methods to secure optimum moisture content shall be CONTRACTOR's responsibility. Compacting equipment and method of compaction shall be the responsibility of CONTRACTOR and shall be such that uniform density will be obtained over entire area and depth of material being compacted. Fill material shall be thoroughly broken up before being spread into uniform layers. Backfill not otherwise specified shall be compacted to at least 95% of maximum density as determined by ASTM Specification D698.
- 5.8 **DETERMINATION OF DENSITY.** Determination of density of backfill, shall be made in conformance with the requirements of ASTM D2922, ASTM D1556 or ASTM D2167. Determination of density of cohesionless material shall be made in accordance with ASTM D2049. Relative density of 75% shall be considered as satisfactory for cohesionless material. Testing shall be performed by a soil consultant employed by the ENGINEER and at no expense the CONTRACTOR to test compaction of backfill material. When soil tests indicate densities less than those specified by this section, the material shall be re-compacted and tested at the CONTRACTOR'S expense.
- 5.9 **CONSTRUCTION EQUIPMENT.** Ditching machines will be permitted at CONTRACTOR's option, subject to the approval of the ENGINEER, whenever their use is applicable and practical for work shown on the drawings. A certain amount of hand excavation may be required due to special field conditions and to minimize damage to improvements and trees. In compacting by rolling or operating heavy equipment parallel with the conduit, displacement of or injury to the pipe shall be avoided. Any pipe damaged thereby shall be repaired or replaced at the option of the ENGINEER and at the expense of the CONTRACTOR.
- 5.10 **RESTORATION AND CLEANUP.** The CONTRACTOR shall restore or replace all removed or damaged paving, curbing sidewalks, gutters, shrubbery, fences, sod, or other disturbed surfaces of structures in a condition equal to that before the work began and to the satisfaction of the ENGINEER and shall furnish all labor and material incidental thereto, in restoring improved

surfaces, new pavement shall be laid. No permanent surface shall be placed within 30 days after the backfilling has been completed, except by order of the ENGINEER. Surplus pipeline material, tools and temporary structures shall be removed by the CONTRACTOR. All dirt, rubbish, and excess earth from excavations shall be hauled to a dump provided by the CONTRACTOR, and the construction site shall be left clean, to the satisfaction of the ENGINEER.

SECTION 6 – UNDERGROUND ELECTRICAL CONDUIT

- 6.0 MATERIALS. Only Electrical conduits, elbows, bends, and fittings are to be provided by BPUB in sizes shown on the drawings. CONTRACTOR is to provide any glue approved by the conduit manufacturer for joining the conduits and a pull string equivalent to ¼” poly rope.
- 6.1 EQUIPMENT. Equipment CONTRACTOR should include in his bid the price necessary to provide all equipment necessary to complete the specified work. This will include, but is not limited to hand tools, power tools, vehicles and trailers of any kind...etc. BPUB will at no time allow contractor to use BPUB equipment nor will it allow work to be delayed for an unusual amount of time due to CONTRACTOR not having necessary equipment. CONTRACTOR should include in his price necessary provision to have necessary and equipment in good working condition.
- 6.2 CONDUIT INSTALLATIONS. Conduits are to be installed as shown on the drawings of each project. All conduit runs shall be 48” deep and end 12” above natural grade in the locations shown unless otherwise directed by BPUB personnel. Conduit is to be picked up at the BPUB warehouse and installed at various subdivisions or commercial properties in the Brownsville area. CONTRACTOR shall give BPUB four business hours (between 8:00 am and 4:30 PM, Monday through Friday) of notice before ditch is closed so that conduits may be inspected before ditch is backfilled. Pull string is to be provided by and installed by CONTRACTOR in all conduits. Rock is not expected to be found in the area. However, if it is found while trenching the CONTRACTOR is to notify BPUB immediately to determine if a sand bedding is needed. If sand is needed, sand will be provided and taken to the job site as required.
- 6.3 MEASUREMENT AND PAYMENT. Measurement and Payment Conduits to be paid for by the linear foot at the Contractor’s bid prices.
- 6.3.1 Conduit runs will be measured in the horizontal plane as noted on PLANS.
 - 6.3.2 The price of installing pull string shall be included within the bid price.
 - 6.3.3 Only one trench will be charged for conduit runs sharing the same trench. For example, one (1) 18” by 48” open trench will be charged for the following two separate conduit runs to be installed from the same transformer, same trajectory and different depths.

SECTION 7 – POLE INSTALLATIONS AND REMOVALS

- 7.0 A QUALIFIED CONTRACTOR. Contractor must be qualified, through previous experience and training, to work in the proximity of energized power lines, phone and cable wires to install and remove utility poles. The contractor must provide experienced crew(s) with training as required by federal laws, state laws and the applicable industry standards.

- 7.1 POLE INSTALLATION AND REMOVALS. Poles to be removed or installed will be within the City of Brownsville and its extraterritorial jurisdictions. Existing utility poles may be defective, in conflict or otherwise in need to removal or replacement.
- 7.2 DEFECTIVE POLES. Poles that are defective or in conflict with other utilities or developments are to be removed manually or mechanically using best industry practices. The ENGINEER (or designee) will provide the CONTRACTOR a drawing showing the locations of poles that are to be removed.
- 7.2.1 VOIDS. Voids left behind as a result of the pole removal are to be filled and compacted to 90% standard proctor with the conditions of the surrounding area restored to the original (or better) condition (see section 26 of the Instructions to Bidders for specifics).
- 7.2.2 RETURNS. Poles that are removed from service are to be returned to ENGINEER's maintenance yard (or other agreed upon location) by the CONTRACTOR. CONTRACTOR shall return pole tags along with as-built drawings upon pole removal.
- 7.2.3 AS BUILT DRAWINGS. CONTRACTOR shall also mark as-built drawings with pole location if pole tag is not intact.
- 7.3 NEW POLE INSTALLATIONS. New utility poles are to be installed using best industry practices and industry standard equipment. Unless otherwise informed in writing by the ENGINEER, the new poles are to be placed in a new hole with a depth equal to 10% of the linear length of the pole, plus, two (2) additional feet added to the depth to satisfy the ENGINEERS required safety factor.
- 7.3.1 INSTALLED PLUMB. Pole installations will be plumbed orthogonal to the existing grade with pole holes backfilled and compacted (90% standard proctor) around the base of the pole using select soil.
- 7.3.2 SPECIAL BACKFILL. Granular soil conditions may require the implementation of caliche, limestone, or concrete for back fill material to add additional support to the pole base. The ENGINEER, at their expense, will provide such materials when justified.
- 7.3.3 POLE TRANSPORTATION. The CONTRACTOR will provide pole transportation and aforementioned support material from ENGINEER's maintenance yard to the installation site.
- 7.3.4 POLE TAGS. The ENGINEER shall be responsible for attaching pole tags to new poles.

SECTION 8 – POLE ATTACHMENT AND HOTLINE WORK

- 8.0 A QUALIFIED CONTRACTOR. Contractor must be qualified, through previous experience and training, to work in the proximity of energized power lines, phone and cable wires to install pole attachment and perform hotline work.
- 8.1 CONTRACTOR EMPLOYEE TRAINING REQUIREMENTS. The Contractor must provide experienced crew(s) with training as required by federal laws, state laws and the applicable industry standards.
- 8.2 WORK LOCATIONS. Pole attachments and hotline work will be performed throughout the City of Brownsville and its extraterritorial jurisdictions.
- 8.3 WORKING AROUND ENERGIZED LINES. Unless agreed upon by both parties, Pole attachment installation and hotline work are to be performed near /on energized lines.
- 8.4 TO ENGINEERS SPECIFICATIONS. Pole attachment installation and hotline work are to be built/performed per ENGINEER'S specification drawings or specific work instructions. Deviations to specifications and / or work instructions must be pre-approved by ENGINEER prior to acceptance and payment.
- 8.5 INSTALLATIONS BASED ON BEST PRACTICES. The Contractor must install pole attachments and perform hotline work based on industry and safety standard work practices.

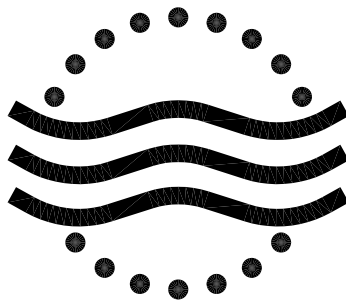
SECTION 9 - RETIRED MATERIALS

- 9.1 The Contractor will return all removed material to the Owner's warehouse and will provide the Owner with 48 hours advanced notice of the time material is to be returned.
- 9.2 All removed poles will be brought to the Owner's pole yard. Upon approval by the Owner and a signed release from the landowner, poles may be left on landowner's property. Poles left on landowner's property must be removed from the Owner's right-of-way and have the ground wire removed.
- 9.3 The Contractor will account for retired materials by individual work order and/or job.
- 9.4 Retired materials are the responsibility of the Contractor. The Contractor will be charged at current invoice cost to the Owner for retired materials lost or broken in the process of handling, storing or transporting.
- 9.5 All removed conductor will be returned clean and placed on reels, one size and type per reel.
- 9.6 All removed guy strand will be returned with clamps, preforms, etc. removed and individually coiled.
- 9.7 All copper wire is to be removed from retired poles and individually coiled. Cost for

removal of the pole ground assembly, disconnecting the pole ground from the neutral and/or ground rod will be included in the Contractor's pole removal unit price.

- 9.8 All poles are to be pulled (not cut). No poles shall be topped unless called for on staking sheet or approved by the Owner.
- 9.9 Anchor rods which cannot be unscrewed will be cut off or driven 18 inches below ground.
- 9.10 The Contractor will return all retired material grouped by items.
- 9.11 The Contractor will complete an equipment record for all transformers to be retired. The record involves recording the equipment serial number, manufacturer, size, phasing, and meter number.
- 9.12 The Contractor will be required to complete a Retired Materials ticket approved by signature from the Owner on all material returns. The Contractor will be charged for any materials removed in the retired units but not accounted for on the Retired Materials ticket.

DISTRIBUTION STANDARDS
AND
SPECIFICATIONS



B R O W N S V I L L E
PUBLIC UTILITIES BOARD

BROWNSVILLE, TEXAS

TABLE OF CONTENTS

Overhead Distribution _____	
Standard Distribution Pole Drilling Guide 35'-55' Poles _____	D-1
Secondary Racks _____	D-3
Anchor Assembly _____	D-3
Power Anchor Assembly _____	D-4
Power Anchor Assembly (A) _____	D-4A
Sidewalk Guy _____	D-5
Slack Span Guy Brace _____	D-5A
Overhead Guy Wire Assembly _____	D-6
Single Phase Primary Neutral On Pole _____	D-7
Pole Ground Connection _____	D-8
Detail of Ground Wire Connection _____	D-9
7.2 KV Single Phase Fuse Cutout Assembly _____	D-10
Single Phase Deadend (Neutral On Pole) _____	D-11
Single Phase Large Angle (Neutral On Pole) _____	D-11B
"V" Phase Primary (Neutral On Pole) _____	D-12
"V" Phase Deadend (Neutral On Pole) _____	D-13
Three Phase Primary Lateral Fusing _____	D-14
12.5KV Single Circuit Tangent and Small Angle Delta Horizontal Bracket _____	D-15
Vertical Single Circuit Tangent and Small Angle Horizontal Brackets _____	D-15A
12.5KV Single Circuit Tangent and Small Angle Staggered Brackets _____	D-15B
7.2KV Single Phase and Neutral Tap Horizontal Bracket (Neutral On Pole) _____	D-16
12.5KV Single Circuit Medium Angle Delta Horizontal Bracket _____	D-17
12.5KV Single Circuit Tangent and Small Angle Brackets on Alternate sides of Pole _____	D-18
12.5KV Single Circuit Three Phase Tap With Horizontal Brackets _____	D-18A
12.5KV Single Circuit Tangent and Medium Angle Horizontal Brackets _____	D-18B
7.2KV Single Phase and Neutral Tap Horizontal Bracket (Neutral On Pole) _____	D-19
12.5KV Single Phase and Neutral Tap Horizontal Bracket (Neutral One Pole) _____	D-20
12.5KV Single Circuit Tangent with Brackets on Same side of Pole _____	D-21
12.5KV Single Circuit Medium Angle Horizontal Brackets _____	D-22
12.5KV Single Circuit Deadend Crossarm _____	D-23
12.5KV Single Circuit Deadend Double Crossarm Light Duty (1/0) _____	D-23A
12.5KV Single Circuit Deadend Double Crossarm Heavy duty (477&795 MCM) _____	D-23B

12.5KV Single Circuit Tangent and Small Angle Single Wooden Crossarm Light Duty (Neutral On Pole)	D-24
12.5KV Single Circuit Tangent and Small Angle Pole Top Single Crossarm Light Duty (Up to 1/0 AAAC) (Neutral On Pole)	D-24A
12.5KV Single Circuit Tangent Structure Heavy Duty Crossarm Assembly(Neutral)	D-25
12.5KV 3 Phase and Neutral Tap Double Wooden Crossarm (Neutral On Pole)	D-25-23A
12.5KV Single Circuit Tangent Structure Heavy Duty Crossarm Assembly (Neutral)	D-25A
Double Crossarm for Light Duty	D-26
Double Crossarm for Heavy Duty	D-26A
Light duty Single Alley Arm	D-27A
Light Duty Double Alley Arm	D-27B
Heavy Duty Single Alley Arm	D-27C
Heavy Duty Double Alley Arm	D-27D
12.5KV Single Circuit Deadend Vertical Strain Assembly	D-28
12.5KV Single Circuit Double Deadend With Horizontal Strain	D-28A
12.5KV Single Circuit Corner Deadend Vertical Strain	D-29
12.5KV Single Circuit Large Angle Vertical Suspension	D-30
12.5KV Single Circuit Deadend Steel Crossarm (Neutral On Pole)	D-31
12.5KV Single Circuit DBL In-Line Deadend Wooden Crossarm for Light duty	D-32
12.5KV Sgl Cir Dbl in-line Deadend Wooden Crossarm for Heavy Duty	D-32A
12.5KV Single Circuit Corner Deadend Wooden Crossarm for Light duty	D-33
12.5KV Sgl Cir Corner Deadend Wooden Crossarm for Heavy Duty	D-33A
12.5KV Single Circuit Corner Deadend Steel Crossarm (Neutral On Pole)	D-34
12.5KV Single Circuit Reduced Tension DBL Deadend Steel Crossarm(Neutral)	D-35
Single Phase Transformer on 1-Phase Tangent Structure	D-36
Single Phase Transformer Wiring Diagram	D-36-1
Three Phase Open Wye-Open Delta Transformer Bank on Tangent Structure	D-37
Three Phase Open-Wye Open Delta Transformer Wiring Diagram	D-37-1
Three Phase Wye-Delta Transformer Bank on Tangent Structure	D-38
Three Phase Wye Open Delta Transformer Wiring Diagram	D-38-1
Three Phase Wye-Wye Transformer Bank on Tangent Structure	D-39
Three Phase Wye Wye Transformer Wiring Diagram	D-39-1
600kvar Capacitor Cluster Mount	D-40A
1200kvar Capacitor Cluster Mount	D-40B
7.2KV W/3-Single Phase Disconnect Knife Switch	D-41
12.5KV 3-Phase Gang Operated Overhead Switch	D-42
12.5KV 3-Phase Gang Operated Overhead Switch	D-42A
Typical HPS and MH Area Light Installation on Wood Pole	D-43
Typical LED Area Light Installation on Wood Pole	D-43L
Typical HPS and MH Floodlight Installation on Wood Pole	D-44
Typical LED Floodlight Installation on Wood Pole	D-44L

Gand Operated Overhead Switch with a By-Pass _____	D-45
3-Ph Primary Metering 4 Wire Wye _____	D-46
Typical Single Phase Recloser Assembly Set Up _____	D-47

Electrical Engineering Department Standards _____

Customer Checklist _____	ENG-1
Electrical Easement Requirements _____	ENG-2
Crossarm Details 8Ft Light Duty Crossarm 8Ft Heavy Duty Crossarm _____	ENG-4
Meter Sockets _____	ENG-6
Meter Pack _____	ENG-6A
CT/PT Meter Sockets _____	ENG-6B
Transmission and Distribution Switching Policy _____	ENG-7
Customer Responsibilities for Concrete Pads Construction _____	ENG-8
Crossarm Braces Steel Distribution Arms _____	ENG-9
Crossarm Details 10 FT Heavy Duty Crossarm _____	ENG-10
Concrete Pole (Street and Security Lighting) _____	ENG-11A
Concrete Pole Bracket Arm _____	ENG-11B
Current Transformer Enclosures _____	ENG-12
Secondary Voltage and Phasing Checks _____	ENG-13
Certificate of Convenience and Necessity (CCN) Checklist _____	ENG-15

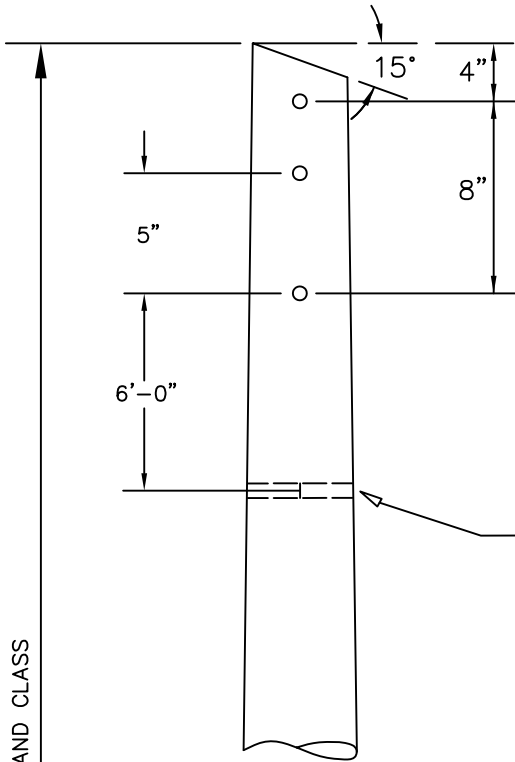
Standard Distribution Construction _____

Service Entrance for Low Roof Housing (F-1) _____	STD D-101
Standard Practice for Use of Aluminum Triplex Service Drop Cable (E-1) _____	STD D-102
Requirements for Temporary Service (C-1) _____	STD D-103
Typical Current Transformer Installation (G-1) _____	STD D-105
Temporary Service from Underground Residential Distribution (D-1) _____	STD D-106

Underground Distribution _____

Single-Phase Primary Riser Pole _____	UD-1
7.2/12.5KV 3-Phase Primary Riser Pole _____	UD-2
Power Cable Riser Knife Switch Disconnect 12.5/7200KV _____	UD-3

Power Cable Riser Knife Switch Disconnect 12.5/ 7200kv (Parallel) _____	UD-3A
Typical Three-Phase Primary U.R.D. Service _____	UD-4
Typical Three-Phase Secondary U.R.D. Service _____	UD-5
Typical Secondary U.R.D. Service from Pole Mount Transformer _____	UD-5A
Typical Single-Phase Secondary U.R.D. Service (Self Contained) _____	UD-5B
Customer Perm Meter Pole Inst. U.R.D. Service Including RVS & Mobile Homes _____	UD-5C
Customer Perm Meter Pole Installation for Overhead Service _____	UD-5D
Typical Secondary U.R.D. Service from Pad Mount Transformer _____	UD-5E
Typical Prim. Connection on a Grounded Front Padmounted XMFR (Loop Feed) _	UD-6
Blushing Mounted Lighting Arrestor for a Grounded Front Padmounted XMFR __	UD-7
Single-Phase Grounded Front Padmounted XMFR with Single Phase Tap _____	UD-8
Dead Front Three-Phase Grounded Padmounted XMFR Radial Feed _____	UD-9
Dead Front Three-Phase Grounded Padmounted XMFR Loop Feed _____	UD-10
Single Phase Padmounted Sectionalizing Assembly _____	UD-11
Deadend Front 200A Three-Phase Padmounted Sectionalizing Assembly _____	UD-12
Deadend Front 600A Three-Phase Padmounted Sectionalizing Assembly _____	UD-12A
Compression Type U.R.D. Primary Cable Splice _____	UD-13
Typical Steel Reinforced Concrete Pad for Single-Phase Mounted XMFR _____	UD-14
Typical Concrete Pad for 1500KVA/2400KVA Three-Phase Mounted XMFR _____	UD-15
Typical Concrete Pad for 150 to 500KVA Three-Phase Padmounted XMFR _____	UD-16
Typical Concrete Pad for 750 to 2500KVA Three-Phase Padmounted XMFR _____	UD-17
Three-Phase Sectionalizer Concrete Pad _____	UD-18A
Single-Phase Sectionalizer Concrete Pad _____	UD-18B
Typical Three-Phase MOST 9 Switch Gear Conduit Entrance _____	UD-30A
Typical Three-Phase MOST 11 Switch Gear Conduit Entrance _____	UD-30B
Trench Detail U.R.D. _____	UD-31
Precast Manhole Section 4-Way Electric Primary Dimensional Spec. 6'x10'x7' ____	UD-32
Switch Gear Concrete Pad _____	UD-33
Typical Transformer Pad (Dimensions May Vary) Concrete Pole _____	UD-34
MOST 9 Switch Gear Concrete Pad _____	UD-35A
MOST 11 Switch Gear Concrete Pad _____	UD-35B
Typical Hps and Mh Area Lights Installation On Concrete Pole _____	UD-43C
Typical LED Area Light Installation on Concrete Pole _____	UD-43CL
Typical Hps and Mh Floodlight Installation on Concrete Pole _____	UD-44C
Typical LED FloodLight Installation on Concrete Pole _____	UD-44CL



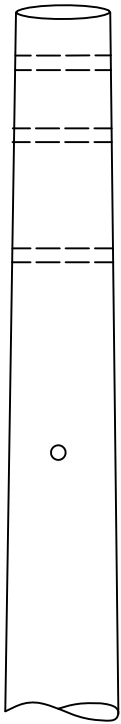
Through-bolt holes must be parallel and in the same plane.

Holes: Drill 11/16" diameter.

Drilling below must be at 90° angle with through-bolt holes

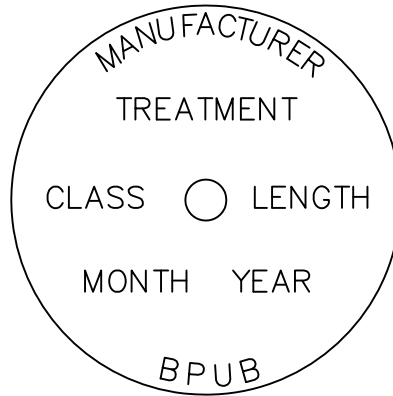
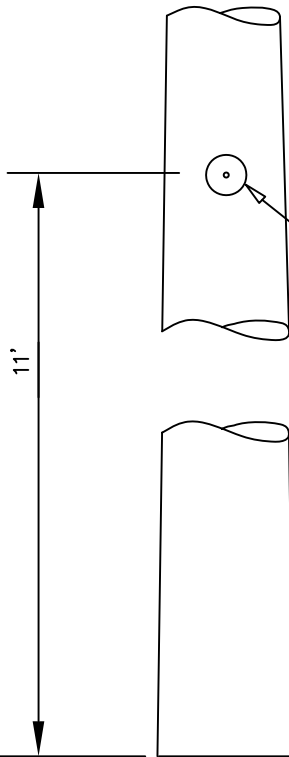
Neutral Position

Marking and lettering in accordance with "6.5 Marking" of ASA Standards. Numerals to be at least 1" high. Length and class shall be stenciled in the butt and top of each pole. (A tag may be used for this purpose).

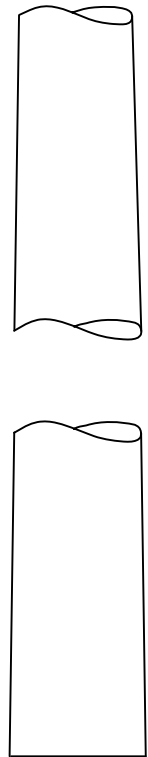


SPECIFY LENGTH AND CLASS

TYPICAL POLE TAG



2" Aluminum Disk, inserted 1/4" into pole



BROWNSVILLE
PUBLIC UTILITIES BOARD

STANDARD DISTRIBUTION POLE
DRILLING GUIDE
35'-55' POLES

DEVELOPED BY:

STANDARDS
COMMITTEE

APPROVED:

SEP 2020

DRAWING
NUMBER

D-1



Material List

ITEM	CODE NO.	DESCRIPTION	QUANTITY
1	E0101-00	BOLT, MACHINE 5/8" X 12" GALVANIZED	1
2	E0138-00	WASHER 5/8" SQUARE 2 1/4" GALVANIZED	1
3	E0010-00	CLEVIS, ONE POINT GALVANIZED	1
4	E0022-00	INSULATOR, 3" SPOOL	1
5	E0139-00	WASHER LOCK, 5/8" DOUBLE COIL SPRING COMPRESSED	1
6	E0234-00	CABLE, #4 SOL ALUM TIE	1 LB

- Note:
1. This type of construction is generally for urban construction of spans 200 feet or less with weatherproof conductors.
 2. Maximum difference in wire size not to exceed 700 lbs. Unbalance as follows: No. 6 to 2; No. 4 to 1; No. 2 to 2/0; No. 2/0 to 4/0.
 3. Racks may be mounted back to back where unbalance exceeds recommended rating.
 4. Racks mounted at right angles to each other (such as at corners or junctions) shall be staggered at least 2" vertically.



SECONDARY RACK

DEVELOPED BY:

STANDARDS
COMMITTEE

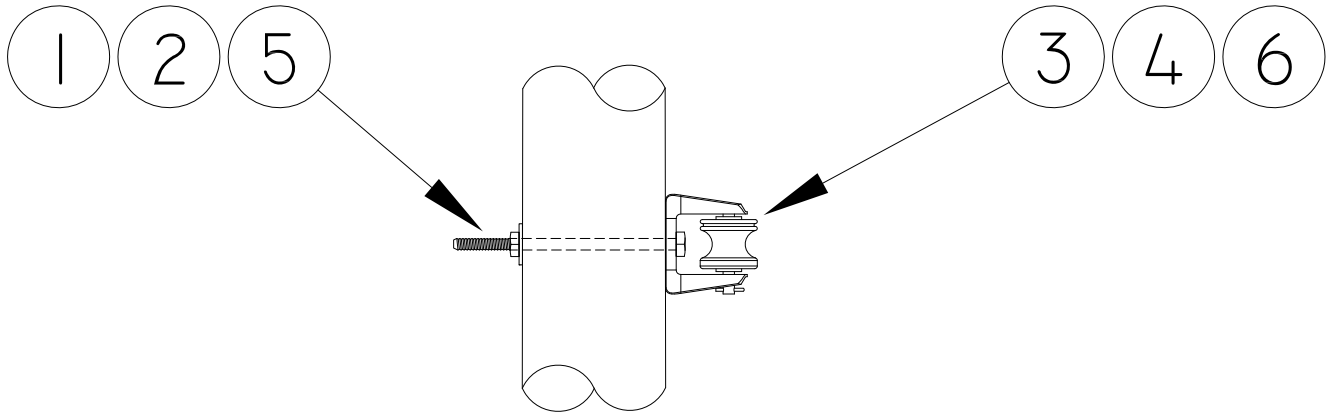
APPROVED:

SEP 2020

DRAWING
NUMBER

D-2





SECONDARY RACKS

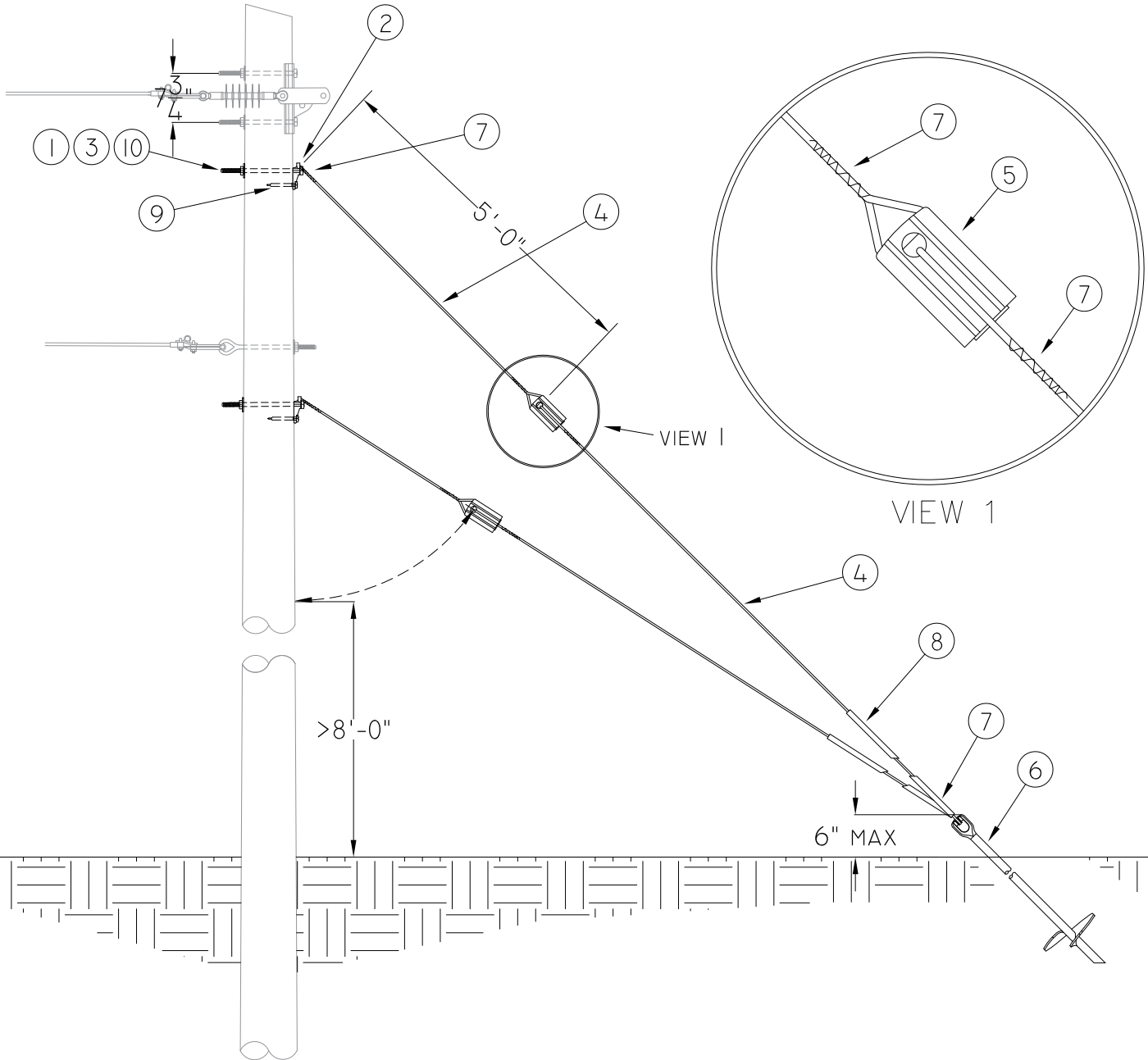


DEVELOPED BY:	STANDARDS COMMITTEE
APPROVED:	SEP 2020
DRAWING NUMBER	D-2



CONDUCTOR TYPE WITH NEUTRAL (SINGLE PHASE)	45° ANGLE*	55° ANGLE*	65° ANGLE*
1/0 AAAC (1/0 AAAC)	D-3	D-3	D-3
4/0 AAAC (1/0 AAAC)	D-3	D-3	D-4
477MCM AAC (4/0 AAAC)	D-3	D-4	D-4
795MCM (477MCM AAC)	D-4	D-4	D-4A

* ANGLE OF TOP GUY LEAD WITH RESPECT TO GROUND



NOTE: 1. POSITION OF INSULATOR MUST NOT BE LESS THAN 8 FT FROM GROUND TO MEET NESC RULE 215C.



ANCHOR ASSEMBLY

DEVELOPED BY:

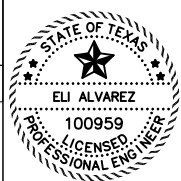
STANDARDS COMMITTEE

APPROVED:

SEP 2020

DRAWING NUMBER

D-3



Material List

ITEM	CODE NO.	DESCRIPTION	QUANTITY
1	E0101-00	BOLT, MACHINE 5/8" X 12" GALVANIZED	3
2	E1083-00	PLATE POLE EYE	1
3	E0138-00	WASHER 5/8" SQUARE 2 1/4" GALVANIZED	3
4	E0196-00	WIRE 16M ALUMOWELD GUY	150 ft
5	E1059-00	INSULATOR FIBERGLASS STRAIN	1
6	E0017-00	GUARD GUY 8' YELLOW PLASTIC	2
7	E0544-00	GRIP 16M AL DEADEND GUY	8
8	E1010-00	ANCHOR, 3-HELIX POWER	1
9	E1011-00	ADAPTER POWER ANCHOR GUY	1
10	E-	EXTENSIONS POWER ANCHOR	1
11	E0139-00	WASHER LOCK, 5/8" DOUBLE COIL SPRING COMPRESSED	3
12	E0016-00	ATTACHMENT GUY 3/8"-1/2" GALVANIZED	1
13	E0018-00	INSULATOR GUY STRAIN ANSI CLASS 54-3	2
14	E0135-00	SCREW 1/2" X 4 1/2" LAG GALVANIZED	1
		EXTENSIONS	
	E1012-00	EXTENSION 3-1/2' POWER ANCHOR	1
	E1013-00	EXTENSION 5' POWER ANCHOR	1
	E1014-00	EXTENSION 7' POWER ANCHOR	1
		<i>Note: If 795 or 954 use one of each extension or as many as required.</i>	



POWER ANCHOR ASSEMBLY

DEVELOPED BY:

STANDARDS
COMMITTEE

APPROVED:

Sep 2020

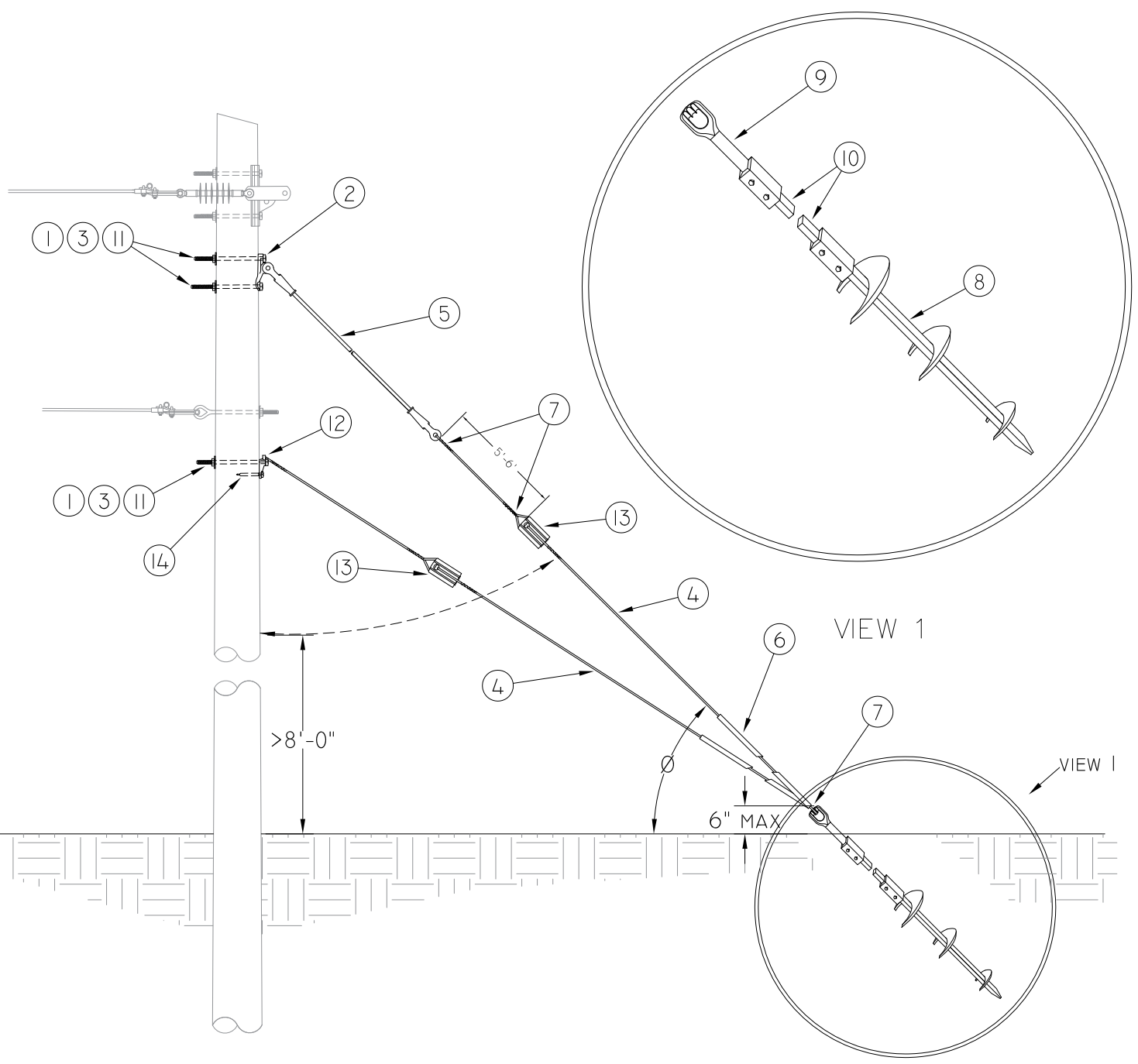
DRAWING
NUMBER

D-4





CONDUCTOR TYPE WITH NEUTRAL (1-PH)	45° ANGLE*	55° ANGLE*	65° ANGLE*	CONDUCTOR TYPE WITH NEUTRAL (3-PH)	45° ANGLE*	55° ANGLE*	65° ANGLE*
1/0 AAAC (1/0 AAAC)	D-3	D-3	D-3	1/0 AAAC (1/0 AAAC)	D-4	D-4	D-4A
4/0 AAAC (1/0 AAAC)	D-3	D-3	D-4	4/0 AAAC (1/0 AAAC)	D-4A	D-4A	2D-4
477MCM AAC (4/0 AAAC)	D-3	D-4	D-4	477MCM AAC (4/0 AAAC)	D-4A	2D-4	2D-4
795MCM (477MCM AAC)	D-4	D-4	D-4A	795MCM (477MCM AAC)	2D-4	3D-4	3D-4

* ANGLE OF TOP GUY LEAD WITH RESPECT TO GROUND



NOTE: 1. POSITION OF INSULATOR MUST NOT BE LESS THAN 8 FT FROM GROUND TO MEET NESC RULE 215C.

	<h2>POWER ANCHOR ASSEMBLY</h2>	DEVELOPED BY:	STANDARDS COMMITTEE	
		APPROVED:	SEP 2020	
		DRAWING NUMBER	D-4	

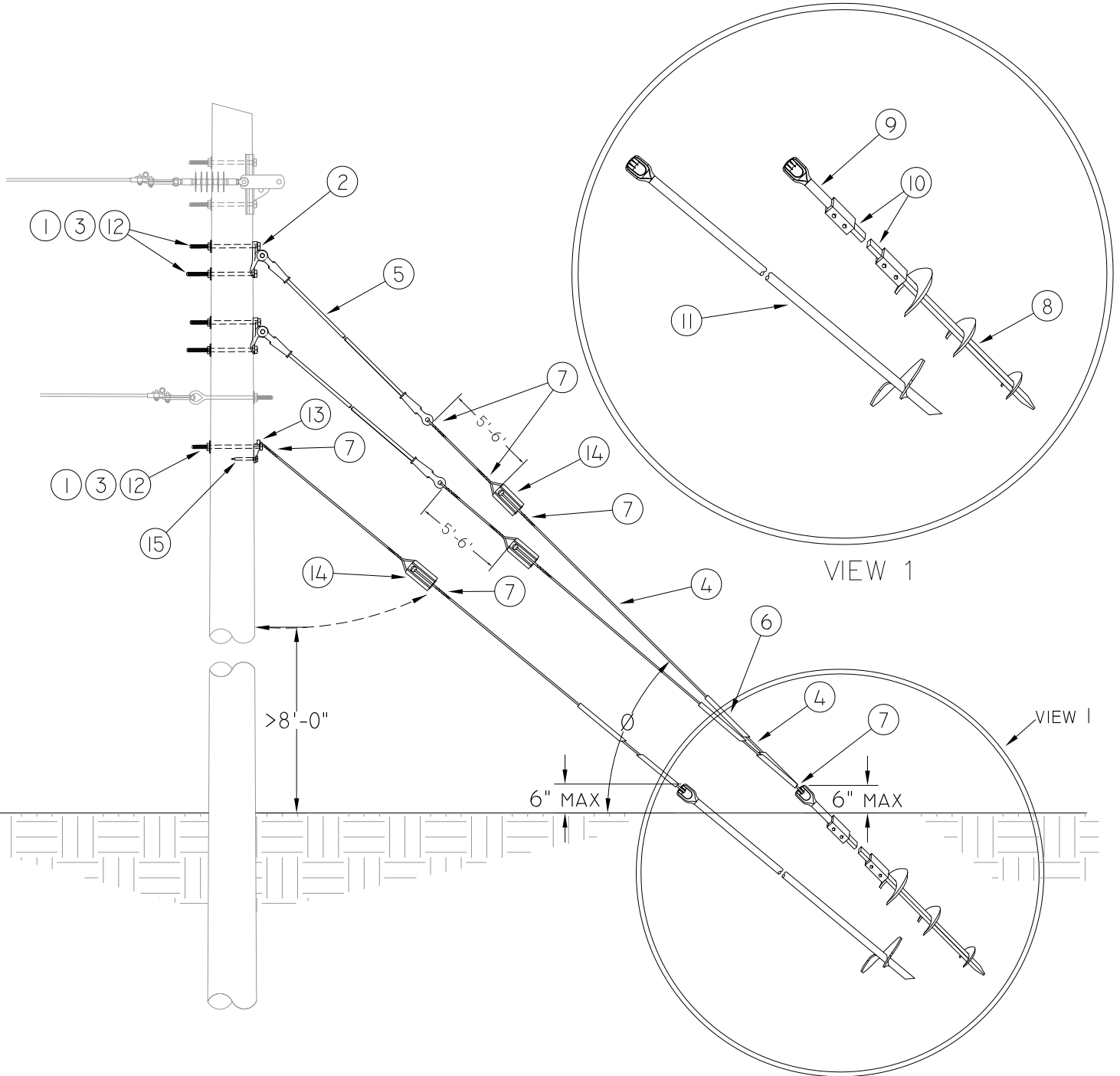
Material List

ITEM	CODE NO.	DESCRIPTION	QUANTITY
1	E0101-00	BOLT, MACHINE 5/8" X 12" GALVANIZED	5
2	E1083-00	PLATE POLE EYE	2
3	E0138-00	WASHER 5/8" SQUARE 2 1/4" GALVANIZED	5
4	E0196-00	WIRE 16M ALUMOWELD GUY	225 ft
5	E1059-00	INSULATOR FIBERGLASS STRAIN	2
6	E0017-00	GUARD GUY 8' YELLOW PLASTIC	3
7	E0544-00	GRIP 16M AL DEADEND GUY	12
8	E1010-00	ANCHOR, 3-HELIX POWER	1
9	E1011-00	ADAPTER POWER ANCHOR GUY	1
10	E-	EXTENSIONS POWER ANCHOR	1
11	E0041-00	ANCHOR, 1 1/4 X 96 W/10 HELIX GALVANIZED	1
12	E0139-00	WASHER LOCK, 5/8" DOUBLE COIL SPRING COMPRESSED	5
13	E0016-00	ATTACHMENT GUY 3/8"-1/2" GALVANIZED	1
14	E0018-00	INSULATOR GUY STRAIN ANSI CLASS 54-3	3
15	E0135-00	SCREW 1/2" X 4 1/2" LAG GALVANIZED	1
		EXTENSIONS	
	E1012-00	EXTENSION 3-1/2' POWER ANCHOR	1
	E1013-00	EXTENSION 5' POWER ANCHOR	1
	E1014-00	EXTENSION 7' POWER ANCHOR	1
		<i>Note: If 795 or 954 use one of each extension or as many as required.</i>	



	POWER ANCHOR ASSEMBLY 'A'	DEVELOPED BY:	STANDARDS COMMITTEE	
		APPROVED:	Sep 2020	
		DRAWING NUMBER	D-4A	

CONDUCTOR TYPE WITH NEUTRAL (1-PH)	45° ANGLE*	55° ANGLE*	65° ANGLE*	CONDUCTOR TYPE WITH NEUTRAL (3-PH)	45° ANGLE*	55° ANGLE*	65° ANGLE*
1/0 AAAC (1/0 AAAC)	D-3	D-3	D-3	1/0 AAAC (1/0 AAAC)	D-4	D-4	D-4A
4/0 AAAC (1/0 AAAC)	D-3	D-3	D-4	4/0 AAAC (1/0 AAAC)	D-4A	D-4A	2D-4
477MCM AAC (4/0 AAAC)	D-3	D-4	D-4	477MCM AAC (4/0 AAAC)	D-4A	2D-4	2D-4
795MCM (477MCM AAC)	D-4	D-4	D-4A	795MCM (477MCM AAC)	2D-4	3D-4	3D-4

* ANGLE OF TOP GUY LEAD WITH RESPECT TO GROUND



NOTES:A: 1. POSITION OF INSULATOR MUST NOT BE LESS THAN 8 FT FROM GROUND TO MEET NESC RULE 215C.

	<h3>POWER ANCHOR ASSEMBLY (A)</h3>	DEVELOPED BY:	STANDARDS COMMITTEE	
		APPROVED:	SEPT 2020	
		DRAWING NUMBER	D-4A	

Material List

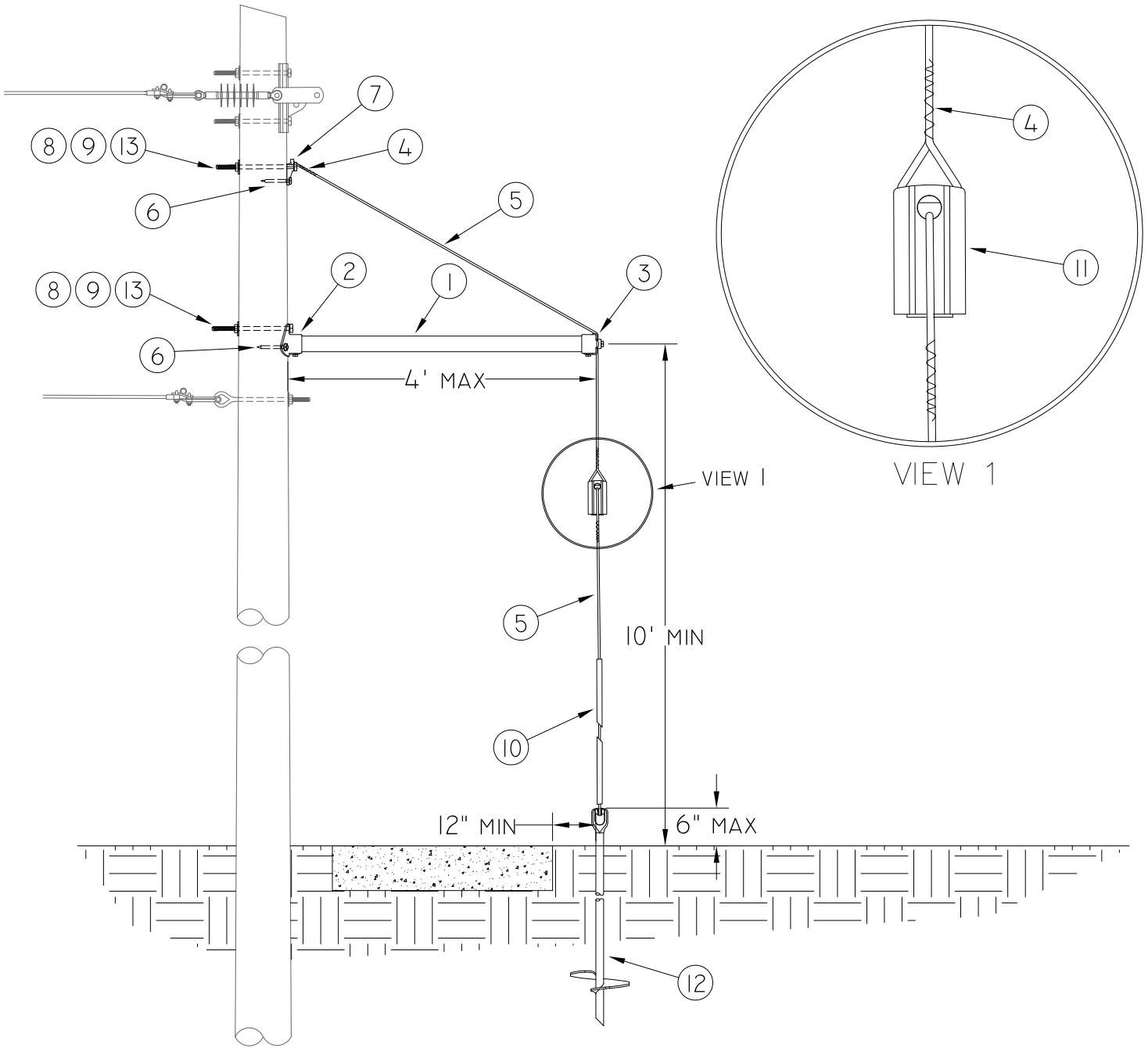
ITEM	CODE NO.	DESCRIPTION	QUANTITY
		D-5-1 (10M)	
1	E0161-00	PIPE 2-1/2" GALVANIZED RIGID	4 ft
2	E1092-00	POLE PLATE ADAPTER	1
3	E1094-00	CLAMP END FITTING	1
4	E0543-00	GRIP, 10M AL STRAND DEADEND	4
5	E0195-00	WIRE 10M ALUMOWELD GUY 500 FT COILS	45 ft
6	E0135-00	SCREW 1/2" X 4 1/2" LAG GALVANIZED	3
7	E0016-00	ATTACHMENT GUY 3/8" - 1/2" GALVANIZED	1
8	E0138-00	WASHER 5/8" SQUARE 2 1/4" GALVANIZED	2
9	E0101-00	BOLT, MACHINE 5/8" X 12" GALVANIZED	2
10	E0017-00	GUARD GUY 8' YELLOW PLASTIC	1
11	E0018-00	INSULATOR GUY STRAIN ANSI CLASS 53-4	1
12	E0041-00	ANCHOR, 1 1/4" X 96" W/10 HELIX GALVANIZED	1
13	E0139-00	WASHER LOCK, 5/8" DOUBLE COIL SPRING COMPRESSED	2
		D-5-2 (16M)	
1	E0161-00	PIPE 2-1/2" GALVANIZED RIGID	4 ft
2	E1092-00	POLE PLATE ADAPTER	1
3	E1094-00	CLAMP END FITTING	1
4	E0544-00	GRIP, 16M AL DEADEND GUY	4
5	E0196-00	WIRE 16M ALUMOWELD GUY 500 FT COILS	45 ft
6	E0135-00	SCREW 1/2" X 4 1/2" LAG GALVANIZED	3
7	E0016-00	ATTACHMENT GUY 3/8" - 1/2" GALVANIZED	1
8	E0138-00	WASHER 5/8" SQUARE 2 1/4" GALVANIZED	2
9	E0101-00	BOLT, MACHINE 5/8" X 12" GALVANIZED	2
10	E0017-00	GUARD GUY 8' YELLOW PLASTIC	1
11	E0018-00	INSULATOR GUY STRAIN ANSI CLASS 53-4	1
12	E0041-00	ANCHOR, 1 1/4" X 96" W/10 HELIX GALVANIZED	1
13	E0139-00	WASHER LOCK, 5/8" DOUBLE COIL SPRING COMPRESSED	2



SIDEWALK GUY

DEVELOPED BY:	STANDARDS COMMITTEE
APPROVED:	Sep 2020
DRAWING NUMBER	D-5





NOTE: I. NOT TO BE USED ON DEAD ENDS INSTALLATIONS.



SIDEWALK GUY

DEVELOPED BY:

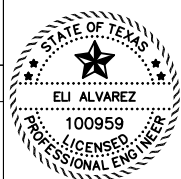
STANDARDS
COMMITTEE

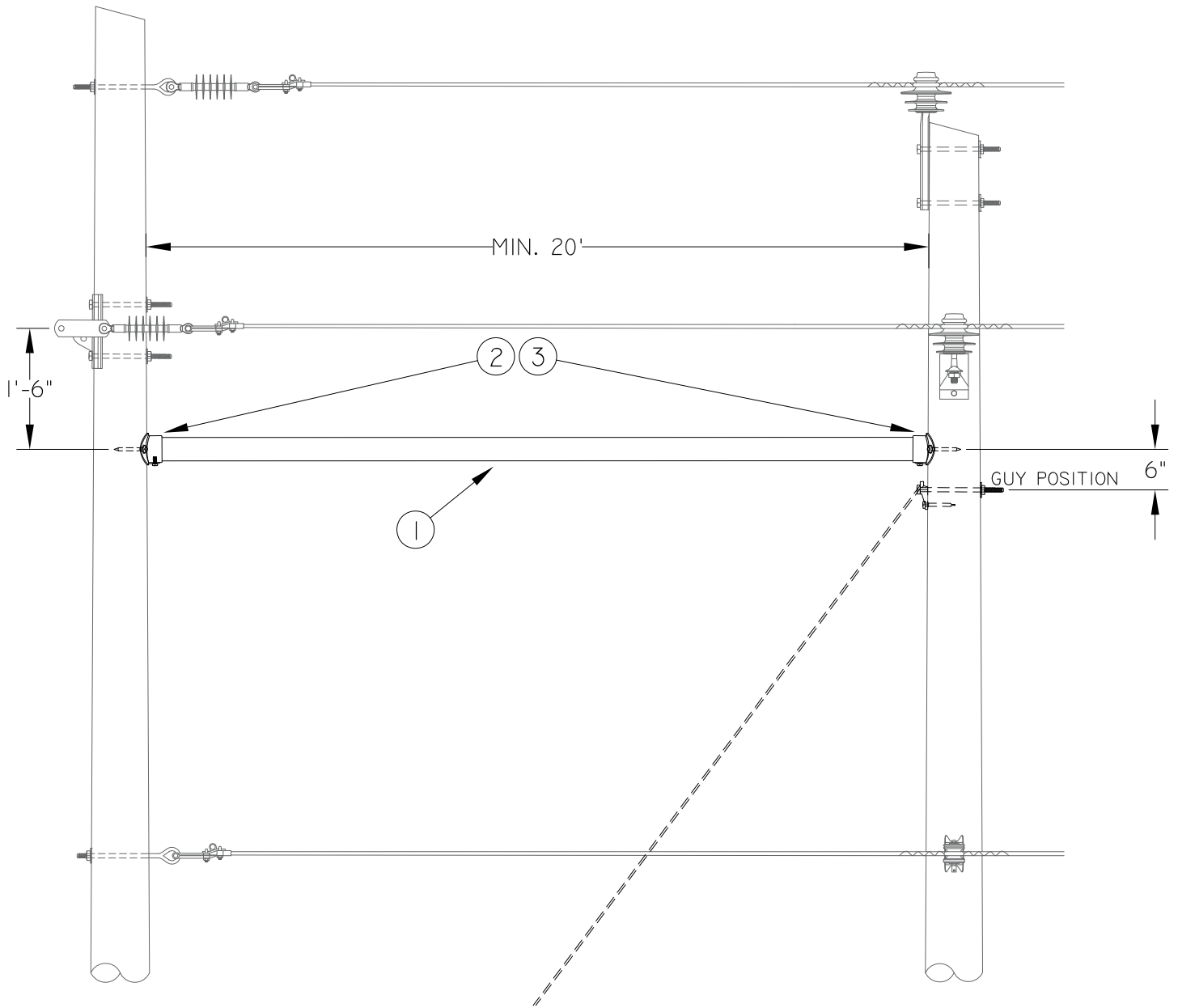
APPROVED:

SEPT 2020

DRAWING
NUMBER

D-5





SLACK SPAN GUY BRACE

DEVELOPED BY:

STANDARDS COMMITTEE

APPROVED:

SEPT 2019

DRAWING NUMBER

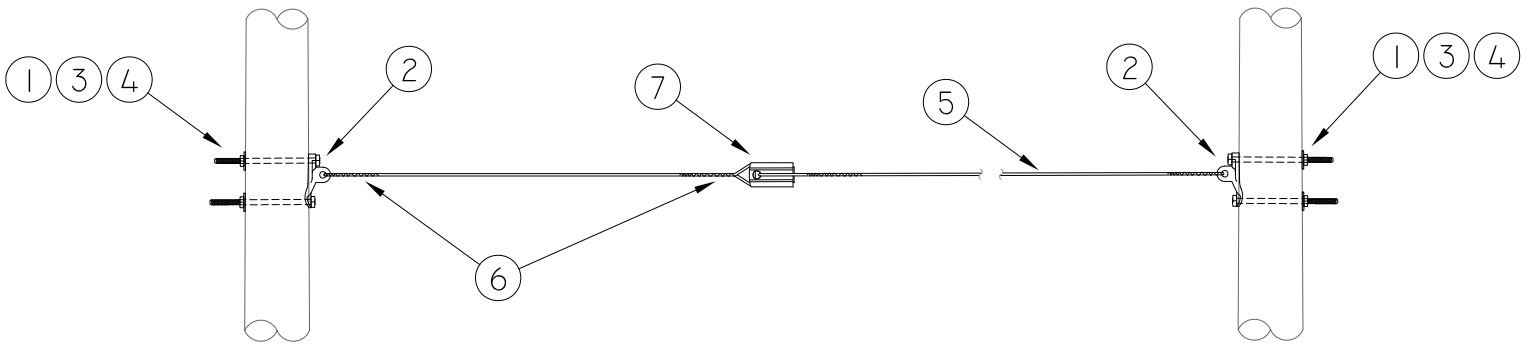
D-5A



Material List

ITEM	CODE NO.	DESCRIPTION	QUANTITY
1	E0101-00	BOLT, MACHINE 5/8" X 12" GALVANIZED	4
2	E1083-00	PLATE POLE EYE	2
3	E0138-00	WASHER 5/8" SQUARE 2 1/4" GALVANIZED	4
4	E0139-00	WASHER LOCK, 5/8" DOUBLE COIL SPRING COMPRESSED	4
5	E-	GUY WIRE	As Req'd.
6	E-	GUY GRIP	4
7	E-	INSULATOR	1
		WIRE	
	E0195-00	WIRE 10M ALUMOWELD GUY 500 FT COILS	
	E0196-00	WIRE 16M ALUMOWELD GUY 500 FT COILS	
		GRIPS	
	E0543-00	GRIP, 10M AL STRAND DEADEND	
	E0544-00	GRIP, 16M AL DEADEND GUY	
		INSULATOR	
	E0018-00	INSULATOR GUY STRAIN ANSI CLASS 53-4	
	E1059-00	INSULATOR FIBERGLASS STRAIN	

 BROWNSVILLE PUBLIC UTILITIES BOARD	<h2 style="margin: 0;">OVERHEAD GUY WIRE ASSEMBLY</h2>	DEVELOPED BY:	STANDARDS COMMITTEE	
		APPROVED:	Sep 2020	
		DRAWING NUMBER	D-6	



OVERHEAD
GUY WIRE ASSEMBLY

DEVELOPED BY:

STANDARDS
COMMITTEE

APPROVED:

SEP 2020

DRAWING
NUMBER

D-6



Material List

ITEM	CODE NO.	DESCRIPTION	QUANTITY
1	E0020-00	INSULATOR, "FOG BOWL" NGK	1
2	E0025-00	PIN, POLE TOP 18" STEEL GALV.	1
3	E0101-00	BOLT, MACHINE 5/8 X 12 GALV.	2
4	E0138-00	WASHER 5/8" SQUARE 2 1/4" GALVANIZED	2
5	E0139-00	WASHER LOCK, 5/8" DOUBLE COIL SPRING COMPRESSED	2
6	E0234-00	CABLE, #4 SOL ALUM TIE, 25# SPOOLS (200FT/RL)	1 lb

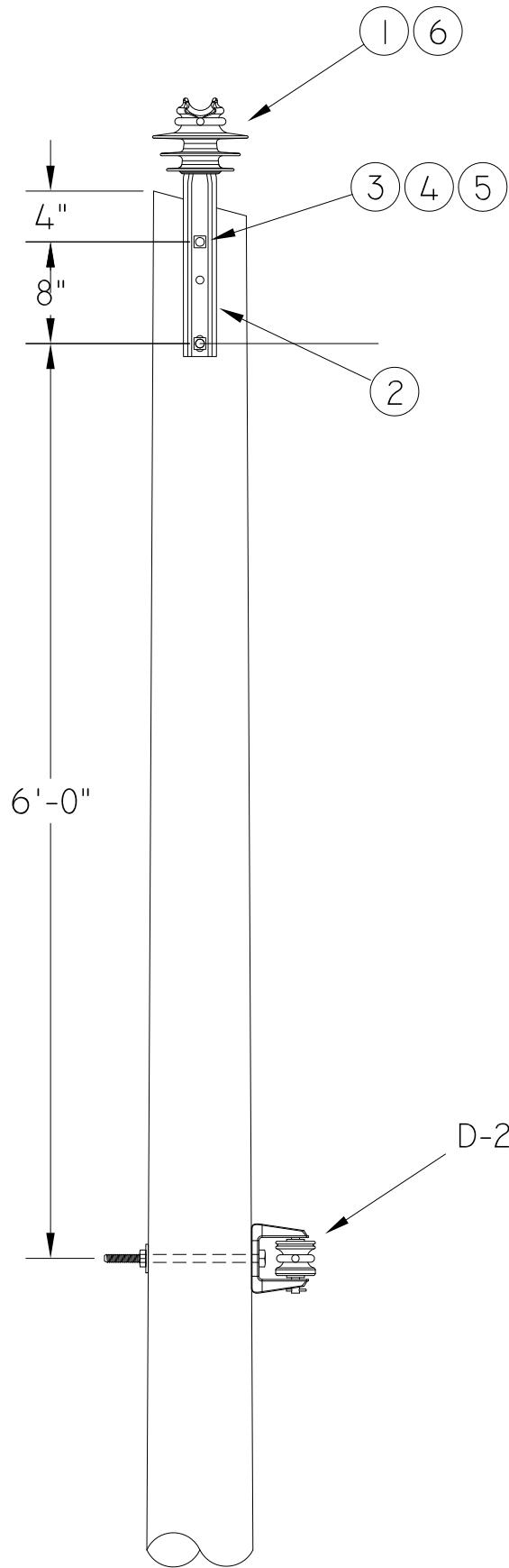
Notes: Install secondary rack for neutral conductor (D-2).



**SINGLE PHASE PRIMARY
NEUTRAL ON POLE**

DEVELOPED BY:	STANDARDS COMMITTEE
APPROVED:	SEP 2019
DRAWING NUMBER	D-7





SINGLE PHASE PRIMARY
NEUTRAL ON POLE

DEVELOPED BY:

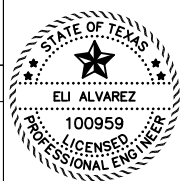
STANDARDS
COMMITTEE

APPROVED:

SEP 2020

DRAWING
NUMBER

D-7



Material List

ITEM	CODE NO.	DESCRIPTION	QUANTITY
1	E0014-00	CLAMP, 5/8" GROUND ROD	1
2	E0028-00	STAPLE, SMALL COPPER COATED	20
3	E0231-00	CABLE, #6 SOLID COPPERWELD	5 LBS
4	E0013-00	ROD GROUND 5/8" X 8' COPPER WELD UL	1
5	E0015-00	MOLDING GROUND 1/2" X 8' PVC	1
6	E0029-00	STAPLE, LARGE COPPER COATED	6
	<i>Notes:</i>	1. Ground wire to be located on same side as neutral conductor and in quadrant opposite climbing space or pole top pin.	
		2. Staples on ground wire shall be 2'-0" apart, except for a distance of 8'-0" above ground and 8'-0" from top of pole, where they shall be 6" apart.	
		3. Ground wire to clear all hardware by 2" minimum, and shall be stapled to maintain this position.	
		4. Ground wire molding may be installed at discretion of owner.	

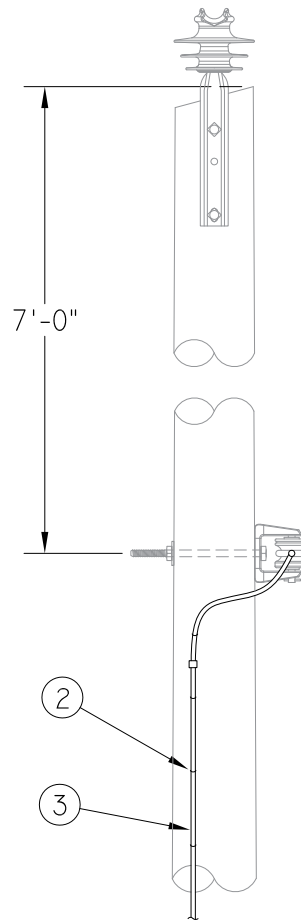
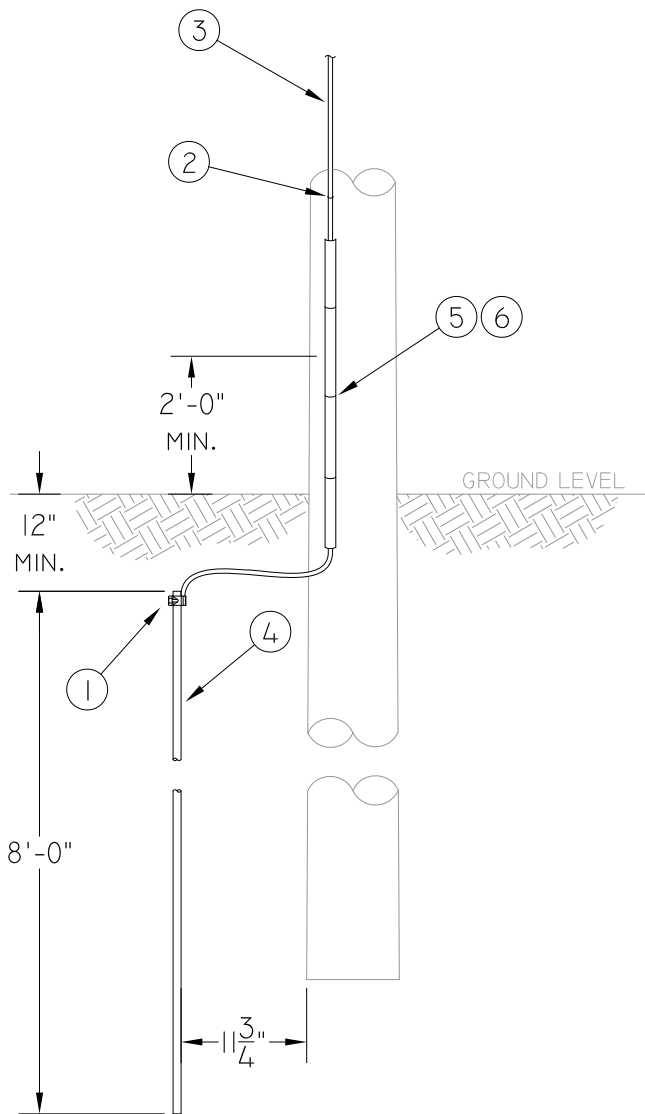


POLE GROUND CONNECTION

DEVELOPED BY:	STANDARDS COMMITTEE
APPROVED:	SEP 2020
DRAWING NUMBER	D-8

STANDARDS COMMITTEE
SEP 2020
D-8





POLE GROUND CONNECTION

DEVELOPED BY:

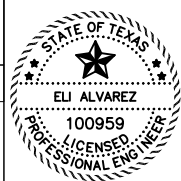
STANDARDS
COMMITTEE

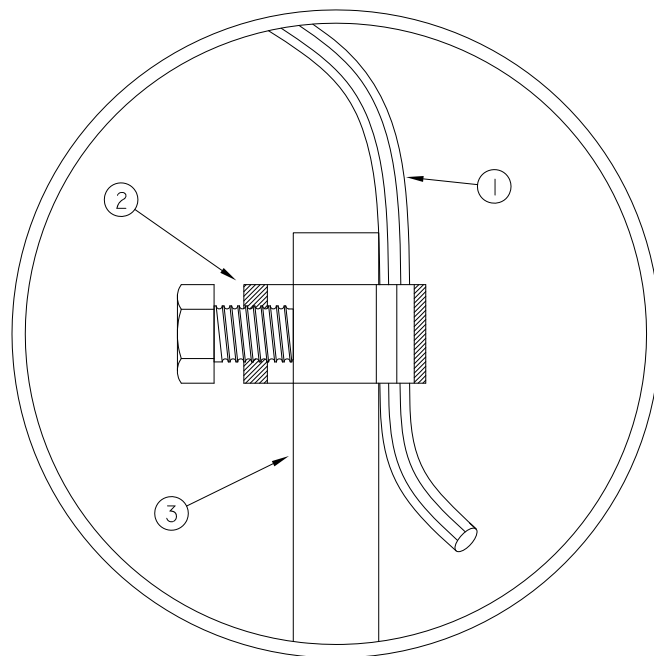
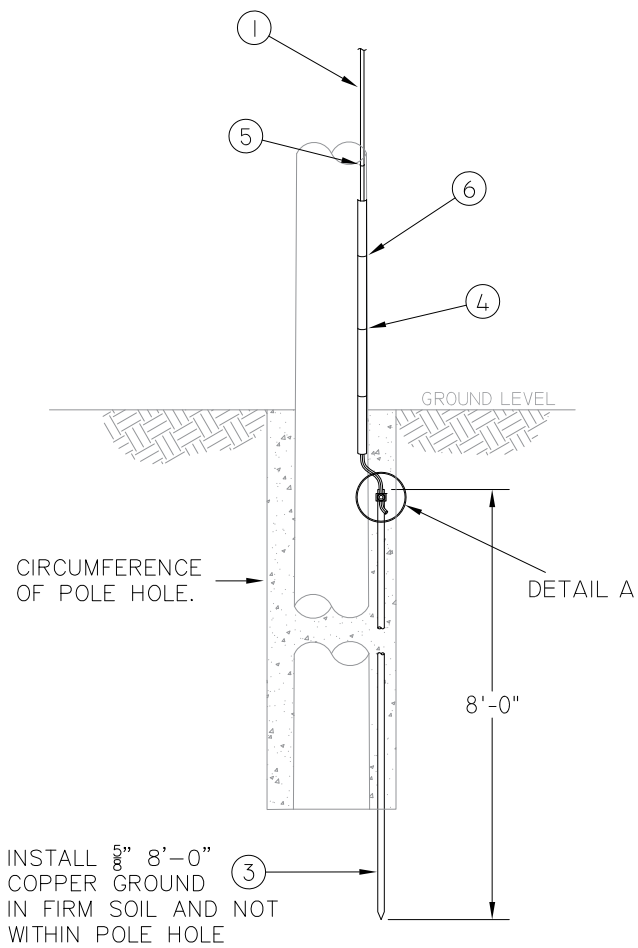
APPROVED:

SEP 2020

DRAWING
NUMBER

D-8





DETAIL A



DETAIL OF GROUND
WIRE CONNECTION

DEVELOPED BY:

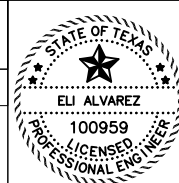
STANDARDS
COMMITTEE

APPROVED:

SEP 2020

DRAWING
NUMBER

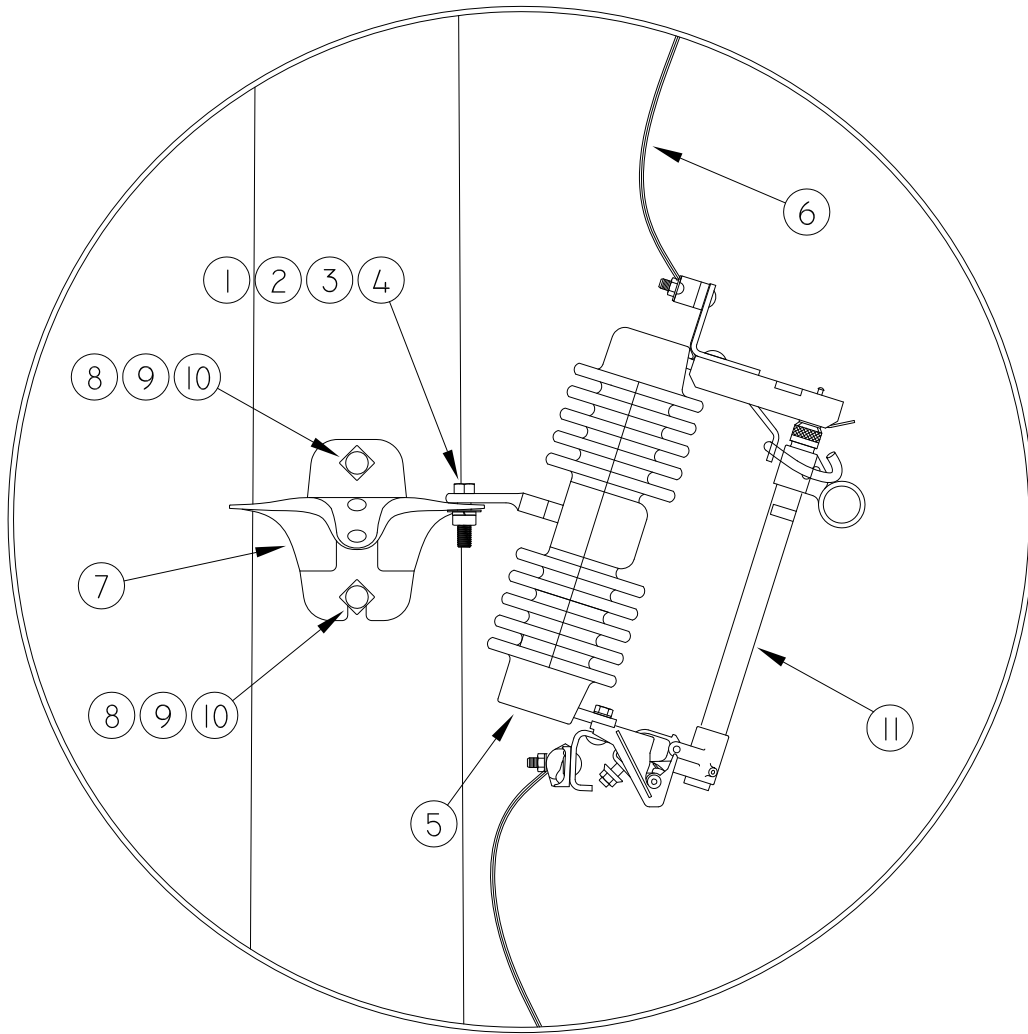
D-9



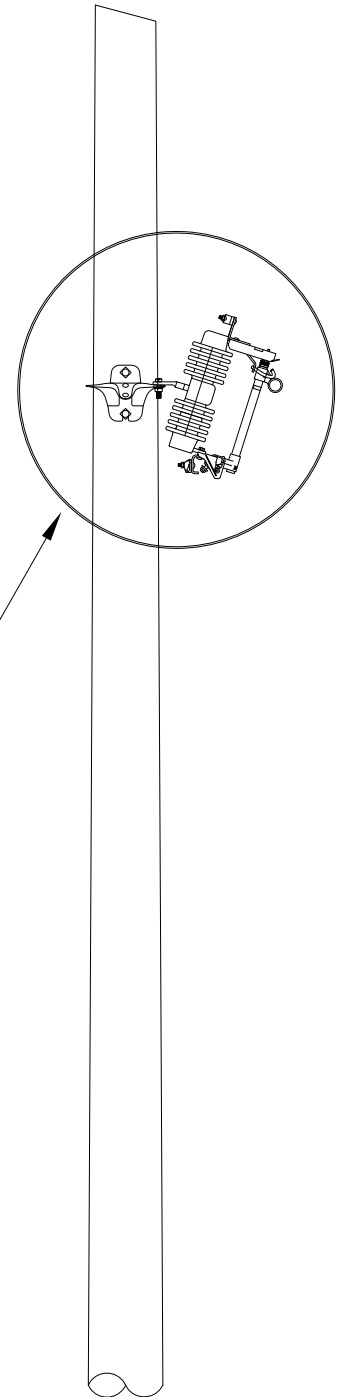
Material List

ITEM	CODE NO.	DESCRIPTION	QUANTITY
1	E0140-00	BOLT 1/2" X 2" HEX STAINLESS STEEL	1
2	E0144-00	WASHER, 1/2" STAINLESS STEEL FLAT	1
3	E0142-00	NUT 1/2" HEX STAINLESS STEEL	1
4	E0143-00	LOCKWASHER 1/2" STAINLESS STEEL	1
5	E-	FUSE CUTOUT	1
6	E0235-00	CABLE, #2 7/STR. BARE COPPER SOFT DRAWN	As Req'd.
7	E0002-00	ARM, 3-POSITION ALUM STEEL	1
8	E0101-00	BOLT, MACHINE 5/8 X 12 GALVANIZED	2
9	E0138-00	WASHER 5/8" SQUARE 2 1/4" GALVANIZED	2
10	E0139-00	WASHER LOCK, 5/8" DOUBLE COIL SPRING COMPRESSED	2
11	E-	FUSELINK	1
		FUSE CUTOUT	
	E0012-00	FUSE CUTOUT 100 AMP, C710-213-P	
	E0012-01	FUSE CUTOUT, 200AMP 127KV BIL	
		FUSELINKS	
	E0478-00	FUSELINK 1.4 AMP TYPE SLO-FAST	
	E0479-00	FUSELINK 2.1 AMP TYPE SLO-FAST	
	E0480-00	FUSELINK 3.5 AMP TYPE SLO-FAST	
	E0481-00	FUSELINK 5.2 AMP TYPE SLO-FAST	
	E0482-00	FUSELINK 6.3 AMP TYPE SLO-FAST	
	E0483-00	FUSELINK 7.0 AMP TYPE SLO-FAST	
	E0484-00	FUSELINK 8 AMP TYPE K	
	E0485-00	FUSELINK 10 AMP TYPE K	
	E0486-00	FUSELINK 12 AMP TYPE K	
	E0487-00	FUSELINK 15 AMP TYPE K	
	E0488-00	FUSELINK 20 AMP TYPE K	
	E0489-00	FUSELINK 25 AMP TYPE K	
	E0490-00	FUSELINK 30 AMP TYPE K	
	E0491-00	FUSELINK 40 AMP TYPE K	
	E0492-00	FUSELINK 50 AMP TYPE K	
	E0493-00	FUSELINK 65 AMP TYPE K	
	E0495-00	FUSELINK 80 AMP TYPE K	
	E0496-00	FUSELINK 100 AMP TYPE K	
	E0497-00	FUSELINK 140 AMP TYPE K	
	E0499-00	FUSELINK 200 AMP TYPE K	
	<i>Notes:</i>	<i>1.- Install fuselink according to rated load.</i>	

	7.2 KV SINGLE PHASE FUSE CUTOUT ASSEMBLY	DEVELOPED BY:	STANDARDS COMMITTEE
		APPROVED:	SEP 2020
		DRAWING NUMBER	D-10
			



VIEW I



VIEW I

NOTES: I.- INSTALL FUSELINK ACCORDING TO RATED LOAD.



7.2 KV SINGLE PHASE
FUSE CUTOUT ASSEMBLY

DEVELOPED BY:

STANDARDS
COMMITTEE

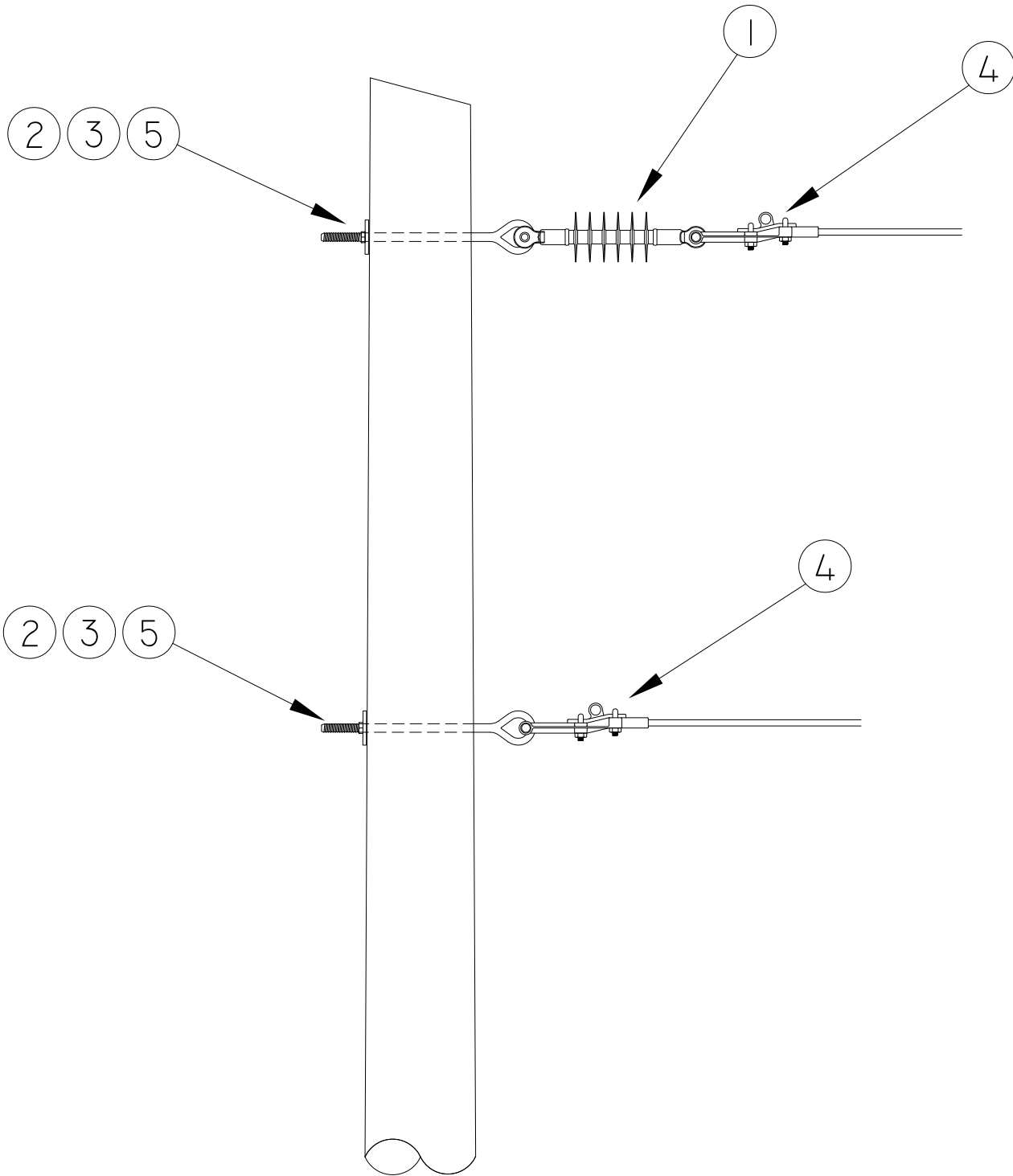
APPROVED:

SEP 2020

DRAWING
NUMBER

D-10





NOTES: INSTALL ANCHOR GUY AS NEEDED.



**SINGLE PHASE DEADEND
NEUTRAL ON POLE**

DEVELOPED BY:

STANDARDS
COMMITTEE

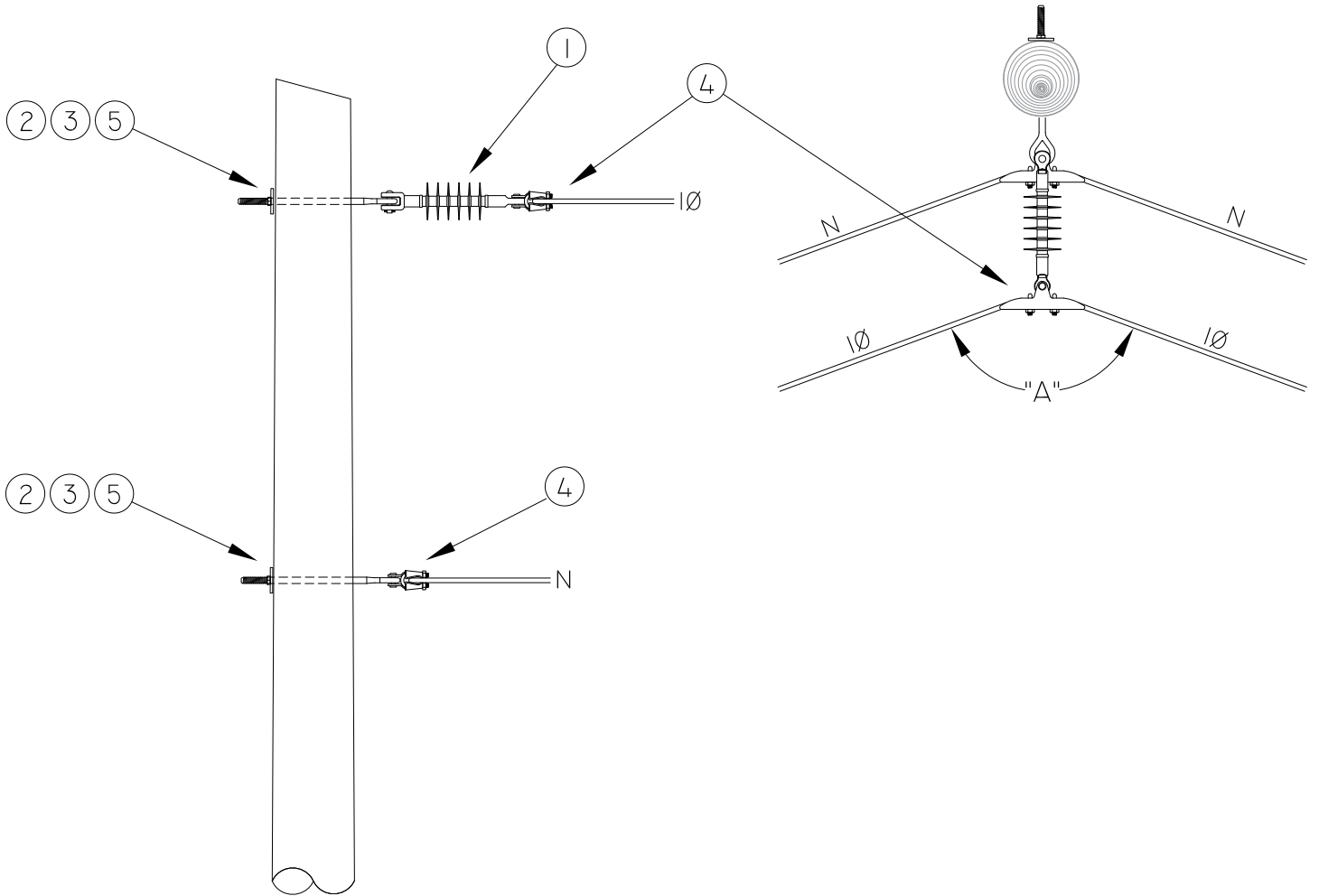
APPROVED:

SEP 2020

DRAWING
NUMBER

D-11





NOTE: INSTALL ANCHOR GUY AS NEEDED



SINGLE PHASE
LARGE ANGLE
NEUTRAL ON POLE

DEVELOPED BY:

STANDARDS
COMMITTEE

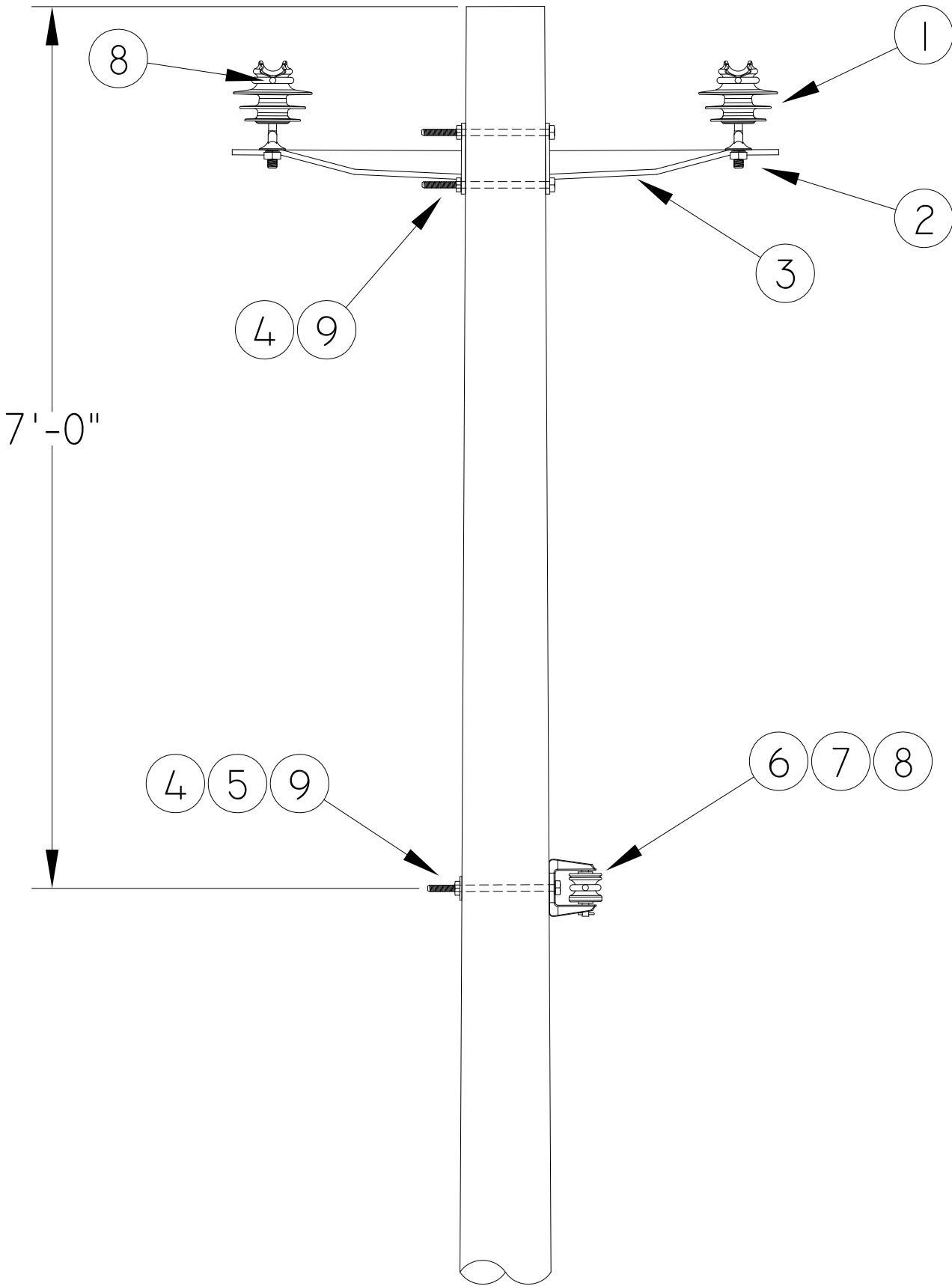
APPROVED:

SEP 2020

DRAWING
NUMBER

D-11B





V Ø PRIMARY
NEUTRAL ON POLE

DEVELOPED BY:

STANDARDS
COMMITTEE

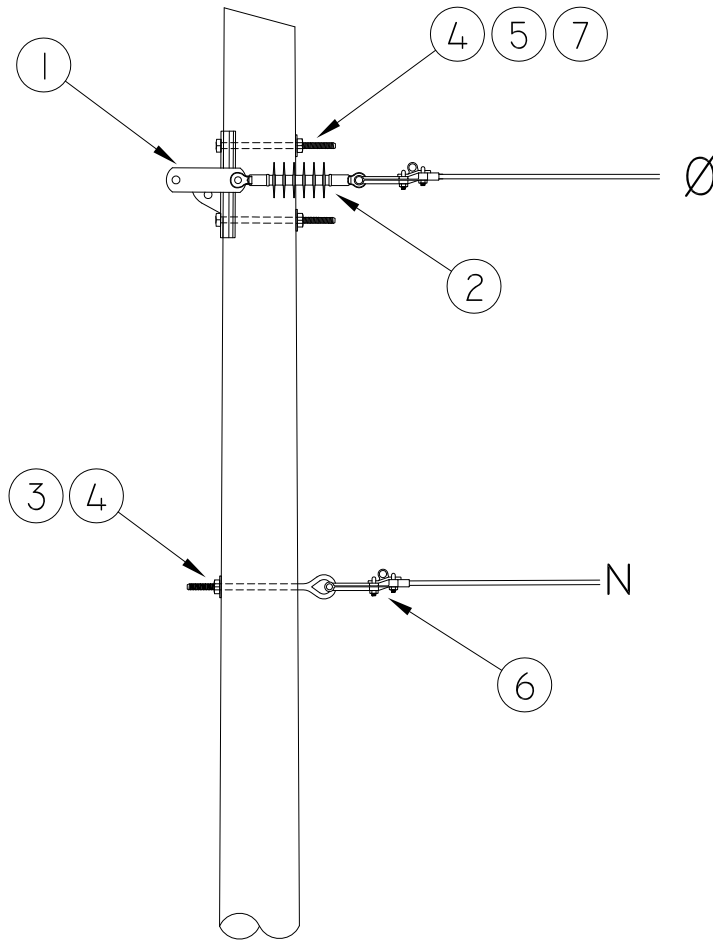
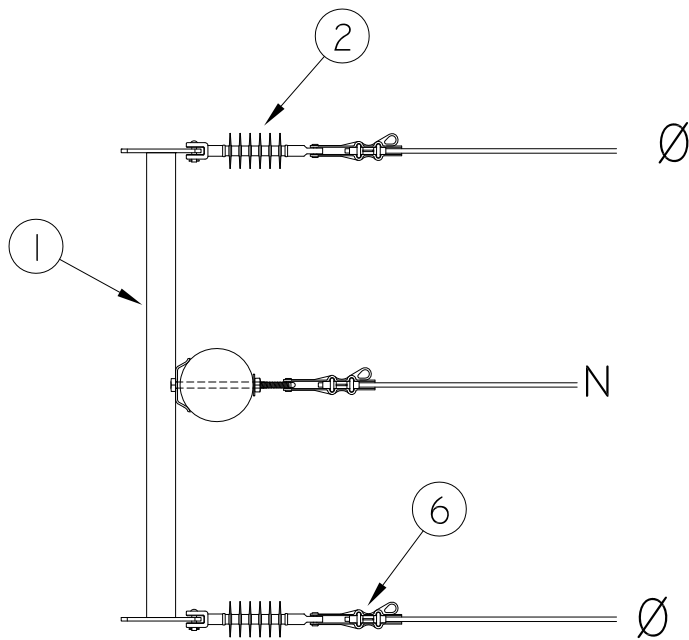
APPROVED:

SEP 2020

DRAWING
NUMBER

D-12





"V" PHASE DEADEND
(NEUTRAL ON POLE)



DEVELOPED BY:

STANDARDS
COMMITTEE

APPROVED:

SEP 2020

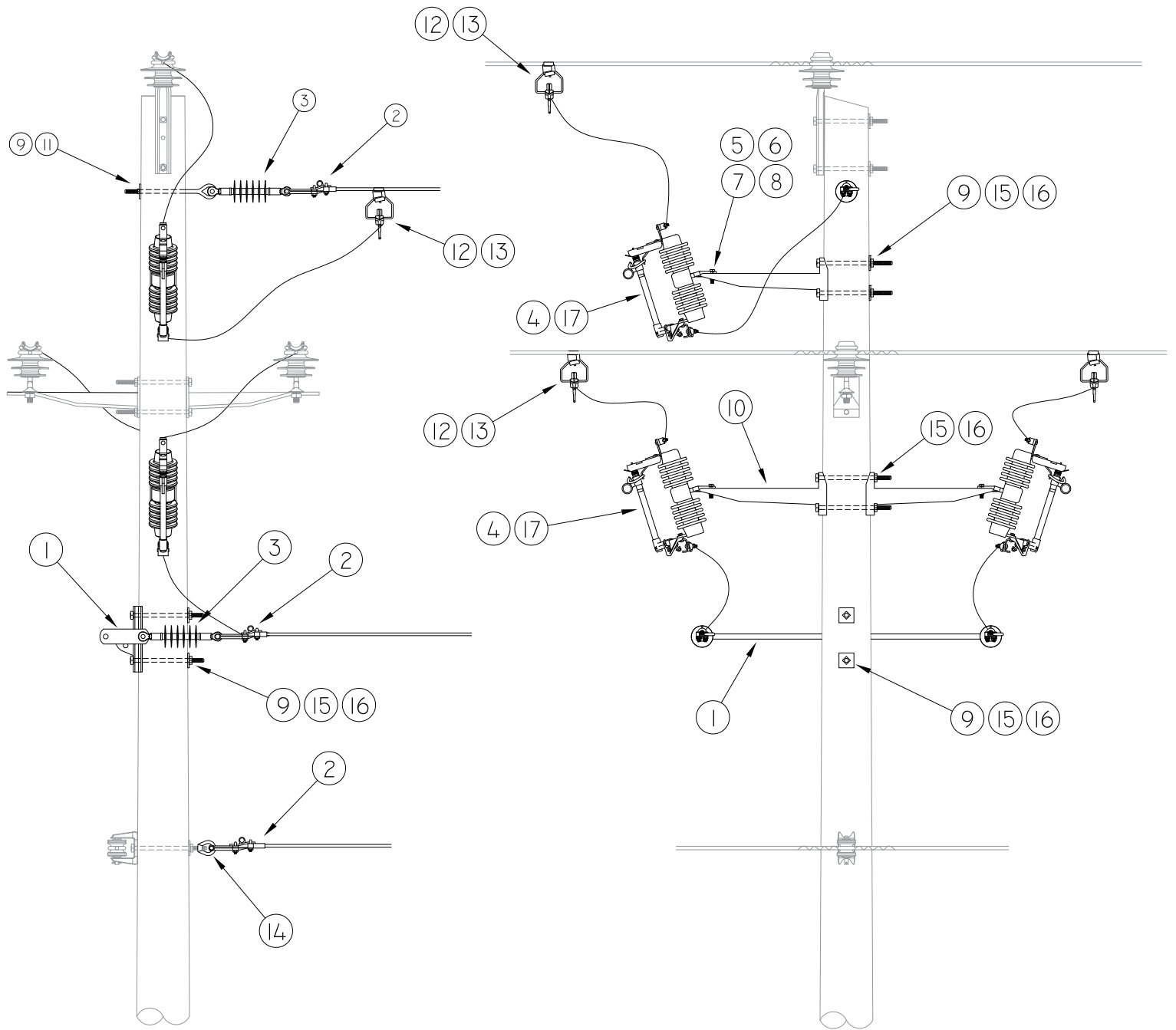
DRAWING
NUMBER

D-13



Material List

ITEM	CODE NO.	DESCRIPTION	QUANTITY
1	E0003-00	ARM, DEADEND LIGHT DUTY GALVANIZED	1
2	E1037-00	CLAMP 1/0 - 4/0 DEADEND	4
3	E0021-00	INSULATOR, 28 KV SUSPENSION	3
4	E-	FUSE CUTOFF	3
5	E0140-00	BOLT, 1/2" X 2" HEX STAINLESS STEEL	3
6	E0142-00	NUT 1/2" HEX STAINLESS STEEL	3
7	E0143-00	LOCKWASHER 1/2" STAINLESS STEEL	3
8	E0144-00	WASHER 1/2" STAINLESS STEEL FLAT	3
9	E0138-00	WASHER 5/8" SQUARE 2 1/4" GALVANIZED	5
10	E0001-00	ARM, 1-POSITION ALUMINUM	3
11	E0110-00	BOLT, O.E. 5/8" X 12" GALVANIZED STEEL	1
12	E-	STIRRUP	4
13	E0008-00	CLAMP, HOTLINE COPPER	4
14	E0136-00	NUT 5/8" OVAL EYE GALVANIZED	1
15	E0101-00	BOLT, MACHINE 5/8" X 12" GALVANIZED	6
16	E0139-00	WASHER LOCK, 5/8" DOUBLE COIL SPRING COMPRESSED	6
17	E-	FUSELINK (Refer to Inventory List)	3
		FUSE CUTOFF	
	E0012-00	FUSE CUTOFF 100 AMP, C710-213-P	
	E0012-01	FUSE CUTOFF, 200AMP 127KV BIL	
		STIRRUPS	
	E0727-00	STIRRUP 1/0 STR W/#2 BAIL AMP	
	E0728-00	STIRRUP 4/0 STR W/#2 BAIL AMP	
	E0730-00	STIRRUP 477 MCM W/1/0 BAIL AMP	
	E0731-00	STIRRUP 795 MCM W/2/0 BAIL	



THREE PHASE PRIMARY LATERAL FUSING

DEVELOPED BY:

STANDARDS
COMMITTEE

APPROVED:

SEP 2020

DRAWING
NUMBER

D-14



Material List

ITEM	CODE NO.	DESCRIPTION	QUANTITY
1	E0020-00	INSULATOR, "FOG BOWL"	3
2	E0025-00	PIN, POLE TOP 18" STEEL GALVANIZED	1
3	E0101-00	BOLT, MACHINE 5/8" X 12" GALVANIZED	5
4	E0010-00	CLEVIS, ONE POINT GALVANIZED	1
5	E0138-00	WASHER 5/8" SQUARE 2 1/4 GALVANIZED	3
6	E0022-00	INSULATOR, 3" SPOOL	1
7	E0027-00	PIN, SHORT SHANK INSULATOR	2
8	E0234-00	CABLE, #4 SOL. ALUM TIE, #25 SPOOLS (200 FT/RL)	As Req'd.
9	E0001-00	ARM, 1-POSITION ALUMINUM	2
10	E0139-00	WASHER LOCK, 5/8" DOUBLE SOIL SPRING COMPRESSED	5

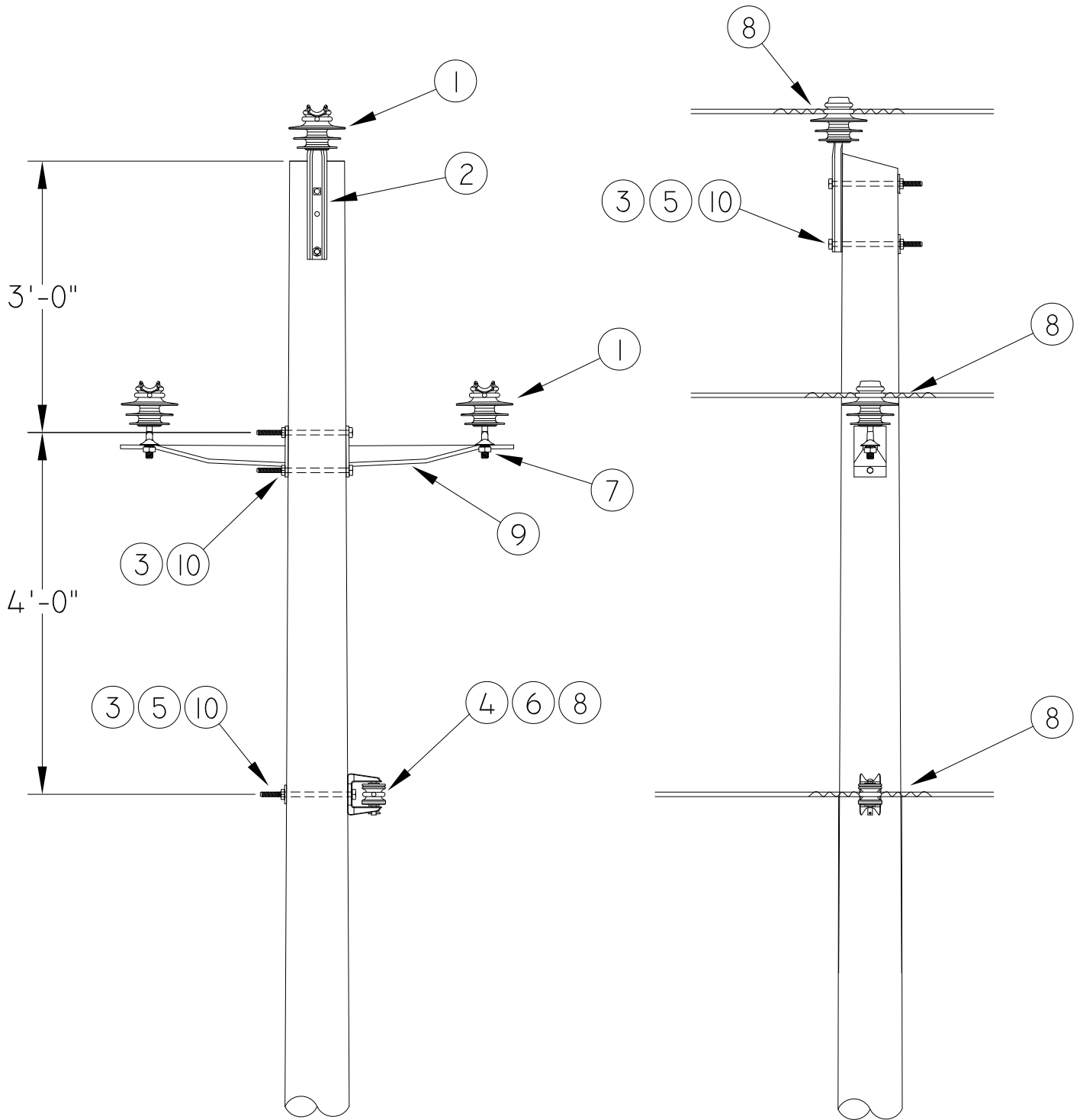
- Notes:*
1. Increase to 8' for transformer installation.
 2. Make copper to aluminum connection with copper ground wire oriented below aluminum neutral.



**12.5KV SINGLE CIRCUIT
TANGENT AND SMALL ANGLE
DELTA HORIZONTAL BRACKET**

DEVELOPED BY:	STANDARDS COMMITTEE
APPROVED:	Sep 2020
DRAWING NUMBER	D-15





12.5 KV SINGLE CIRCUIT
TANGENT AND SMALL ANGLE
DELTA HORIZONTAL BRACKET

DEVELOPED BY:

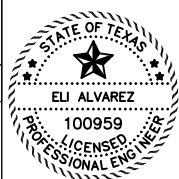
STANDARDS
COMMITTEE

APPROVED:

SEP 2020



DRAWING
NUMBER

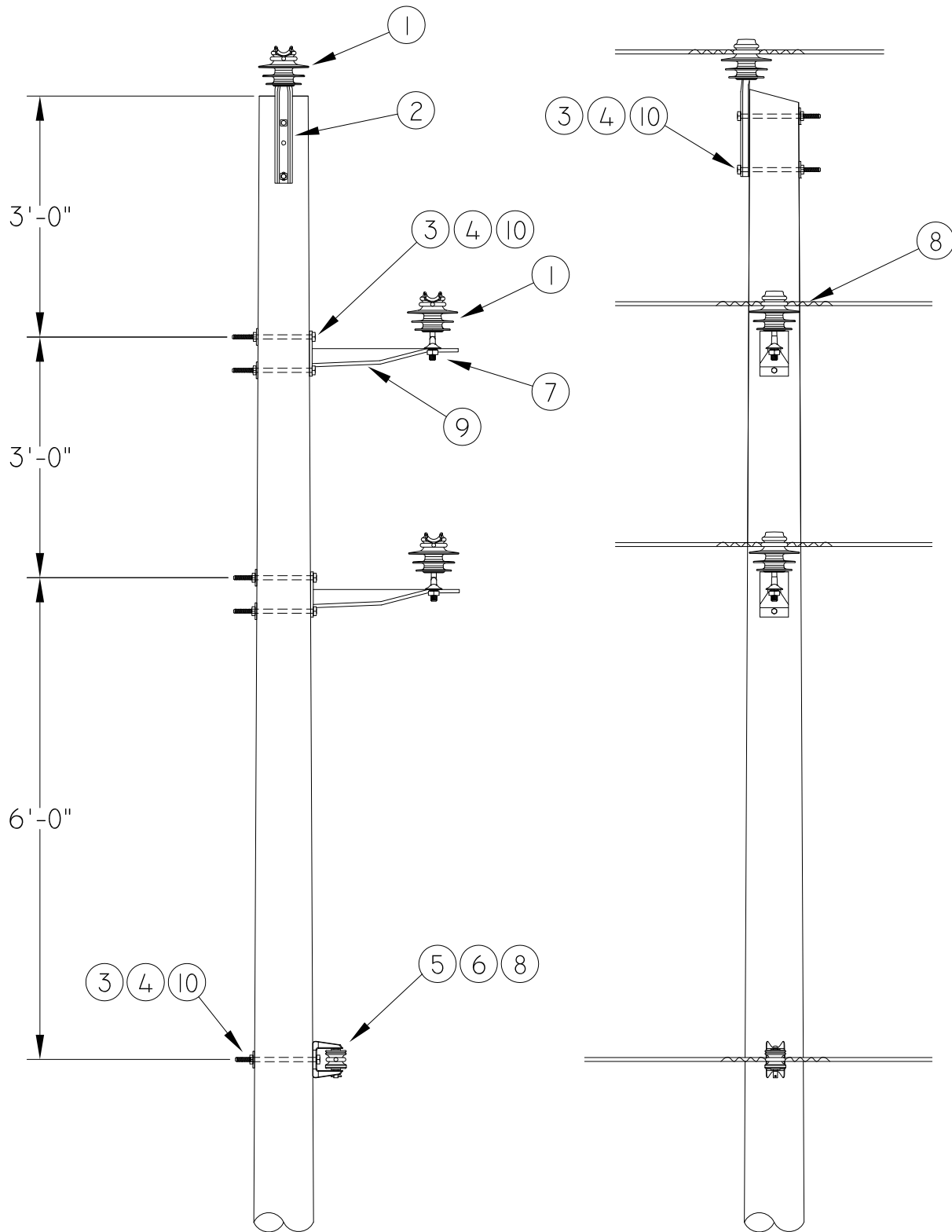
D-15



Material List

ITEM	CODE NO.	DESCRIPTION	QUANTITY
1	E0020-00	INSULATOR, "FOG BOWL"	3
2	E0025-00	PIN, POLE TOP 18" STEEL GALVANIZED	1
3	E0101-00	BOLT, MACHINE 5/8" X 12" GALVANIZED	7
4	E0138-00	WASHER 5/8" SQUARE 2 1/4" GALVANIZED	7
5	E0010-00	CLEVIS, ONE POINT GALVANIZED	1
6	E0022-00	INSULATOR, 3" SPOOL	1
7	E0027-00	PIN, SHORT SHANK INSULATOR	2
8	E0234-00	CABLE, #4 SOL ALUMINUM TIE	As Req'd.
9	E0001-00	ARM, 1-POSITION ALUMINUM	2
10	E0139-00	WASHER LOCK, 5/8" DOUBLE COIL SPRING COMPRESSED	7
Notes:			
1. Increase to 8' for transformer installation.			
2. Make copper to aluminum connection with copper ground wire oriented below aluminum neutral.			

 <p>BROWNSVILLE PUBLIC UTILITIES BOARD</p>	<p>VERTICAL SINGLE CIRCUIT TANGENT AND SMALL ANGLE HORIZONTAL BRACKETS</p>	DEVELOPED BY:	STANDARDS COMMITTEE
		APPROVED:	Sep 2020
		DRAWING NUMBER	D-15A
			



NOTES:

1. INCREASE TO 8' FOR TRANSFORMER INSTALLATION.
2. MAKE COPPER TO ALUMINUM CONNECTION WITH COPPER GROUND WIRE ORIENTED BELOW ALUMINUM NEUTRAL.



**VERTICAL SINGLE CIRCUIT
TANGENT AND SMALL ANGLE
HORIZONTAL BRACKETS**

DEVELOPED BY:

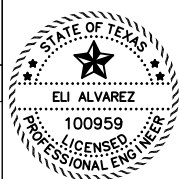
STANDARDS
COMMITTEE

APPROVED:

SEP 2020

DRAWING
NUMBER

D-15A



Material List

ITEM	CODE NO.	DESCRIPTION	QUANTITY
1	E0020-00	INSULATOR, "FOG BOWL"	3
2	E0025-00	PIN, POLE TOP 18" STEEL GALVANIZED	1
3	E0101-00	BOLT, MACHINE 5/8" X 12" GALVANIZED	7
4	E0138-00	WASHER 5/8" SQUIRE 2 1/4 GALVANIZED	7
5	E0010-00	CLEVIS, ONE POINT GALVANIZED	1
6	E0022-00	INSULATOR, 3" SPOOL	1
7	E0027-00	PIN, SHORT SHANK INSULATOR	2
8	E0234-00	CABLE, #4 SOL. ALUM TIE, #25 SPOOLS (200 FT/RL)	As Req'd.
9	E0001-00	ARM, 1-POSITION ALUMINUM	2
10	E0139-00	WASHER LOCK, 5/8" DOUBLE COIL SPRING COMPRESSED	7

Notes: 1. Increase to 8' for transformer installation.
2. Make copper to aluminum connection with copper ground wire oriented below aluminum neutral.



**12.5KV SINGLE CIRCUIT
TANGENT AND SMALL ANGLE
STAGGERED BRACKETS**

DEVELOPED BY:

STANDARDS
COMMITTEE

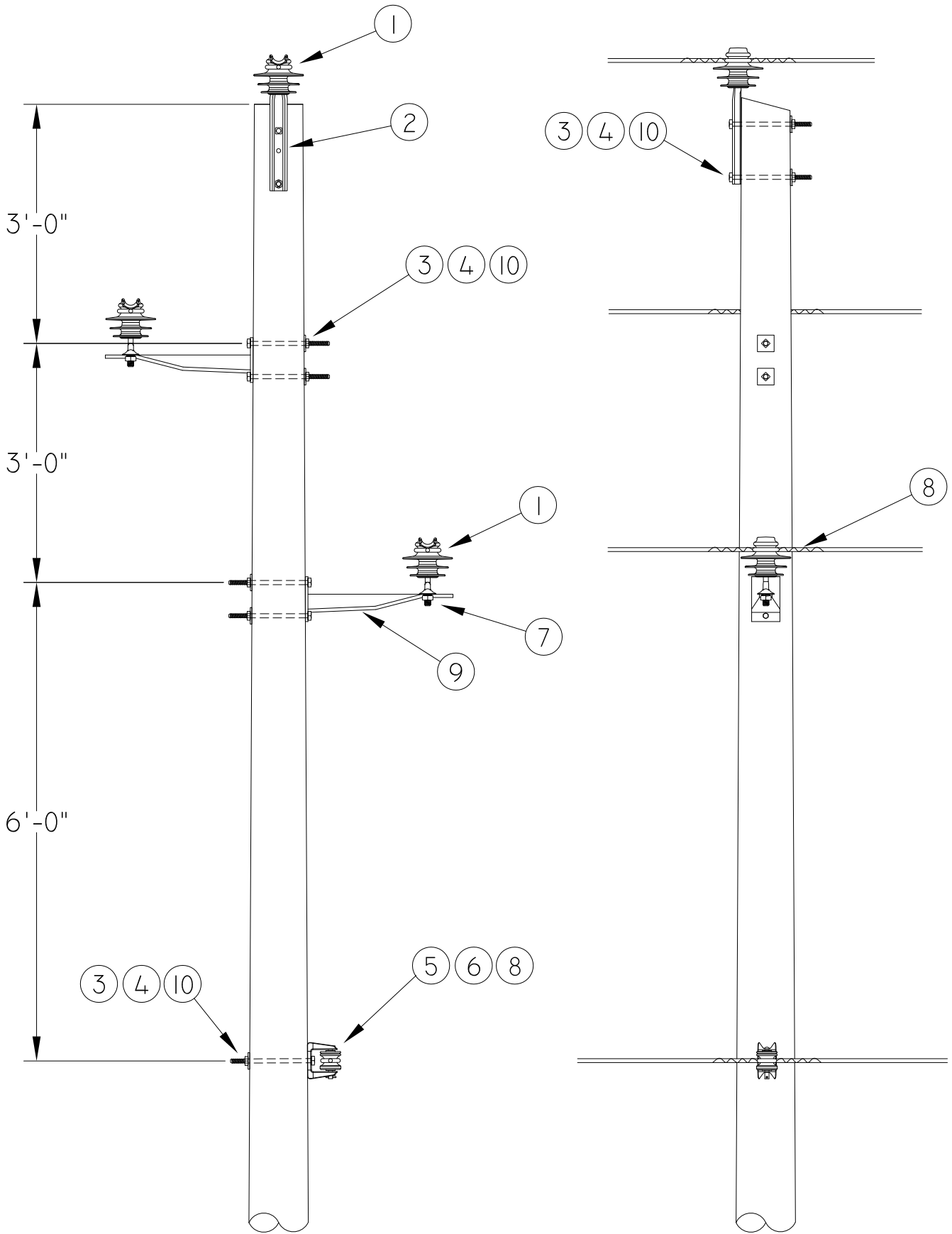
APPROVED:

Sep 2020

DRAWING
NUMBER

D-15B





12.5 KV SINGLE CIRCUIT
TANGENT AND SMALL ANGLE
STAGGERED BRACKETS

DEVELOPED BY:

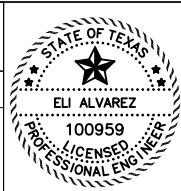
STANDARDS
COMMITTEE

APPROVED:

SEP 2020


DRAWING
NUMBER


D-15B

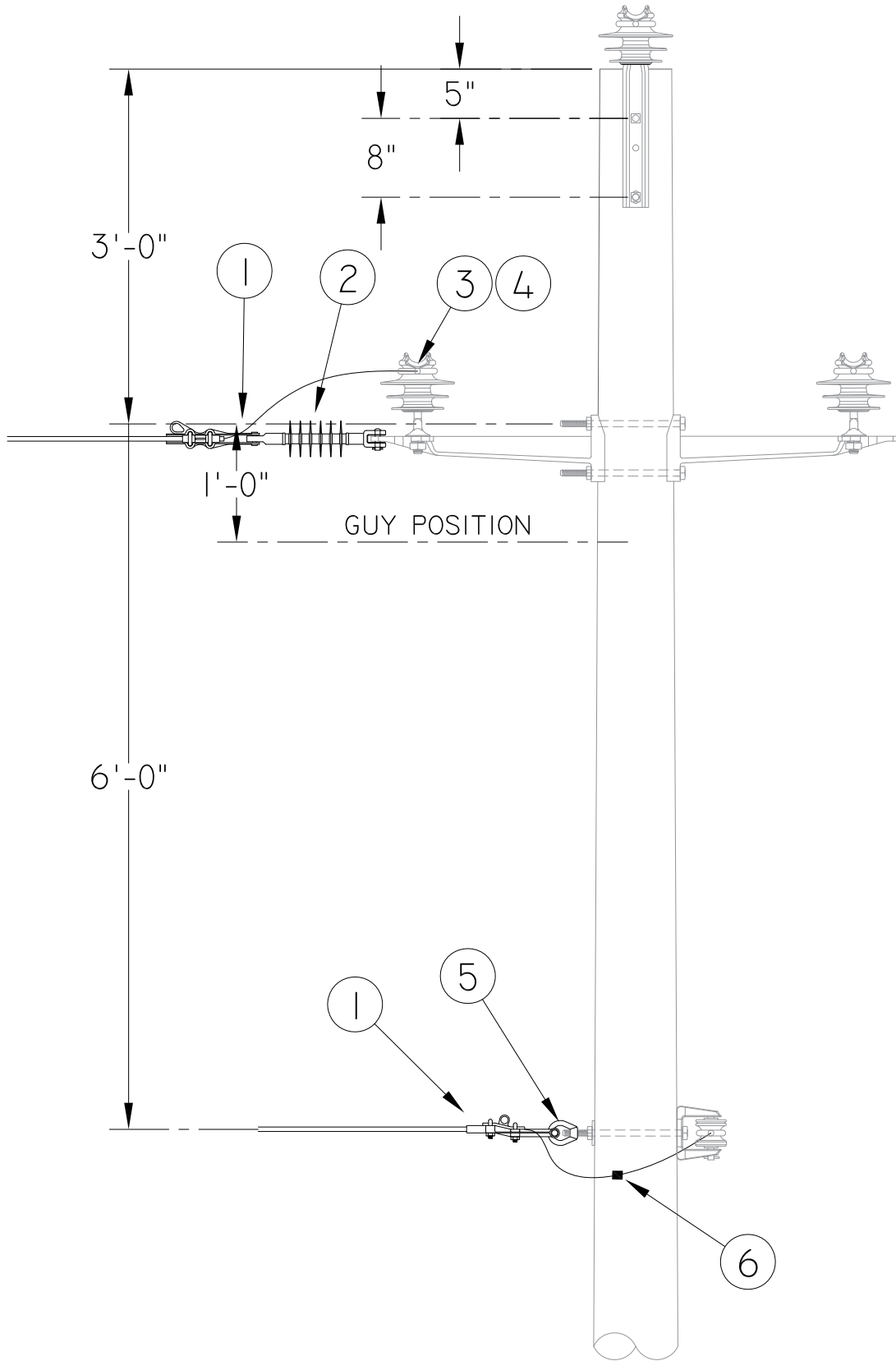


Material List

ITEM	CODE NO.	DESCRIPTION	QUANTITY
1	E1037-00	CLAMP 1/0-4/0 DEADEND	2
2	E0021-00	INSULATOR, 28 KV SUSPENSION	1
3	E-	STIRRUP	1
4	E0008-00	CLAMP, HOTLINE COPPER	1
5	E0136-00	NUT 5/8" OVAL EYE GALVANIZED	1
6	E-	CONNECTOR	1
		STIRRUPS	
	E0727-00	STIRRUP 1/0 STR W/#2 BAIL	
	E0728-00	STIRRUP 4/0 STR W/#2 BAIL	
	E0730-00	STIRRUP 477 MCM W/1/0 BAIL	
	E0731-00	STIRRUP 795 MCM W/2/0 BAIL	
		CONNECTOR	
	E0642-00	CRIMPIT 1/0 STR-1/0 STR CABLELOK	
	E0647-00	CRIMPIT 4/0 STR-1/0 STR CABLELOK	
	<i>Notes:</i>	<i>1. Make copper to aluminum connection with copper ground wire oriented below aluminum neutral.</i>	

 BROWNSVILLE PUBLIC UTILITIES BOARD	7.5KV SINGLE PHASE AND NEUTRAL TAP HORIZONTAL BRACKET (NEUTRAL ON POLE)	DEVELOPED BY:	STANDARDS COMMITTEE
		APPROVED:	Sep 2020
		DRAWING NUMBER	D-16





NOTE: I. INSTALL ANCHOR GUY AS NEEDED.



7.5 KV SINGLE PHASE AND NEUTRAL
TAP HORIZONTAL BRACKET
(NEUTRAL ON POLE)

DEVELOPED BY:

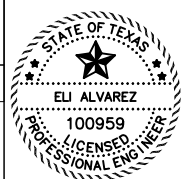
STANDARDS
COMMITTEE

APPROVED:

SEPT 2020

DRAWING
NUMBER

D-16

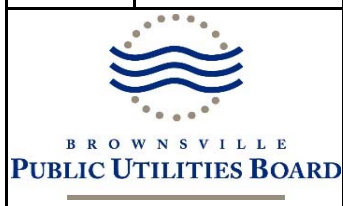


Material List

ITEM	CODE NO.	DESCRIPTION	QUANTITY
1	E0020-00	INSULATOR, "FOG BOWL"	6
2	E0025-00	PIN, POLE TOP 18" STEEL GALVANIZED	2
3	E0101-00	BOLT, MACHINE 5/8" X 12" GALVANIZED	5
4	E0138-00	WASHER 5/8" SQUARE 2 1/4" GALVANIZED	1
5	E0010-00	CLEVIS, ONE POINT GALVANIZED	1
6	E0022-00	INSULATOR, 3" SPOOL	1
7	E0027-00	PIN, SHORT SHANK INSULATOR	4
8	E0002-00	ARM, 3-POSITION ALUMINUM	2
9	E0139-00	WASHER LOCK, 5/8" DOUBLE COIL SPRING COMPRESSED	5
10	E0234-00	CABLE, #4 SOL ALUMINUM TIE	As Req'd.

Notes: 1. Increase to 8' for transformer installation.
oriented below aluminum neutral.

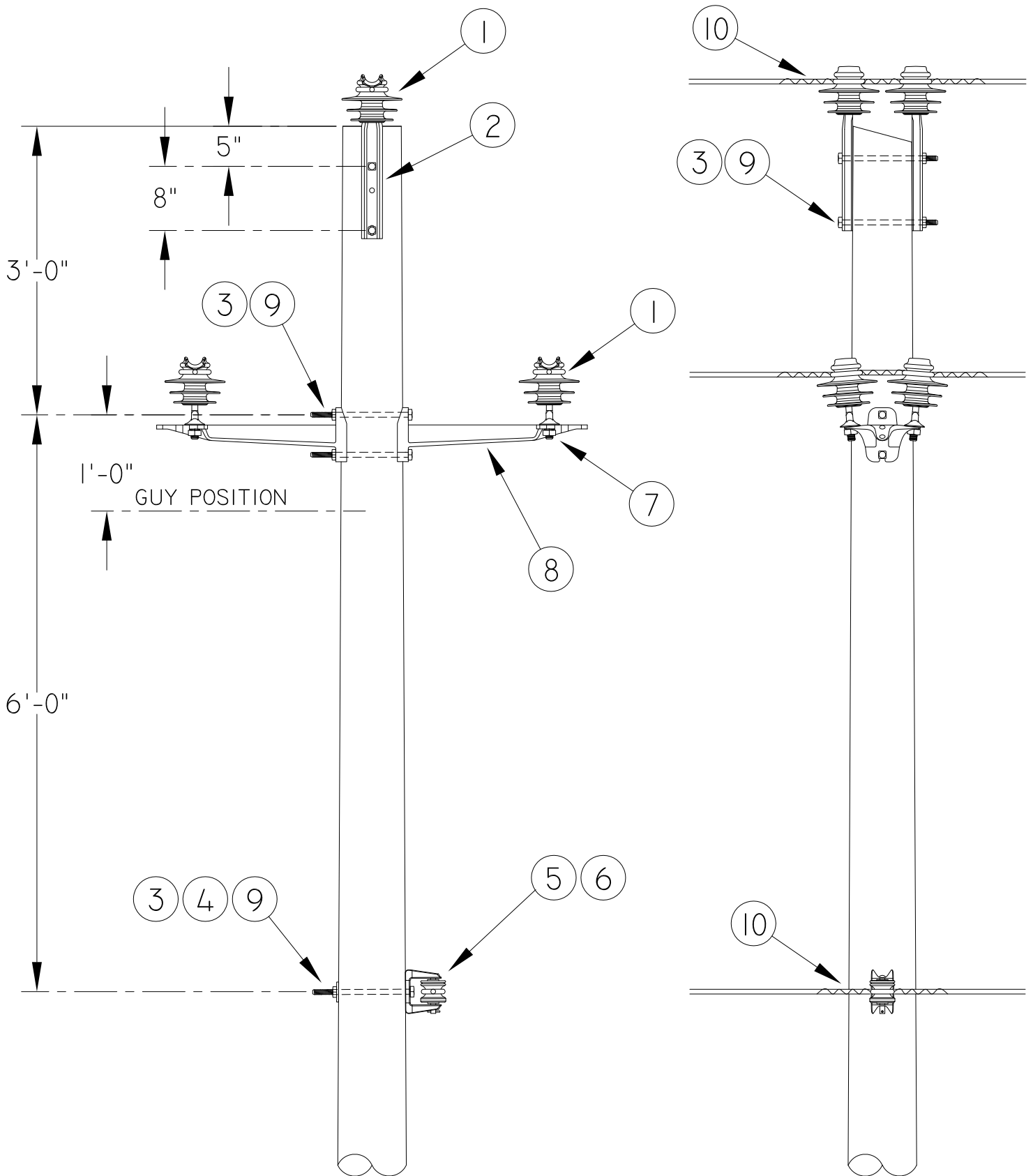
2. Make copper to aluminum connection with copper ground wire
oriented below aluminum neutral.



**12.5KV SINGLE CIRCUIT
MEDIUM ANGLE
DELTA HORIZONTAL BRACKET**

DEVELOPED BY:	STANDARDS COMMITTEE
APPROVED:	SEP 2020
DRAWING NUMBER	D-17





NOTE: I. INSTALL ANCHOR GUY AS NEEDED.



12.5 KV SINGLE CIRCUIT
MEDIUM ANGLE
DELTA HORIZONTAL BRACKET

DEVELOPED BY:

STANDARDS
COMMITTEE

APPROVED:

SEPT 2020

DRAWING
NUMBER

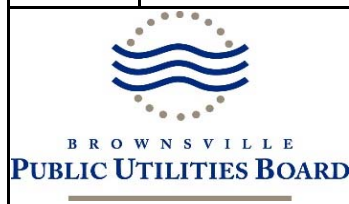
D-17



Material List

ITEM	CODE NO.	DESCRIPTION	QUANTITY
1	E0020-00	INSULATOR, "FOG BOWL"	3
2	E0001-00	ARM, 1-POSITION ALUMINUM	3
3	E0027-00	PIN, SHORT SHANK INSULATOR	3
4	E0101-00	BOLT, MACHINE 5/8" X 12" GALVANIZED	7
5	E0138-00	WASHER 5/8" SQUARE 2 1/4" GALVANIZED	7
6	E0010-00	CLEVIS, ONE POINT GALVANIZED	1
7	E0022-00	INSULATOR, 3" SPOOL	1
8	E0234-00	CABLE, #4 SOL ALUMINUM TIE	As Req'd.
9	E0139-00	WASHER LOCK, 5/8" DOUBLE COIL SPRING COMPRESSED	7

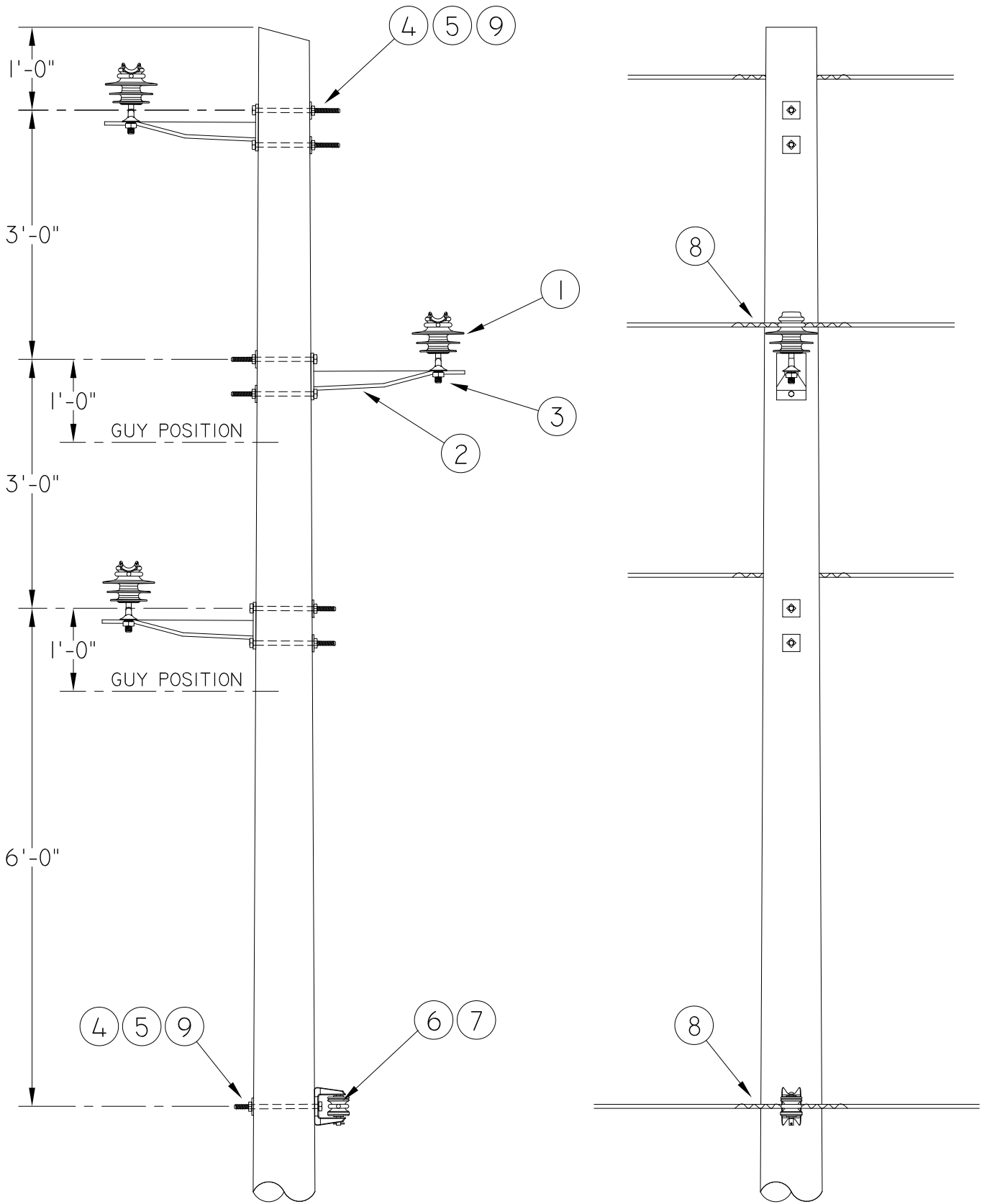
- Notes:*
1. All holes for horizontal brackets shall be drilled from the bracket side.
oriented below aluminum neutral.
 2. Increase to 8' for transformer installation.
 3. Make copper to aluminum connection with copper ground wire oriented below aluminum neutral.



**12.5KV SINGLE CIRCUIT
TANGENT AND SMALL ANGLE BRACKETS
ON ALTERNATE SIDES OF POLE**

DEVELOPED BY:	STANDARDS COMMITTEE
APPROVED:	Sep 2020
DRAWING NUMBER	D-18





NOTE: I. INSTALL ANCHOR GUY AS NEEDED.



12.5 KV SINGLE CIRCUIT
TANGENT AND SMALL ANGLE BRACKETS
ON ALTERNATE SIDES OF POLE

DEVELOPED BY:
APPROVED:
DRAWING
NUMBER

STANDARDS
COMMITTEE
SEPT 2020
D-18



Material List

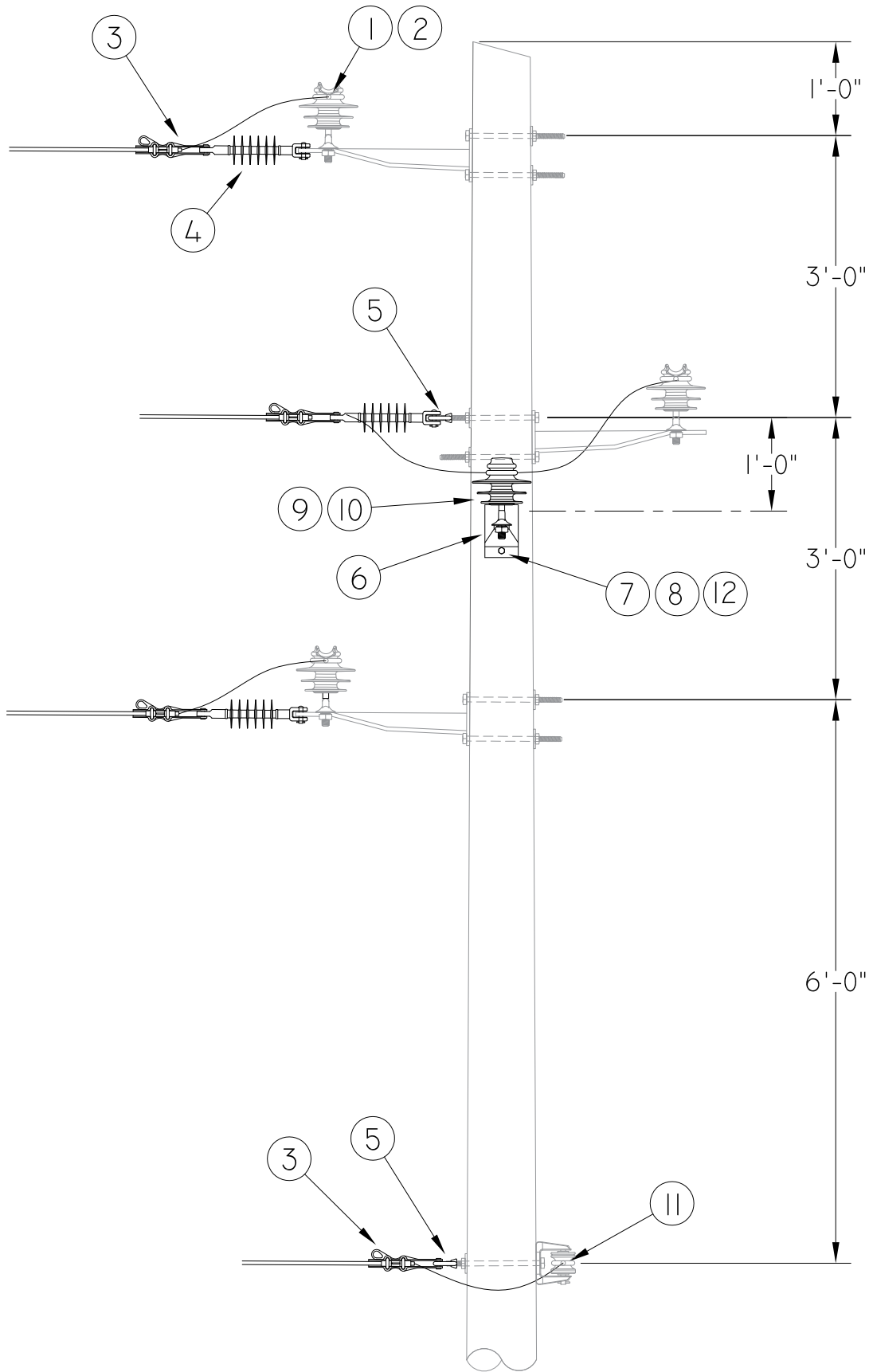
ITEM	CODE NO.	DESCRIPTION	QUANTITY
1	E-	STIRRUP	3
2	E0008-00	CLAMP, HOTLINE COPPER	3
3	E-	CLAMP, DEADEND	4
4	E0021-00	INSULATOR, 28 KV SUSPENSION	3
5	E0136-00	NUT 5/8" OVAL EYE GALVANIZED	2
6	E0001-00	ARM, 1-POSITION ALUMINUM	1
7	E0101-00	BOLT, MACHINE 5/8" X 12" GALVANIZED	2
8	E0138-00	WASHER 5/8" SQUARE 2 1/4" GALVANIZED	2
9	E0027-00	PIN, SHORT SHANK INSULATOR	1
10	E0020-00	INSULATOR, "FOG BOWL"	1
11	E-	CONNECTOR	1
12	E0139-00	WASHER LOCK, 5/8" DOUBLE COIL SPRING COMPRESSED	2
		STIRRUPS	
	E0727-00	STIRRUP 1/0 STR W/#2 BAIL AMP	
	E0728-00	STIRRUP 4/0 STR W/#2 BAIL AMP	
	E0730-00	STIRRUP 477 MCM W/1/0 BAIL AMP	
	E0731-00	STIRRUP 795 MCM W/2/0 BAIL	
		DEADEND CLAMPS	
	E1037-00	CLAMP 1/0 - 4/0 DEADEND	
	E1038-00	CLAMP 477 MCM DEADEND	
	E1039-00	CLAMP 795 MCM DEADEND	
		CONNECTOR	
	E0642-00	CRIMPIT 1/0 STR-1/0 STR CABLELOK	
	E0647-00	CRIMPIT 4/0 STR-1/0 STR CABLELOK	
		<i>Notes: 1. Make copper to aluminum connection with copper ground wire oriented below aluminum neutral.</i>	



12.5KV SINGLE CIRCUIT
 THREE PHASE TAP WITH
 HORIZONTAL BRACKETS

DEVELOPED BY:	STANDARDS COMMITTEE
APPROVED:	Sep 2020
DRAWING NUMBER	D-18A





12.5 KV SINGLE CIRCUIT
THREE PHASE TAP WITH
HORIZONTAL BRACKETS

DEVELOPED BY:

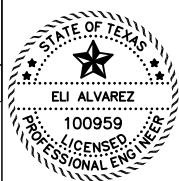
STANDARDS
COMMITTEE

APPROVED:

SEPT 2020

DRAWING
NUMBER

D-18A



Material List

ITEM	CODE NO.	DESCRIPTION	QUANTITY
1	E0020-00	INSULATOR, "FOG BOWL"	6
2	E0002-00	ARM, 3-POSITION ALUMINUM	3
3	E0027-00	PIN, SHORT SHANK INSULATOR	6
4	E0101-00	BOLT, MACHINE 5/8" X 12" GALVANIZED	7
5	E0138-00	WASHER 5/8" SQUARE 2 1/4" GALVANIZED	7
6	E0010-00	CLEVIS, ONE POINT GALVANIZED	1
7	E0022-00	INSULATOR, 3" SPOOL	1
8	E0234-00	CABLE, #4 SOL ALUMINUM TIE	As Req'd.
9	E0139-00	WASHER LOCK, 5/8" DOUBLE COIL SPRING COMPRESSED	7

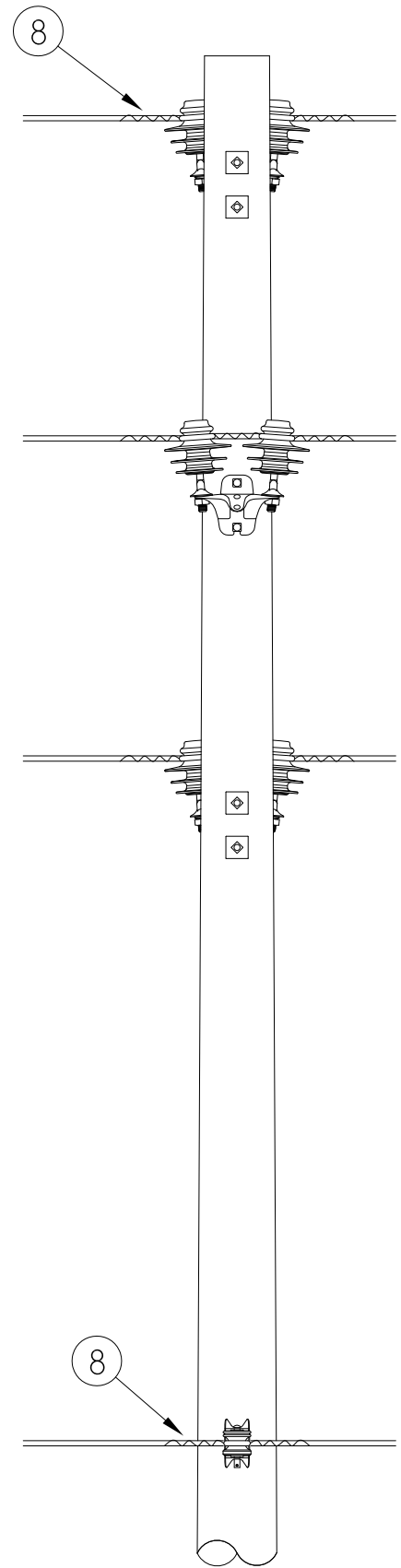
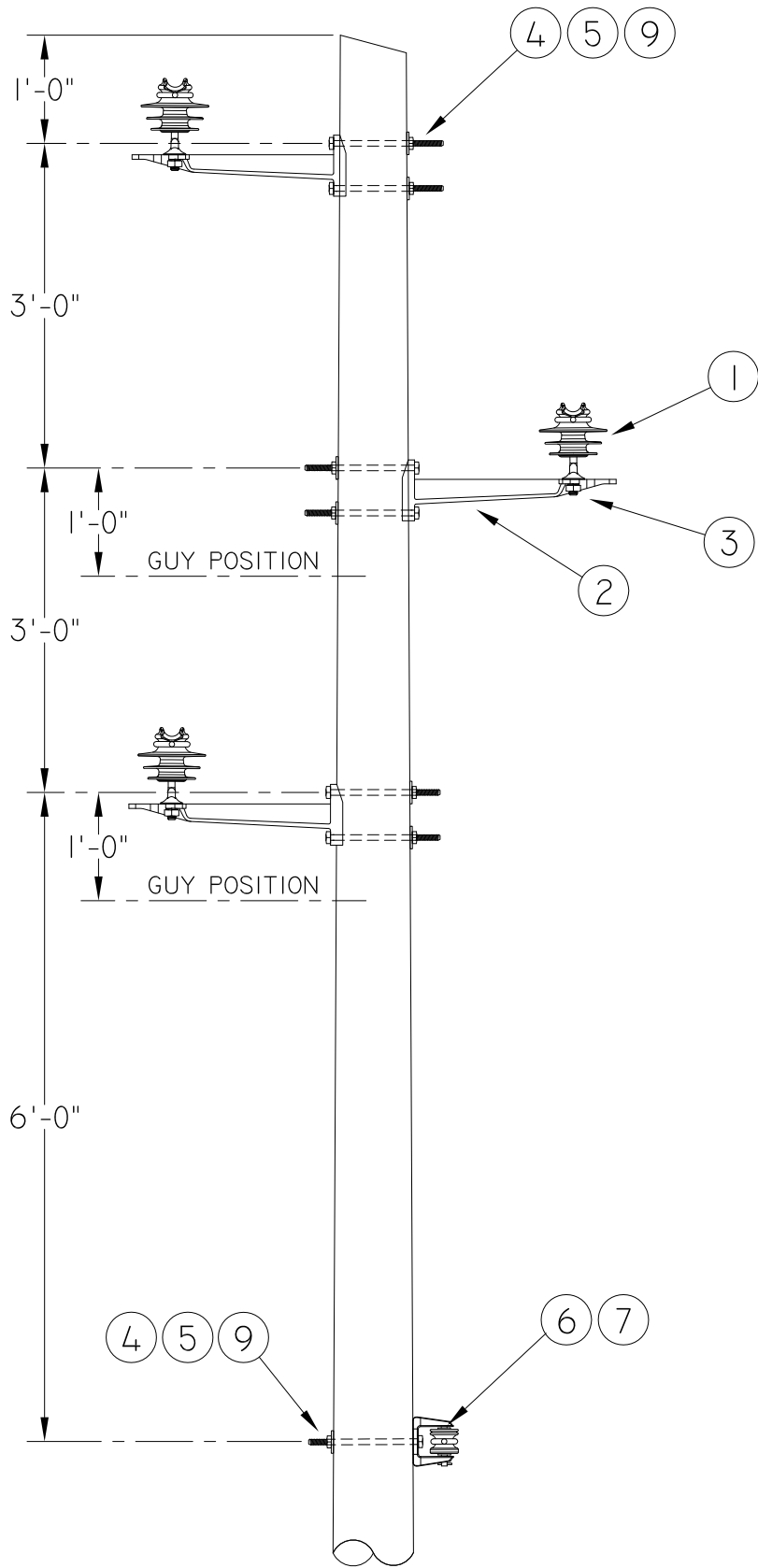
- Notes:
- 1. All holes for horizontal brackets shall be drilled from the bracket side.*
 - 2. Increase to 8' for transformer installation.*
 - 3. Make copper to aluminum connection with ground wire oriented below aluminum neutral.*



12.5KV SINGLE CIRCUIT TANGENT AND MEDIUM ANGLE HORIZONTAL BRACKETS

DEVELOPED BY: STANDARDS COMMITTEE
APPROVED: Sep 2020
DRAWING NUMBER: **D-18B**





12.5 KV SINGLE CIRCUIT
TANGENT AND MEDIUM ANGLE
HORIZONTAL BRACKETS

DEVELOPED BY:

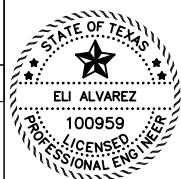
STANDARDS
COMMITTEE

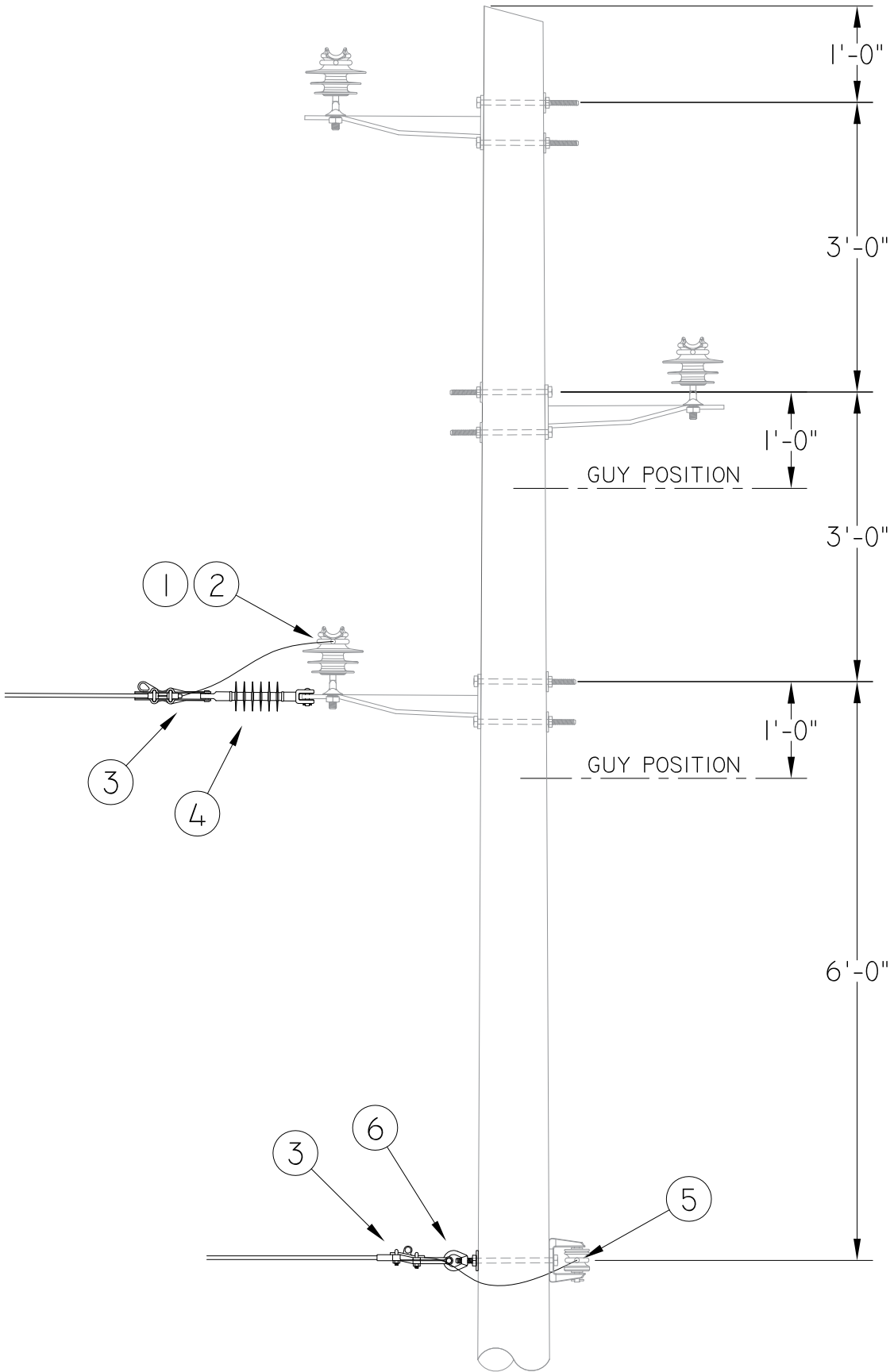
APPROVED:

SEPT 2020

DRAWING
NUMBER

D-18B





7.2 KV SINGLE PHASE AND NEUTRAL TAP
HORIZONTAL BRACKET
(NEUTRAL ON POLE)

DEVELOPED BY:

STANDARDS
COMMITTEE

APPROVED:

SEPT 2020

DRAWING
NUMBER

D-19



Material List

ITEM	CODE NO.	DESCRIPTION	QUANTITY
1	E-	STIRRUP	1
2	E0008-00	CLAMP, HOTLINE COPPER	1
3	E-	CRIMPIT / WEDGE TAP CONNECTOR	1
4	E1037-00	CLAMP 1/0-4/0 DEADEND	2
5	E0021-00	INSULATOR, 28 KV SUSPENSION	1
6	E0020-00	INSULATOR, "FOG BOWL"	1
7	E0027-00	PIN, SHORT SHANK INSULATOR	1
8	E0001-00	ARM, 1-POSITION ALUMINUM	1
9	E0234-00	CABLE, #4 SOL ALUMINUM TIE	As Req'd.
10	E0101-00	BOLT, MACHINE 5/8 X 12 GALVANIZED	2
11	E0138-00	WASHER 5/8" SQUARE 2 1/4" GALVANIZED	4
13	E0110-00	BOLT, OVAL EYE 5/8 X 12 GALVANIZED STEEL	2
14	E0139-00	WASHER LOCK, 5/8" DOUBLE COIL SPRING COMPRESSED	3
		STIRRUPS	
	E0727-00	STIRRUP 1/0 STR W/#2 BAIL W/POWER BOOSTER	
	E0728-00	STIRRUP 4/0 STR W/ #2 BAIL W/POWER BOOSTER	
	E0730-00	STIRRUP 477 MCM W/ 1/0 BAIL W/POWER BOOSTER	
	E0731-00	STIRRUP 795 MCM W/ 2/0 BAIL	
		CRIMPIT / WEDGE TAP CONNECTOR	
	E0642-00	CRIMPIT 1/0 STR-1/0 STR CABLELOK	
	E0643-00	CRIMPIT 1/0 - #4STR.	
	E0646-00	CRIMPIT 4/0 STR-#2 STR CABLELOK	
	E0647-00	CRIMPIT 4/0 STR-1/0 STR CABLELOK	
	E0716-00	CONNECTOR 477 MCM-1/0 STR AL CU TAP	
		<i>Notes: 1. Make copper to aluminum connection with ground wire oriented below aluminum neutral.</i>	

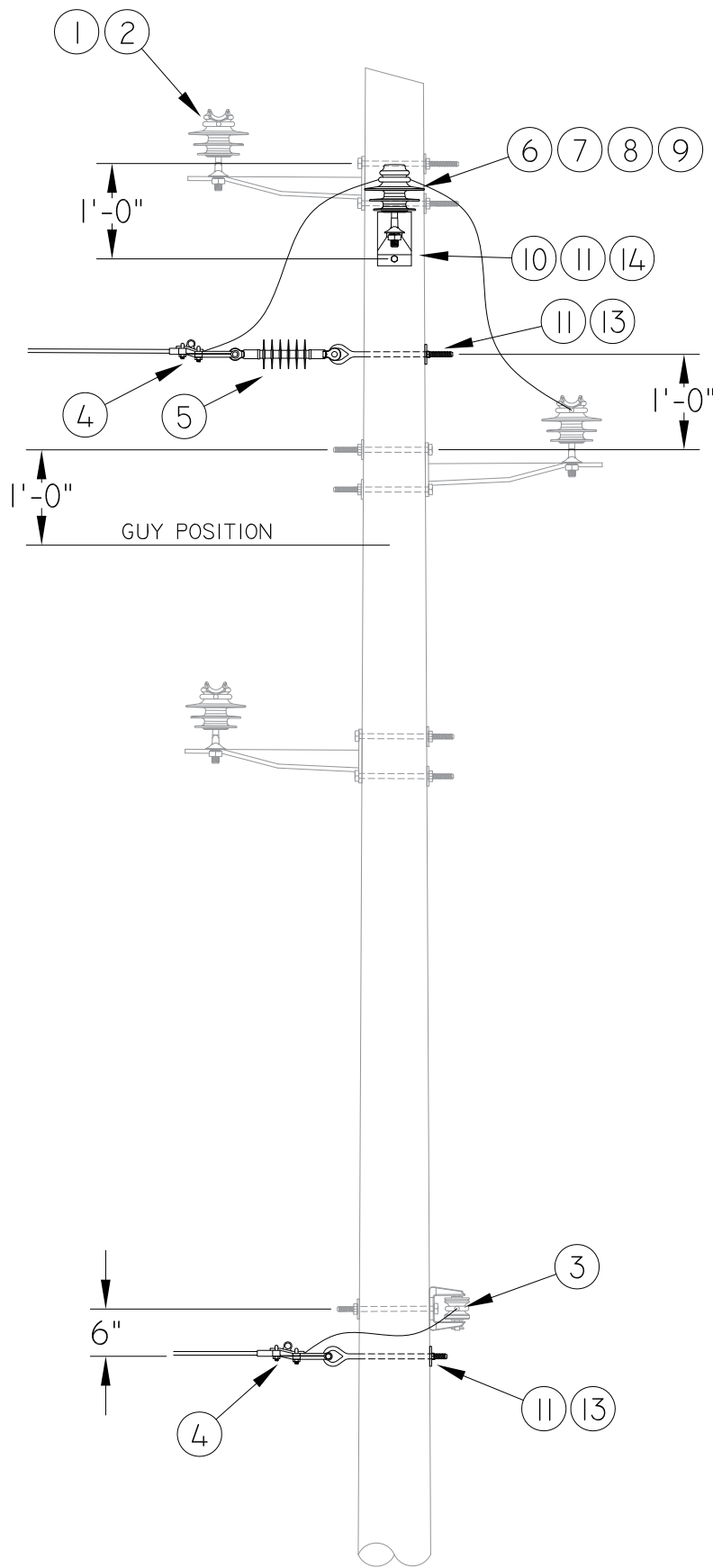


**12.5KV SINGLE PHASE
AND NEUTRAL TAP
HORIZONTAL BRACKET
(NEUTRAL ON POLE)**

DEVELOPED BY:	STANDARDS COMMITTEE
APPROVED:	Sep 2020
DRAWING NUMBER	D-20

D-20





NOTE: I. INSTALL ANCHOR GUY AS NEEDED.



12.5 KV SINGLE PHASE AND
NEUTRAL TAP HORIZONTAL BRACKET
(NEUTRAL ON POLE)

DEVELOPED BY:

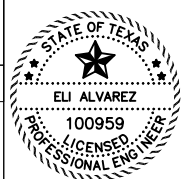
STANDARDS
COMMITTEE

APPROVED:

SEPT 2020

DRAWING
NUMBER

D-20



Material List

ITEM	CODE NO.	DESCRIPTION	QUANTITY
1	E0020-00	INSULATOR, "FOG BOWL"	3
2	E0027-00	PIN, SHORT SHANK INSULATOR	3
3	E0001-00	ARM, 1-POSITION ALUMINUM	3
4	E0101-00	BOLT, MACHINE 5/8 X 12 GALVANIZED	7
5	E0138-00	WASHER 5/8" SQUARE 2 1/4" GALVANIZED	7
6	E0010-00	CLEVIS, ONE POINT GALVANIZED	1
7	E0022-00	INSULATOR, 3" SPOOL	1
8	E0234-00	CABLE, #4 SOL ALUM TIE	As Req'd.
9	E0139-00	WASHER LOCK, 5/8" DOUBLE COIL SPRING COMPRESSED	7

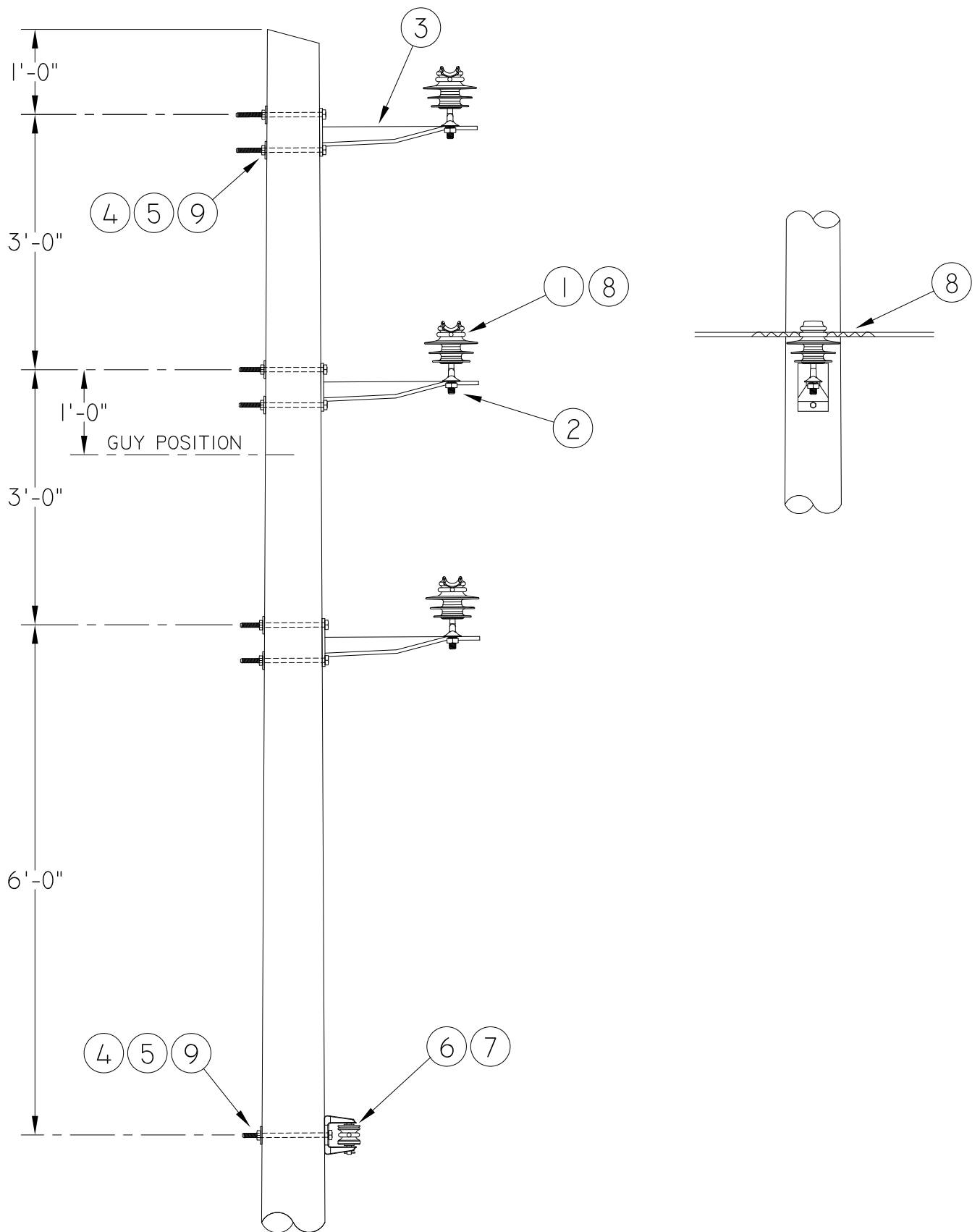
- Notes:*
1. All holes for horizontal brackets shall be drilled from the bracket side.
 2. Make copper to aluminum connection with copper ground wire oriented below aluminum neutral.
 3. For Item #8, the quantity is in pounds. Use the following conversion 0.0794 lb = 1 ft.



**12.5KV SINGLE CIRCUIT
TANGENT WITH BRACKETS
ON SAME SIDE OF POLE**

DEVELOPED BY:	STANDARDS COMMITTEE
APPROVED:	Sep 2020
DRAWING NUMBER	D-21





NOTE: I. INSTALL ANCHOR GUY AS NEEDED.



12.5 KV SINGLE CIRCUIT
TANGENT WITH BRACKETS
ON SAME SIDE OF POLE

DEVELOPED BY:

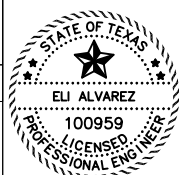
STANDARDS
COMMITTEE

APPROVED:

SEPT 2020

DRAWING
NUMBER

D-21



Material List

ITEM	CODE NO.	DESCRIPTION	QUANTITY
1	E0020-00	INSULATOR, "FOG BOWL"	6
2	E0027-00	PIN, SHORT SHANK INSULATOR	6
3	E0002-00	ARM, 3-POSITION ALUMINUM STEEL	3
4	E0101-00	BOLT, MACHINE 5/8 X 12 GALVANIZED	7
5	E0138-00	WASHER 5/8" SQUARE 2 1/4" GALVANIZED	7
6	E0010-00	CLEVIS, ONE POINT GALVANIZED	1
7	E0022-00	INSULATOR, 3" SPOOL	1
8	E0234-00	CABLE, #4 SOL ALUMINUM TIE	As Req'd.
9	E0139-00	WASHER LOCK, 5/8" DOUBLE COIL SPRING COMPRESSED	7

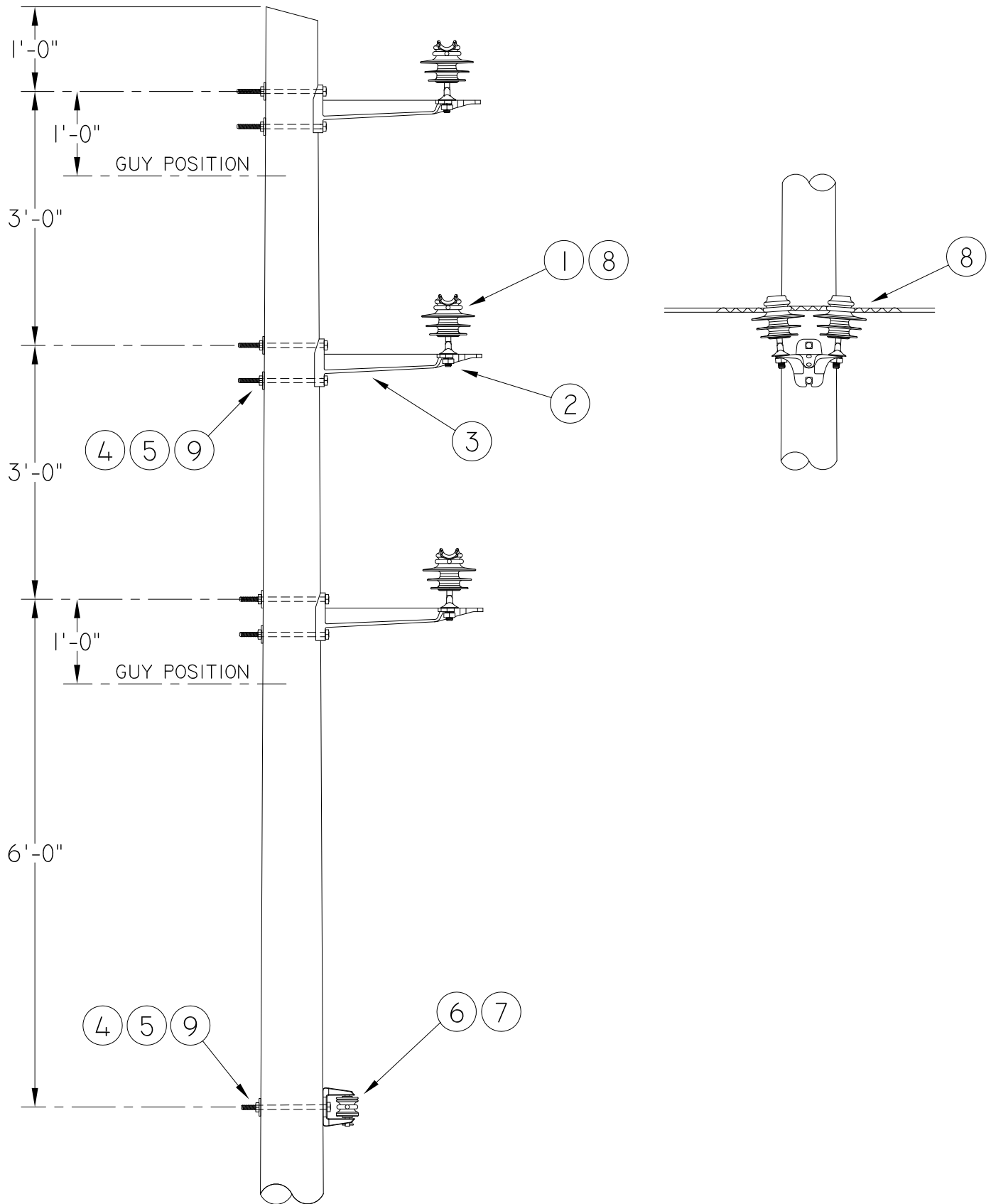
- Notes:*
1. All holes for horizontal brackets shall be drilled from the bracket side.
 2. Make copper to aluminum connection with copper ground wire oriented below aluminum neutral.
 3. For Item #8, the quantity is in pounds. Use the following conversion 0.0794 lb = 1 ft.



**12.5KV SINGLE CIRCUIT
MEDIUM ANGLE
HORIZONTAL BRACKET**

DEVELOPED BY:	STANDARDS COMMITTEE
APPROVED:	Sep 2020
DRAWING NUMBER	D-22





NOTE: I. INSTALL ANCHOR GUY AS NEEDED.



12.5 KV SINGLE CIRCUIT
MEDIUM ANGLE
HORIZONTAL BRACKETS

DEVELOPED BY:

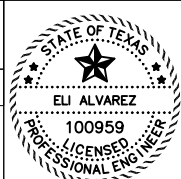
STANDARDS
COMMITTEE

APPROVED:

SEPT 2020

DRAWING
NUMBER

D-22



Material List

ITEM	CODE NO.	DESCRIPTION	QUANTITY
1	E0005-00	3-3/4" X 4-3/4" X 8' STANDARD CROSSARM	2
2	E0122-00	BOLT, D.A.E. 5/8 X 18 GALVANIZED	2
3	E0021-00	INSULATOR, 28 KV SUSPENSION	3
4	E1037-00	CLAMP 1/0-4/0 DEADEND	4
5	E0110-00	BOLT, OVAL EYE 5/8 X 12 GALVANIZED STEEL	2
6	E0006-00	CROSSARM STEEL FLAT BRACE	4
7	E0125-00	BOLT, CARRIAGE 3/8 X 5" GALVANIZED	4
8	E0135-00	SCREW 1/2" X 4 1/2" LAG GALVANIZED	2
9	E0104-00	BOLT, MACHINE 5/8 X 18 GALVANIZED	1
10	E0138-00	WASHER 5/8" SQUARE 2 1/4" GALVANIZED	10
11	E0139-00	WASHER LOCK, 5/8" DOUBLE COIL SPRING COMPRESSED	5

Notes: 1. Install Anchor Guy as needed.



**12.5KV SINGLE CIRCUIT
DEADEND CROSSARM**

DEVELOPED BY:

STANDARDS
COMMITTEE

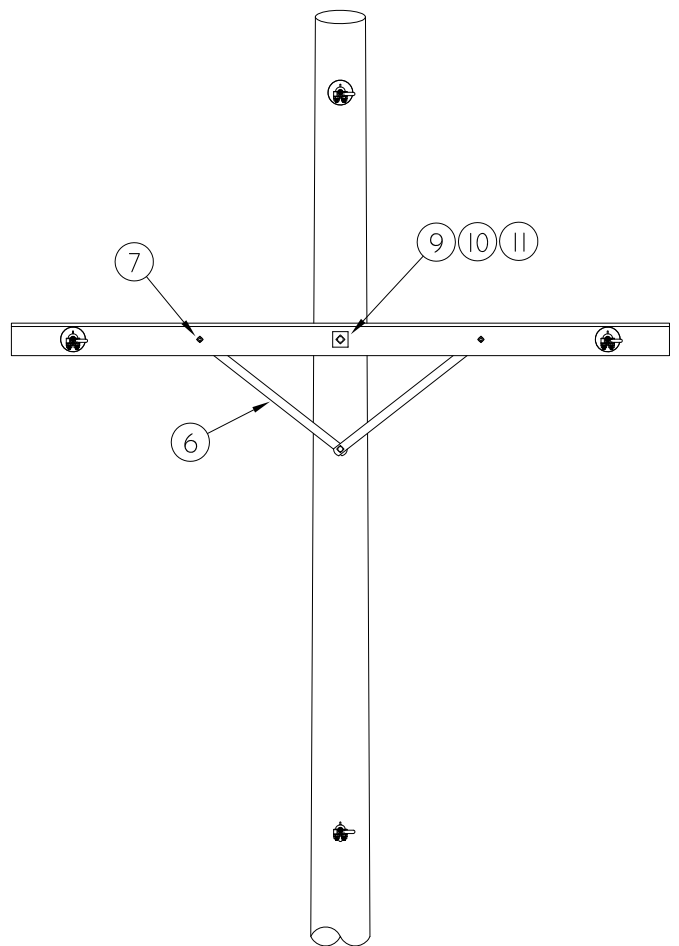
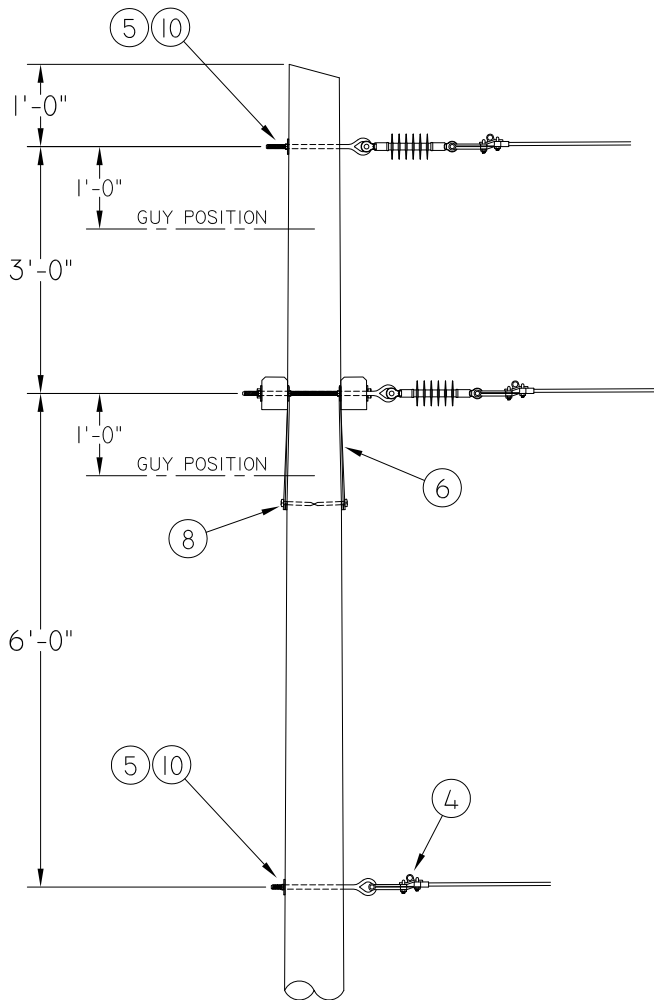
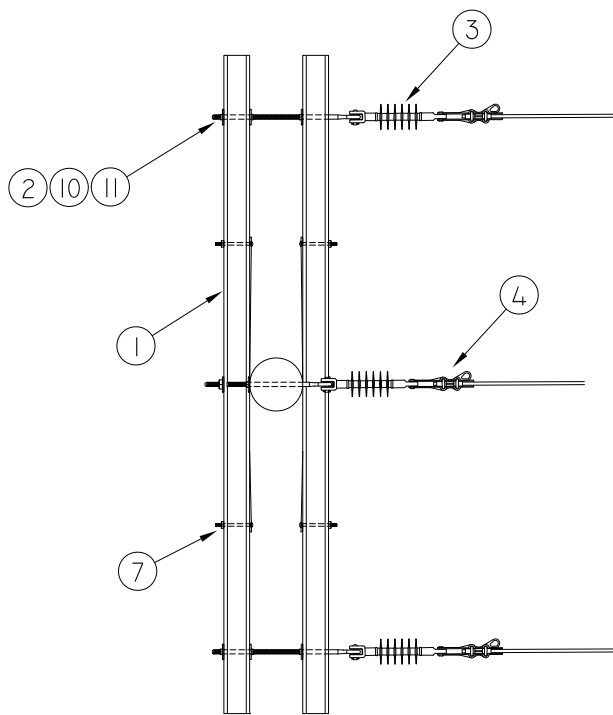
APPROVED:

Sep 2020

DRAWING
NUMBER

D-23





NOTE: I. INSTALL ANCHOR GUY AS NEEDED.



12.5 KV SINGLE CIRCUIT DEADEND CROSSARM

DEVELOPED BY:

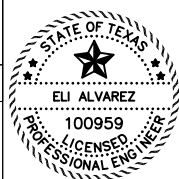
STANDARDS
COMMITTEE

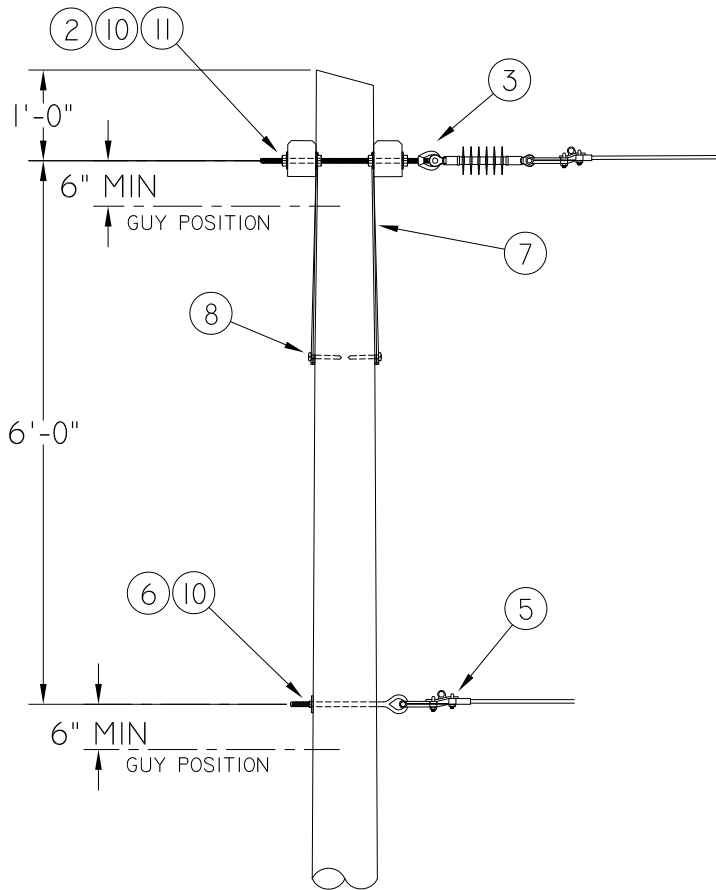
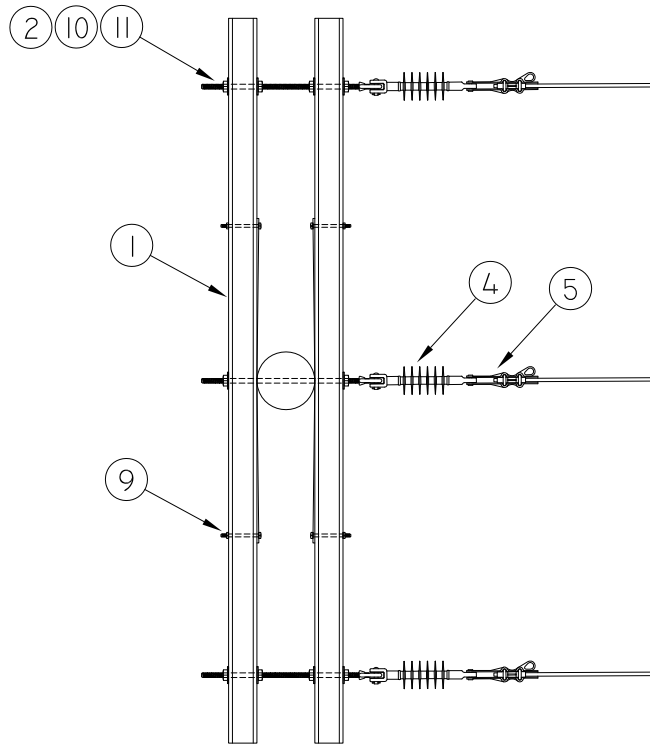
APPROVED:

SEP 2020

DRAWING
NUMBER

D-23





NOTE: I. INSTALL ANCHOR GUY AS NEEDED.



12.5 KV SINGLE CIRCUIT
DEADEND DOUBLE CROSSARM
LIGHT DUTY (1/0)

DEVELOPED BY:

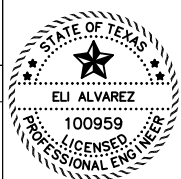
STANDARDS
COMMITTEE

APPROVED:

SEP 2020

DRAWING
NUMBER

D-23A



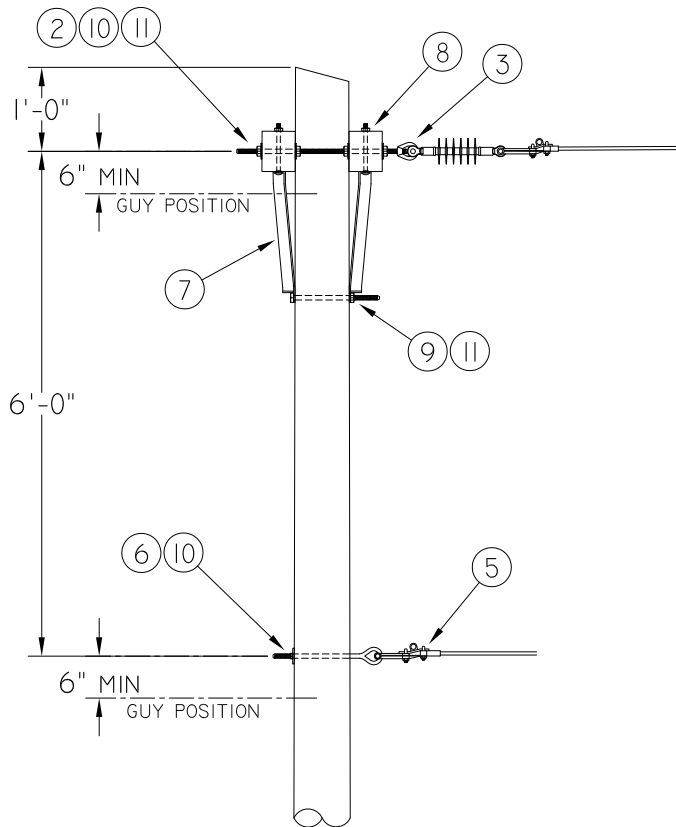
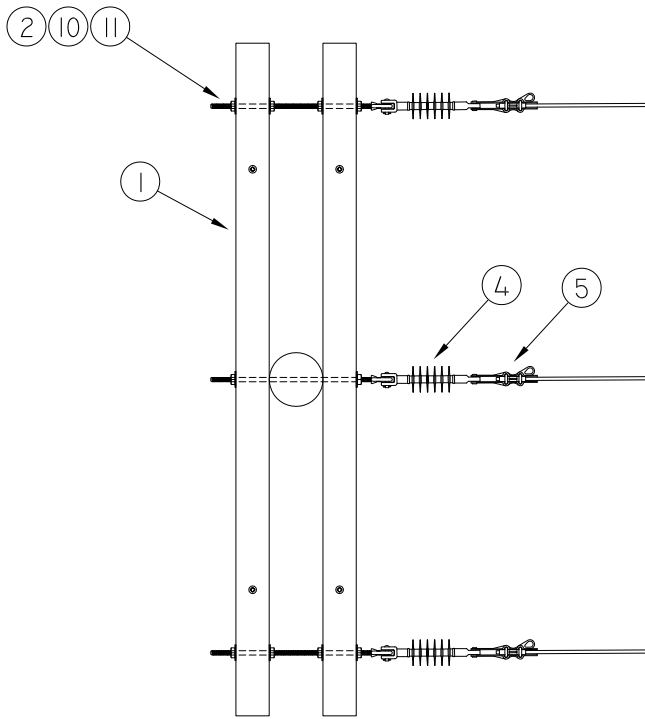
Material List

ITEM	CODE NO.	DESCRIPTION	QUANTITY
1	E1050-00	CROSSARM 8' FT WOODEN HEAVY DUTY D.F.	3
2	E0120-00	BOLT, D. A. 5/8 X 24 GALVANIZED STEEL	3
3	E0136-00	NUT 5/8" OVAL EYE GALVANIZED	3
4	E0021-00	INSULATOR, 28 KV SUSPENSION	3
5	E-	CLAMP, DEADEND	4
6	E0110-00	BOLT, OVAL EYE 5/8 X 12 GALVANIZED STEEL	1
7	E1024-00	BRACE CROSSARM ANGLE	2
8	E0128-00	BOLT, CARRIAGE 1/2-13" X 7" GALVANIZED W/NUTS	4
9	E0101-00	BOLT, MACHINE 5/8 X 12 GALVANIZED	1
10	E0138-00	WASHER 5/8" SQUARE 2 1/4" GALVANIZED	11
11	E0139-00	WASHER LOCK, 5/8" DOUBLE COIL SPRING COMPRESSED	7
		DEADEND CLAMP	
	E1038-00	CLAMP 477 MCM DEADEND	
	E1039-00	CLAMP 795 MCM DEADEND	
<i>Notes: 1. Install Anchor Guy as needed.</i>			



12.5KV SINGLE CIRCUIT DEADEND DOUBLE CROSSARM HEAVY DUTY (477 & 795 MCM)		DEVELOPED BY:	STANDARDS COMMITTEE
		APPROVED:	Sep 2020
		DRAWING NUMBER	D-23B





NOTE: I. INSTALL ANCHOR GUY AS NEEDED.



**12.5 KV SINGLE CIRCUIT
DEADEND DOUBLE CROSSARM
HEAVY DUTY (477 & 795 MCM)**

DEVELOPED BY:	STANDARDS COMMITTEE	
APPROVED:	SEP 2020	
DRAWING NUMBER	D-23B	

Material List

ITEM	CODE NO.	DESCRIPTION	QUANTITY
1	E0005-00	ARM, 3-3/4" X 4-3/4" X 8' STANDARD CROSSARM	1
2	E0102-00	BOLT, MACHINE 5/8" X 14" GALVANIZED	1
3	E0006-00	CROSSARM STEEL FLAT BRACE	2
4	E0125-00	BOLT, CARRIAGE 3/8" X 5" GALVANIZED	2
5	E0135-00	SCREW, 1/2" X 4 1/2" LAG GALVANIZED	1
6	E0020-00	INSULATOR, "FOG BOWL"	3
7	E0026-00	PIN, CROSSARM INSULATOR	3
8	E0234-00	CABLE, #4 SOL ALUMINUM TIE	As Req'd
9	E0101-00	BOLT, MACHINE 5/8" X 12" GALVANIZED	1
10	E0010-00	CLEVIS, ONE POINT GALVANIZED	1
11	E0022-00	INSULATOR, 3" SPOOL	1
12	E0138-00	WASHER 5/8" SQUARE 2 1/4" GALVANIZED	3
13	E0139-00	WASHER LOCK, 5/8" DOUBLE COIL SPRING COMPRESSED	2

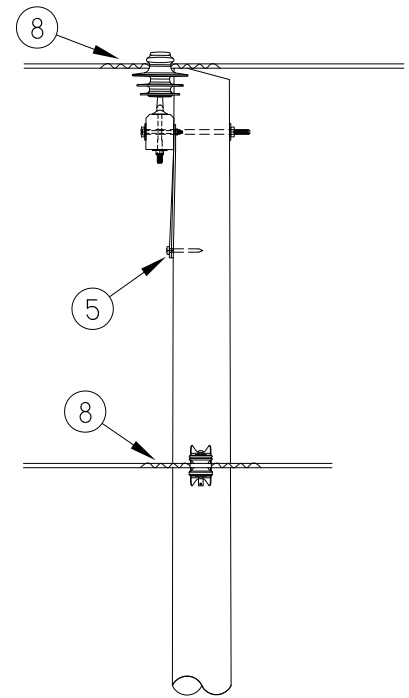
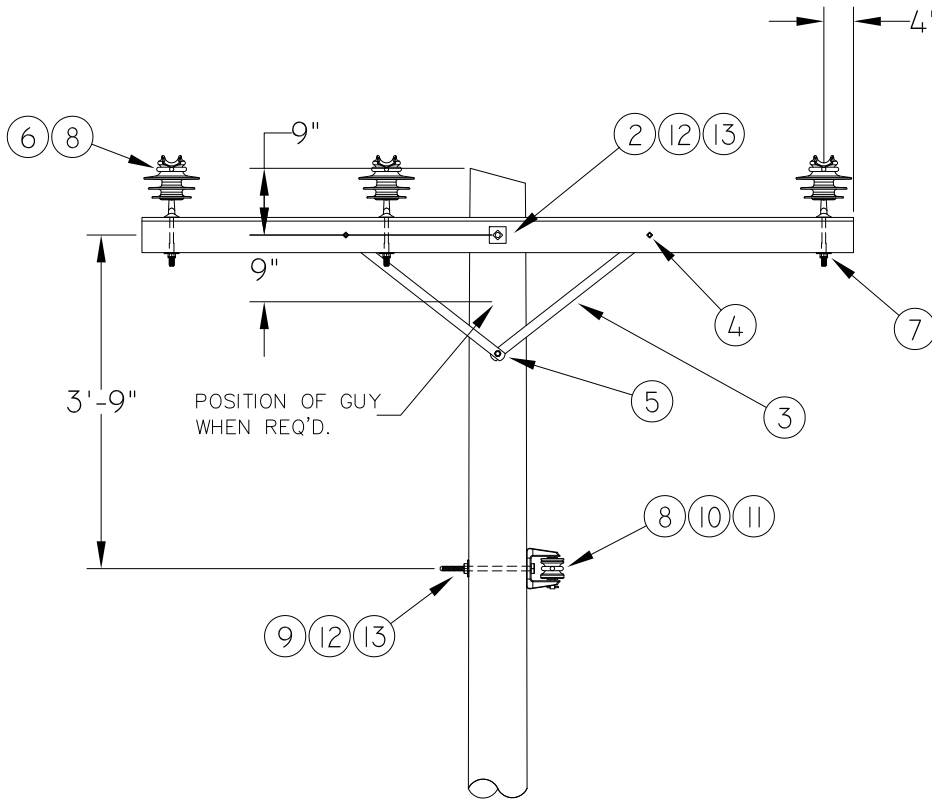
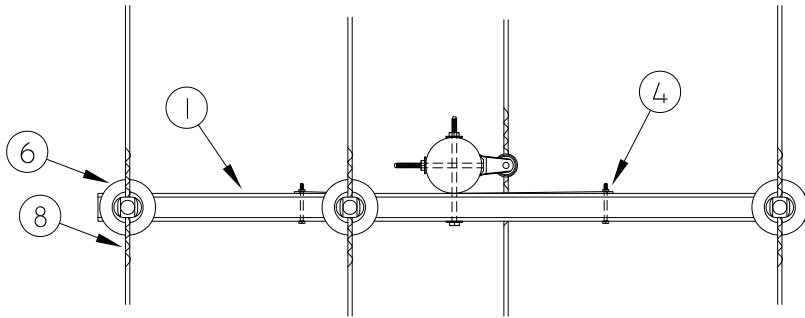


**12.5KV SINGLE CIRCUIT
TANGENT AND SMALL ANGLE
SINGLE LIGHT DUTY WOODEN CROSSARM
(NEUTRAL ON POLE)**

DEVELOPED BY:
APPROVED:
DRAWING NUMBER

STANDARDS COMMITTEE
Sep 2020
D-24





12.5 KV SINGLE CIRCUIT
TANGENT AND SMALL ANGLE
SINGLE WOODEN CROSSARM
LIGHT DUTY (NEUTRAL ON POLE)

DEVELOPED BY:

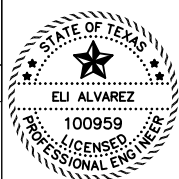
STANDARDS
COMMITTEE

APPROVED:

SEP 2020



DRAWING
NUMBER

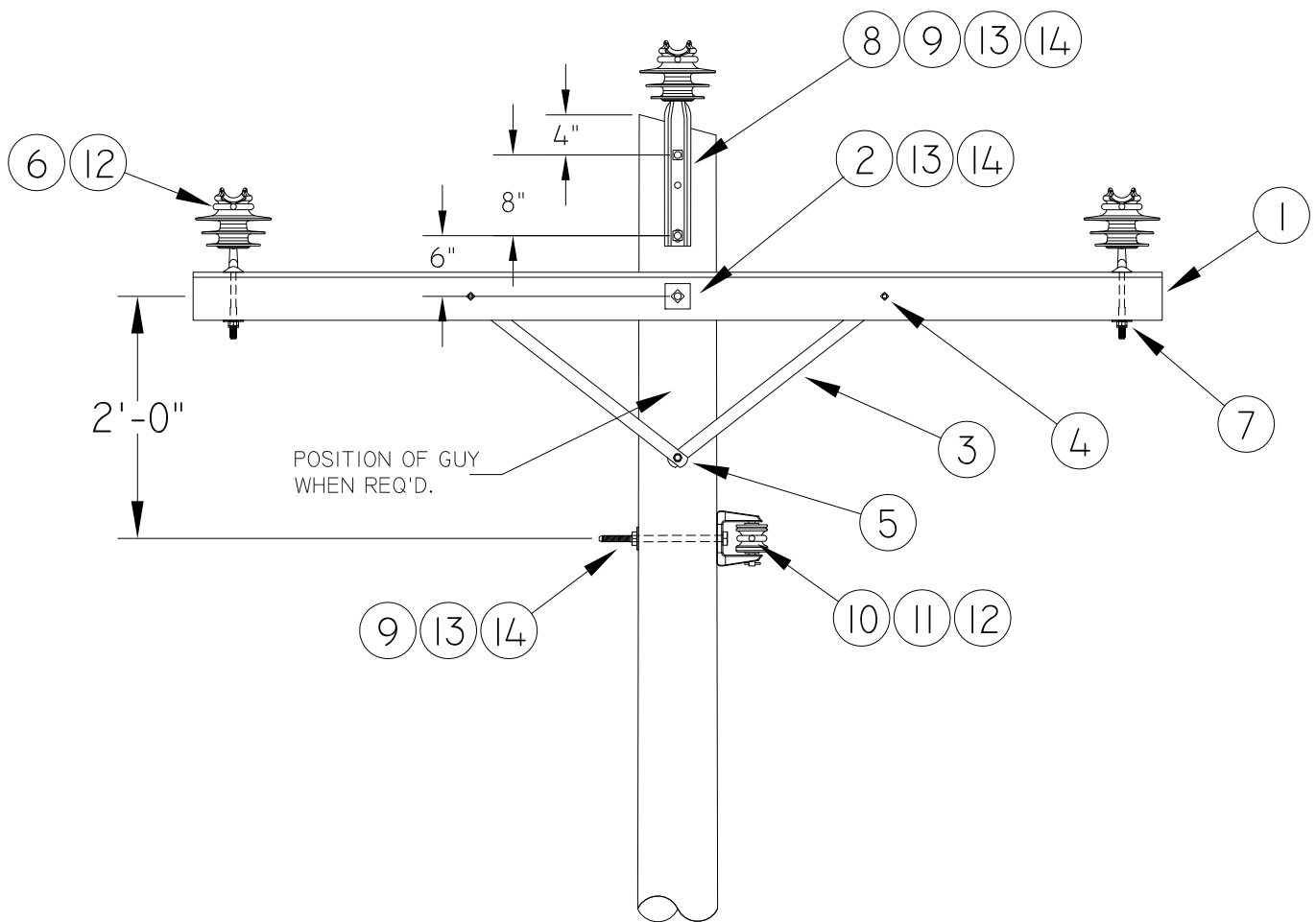
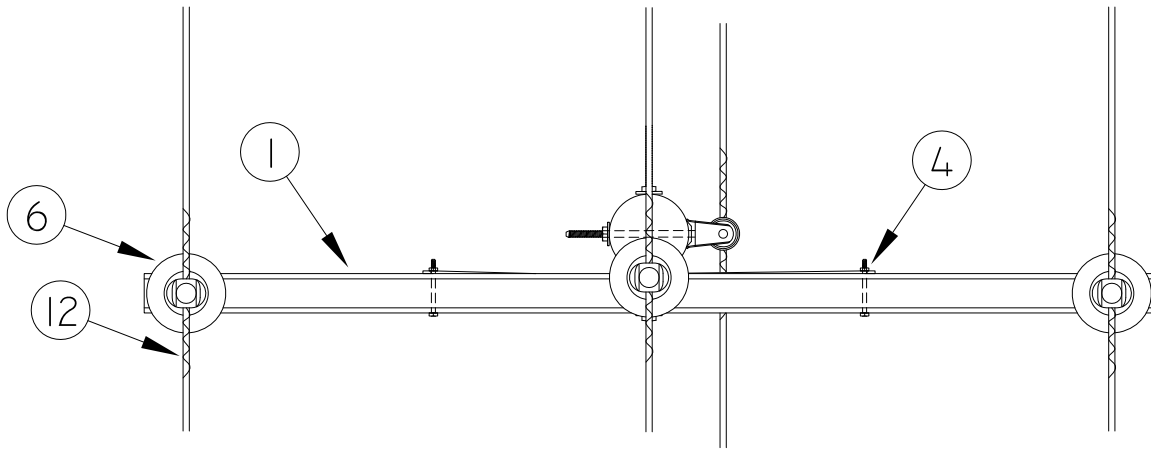
D-24



Material List

ITEM	CODE NO.	DESCRIPTION	QUANTITY
1	E0005-00	3-3/4" x 4-3/4" x 8' WOOD CROSSARM	1
2	E0102-00	BOLT, MACHINE, 5/8" X 14" GALVANIZED	1
3	E0006-00	BRACE 28" FLAT GALVANIZED	2
4	E0125-00	BOLT, CARRIAGE 3/8" X 5" GALVANIZED	2
5	E0135-00	SCREW, 1/2" X 4 1/2" LAG GALVANIZED	1
6	E0020-00	INSULATOR, "FOG BOWL"	3
7	E0026-00	PIN, CROSSARM, STEEL	2
8	E0025-00	PIN, POLE TOP 18" STEEL GALVANIZED	1
9	E0101-00	BOLT, MACHINE, 5/8" X 12" GALVANIIZED	3
10	E0010-00	CLEVIS, ONE POINT GALVANIZED	1
11	E0022-00	INSULATOR, 3" SPOOL	1
12	E0234-00	CABLE, #4 SOL ALUMINUM TIE	As Req'd
13	E0138-00	WASHER, SQUARE, 2 1/4" GALVANIZED	5
14	E0139-00	WASHER LOCK, 5/8" DOUBLE COIL SPRING COMPRESSED	4

 BROWNSVILLE PUBLIC UTILITIES BOARD	12.5kV SINGLE CIRCUIT TANGENT AND SMALL ANGLE POLE TOP SINGLE CROSSARM LIGHT DUTY (UP TO 1/0 AAAC) (NEUTRAL ON POLE)	DEVELOPED BY:	STANDARDS COMMITTEE	
		APPROVED:	Sep 2020	
		DRAWING NUMBER	D-24A	



12.5KV SINGLE CIRCUIT
TANGENT AND SMALL ANGLE
POLE TOP SINGLE CROSSARM
LIGHT DUTY (UP TO 1/0 AAAC)
(NEUTRAL ON POLE)

DEVELOPED BY:

STANDARDS
COMMITTEE

APPROVED:

SEP 2020


DRAWING
NUMBER


D-24A

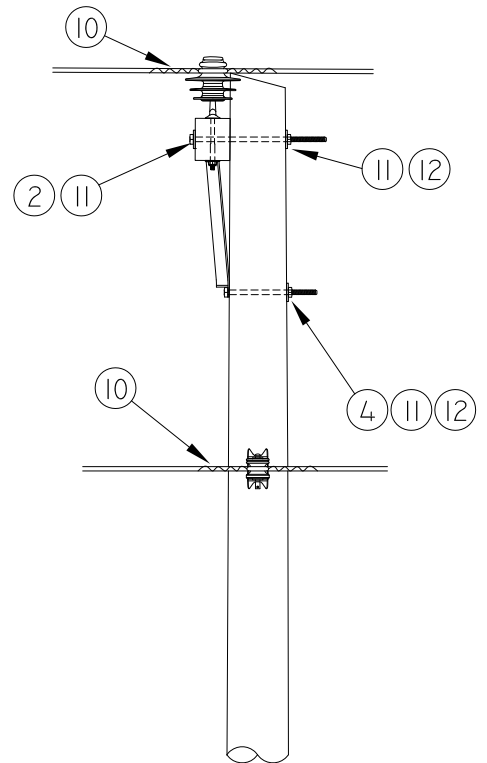
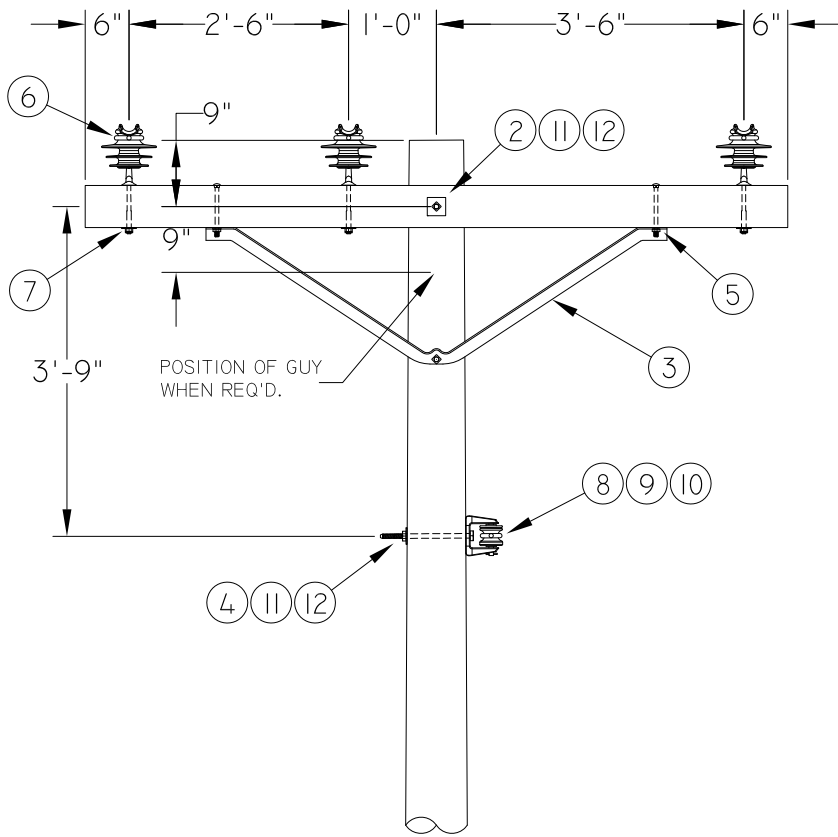
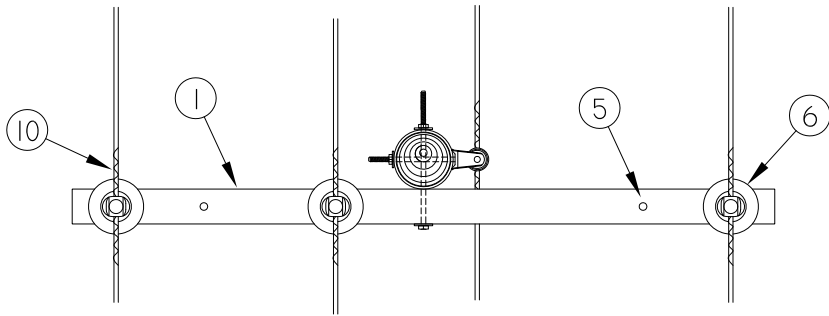


Material List

ITEM	CODE NO.	DESCRIPTION	QUANTITY
1	E1050-00	CROSSARM 8 FT WOODEN HEAVY DUTY D.F.	1
2	E0104-00	BOLT, MACHINE 5/8" X 18" GALVANIZED	1
3	E1024-00	BRACE CROSSARM ANGLE	1
4	E0101-00	BOLT, MACHINE 5/8" X 12" GALVANIZED	2
5	E0128-00	BOLT CARRIAGE 1/2 - 13" X 7" GALVANIZED	2
6	E0020-00	INSULATOR, "FOG BOWL"	3
7	E0026-00	PIN, CROSSARM INSULATOR	3
8	E0010-00	CLEVIS, ONE POINT GALVANIZED	1
9	E0022-00	INSULATOR, 3" SPOOL	1
10	E0234-00	CABLE, #4 SOL ALUM TIE	As Req'd
11	E0138-00	WASHER 5/8" SQUARE 2 1/4" GALVANIZED	4
12	E0139-00	WASHER LOCK, 5/8" DOUBLE COIL SPRING COMPRESSED	3

 <p>BROWNSVILLE PUBLIC UTILITIES BOARD</p>	<p>12.5KV SINGLE CIRCUIT TANGENT STRUCTURE HEAVY DUTY CROSSARM ASSEMBLY (NEUTRAL ON POLE)</p>	DEVELOPED BY:	STANDARDS COMMITTEE
		APPROVED:	SEP 2020
		DRAWING NUMBER	D-25





**12.5 KV SINGLE CIRCUIT
TANGENT STRUCTURE
HEAVY DUTY CROSSARM ASSEMBLY
(NEUTRAL ON POLE)**

DEVELOPED BY:

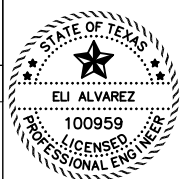
STANDARDS
COMMITTEE

APPROVED:

SEP 2020

DRAWING
NUMBER

D-25



Material List

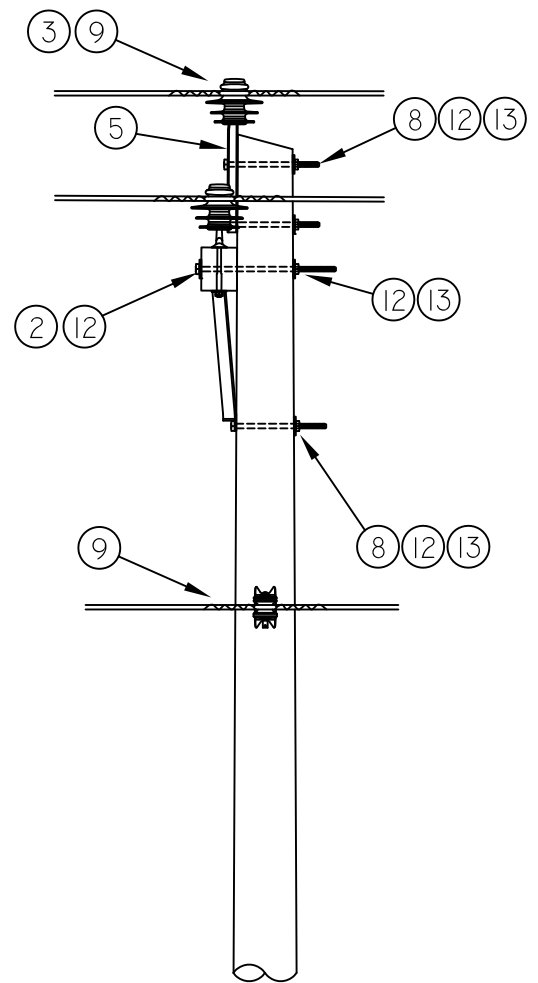
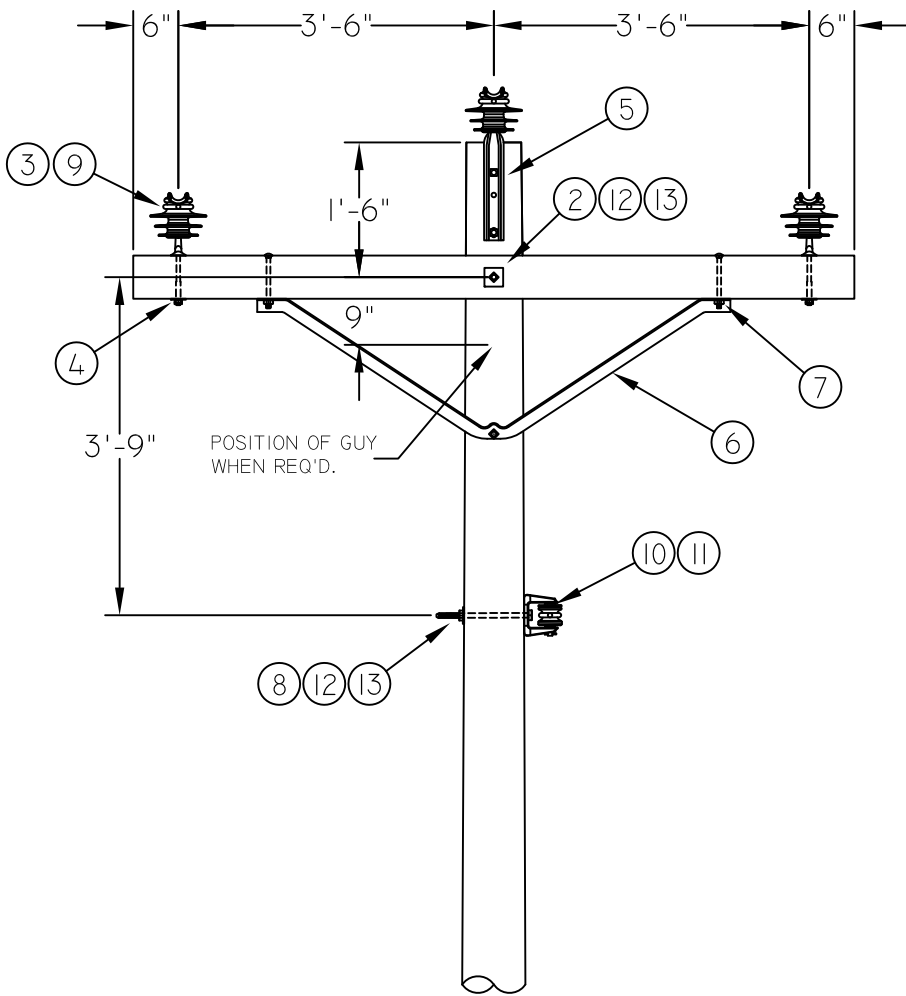
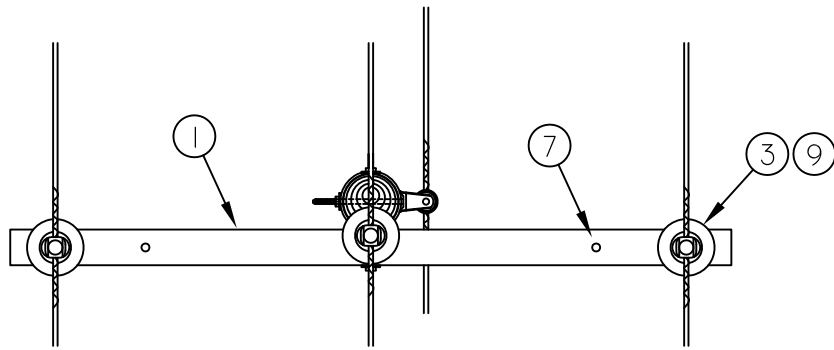
ITEM	CODE NO.	DESCRIPTION	QUANTITY
1	E1050-00	CROSSARM 8' FT WOODEN HEAVY DUTY D.F.	1
2	E0104-00	BOLT, MACHINE 5/8" X 18" GALVANIZED	1
3	E0020-00	INSULATOR, "FOG BOWL"	3
4	E0026-00	PIN, CROSSARM INSULATOR	2
5	E0025-00	PIN, POLE TOP 18" STEEL GALVANIZED	1
6	E1024-00	BRACE CROSSARM ANGLE	1
7	E0128-00	BOLT CARRIAGE 1/2-13" X 7" GALVANIZED W/NUTS	2
8	E0101-00	BOLT, MACHINE 5/8" X 12" GALVANIZED	4
9	E0234-00	CABLE, #4 SOL ALUMINUM TIE	As Req'd.
10	E0010-00	CLEVIS, ONE POINT GALVANIZED	1
11	E0022-00	INSULATOR, 3" SPOOL	1
12	E0138-00	WASHER 5/8" SQUARE 2 1/4" GALVANIZED	6
13	E0139-00	WASHER LOCK, 5/8" DOUBLE COIL SPRING COMPRESSED	5



**12.5KV SINGLE CIRCUIT
TANGENT STRUCTURE
HEAVY DUTY CROSSARM ASSEMBLY
(NEUTRAL ON POLE)**

DEVELOPED BY:	STANDARDS COMMITTEE
APPROVED:	SEP 2020
DRAWING NUMBER	D-25A





12.5 KV SINGLE CIRCUIT
TANGENT STRUCTURE
HEAVY DUTY CROSSARM ASSEMBLY
(NEUTRAL ON POLE)

DEVELOPED BY:

STANDARDS
COMMITTEE

APPROVED:

SEP 2020

DRAWING
NUMBER

D-25A



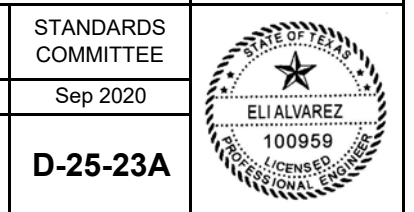
Material List

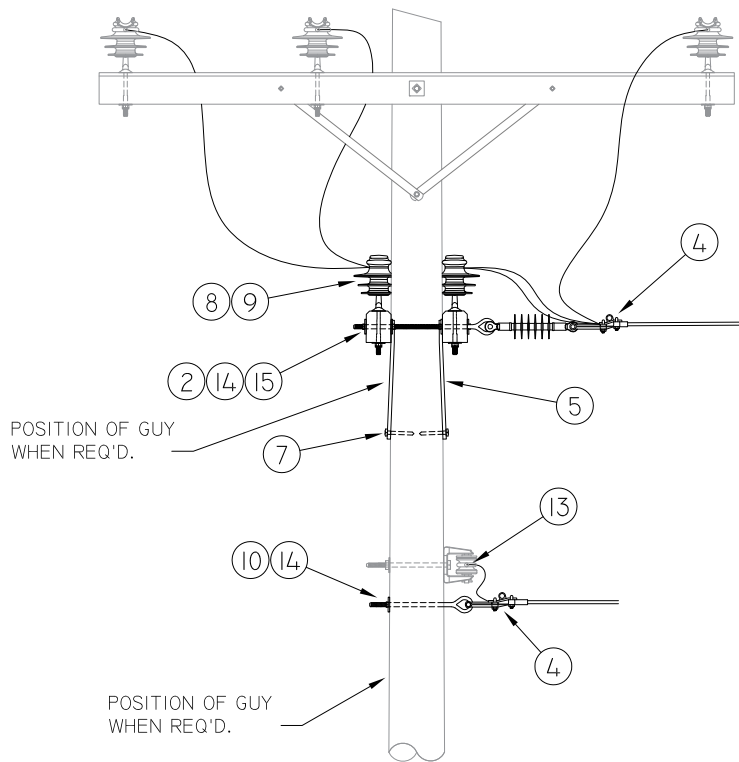
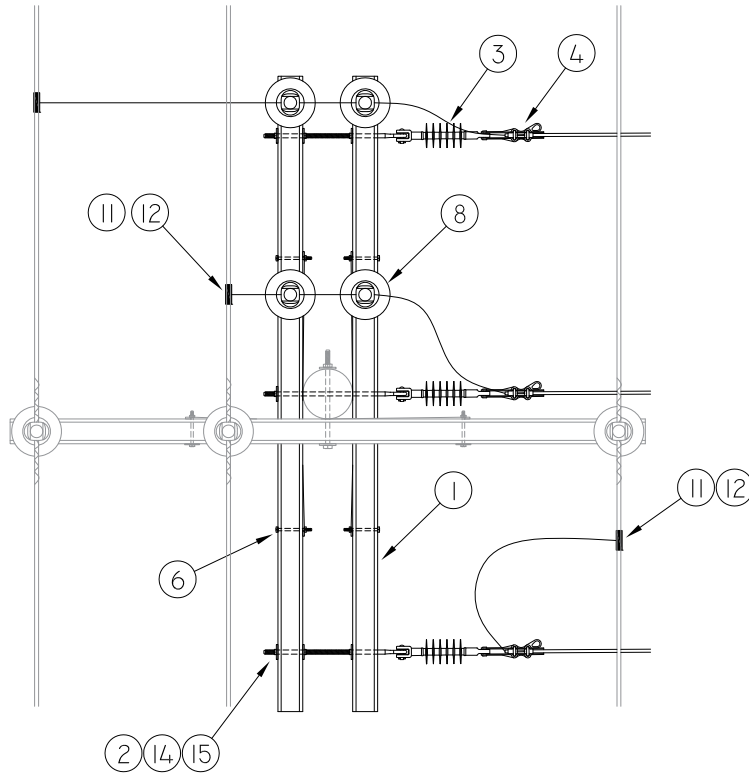
ITEM	CODE NO.	DESCRIPTION	QUANTITY
1	E0005-00	3-3/4" X 4-3/4" X 8' STANDARD CROSSARM	2
2	E0122-00	BOLT, D.A.E. 5/8" X 18" GALVANIZED	3
3	E0021-00	INSULATOR, 28 KV SUSPENSION	3
4	E1037-00	CLAMP 1/0-4/0 DEADEND	4
5	E0006-00	CROSSARM STEEL FLAT BRACE	4
6	E0125-00	BOLT, CARRIAGE 3/8" X 5" GALVANIZED	4
7	E0135-00	SCREW 1/2" X 4 1/2" LAG GALVANIZED	2
8	E0020-00	INSULATOR, "FOG BOWL"	4
9	E0026-00	PIN, CROSSARM INSULATOR	4
10	E0110-00	BOLT, O.E. 5/8" X 12" GALVANIZED STEEL	1
11	E-	STIRRUP	3
12	E0008-00	CLAMP, HOTLINE COPPER	3
13	E-	CONNECTORS	1
14	E0138-00	WASHER 5/8" SQUARE 2 1/4" GALVANIZED	8
15	E0139-00	WASHER LOCK, 5/8" DOUBLE COIL SPRING COMPRESSED	2
		STIRRUPS	
	E0727-00	STIRRUP 1/0 STR W/#2 BAIL	
	E0728-00	STIRRUP 4/0 STR W/#2 BAIL	
	E0730-00	STIRRUP 477 MCM W/1/0 BAIL	
	E0731-00	STIRRUP 795 MCM W/2/0 BAIL	
		CONNECTORS (NEWER CONSTRUCTIONS)	
	E0716-00	CONNECTOR, 477 MCM - 1/0 STR AL CU TAP	
	E0718-00	CONNECTOR, 477 MCM - 4/0 STR AL CU TAP	



**12.5KV 3 PHASE AND NEUTRAL
TAP DOUBLE WOODEN CROSSARM
(NEUTRAL ON POLE)**

DEVELOPED BY:	STANDARDS COMMITTEE
APPROVED:	Sep 2020
DRAWING NUMBER	D-25-23A





**LIGHT DUTY
12.5 KV 3 PHASE AND NEUTRAL
TAP DOUBLE WOODEN CROSSARM
(NEUTRAL ON POLE)**

DEVELOPED BY:

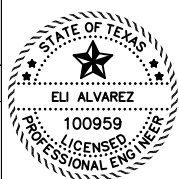
STANDARDS
COMMITTEE

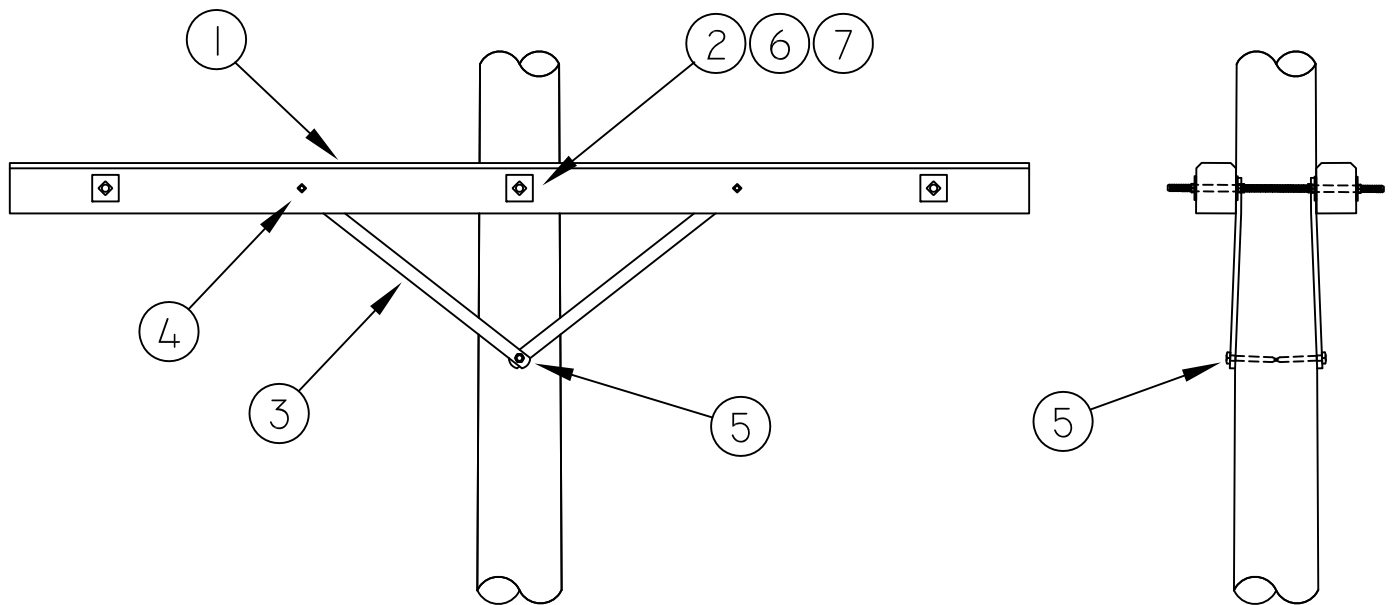
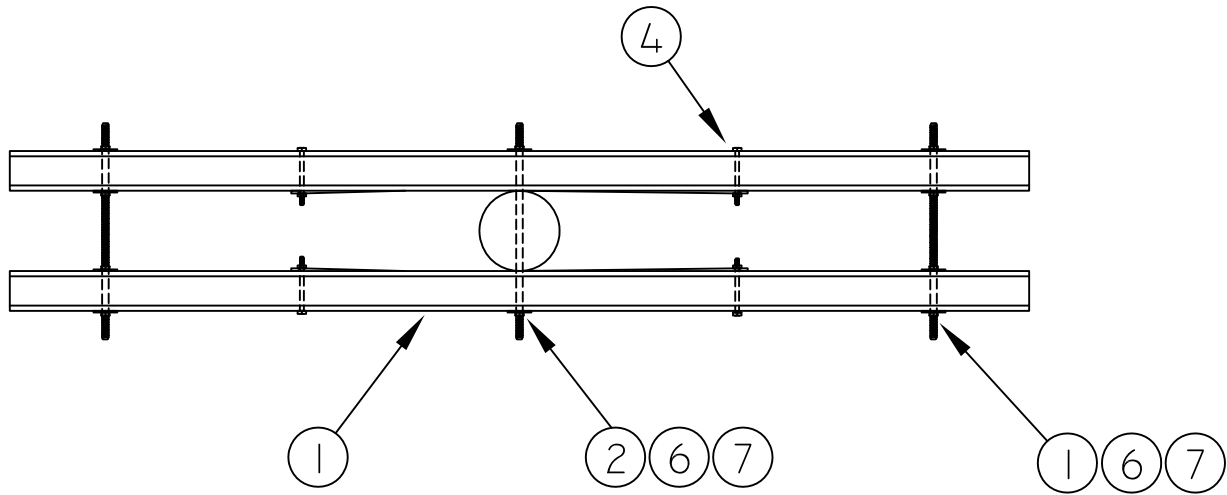
APPROVED:

SEP 2020

DRAWING
NUMBER

D-25-23A





**DOUBLE CROSSARM
FOR LIGHT DUTY**

DEVELOPED BY:

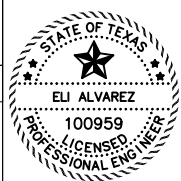
STANDARDS
COMMITTEE

APPROVED:

SEP 2020

DRAWING
NUMBER

D-26



Material List

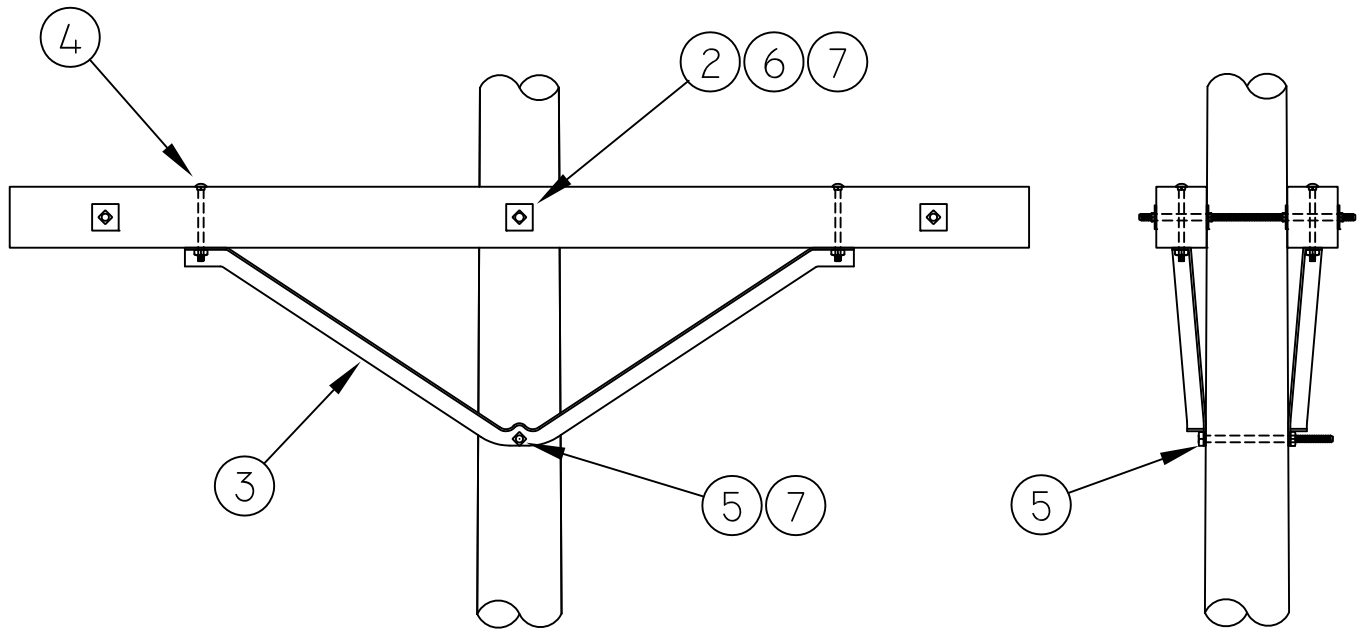
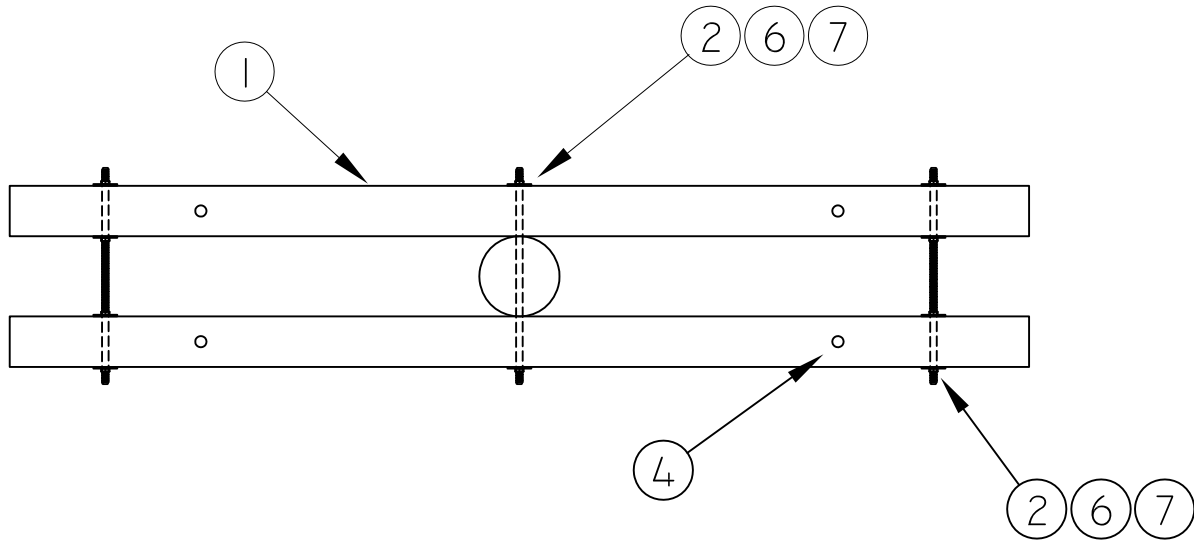
ITEM	CODE NO.	DESCRIPTION	QUANTITY
1	E1050-00	CROSSARM 8 FT WOODEN HEAVY DUTY D.F.	2
2	E0118-00	BOLT, D.A. 5/8 X 20 GALVANIZED	3
3	E1024-00	BRACE CROSSARM ANGLE	2
4	E0128-00	BOLT, CARRIAGE 1/2-13" X 7" GALVANIZED W/NUTS	4
5	E0101-00	BOLT, MACHINE 5/8" X 12" GALVANIZED	1
6	E0138-00	WASHER 5/8" SQUARE 2 1/4" GALVANIZED	10
7	E0139-00	WASHER LOCK, 5/8" DOUBLE COIL SPRING COMPRESSED	6



**DOUBLE CROSSARM
FOR HEAVY DUTY**

DEVELOPED BY:	STANDARDS COMMITTEE
APPROVED:	SEP 2020
DRAWING NUMBER	D-26A





**DOUBLE CROSSARM
FOR HEAVY DUTY**

DEVELOPED BY:

STANDARDS
COMMITTEE

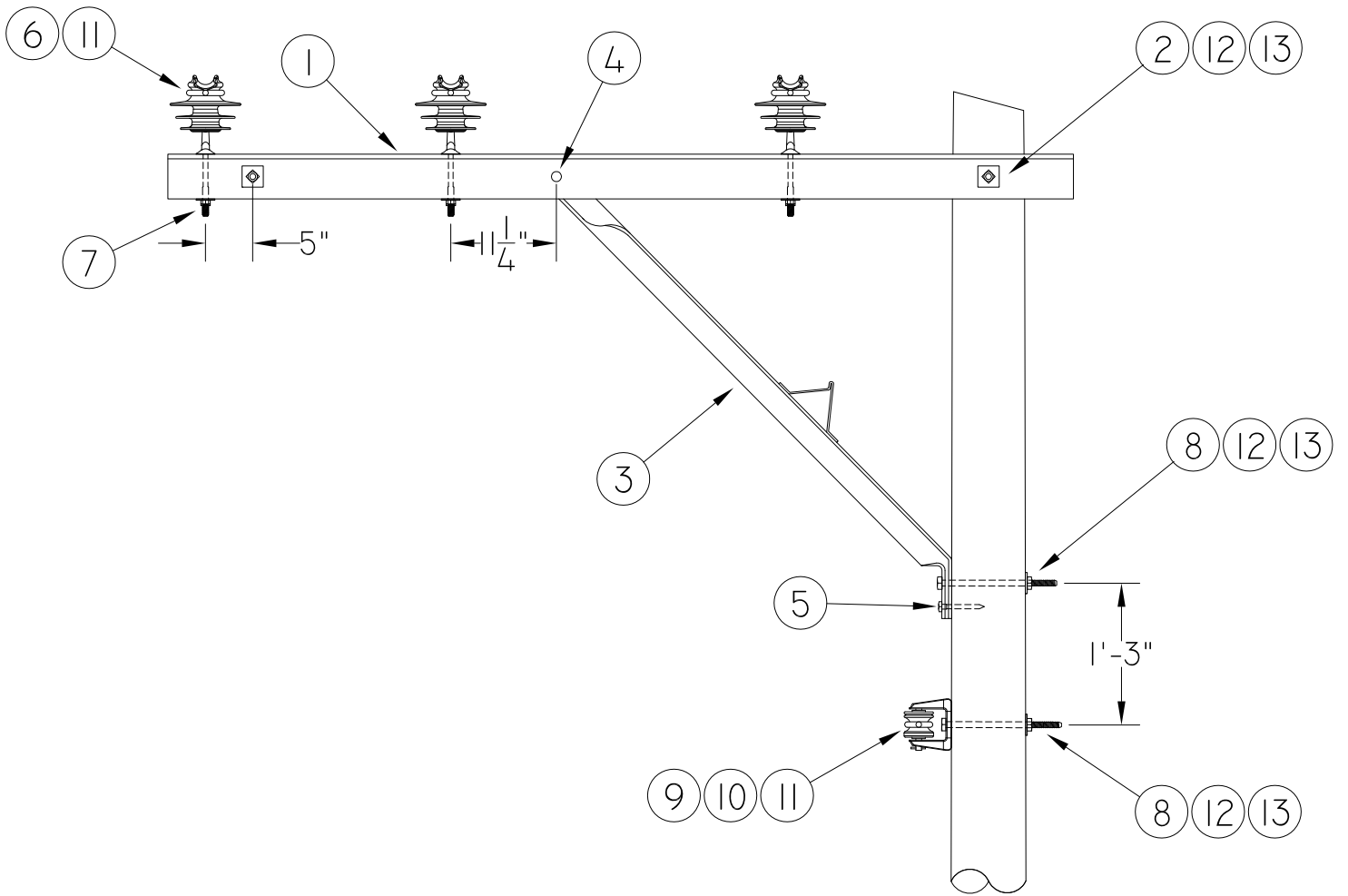
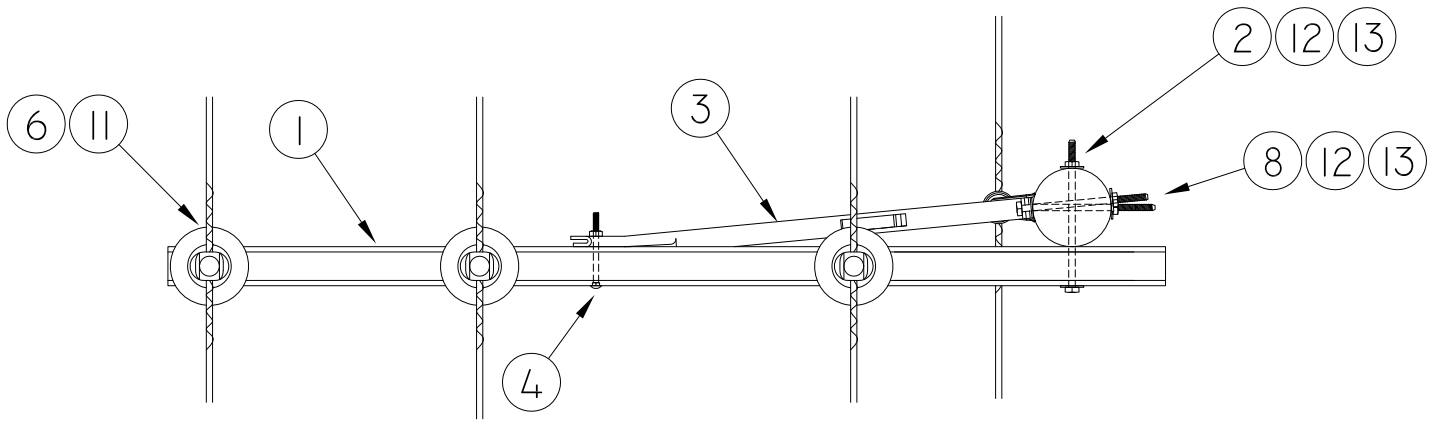
APPROVED:

SEP 2020

DRAWING
NUMBER

D-26A





LIGHT DUTY
SINGLE ALLEY ARM

DEVELOPED BY:

STANDARDS
COMMITTEE

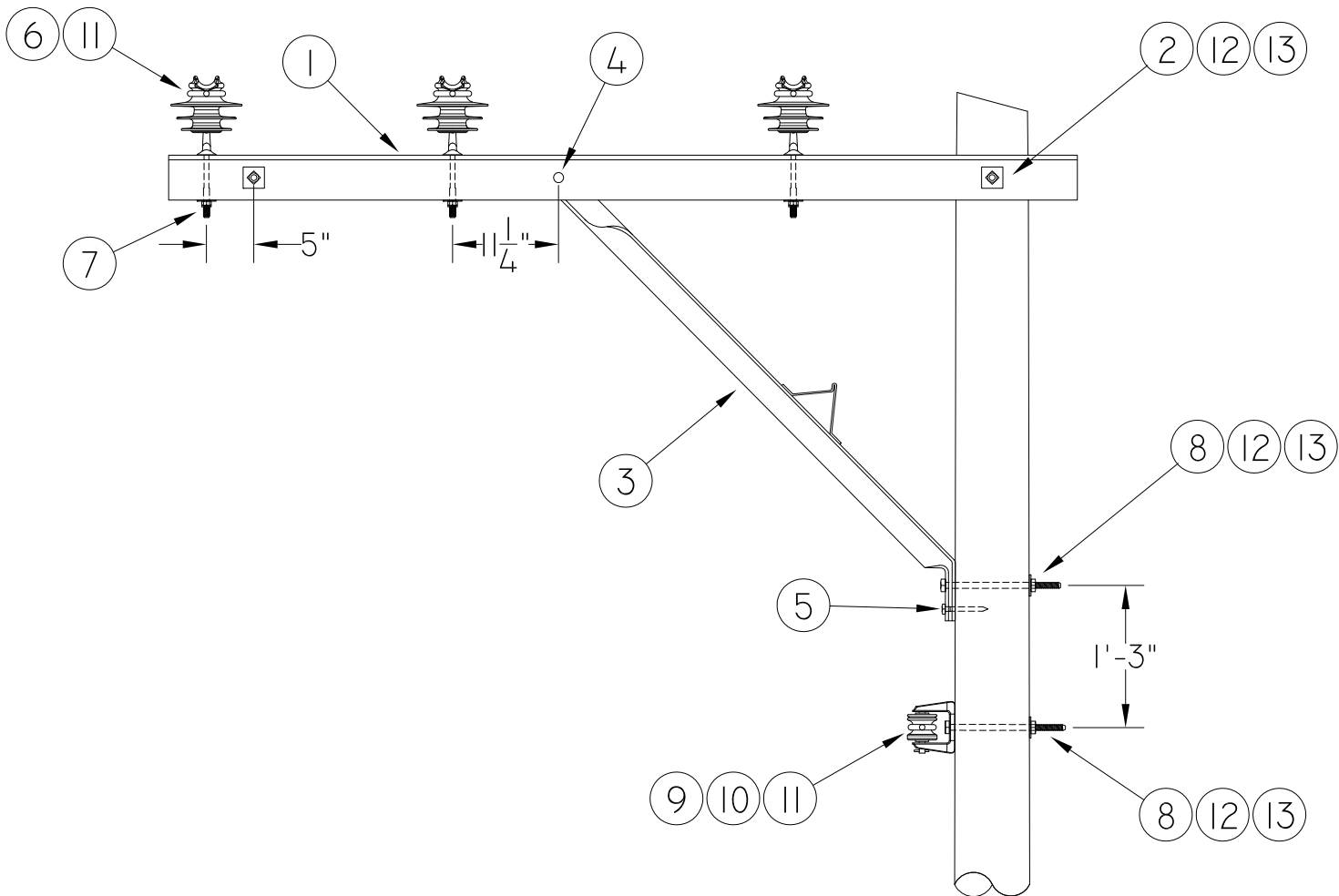
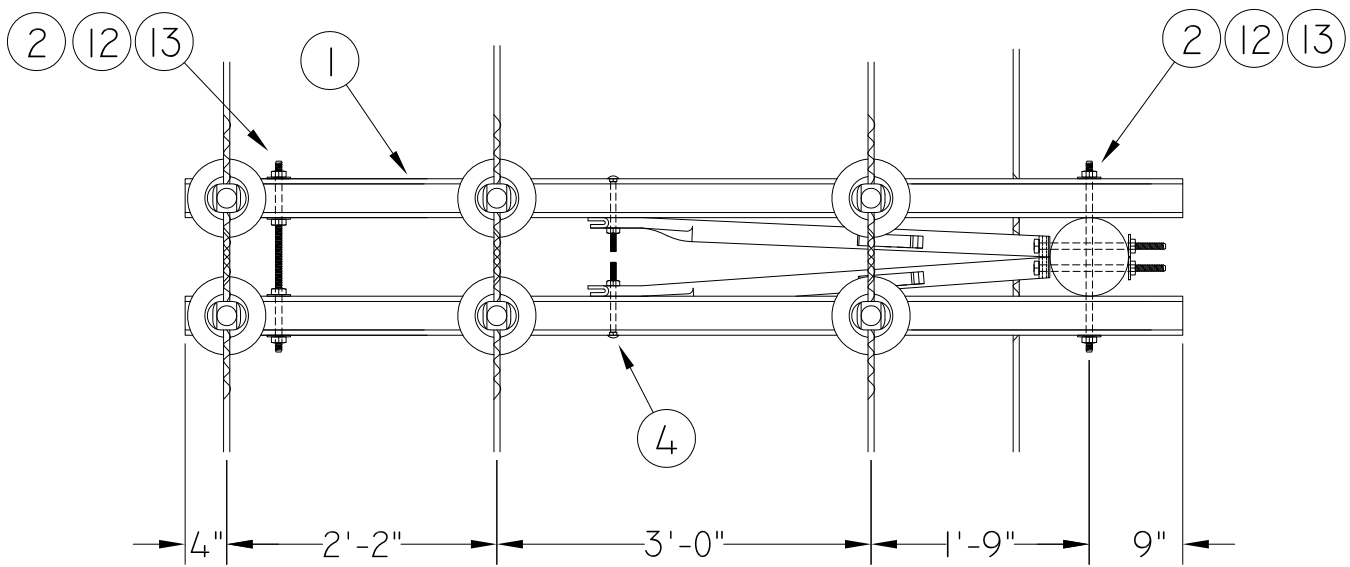
APPROVED:

SEP 2020

DRAWING
NUMBER

D-27A





**LIGHT DUTY
DOUBLE ALLEY ARM**

DEVELOPED BY:

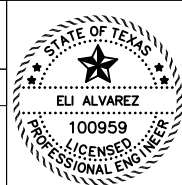
STANDARDS
COMMITTEE

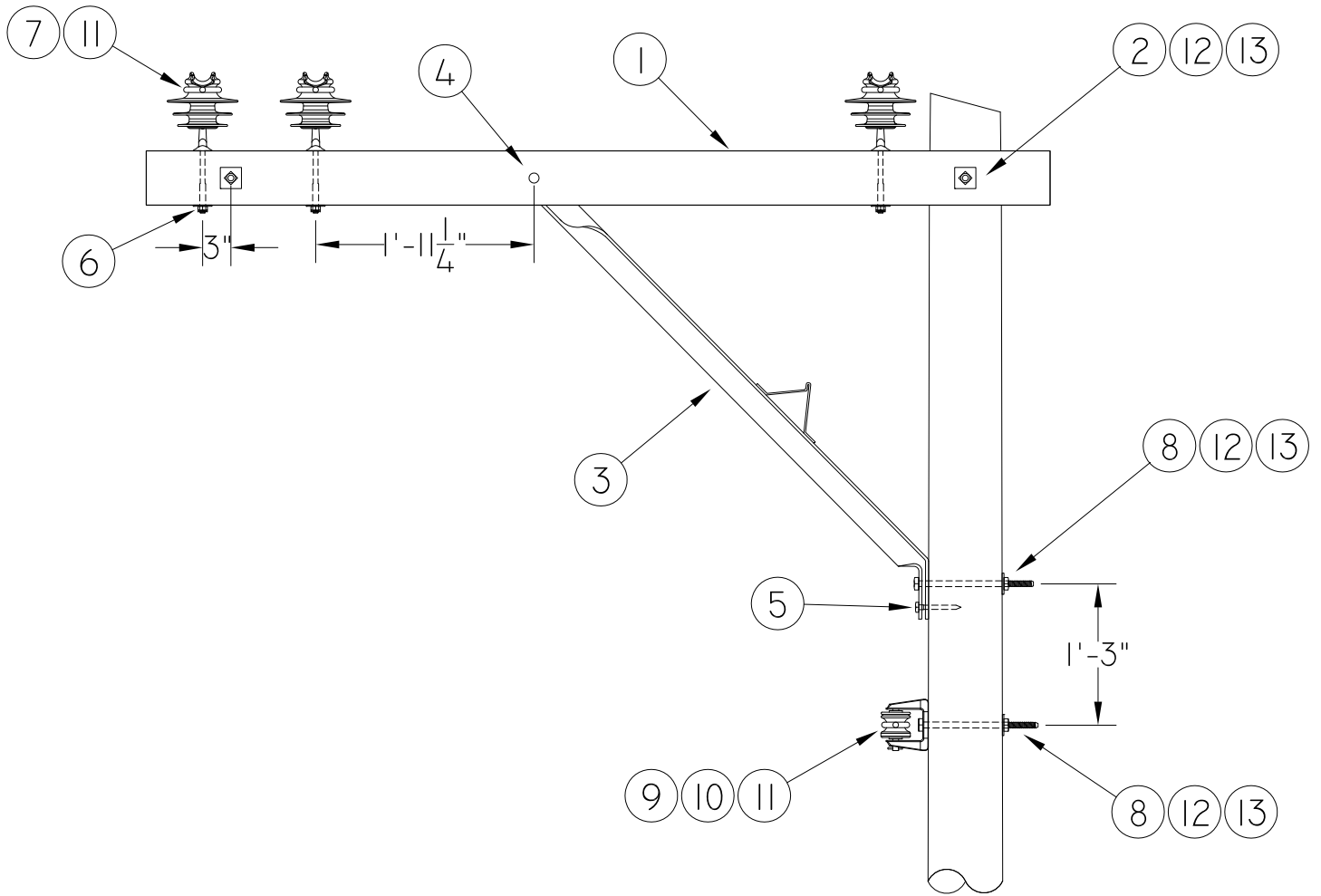
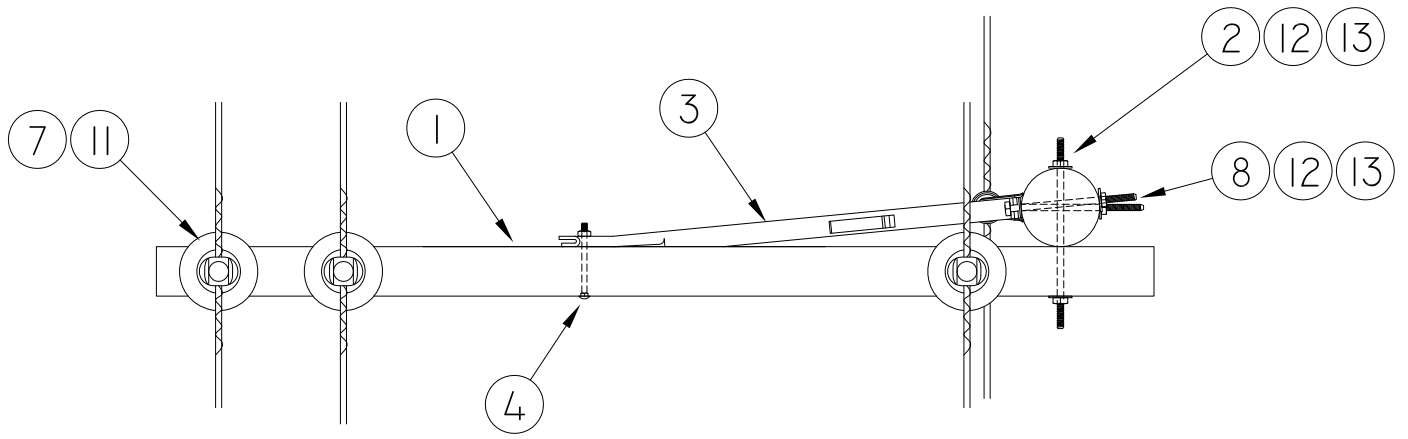
APPROVED:

SEP 2020

DRAWING
NUMBER

D-27B





**HEAVY DUTY
SINGLE ALLEY ARM**

DEVELOPED BY:

STANDARDS
COMMITTEE

APPROVED:

SEP 2020

DRAWING
NUMBER

D-27C



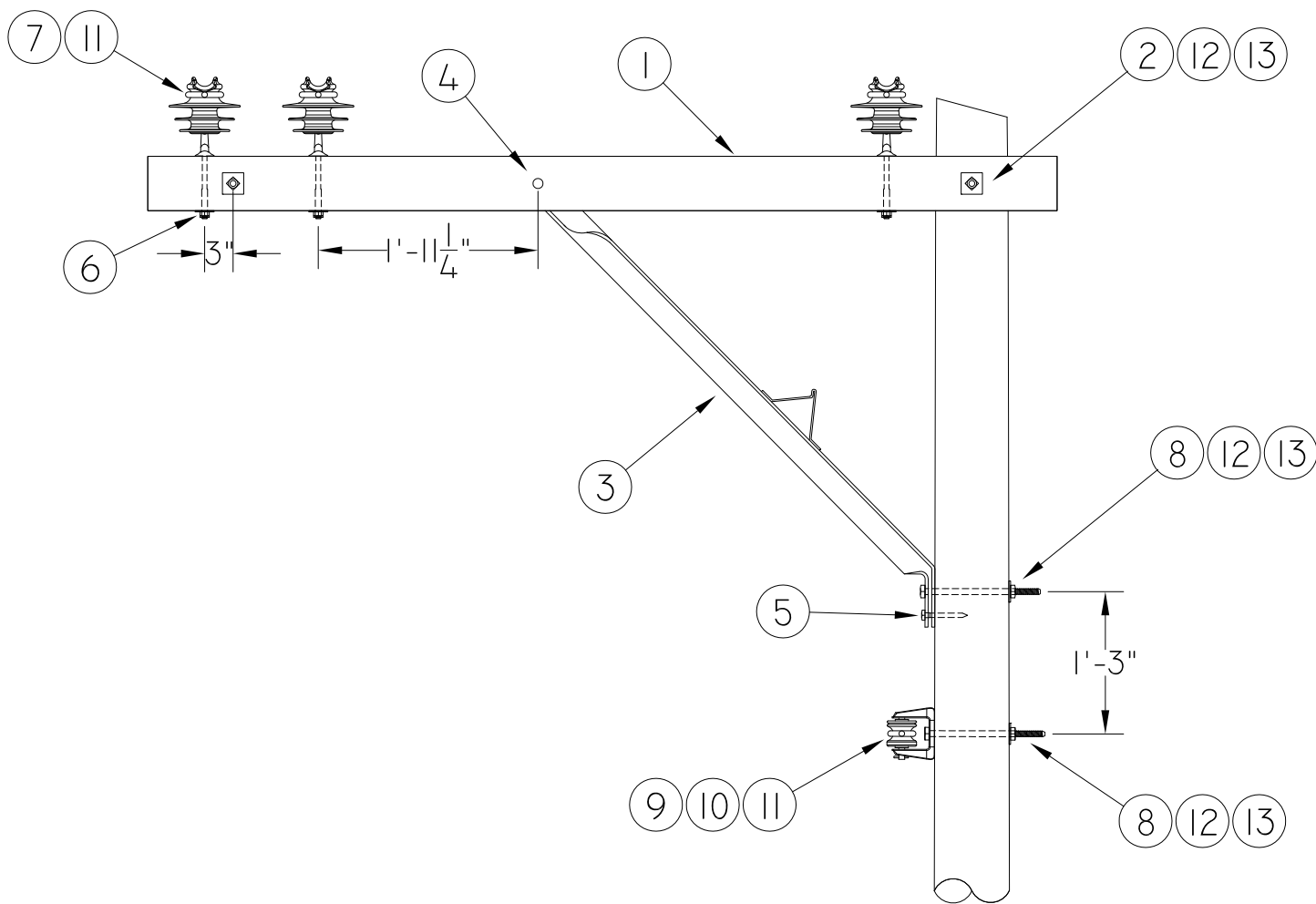
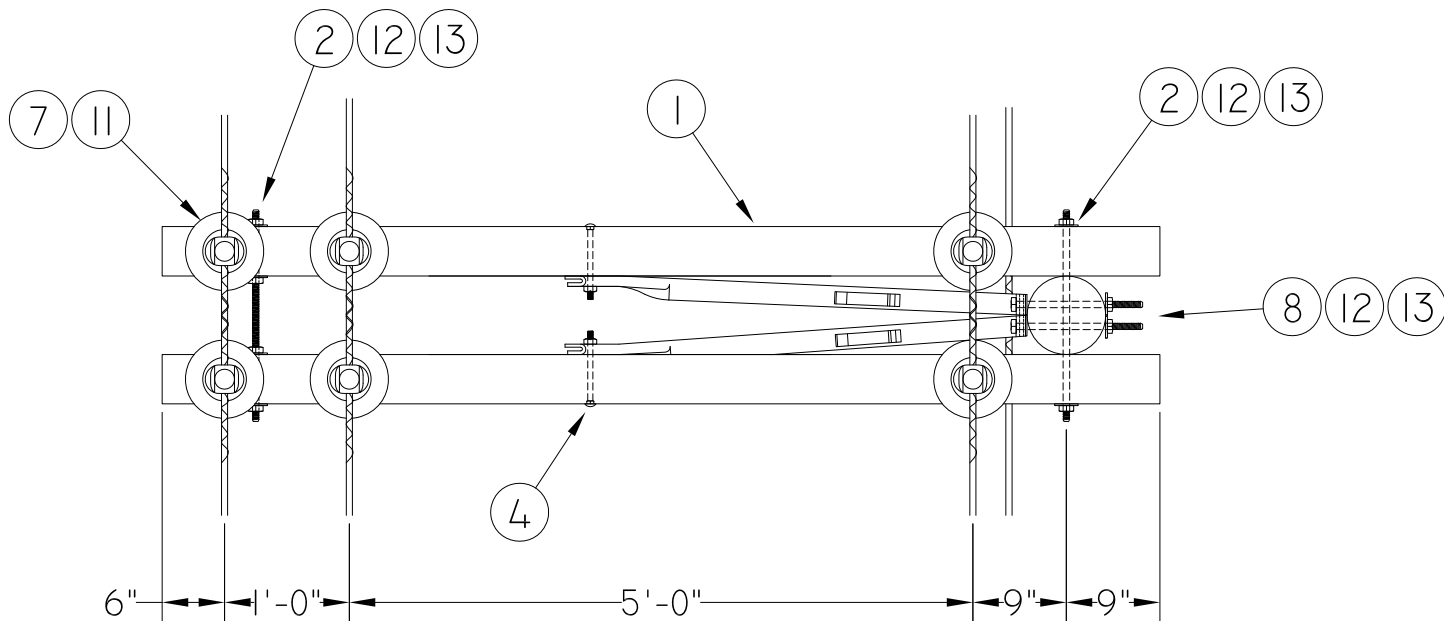
Material List

ITEM	CODE NO.	DESCRIPTION	QUANTITY
1	E1050-00	CROSSARM 8' FT WOODEN HEAVY DUTY D.F.	2
2	E0118-00	BOLT, D. A. 5/8" X 20" GALVANIZED	2
3	E1026-00	BRACE ALLEY ARM	2
4	E0128-00	BOLT, CARRIAGE 1/2-13" X 7" GALVANIZED W/NUTS	2
5	E0135-00	SCREW 1/2" X 4 1/2" LAG GALVANIZED	2
6	E0026-00	PIN, CROSSARM INSULATOR	6
7	E0020-00	INSULATOR, "FOG BOWL"	6
8	E0101-00	BOLT, MACHINE 5/8" X 12" GALVANIZED	3
9	E0010-00	CLEVIS, ONE POINT GALVANIZED	1
10	E0022-00	INSULATOR, 3" SPOOL	1
11	E0234-00	CABLE, #4 SOL ALUMINUM TIE	As Req'd.
12	E0138-00	WASHER 5/8" SQUARE 2 1/4" GALVANIZED	9
13	E0139-00	WASHER LOCK, 5/8" DOUBLE COIL SPRING COMPRESSED	6
	Notes:	1. Where these assemblies are required, span shall be shortened, as at crossarms.	
		2. Class of pole shall be one greater than tangent class.	



**HEAVY DUTY
DOUBLE ALLEY ARM**

DEVELOPED BY:	STANDARDS COMMITTEE	
APPROVED:	SEP 2020	
DRAWING NUMBER	D-27D	



HEAVY DUTY DOUBLE ALLEY ARM

DEVELOPED BY:

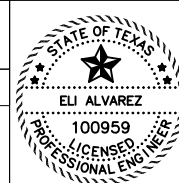
STANDARDS
COMMITTEE

APPROVED:

SEP 2020

DRAWING
NUMBER

D-27D



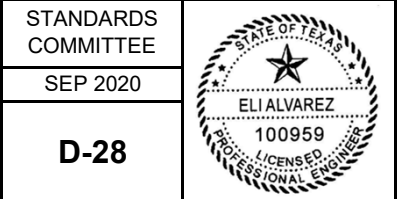
Material List

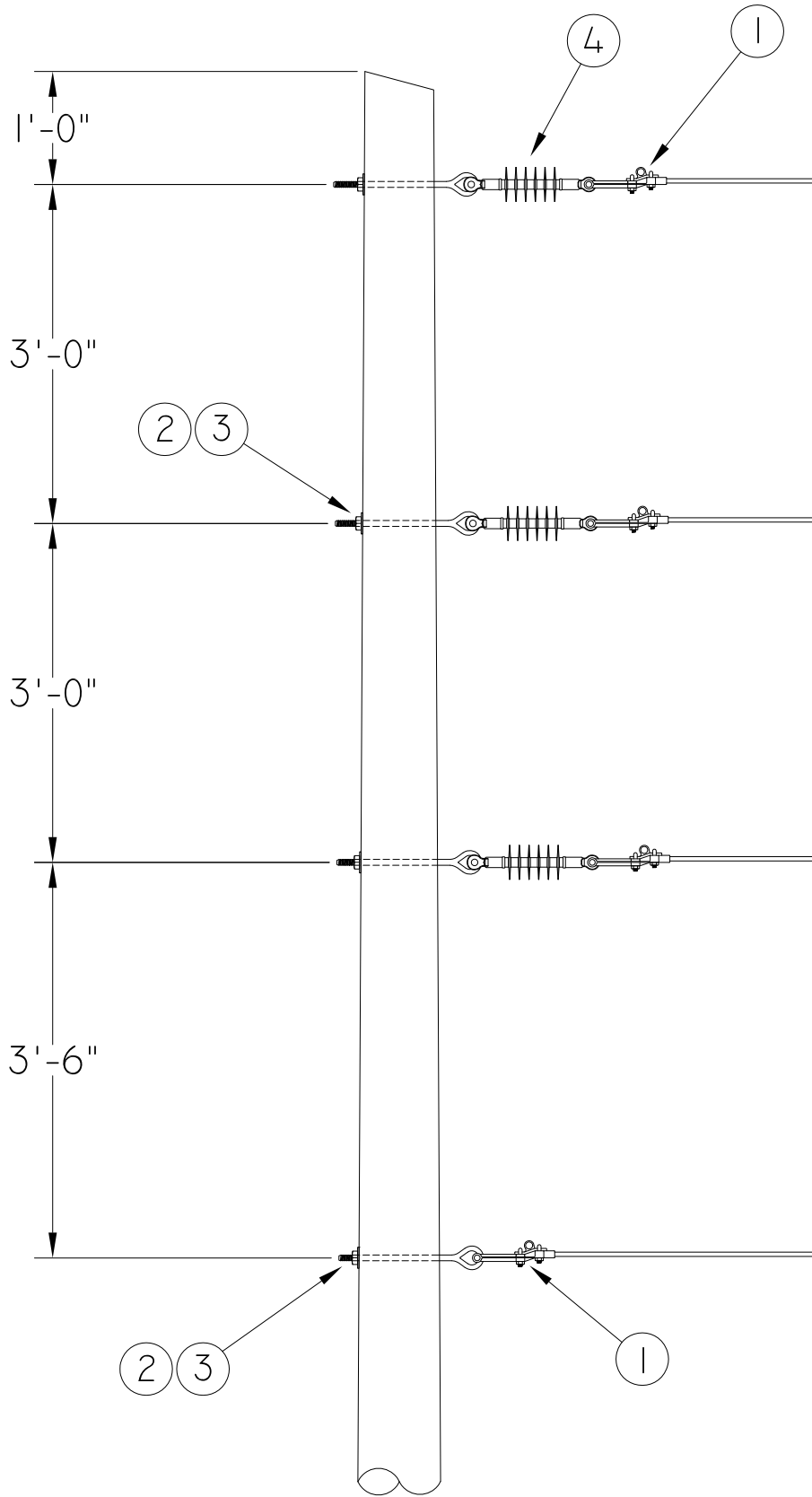
ITEM	CODE NO.	DESCRIPTION	QUANTITY
1	E-	DEADEND CLAMP	4
2	E0138-00	WASHER 5/8" SQUARE 2 1/4" GALVANIZED	4
3	E0110-00	BOLT, OVAL EYE 5/8 X 12 GALVANIZED STEEL	4
4	E0021-00	INSULATOR, 28 KV SUSPENSION	3
		DEADEND CLAMPS	
	E1037-00	CLAMP 1/0-4/0 DEADEND	
	E1038-00	CLAMP 477 MCM DEADEND	
	E1039-00	CLAMP 795 MCM DEADEND	
		<i>Notes: 1. Make copper to aluminum connection with copper ground wire oriented below aluminum neutral.</i>	
		<i>2. Substitute straight thimble eye bolt for overhead guy installation.</i>	
		<i>3. Install anchor assembly as required. (Detail No. D-3 or D-4)</i>	



**12.5KV SINGLE CIRCUIT
 DEADEND
 VERTICAL STRAIN ASSEMBLY**

DEVELOPED BY:	STANDARDS COMMITTEE
APPROVED:	SEP 2020
DRAWING NUMBER	D-28





12.5 KV SINGLE CIRCUIT
DEADEND
VERTICAL STRAIN ASSEMBLY

DEVELOPED BY:

STANDARDS
COMMITTEE

APPROVED:

SEP 2020

DRAWING
NUMBER

D-28



Material List

ITEM	CODE NO.	DESCRIPTION	QUANTITY
1	E0021-00	INSULATOR, 28 KV SUSPENSION	3
2	E-	DEADEND CLAMP	4
3	E0101-00	BOLT, MACHINE 5/8 X 12 GALVANIZED	6
4	E0136-00	NUT 5/8" OVAL EYE GALVANIZED	4
5	E0001-00	ARM, 1-POSITION ALUMINUM	3
6	E0027-00	PIN, SHORT SHANK INSULATOR	3
7	E0020-00	INSULATOR, "FOG BOWL"	3
8	E0234-00	CABLE, #4 SOL ALUMINUM TIE	As Req'd.
9	E0138-00	WASHER 5/8" SQUARE 2 1/4" GALVANIZED	6
10	E0139-00	WASHER LOCK, 5/8" DOUBLE COIL SPRING COMPRESSED	6
DEADEND CLAMPS			
	E1037-00	CLAMP 1/0-4/0 DEADEND	
	E1038-00	CLAMP 477 MCM DEADEND	
	E1039-00	CLAMP 795 MCM DEADEND	
<p><i>Notes:</i> 1. Make copper to aluminum connection with copper ground wire oriented below aluminum neutral.</p> <p>2. Substitute straight thimbleye bolt for overhead guy installation.</p> <p>3. Install anchor assembly as required. (Detail No. D-3 or D-4)</p>			

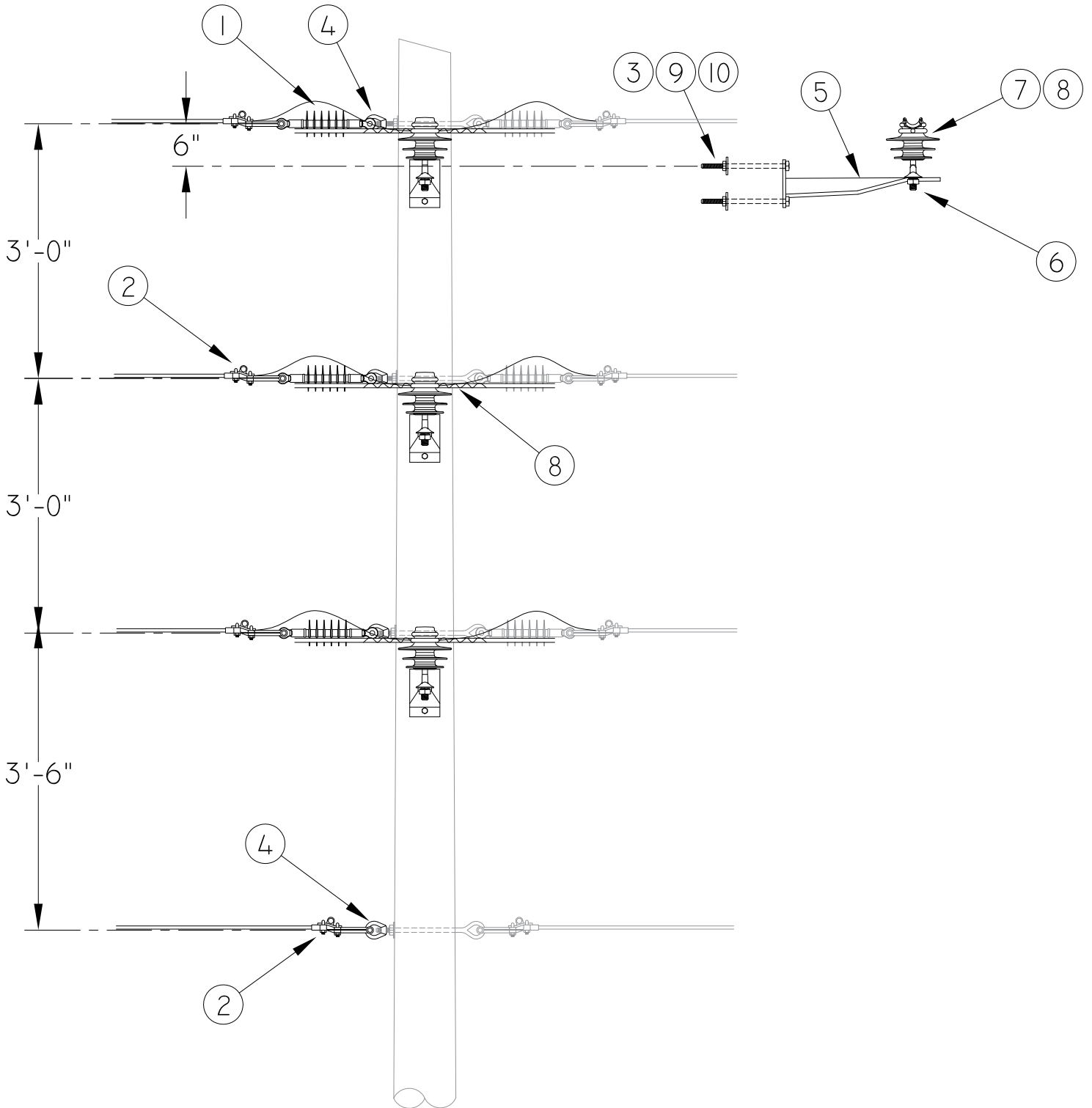


**12.5KV SINGLE CIRCUIT
DOUBLE DEADEND
WITH HORIZONTAL STRAIN**

DEVELOPED BY:	STANDARDS COMMITTEE
APPROVED:	SEP 2020
DRAWING NUMBER	D-28A

D-28A





12.5 KV SINGLE CIRCUIT
DOUBLE DEADEND
WITH HORIZONTAL STRAIN

DEVELOPED BY:

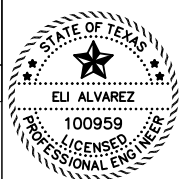
STANDARDS
COMMITTEE

APPROVED:

SEP 2020

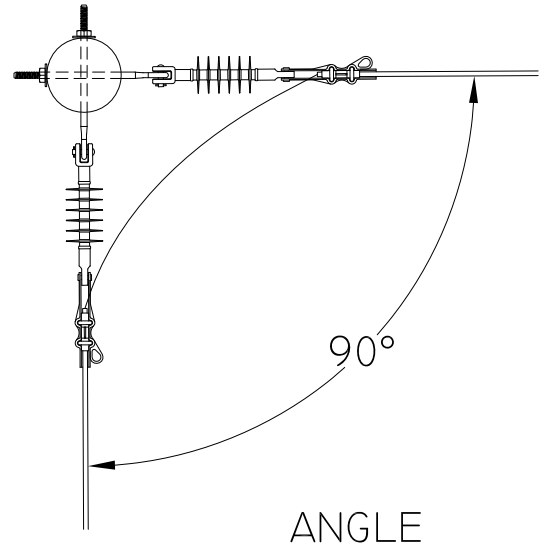
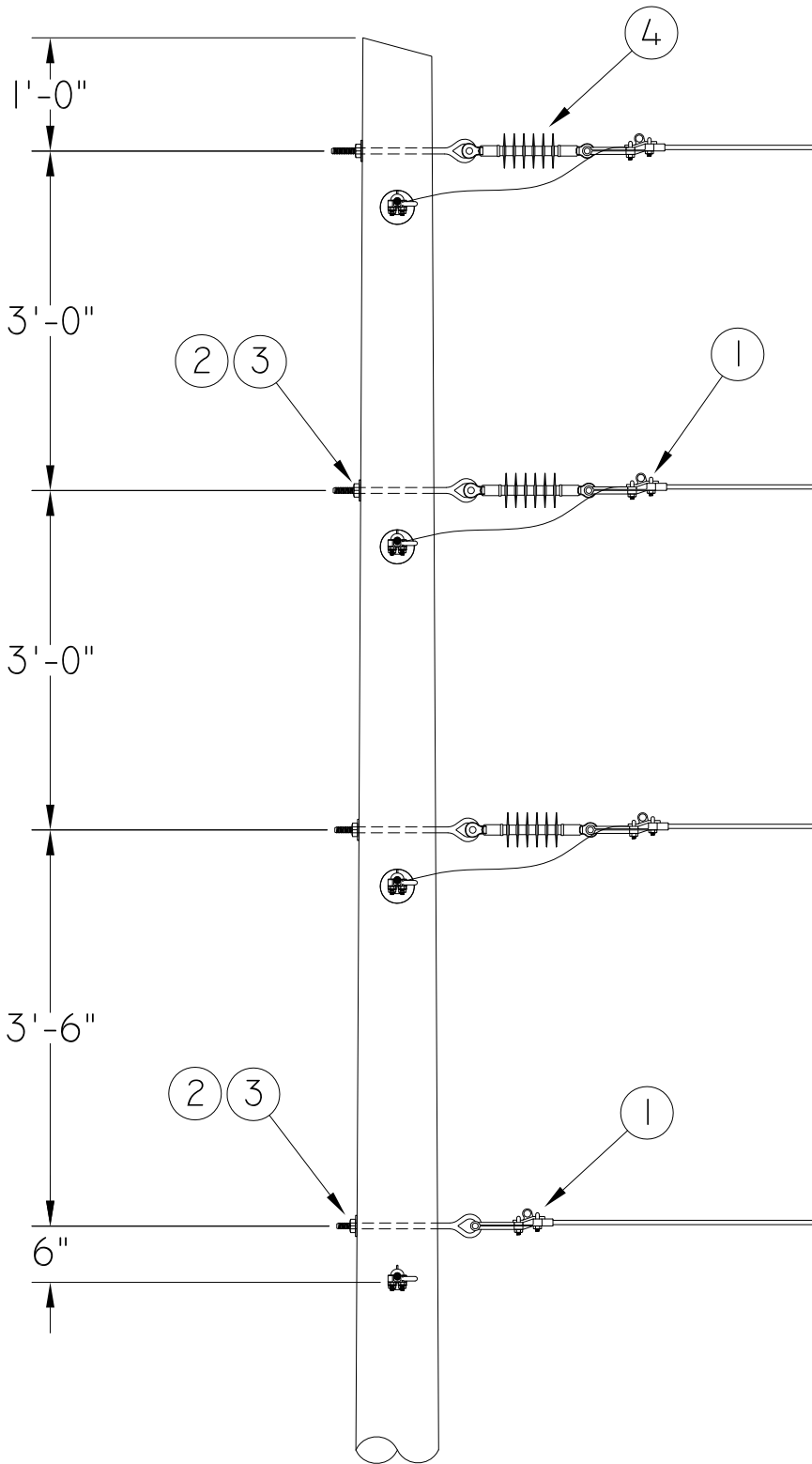
DRAWING
NUMBER

D-28A



Material List

ITEM	CODE NO.	DESCRIPTION	QUANTITY
1	E-	DEADEND CLAMP	8
2	E0138-00	WASHER 5/8" SQUARE 2 1/4" GALVANIZED	8
3	E0110-00	BOLT, OVAL EYE 5/8 X 12 GALVANIZED STEEL	8
4	E0021-00	INSULATOR, 28 KV SUSPENSION	6
		DEADEND CLAMPS	
	E1037-00	CLAMP 1/0-4/0 DEADEND	
	E1038-00	CLAMP 477 MCM DEADEND	
	E1039-00	CLAMP 795 MCM DEADEND	
	Notes:	1. Make copper to aluminum connection with copper ground wire oriented below aluminum neutral. 2. Substitute straight thimbleye bolt, 5/8" for overhead guy installation. 3. Install anchor assembly as required. (Detail No. D-3 or D-4)	



12.5 KV SINGLE CIRCUIT
CORNER DEADEND
VERTICAL STRAIN



DEVELOPED BY:

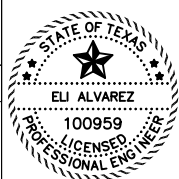
STANDARDS
COMMITTEE

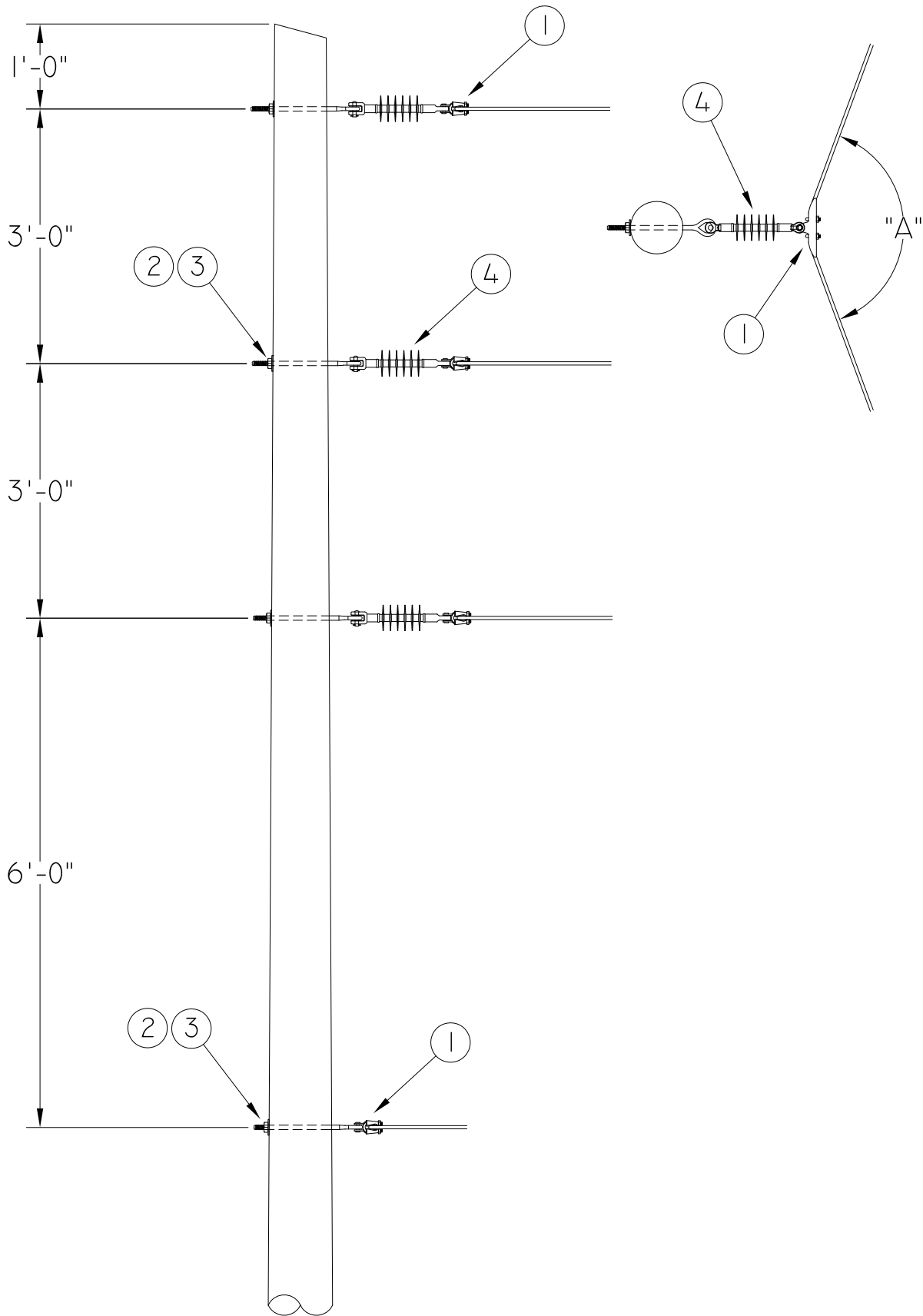
APPROVED:

SEP 2020

DRAWING
NUMBER

D-29





12.5 KV SINGLE CIRCUIT
 LARGE ANGLE
 VERTICAL SUSPENSION



DEVELOPED BY:

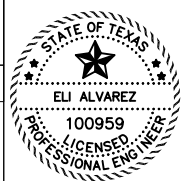
STANDARDS
 COMMITTEE

APPROVED:

SEP 2020



DRAWING
 NUMBER

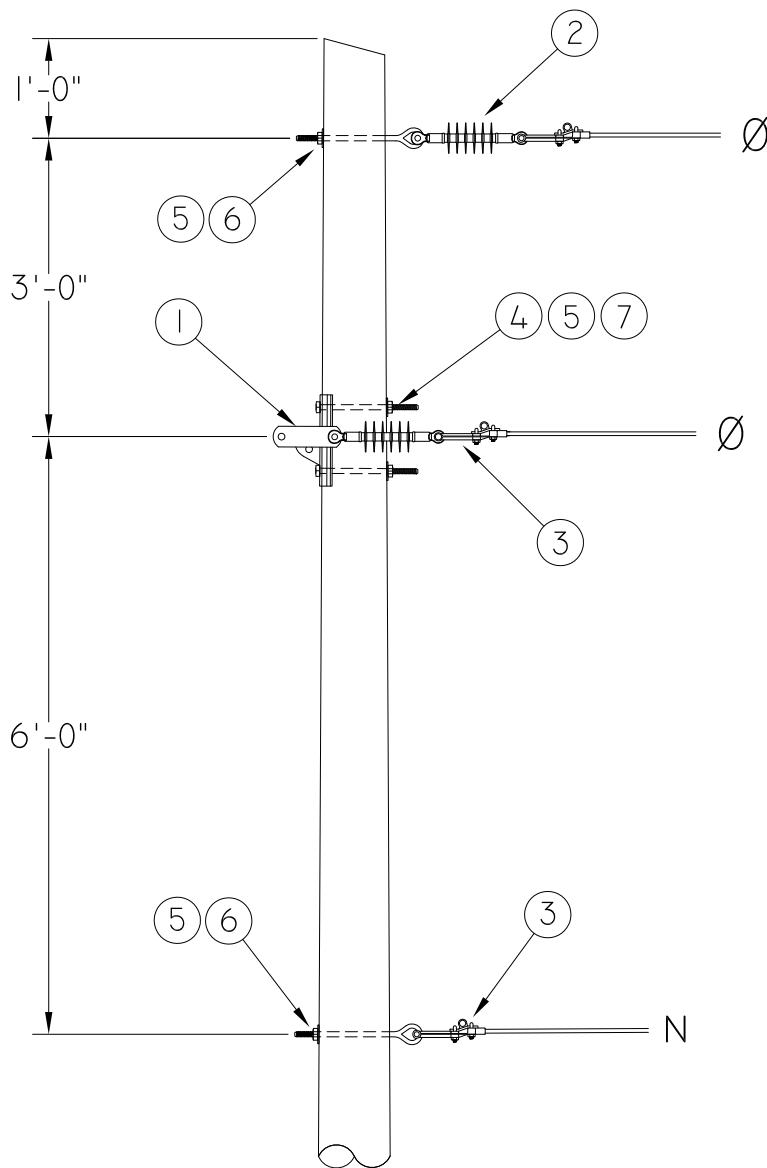
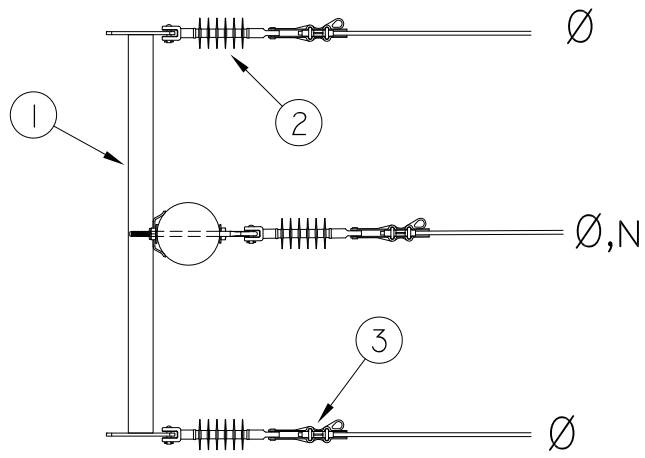
D-30



Material List

ITEM	CODE NO.	DESCRIPTION	QUANTITY
1	E-	DEADEND ARM	1
2	E0021-00	INSULATOR, 28 KV SUSPENSION	3
3	E-	DEADEND CLAMP	4
4	E0101-00	BOLT, MACHINE 5/8 X 12 GALVANIZED	2
5	E0138-00	WASHER 5/8" SQUARE 2 1/4" GALVANIZED	4
6	E0110-00	BOLT, OVAL EYE 5/8 X 12 GALVANIZED STEEL	2
7	E0139-00	WASHER LOCK, 5/8" DOUBLE COIL SPRING COMPRESSED	2
		DEADEND ARM	
	E0003-00	ARM, DEADEND LIGHT DUTY GALVANIZED	
	E0004-00	ARM, DEADEND HEAVY DUTY GALVANIZED	
		DEADEND CLAMPS	
	E1037-00	CLAMP 1/0-4/0 DEADEND (LIGHT DUTY)	
	E1038-00	CLAMP 477 MCM DEADEND (HEAVY DUTY)	
	E1039-00	CLAMP 795 MCM DEADEND (HEAVY DUTY)	
Notes: 1. Install anchor assembly as required. (Detail No. D-3 or D-4)			

 BROWNSVILLE PUBLIC UTILITIES BOARD	12.5KV SINGLE CIRCUIT DEADEND STEEL CROSSARM (NEUTRAL ON POLE)	DEVELOPED BY:	STANDARDS COMMITTEE	
		APPROVED:	SEP 2020	
		DRAWING NUMBER	D-31	



**12.5 KV SINGLE CIRCUIT
DEADEND STEEL CROSSARM
(NEUTRAL ON POLE)**

DEVELOPED BY:

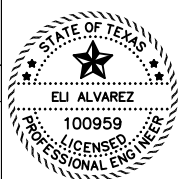
STANDARDS
COMMITTEE

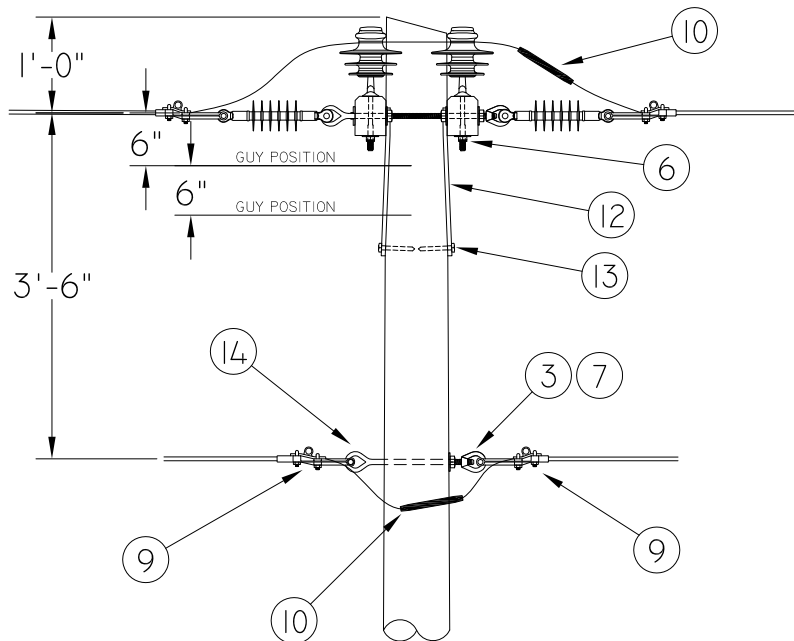
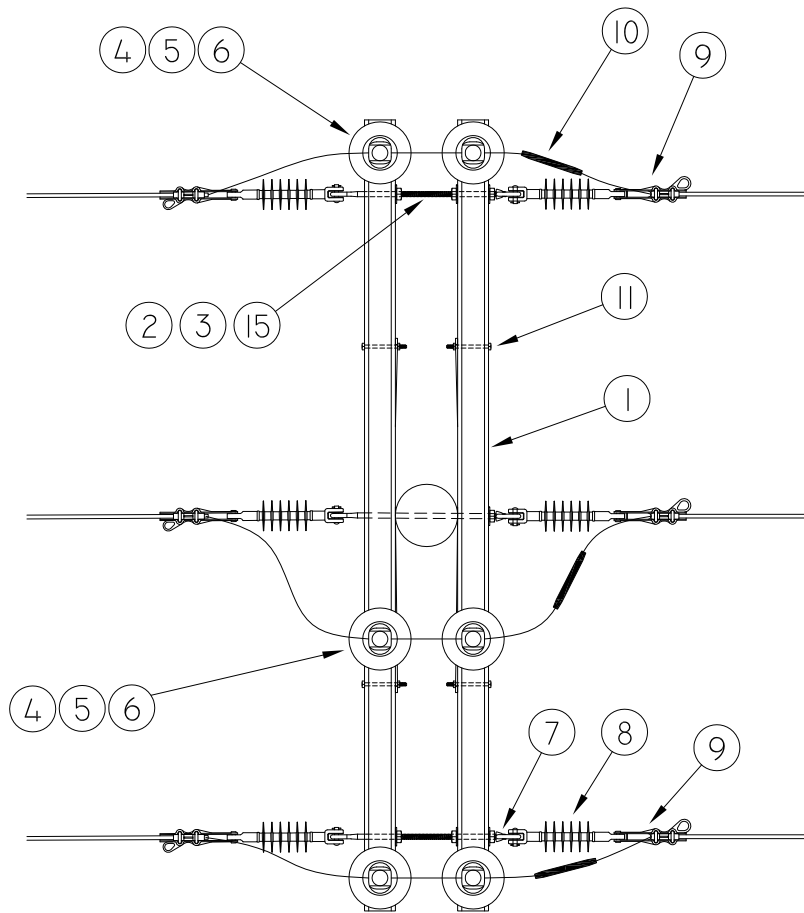
APPROVED:

SEP 2020

DRAWING
NUMBER

D-31





12.5 KV SINGLE CIRCUIT
 DOUBLE IN-LINE DEADEND
 WOODEN CROSSARM
 FOR LIGHT DUTY
 (NEUTRAL ON POLE)

DEVELOPED BY:

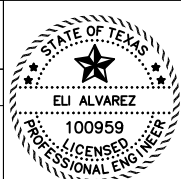
STANDARDS
 COMMITTEE

APPROVED:

SEP 2020

DRAWING
 NUMBER

D-32



Material List

ITEM	CODE NO.	DESCRIPTION	QUANTITY
1	E1050-00	CROSSARM 8 FT WOODEN HEAVY DUTY D.F.	2
2	E0124-00	BOLT, D.AE. 5/8" X 24" GALVANIZED	3
3	E0138-00	WASHER 5/8" SQUARE 2 1/4" GALVANIZED	9
4	E0020-00	INSULATOR, "FOG BOWL"	6
5	E0234-00	CABLE, #4 SOL ALUMINUM TIE	As Req'd.
6	E0026-00	PIN, CROSSARM INSULATOR	6
7	E0136-00	NUT 5/8" OVAL EYE GALVANIZED	4
8	E0021-00	INSULATOR, 28 KV SUSPENSION	6
9	E-	DEADEND CLAMP	8
10	E-	JUMPER	4
11	E0128-00	BOLT, CARRIAGE 1/2" X 7" GALVANIZED W/NUTS	4
12	E1024-00	BRACE CROSSARM ANGLE	2
13	E0101-00	BOLT, MACHINE 5/8" X 12" GALVANIZED	1
14	E0110-00	BOLT, O.E. 5/8" X 12" GALVANIZED	1
15	E0139-00	WASHER LOCK, 5/8" DOUBLE COIL SPRING COMPRESSED	5
		DEADEND CLAMP	
	E1037-00	CLAMP 1/0-4/0 DEADEND	
	E1038-00	CLAMP 477 MCM DEADEND	
	E1039-00	CLAMP 795 MCM DEADEND	
		JUMPERS	
	E0791-00	SLEEVE #477 MCM ALUMINUM JUMPER	
	E0796-00	SLEEVE #795 MCM ALUMINUM JUMPER	
		<i>Notes: Make copper aluminum connection with copper ground wire oriented below aluminum neutral.</i>	

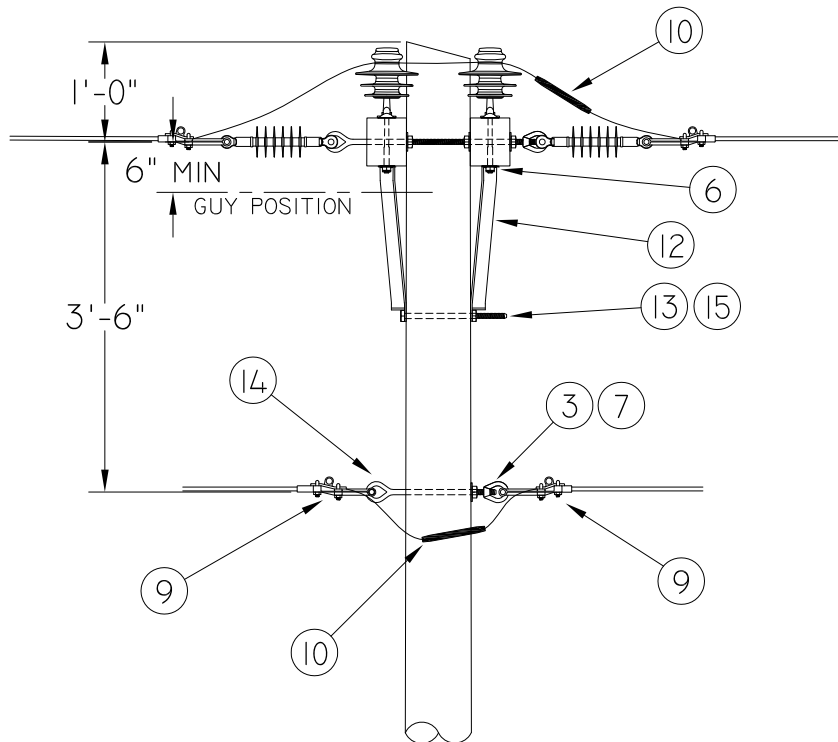
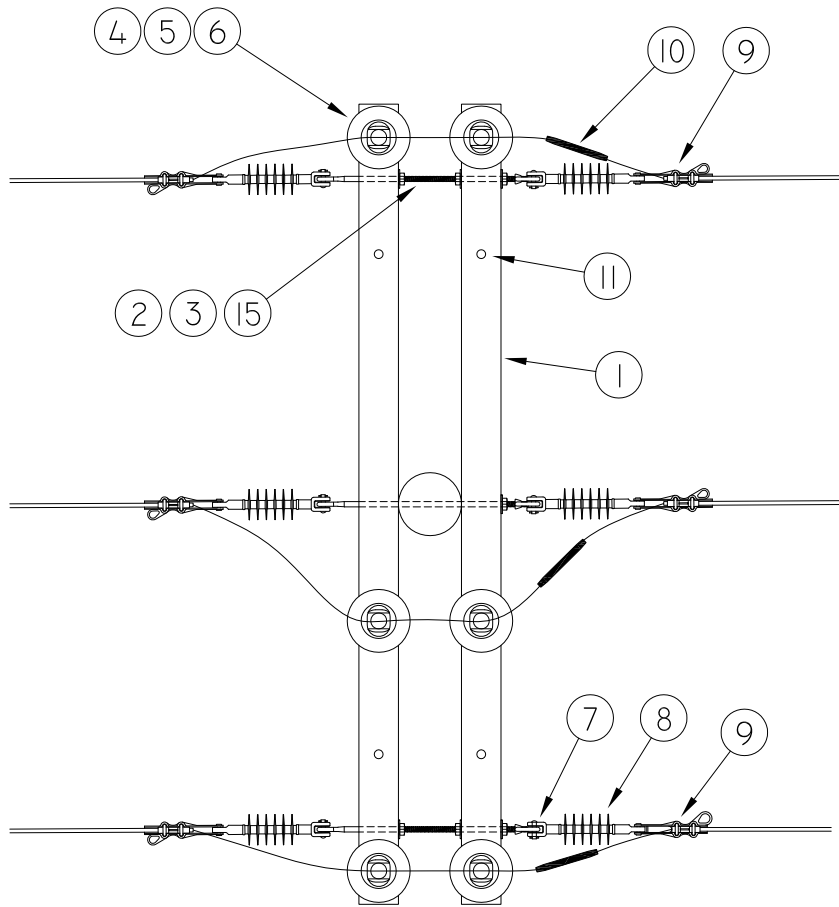


**12.5KV SINGLE CIRCUIT
 DOUBLE IN-LINE DEADEND
 WOODEN CROSSARM
 FOR HEAVY DUTY
 (NEUTRAL ON POLE)**

DEVELOPED BY:
 APPROVED:
 DRAWING NUMBER

STANDARDS COMMITTEE
 SEP 2020
D32A





12.5 KV SINGLE CIRCUIT
 DOUBLE IN-LINE DEADEND
 WOODEN CROSSARM
 FOR HEAVY DUTY
 (NEUTRAL ON POLE)

DEVELOPED BY:

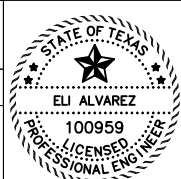
STANDARDS
 COMMITTEE

APPROVED:

SEP 2020

DRAWING
 NUMBER

D-32A



Material List

ITEM	CODE NO.	DESCRIPTION	QUANTITY
1	E0005-00	CROSSARM, 3-3/4" X 4-3/4" X 8' STANDARD	4
2	E0119-00	BOLT, D.A. 5/8" X 22 GALVANIZED STEEL	6
3	E0138-00	WASHER 5/8" SQUARE 2 1/4" GALVANIZED	22
4	E0020-00	INSULATOR, "FOG BOWL"	6
5	E0234-00	CABLE, #4 SOL ALUMINUM TIE	As Req'd.
6	E0026-00	PIN, CROSSARM INSULATOR	6
7	E0125-00	BOLT, CARRIAGE 3/8" X 5" GALVANIZED	8
8	E0021-00	INSULATOR, 28 KV SUSPENSION	6
9	E1037-00	CLAMP 1/0 - 4/0 DEADEND	8
10	E0006-00	CROSSARM STEEL FLAT BRACE	8
11	E0135-00	SCREW 1/2" X 4 1/2" LAG GALVANIZED	4
12	E0110-00	BOLT, O.E. 5/8" X 12" GALVANIZED STEEL	2
13	E0139-00	WASHER LOCK, 5/8" DOUBLE COIL SPRING COMPRESSED	10
14	E0136-00	NUT 5/8" OVAL EYE GALVANIZED	6

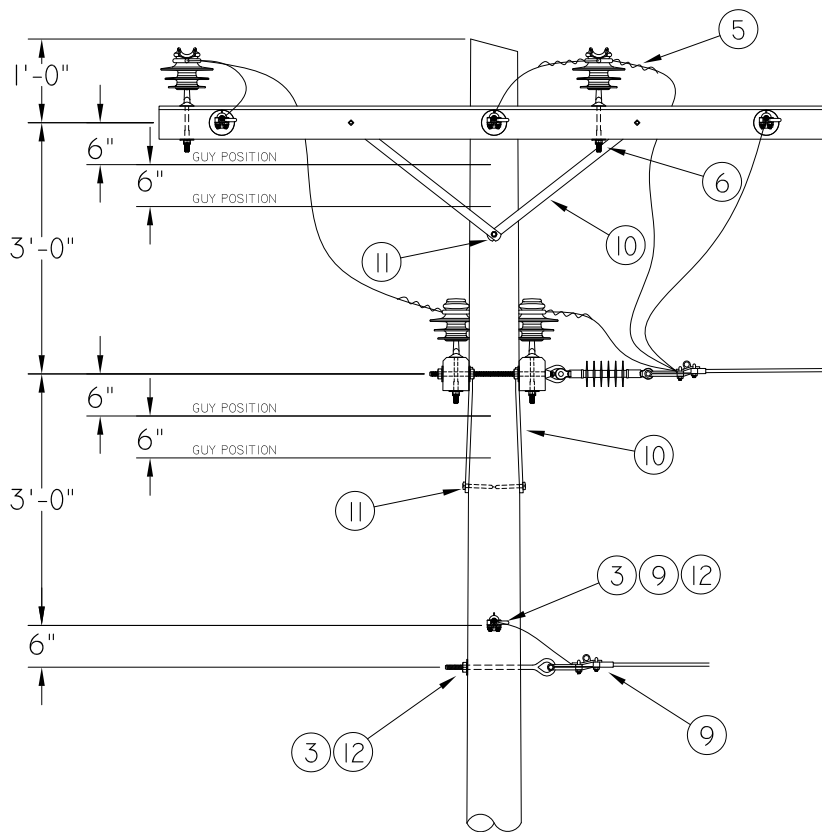
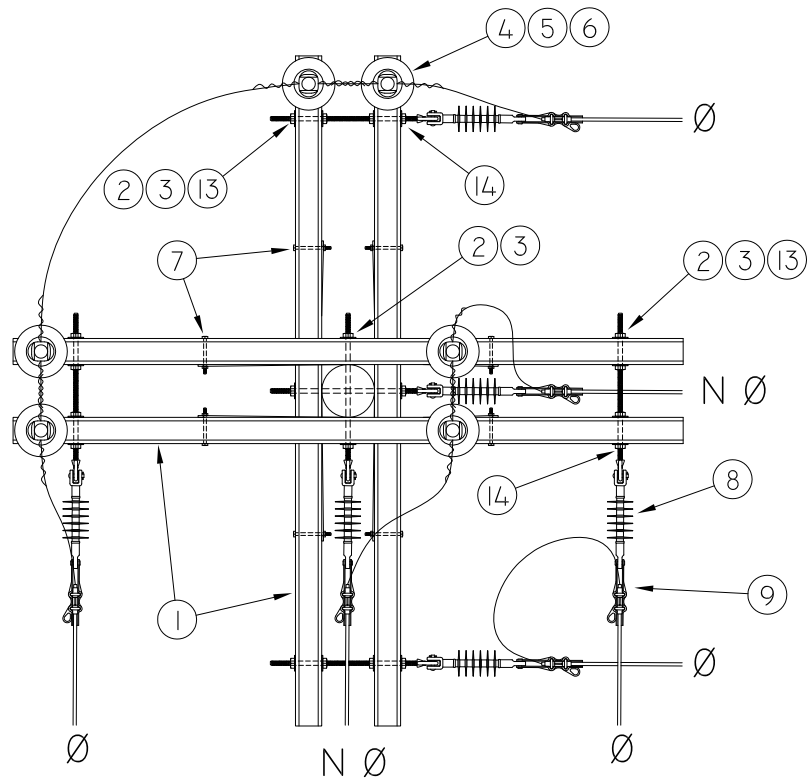


**12.5KV SINGLE CIRCUIT
CORNER DEADEND
WOODEN CROSSARM
FOR LIGHT DUTY
(NEUTRAL ON POLE)**

DEVELOPED BY:
APPROVED:
DRAWING
NUMBER

STANDARDS
COMMITTEE
SEP 2020
D-33





12.5 KV SINGLE CIRCUIT
CORNER DEADEND
WOODEN CROSSARM
FOR LIGHT DUTY
(NEUTRAL ON POLE)

DEVELOPED BY:

STANDARDS
COMMITTEE

APPROVED:



SEP 2020

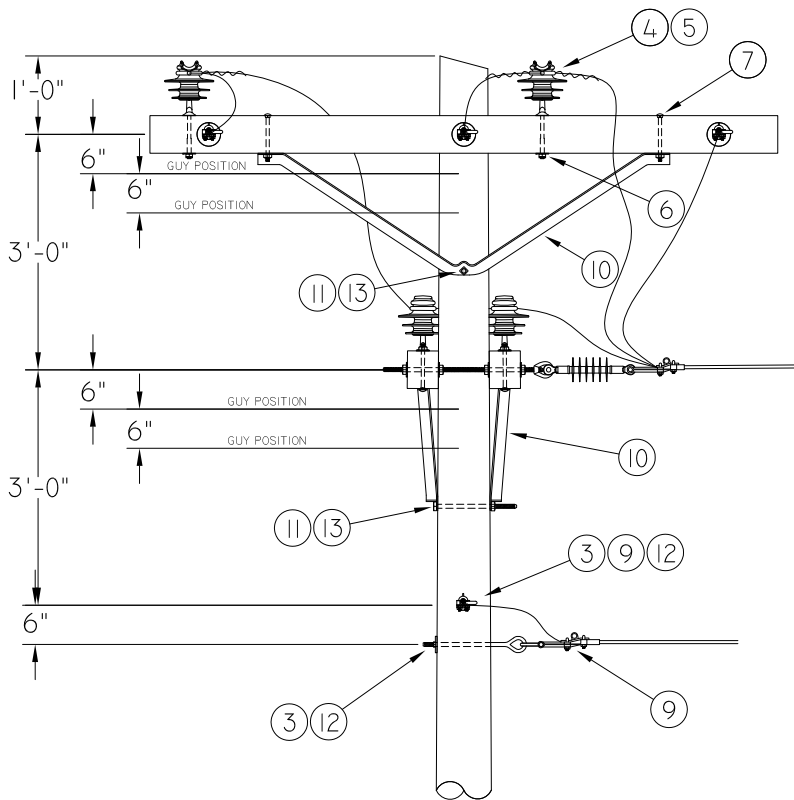
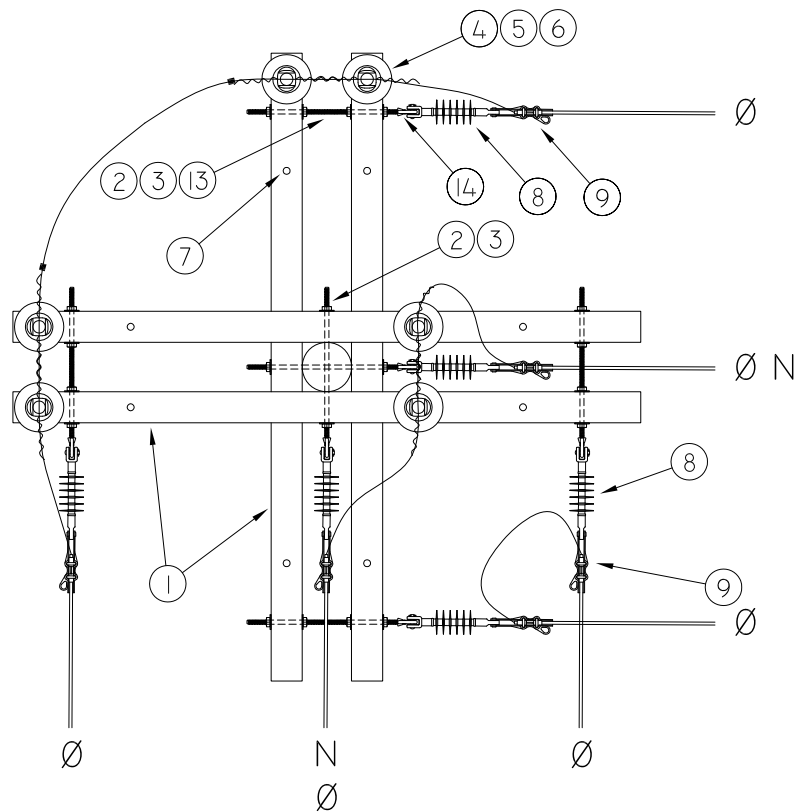
DRAWING
NUMBER

D-33



Material List

ITEM	CODE NO.	DESCRIPTION	QUANTITY						
1	E1050-00	CROSSARM 8 FT WOODEN HEAVY DUTY D.F.	4						
2	E0120-00	BOLT, D.A. 5/8" X 24" GALVANIZED STEEL	6						
3	E0138-00	WASHER 5/8" SQUARE 2 1/4" GALVANIZED	22						
4	E0020-00	INSULATOR, "FOG BOWL"	6						
5	E0234-00	CABLE, #4 SOL ALUMINUM TIE	As Req'd.						
6	E0026-00	PIN, CROSSARM INSULATOR	6						
7	E0128-00	BOLT, CARRIAGE 1/2-13" X 7" GALVANIZED W/NUTS	8						
8	E0021-00	INSULATOR, 28 KV SUSPENSION	6						
9	E-	DEADEND CLAMP	8						
10	E1024-00	BRACE CROSSARM ANGLE	4						
11	E0101-00	BOLT, MACHINE 5/8" X 12" GALVANIZED	2						
12	E0110-00	BOLT, OVAL EYE 5/8" X 12" GALVANIZED STEEL	2						
13	E0139-00	WASHER LOCK, 5/8" DOUBLE COIL SPRING COMPRESSED	12						
14	E0136-00	NUT 5/8" OVAL EYE GALVANIZED	6						
		DEADEND CLAMP							
	E1038-00	CLAMP 477 MCM DEADEND							
	E1039-00	CLAMP 795 MCM DEADEND							
 BROWNSVILLE PUBLIC UTILITIES BOARD		12.5KV SINGLE CIRCUIT CORNER DEADEND WOODEN CROSSARM FOR HEAVY DUTY (NEUTRAL ON POLE)	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">DEVELOPED BY:</td> <td style="width: 50%;">STANDARDS COMMITTEE</td> </tr> <tr> <td>APPROVED:</td> <td style="text-align: center;">SEP 2020</td> </tr> <tr> <td>DRAWING NUMBER</td> <td style="text-align: center;">D-33A</td> </tr> </table>	DEVELOPED BY:	STANDARDS COMMITTEE	APPROVED:	SEP 2020	DRAWING NUMBER	D-33A
DEVELOPED BY:	STANDARDS COMMITTEE								
APPROVED:	SEP 2020								
DRAWING NUMBER	D-33A								
									



12.5 KV SINGLE CIRCUIT
 CORNER DEADEND
 WOODEN CROSSARM
 FOR HEAVY DUTY
 (NEUTRAL ON POLE)

DEVELOPED BY:

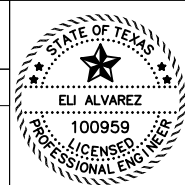
STANDARDS
 COMMITTEE

APPROVED:

SEP 2020

DRAWING
 NUMBER

D-33A



Material List

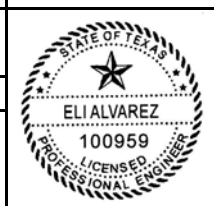
ITEM	CODE NO.	DESCRIPTION	QUANTITY
1	E-	STEEL CROSSARM	2
2	E0020-00	INSULATOR, "FOG BOWL"	2
3	E0027-00	PIN, SHORT SHANK INSULATOR	2
4	E0021-00	INSULATOR, 28 KV SUSPENSION	6
5	E-	DEADEND CLAMP	8
6	E0234-00	CABLE, #4 SOL ALUMINUM TIE	As Req'd.
7	E0101-00	BOLT, MACHINE 5/8" X 12" GALVANIZED	4
8	E0138-00	WASHER 5/8" SQUARE 2 1/4" GALVANIZED	8
9	E0110-00	BOLT, OVAL EYE 5/8" X 12" GALVANIZED STEEL	4
10	E-	JUMPER	4
11	E0139-00	WASHER LOCK, 5/8" DOUBLE COIL SPRING COMPRESSED	4
STEEL CROSSARM			
	E0003-00	ARM, DEADEND LIGHT DUTY GALV.	
	E0004-00	ARM, DEADEND HEAVY DUTY GALV.	
DEADEND CLAMP			
	E1037-00	CLAMP 1/0 - 4/0 DEADEND	
	E1038-00	CLAMP 477 MCM DEADEND	
	E1039-00	CLAMP 795 MCM DEADEND	
JUMPERS			
	E0602-00	SLEEVE 1/0 STR-1/0 STR SERVICE	
	E0610-00	SLEEVE 4/0 STR-1/0 STR SERVICE	
	E0613-00	SLEEVE 4/0 STR-4/0 STR SERVICE	
	E0791-00	SLEEVE #477 MCM ALUM JUMPER	
	E0796-00	SLEEVE #795 MCM ALUM JUMPER	
	<i>Note:</i>	<i>Make copper to aluminum connection with copper ground wire oriented below aluminum neutral.</i>	

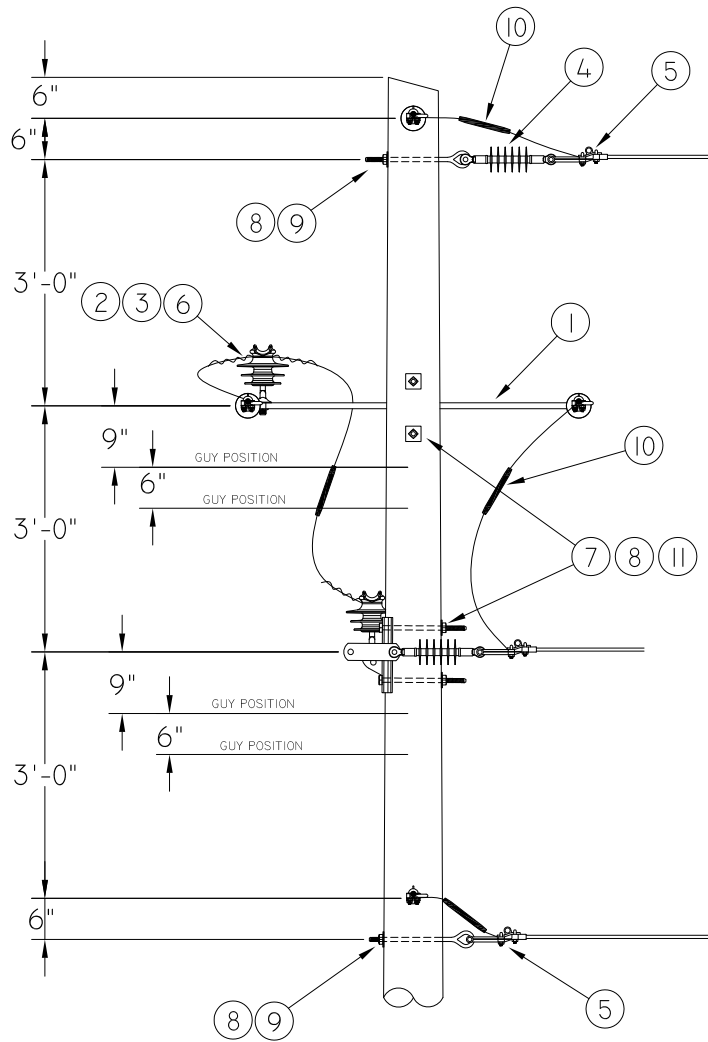
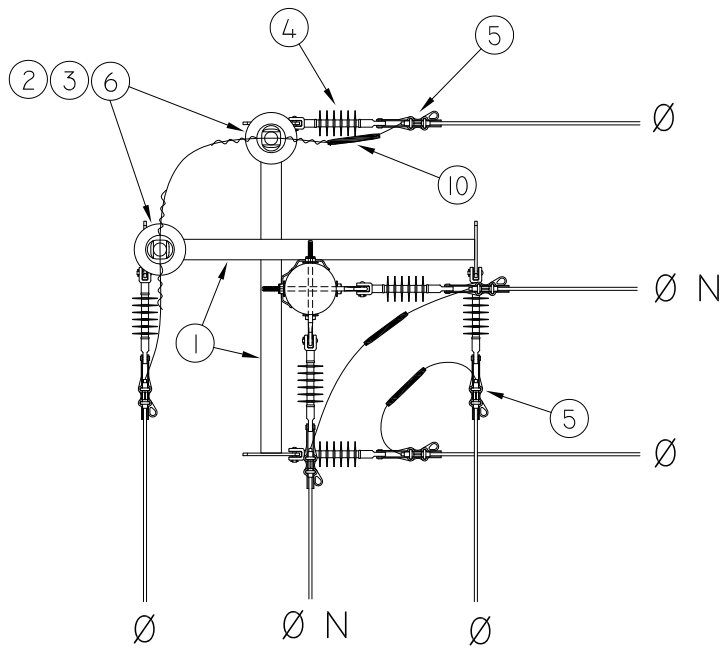


**12.5KV SINGLE CIRCUIT
CORNER DEADEND
STEEL CROSSARM
(NEUTRAL ON POLE)**

DEVELOPED BY:	STANDARDS COMMITTEE
APPROVED:	SEP 2020
DRAWING NUMBER	D-34

D-34





12.5 KV SINGLE CIRCUIT
 CORNER DEADEND
 STEEL CROSSARM
 (NEUTRAL ON POLE)

DEVELOPED BY:

STANDARDS
 COMMITTEE

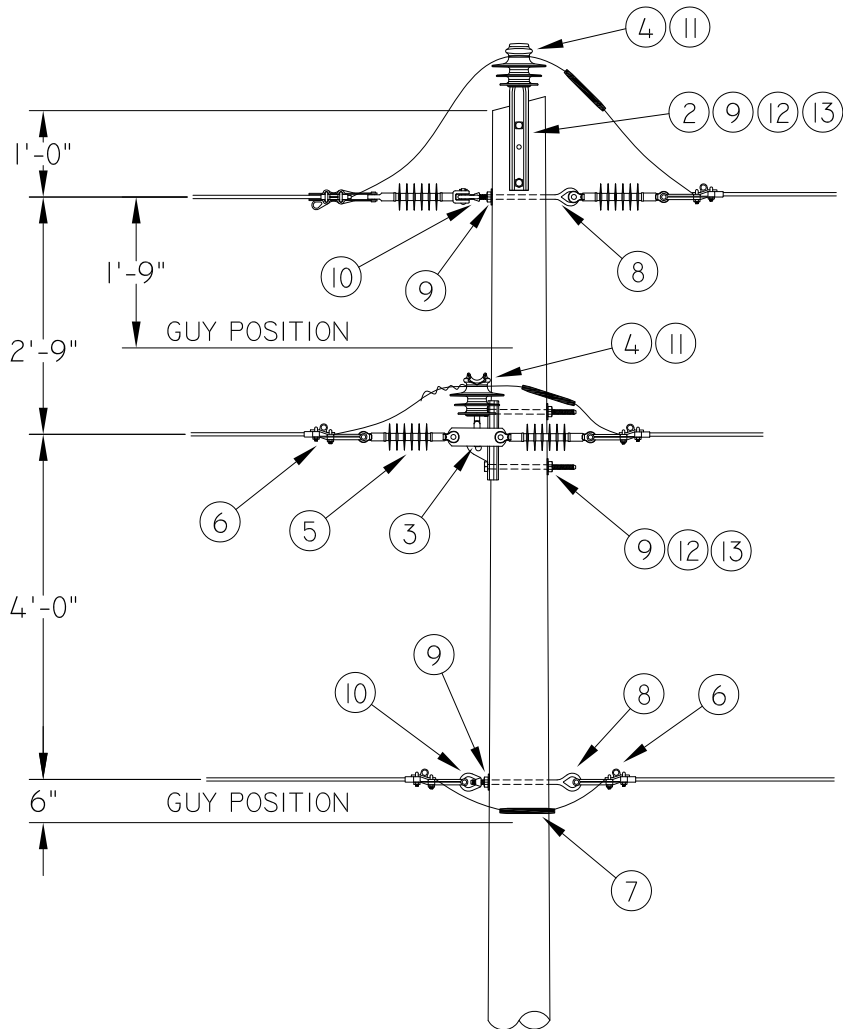
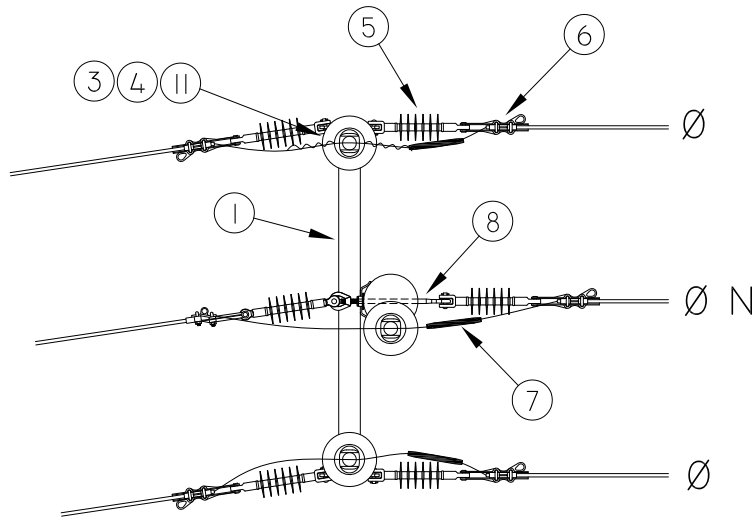
APPROVED:

SEP 2020

DRAWING
 NUMBER

D-34





12.5 KV SINGLE CIRCUIT
REDUCED TENSION DOUBLE
DEADEND STEEL CROSSARM
(NEUTRAL ON POLE)

DEVELOPED BY:

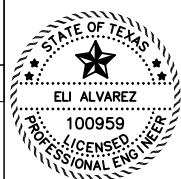
STANDARDS
COMMITTEE

APPROVED:

SEP 2020



DRAWING
NUMBER

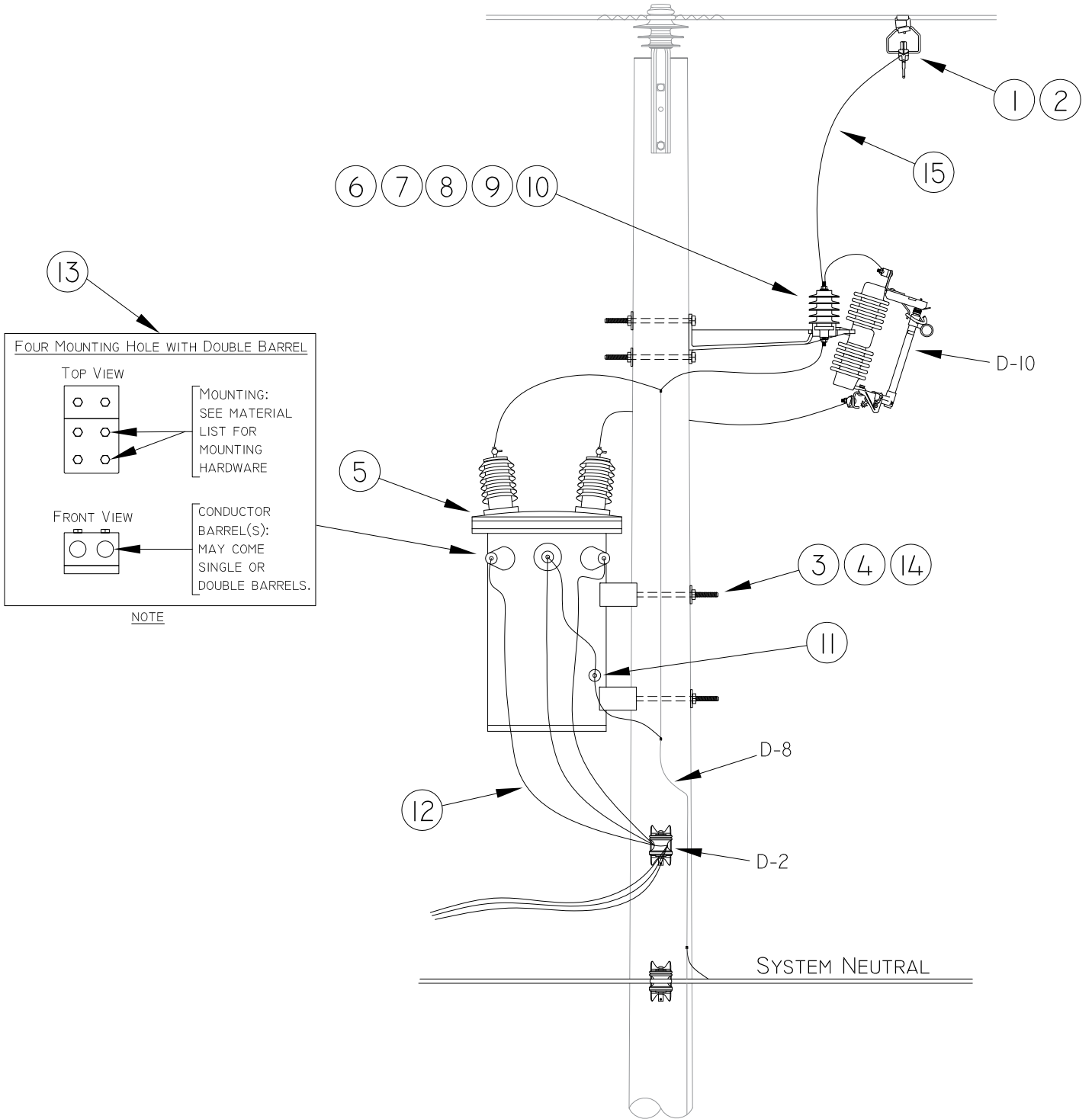
D-35



Material List

ITEM	CODE NO.	DESCRIPTION	QUANTITY
1	E-	STIRRUP W/BAIL	1
2	E0008-00	CLAMP, HOTLINE COPPER	1
3	E0101-00	BOLT, MACHINE 5/8 X 12 GALVANIZED	2
4	E0138-00	WASHER 5/8" SQUARE 2 1/4" GALVANIZED	2
5	E-	TRANSFORMER (Refer to Inventory List)	1
6	E0024-00	LIGHTNING ARRESTOR 10 KV	1
7	E0140-00	BOLT, 1/2" X 2" HEX STAINLESS STEEL	2
8	E0142-00	NUT 1/2" HEX STAINLESS STEEL	2
9	E0143-00	LOCKWASHER 1/2" STAINLESS STEEL	2
10	E0144-00	WASHER, 1/2" STAINLESS STEEL FLAT	2
11	E0031-00	LUG TRANS. GROUNDING, 1/2-13	1
12	E-	COPPER LEADS	As Req'd.
13	E-	TERMINALS FOR 100KVA OR LARGER TRANSFORMERS	3
14	E0139-00	WASHER LOCK, 5/8" DOUBLE COIL SPRING COMPRESSED	2
15	E0235-00	CABLE, #2 7/STR. BARE COPPER SOFT DRAWN	As Req'd.
		STIRRUPS	
	E0727-00	STIRRUP 1/0 STR W/#2 BAIL W/POWER BOOSTER	
	E0728-00	STIRRUP 4/0 STR W/ #2 BAIL W/POWER BOOSTER	
	E0730-00	STIRRUP 477 MCM W/ 1/0 BAIL W/POWER BOOSTER	
	E0731-00	STIRRUP 795 MCM W/ 2/0 BAIL	
		COPPER LEADS	
	E0220-00	CABLE, CU #1/0 STR THW/THHN/THWN INSUL 600V BLACK	
	E0222-00	CABLE, CU #4/0 STR THW INSU 600 V, BLACK	
		TERMINALS	
	E0330-00	TERMINAL #2/0-4/0 STR CU 1-BARREL 2-HOLE	
	E0331-00	TERMINAL 4/0-300 MCM CU 1-BARREL, 2-HOLE	
	E0332-00	TERMINAL 300-500 MCM CU 1-BARREL, 2-HOLE	
	E0333-00	TERMINAL 500-750 MCM CU 1-BARREL, 4-HOLE	
	E0334-00	TERMINAL 750-1000 MCM CU 1-BARREL, 4-HOLE	
	E0335-00	TERMINAL 300-500 MCM CU 2-BARREL, 4-HOLE	
	E0336-00	TERMINAL 500-750 MCM CU 2-BARREL, 4-HOLE	
	E0337-00	TERMINAL 750-1000 CU 2-BARREL, 4-HOLE	
		<i>Include the following hardware for each hole of each terminal.</i>	
	E0140-00	BOLT 1/2" X 2" HEX STAINLESS STEEL	As Req'd.
	E0142-00	NUT 1/2" HEX STAINLESS STEEL	As Req'd.
	E0143-00	LOCKWASHER 1/2" STAINLESS STEEL	As Req'd.
	E0144-00	WASHER, 1/2" STAINLESS STEEL FLAT	As Req'd.
		<i>Notes:</i>	
		1. Install secondary rack for each new service (Detail No. D-2).	
		2. Install ground rod assembly. (Detail No. D-8)	
		3. Install fuse cutout and required fuse link (Detail No. D-10).	

	SINGLE PHASE TRANSFORMER ON 1-PHASE TANGENT STRUCTURE	DEVELOPED BY:	STANDARDS COMMITTEE
		APPROVED:	SEP 2020
		DRAWING NUMBER	D-36
			



NOTE: 1. TERMINALS MAY COME IN DIFFERENT COMBINATIONS OF MOUNTING HOLES AND CONDUCTOR BARRELS. REFER TO MATERIAL LIST FOR OPTIONS.



**SINGLE PHASE TRANSFORMER
ON 1-PHASE
TANGENT STRUCTURE**

DEVELOPED BY:

STANDARDS
COMMITTEE

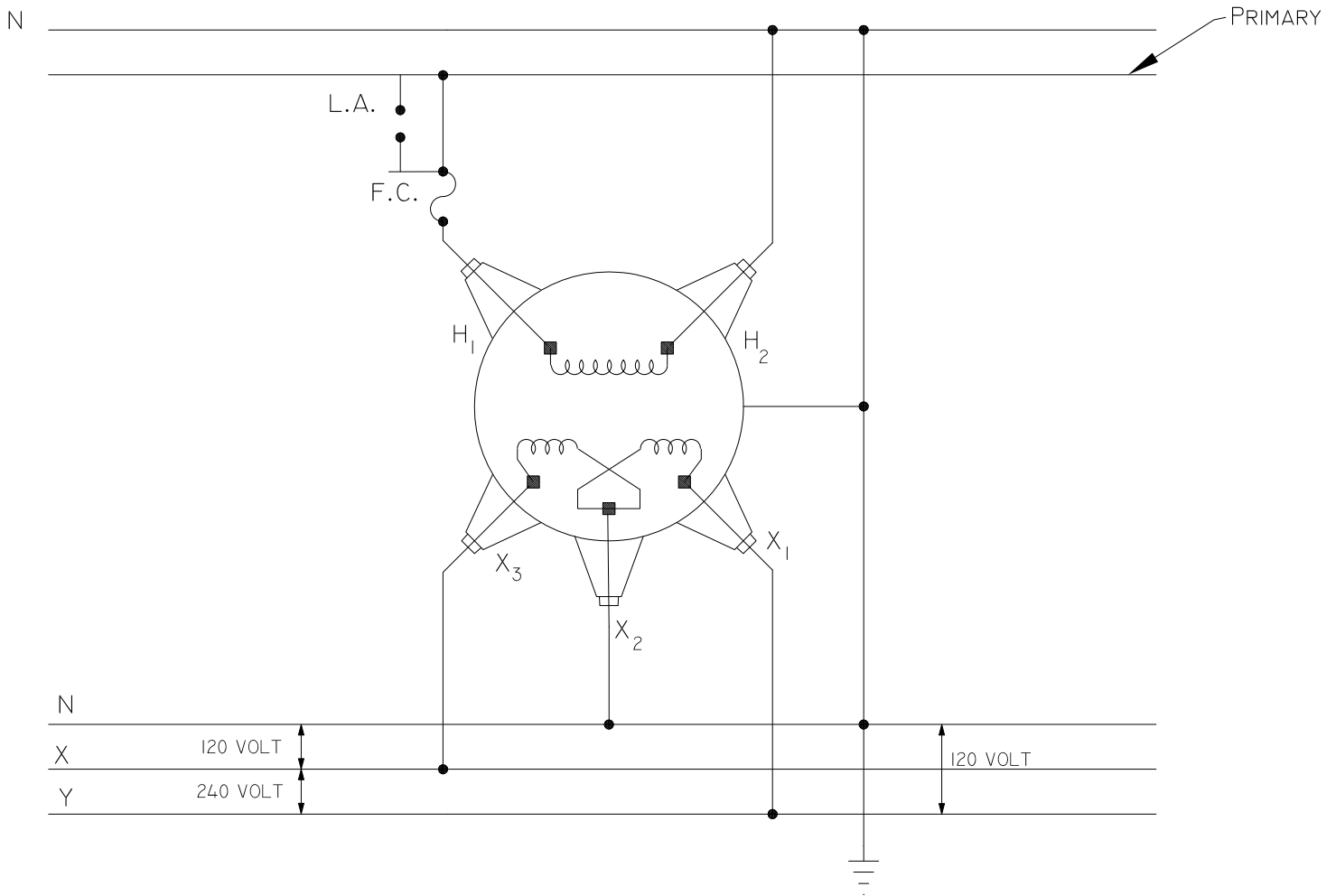
APPROVED:

SEP 2020

DRAWING
NUMBER

D-36





SINGLE PHASE TRANSFORMER
WIRING DIAGRAM

DEVELOPED BY:

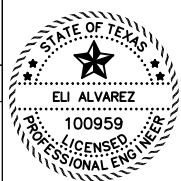
STANDARDS
COMMITTEE

APPROVED:

SEP 2020

DRAWING
NUMBER

D-36-1



Material List

ITEM	CODE NO.	DESCRIPTION	QUANTITY
1	E1019-00	MOUNT 3-PHASE EQUIPMENT	1
2	E0024-00	LIGHTNING ARRESTOR 10 KV	2
3	E-	STIRRUP W/BAIL	2
4	E0008-00	CLAMP, HOTLINE COPPER	2
5	E0235-00	CABLE, #2 7/STR. BARE COPPER SOFT DRAWN	As Req'd.
6	E-	FUSE CUTOFF	2
7	E0135-00	SCREW 1/2" X 4 1/2" LAG GALVANIZED	4
8	E-	TRANSFORMER (Refer to Inventory List)	2
9	E-	BRACKET, CLUSTER MOUNT	1
10	E-	COPPER LEADS	As Req'd.
11	E0101-00	BOLT, MACHINE 5/8 X 12 GALVANIZED	3
12	E0138-00	WASHER 5/8" SQUARE 2 1/4" GALVANIZED	3
13	E0031-00	LUG TRANS. GROUNDING, 1/2-13	2
14	E-	TERMINALS FOR 100KVA OR LARGER TRANSFORMERS	As Req'd.
15	E0139-00	WASHER LOCK, 5/8" DOUBLE COIL SPRING COMPRESSED	3
16	E-	FUSELINK (Refer to Inventory List)	2
		STIRRUPS	
	E0727-00	STIRRUP 1/0 STR W/#2 BAIL W/POWER BOOSTER	
	E0728-00	STIRRUP 4/0 STR W/ #2 BAIL W/POWER BOOSTER	
	E0730-00	STIRRUP 477 MCM W/ 1/0 BAIL W/POWER BOOSTER	
	E0731-00	STIRRUP 795 MCM W/ 2/0 BAIL, BURNDY #WSL12PB	
		FUSE CUTOFF	
	E0012-00	FUSE CUTOFF 100 AMP, C710-213-P	
	E0012-01	FUSE CUTOFF, 200AMP 127KV BIL	
		TRANSFORMER MOUNT - *HEAVY DUTY: 75KVA AND ABOVE	
	E0007-00	BRACKET LITE DUTY CLUSTER MOUNT ALUMA-FORM	
	E1027-00	BRACKET HEAVY DUTY TRANSFORMER MOUNT	
		COPPER LEADS	
	E0220-00	CABLE, CU #1/0 STR THW/THHN/THWN INSUL 600V BLACK	
	E0222-00	CABLE, CU #4/0 STR THW INSU 600 V, BLACK	
		TERMINALS	
	E0330-00	TERMINAL #2/0-4/0 STR CU 1-BARREL 2-HOLE	
	E0331-00	TERMINAL 4/0-300 MCM CU 1-BARREL, 2-HOLE	
	E0332-00	TERMINAL 300-500 MCM CU 1-BARREL, 2-HOLE	
	E0333-00	TERMINAL 500-750 MCM CU 1-BARREL, 4-HOLE	
	E0334-00	TERMINAL 750-1000 MCM CU 1-BARREL, 4-HOLE	
	E0335-00	TERMINAL 300-500 MCM CU 2-BARREL, 4-HOLE	
	E0336-00	TERMINAL 500-750 MCM CU 2-BARREL, 4-HOLE	
	E0337-00	TERMINAL 750-1000 CU 2-BARREL, 4-HOLE	
		<i>Include the following hardware for each hole of each terminal.</i>	
	E0140-00	BOLT 1/2" X 2" HEX STAINLESS STEEL	As Req'd.
	E0142-00	NUT 1/2" HEX STAINLESS STEEL	As Req'd.
	E0143-00	LOCKWASHER 1/2" STAINLESS STEEL	As Req'd.
	E0144-00	WASHER, 1/2" STAINLESS STEEL FLAT	As Req'd.
	Notes:	1. Install ground rod assembly. (Detail No. D-8)	
		2. Install secondary rack for each new service (Detail D-2).	



**THREE PHASE OPEN WYE-OPEN
DELTA TRANSFORMER BANK
ON TANGENT STRUCTURE**

DEVELOPED BY:

STANDARDS
COMMITTEE

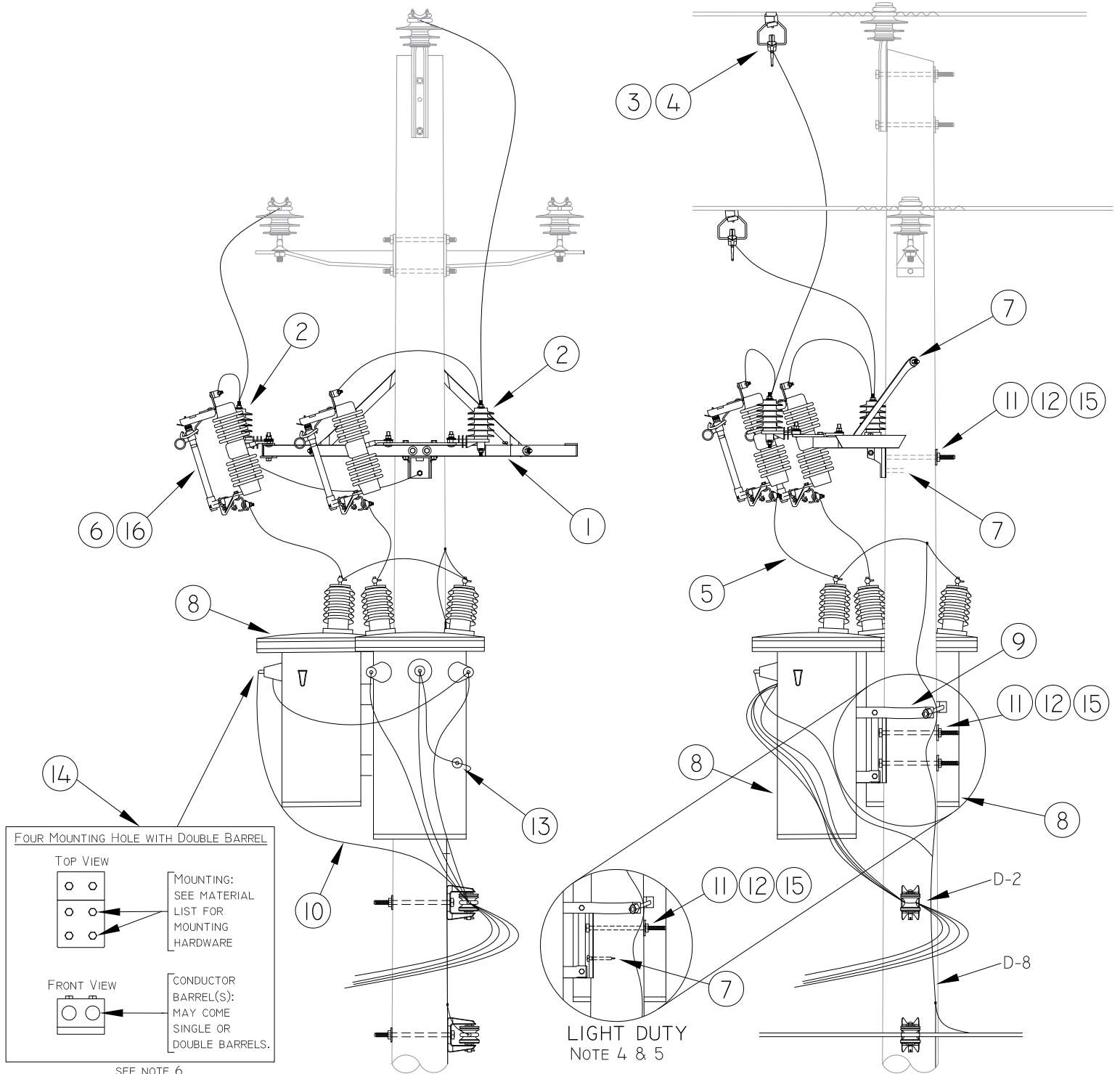
APPROVED:

SEP 2020

DRAWING
NUMBER

D-37





NOTES:

1. TRANSFORMER CLUSTER MOUNT TO BE GROUNDED.
2. SECONDARY NEUTRALS OF ALL TRANSFORMER, EXCEPT ONE SHALL BE DISCONNECTED FROM TANKS AND NOT GROUNDED.
3. WHEN USED FOR COMBINED 1-PHASE AND 3-PHASE LOAD, THE TRANSFORMER FOR THE 1-PHASE LOAD SHALL BE LARGER THAN TWICE THE CAPACITY OF ONE OF THE OTHERS.
4. UTILIZE A HEAVY DUTY CLUSTER MOUNT IF ONE OR MORE TRANSFORMERS ARE 75kVA OR LARGER.
5. LIGHT DUTY USES ONE BOLT, ONE LAG SCREW, ONE SQUARE WASHER, AND ONE SPRING WASHER. HEAVY DUTY TRANSFORMER CLUSTER MOUNT USES TWO BOLTS, TWO SQUARE WASHERS, AND TWO SPRING WASHERS.
6. TERMINALS ARE AVAILABLE IN DIFFERENT COMBINATIONS OF MOUNTING HOLES AND CONDUCTOR BARRELS. REFER TO MATERIAL LIST FOR OPTIONS.



THREE PHASE OPEN WYE- OPEN DELTA TRANSFORMER BANK ON TANGENT STRUCTURE

DEVELOPED BY:

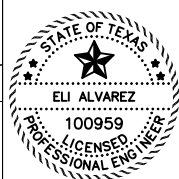
STANDARDS
COMMITTEE

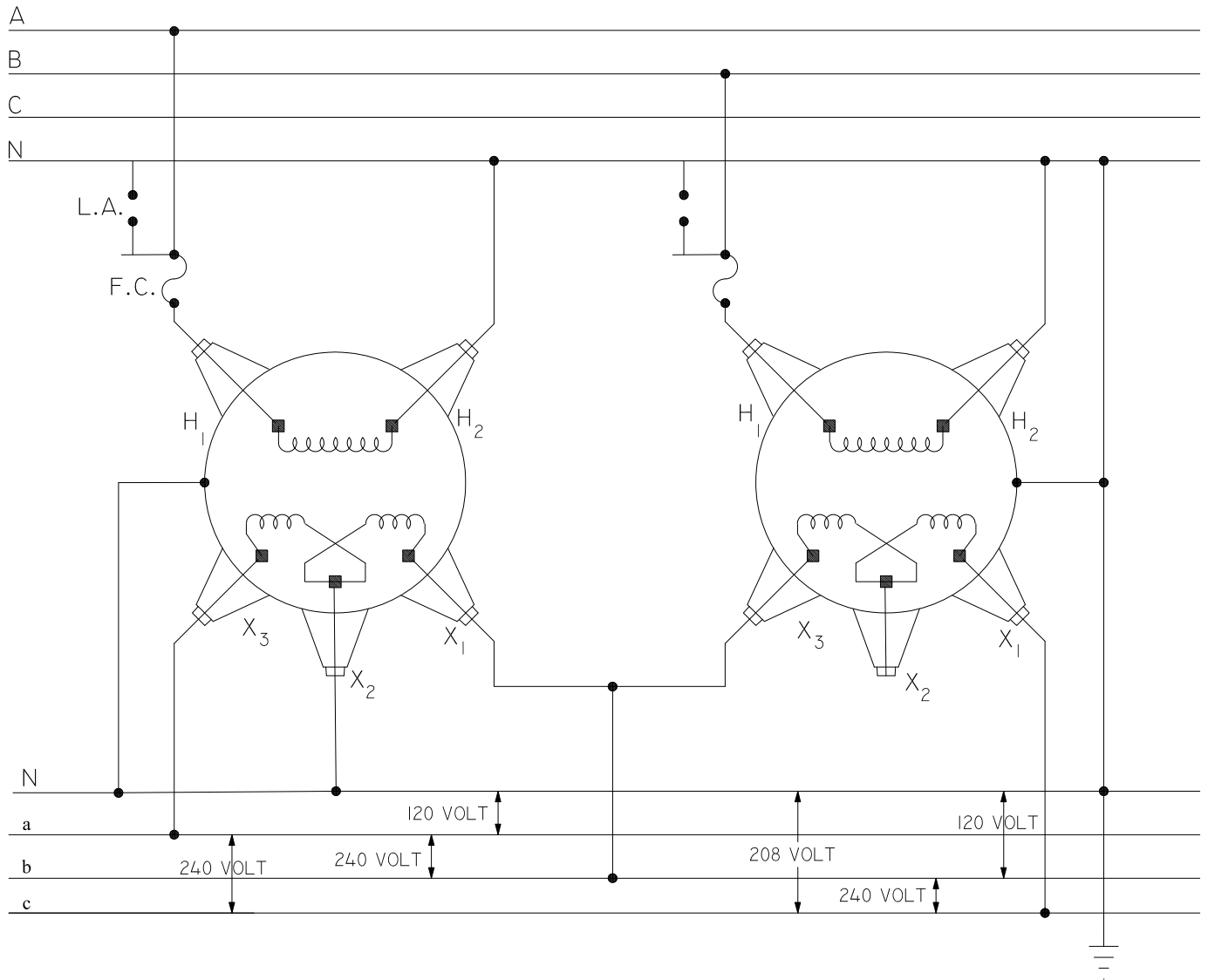
APPROVED:

SEP 2020

DRAWING
NUMBER

D-37





THREE PHASE OPEN WYE- OPEN DELTA TRANSFORMER WIRING DIAGRAM

DEVELOPED BY:

STANDARDS
COMMITTEE

APPROVED:

SEP 2020

DRAWING
NUMBER

D-37-1



Material List

ITEM	CODE NO.	DESCRIPTION	QUANTITY
1	E1019-00	MOUNT 3-PHASE EQUIPMENT	1
2	E0024-00	LIGHTNING ARRESTOR 10 KV	3
3	E-	STIRRUP W/BAIL	3
4	E0008-00	CLAMP, HOTLINE COPPER	3
5	E0235-00	CABLE, #2 7/STR. BARE COPPER SOFT DRAWN	As Req'd.
6	E-	FUSE CUTOFF	3
7	E0135-00	SCREW 1/2" X 4 1/2" LAG GALVANIZED	4
8	E-	TRANSFORMER (Refer to Inventory List)	3
9	E-	BRACKET, CLUSTER MOUNT	1
10	E-	COPPER LEADS	As Req'd.
11	E0101-00	BOLT, MACHINE 5/8 X 12 GALVANIZED	3
12	E0138-00	WASHER 5/8" SQUARE 2 1/4" GALVANIZED	3
13	E0031-00	LUG TRANS. GROUNDING, 1/2-13	3
14	E-	TERMINALS FOR 100KVA OR LARGER TRANSFORMERS	As Req'd.
15	E0139-00	WASHER LOCK, 5/8" DOUBLE COIL SPRING COMPRESSED	3
16	E-	FUSELINK (Refer to Inventory List)	3
		STIRRUPS	
	E0727-00	STIRRUP 1/0 STR W/#2 BAIL W/POWER BOOSTER	
	E0728-00	STIRRUP 4/0 STR W/ #2 BAIL W/POWER BOOSTER	
	E0730-00	STIRRUP 477 MCM W/ 1/0 BAIL W/POWER BOOSTER	
	E0731-00	STIRRUP 795 MCM W/ 2/0 BAIL	
		FUSE CUTOFF	
	E0012-00	FUSE CUTOFF 100 AMP, C710-213-P	
	E0012-01	FUSE CUTOFF, 200AMP 127KV BIL	
		TRANSFORMER MOUNT - *HEAVY DUTY: 75KVA AND ABOVE	
	E0007-00	BRACKET LITE DUTY CLUSTER MOUNT ALUMA-FORM	
	E1027-00	BRACKET HEAVY DUTY TRANSFORMER MOUNT	
		COPPER LEADS	
	E0220-00	CABLE, CU #1/0 STR THW/THHN/THWN INSUL 600V BLACK	
	E0222-00	CABLE, CU #4/0 STR THW INSU 600 V, BLACK	
		TERMINALS	
	E0330-00	TERMINAL #2/0-4/0 STR CU 1-BARREL 2-HOLE	
	E0331-00	TERMINAL 4/0-300 MCM CU 1-BARREL, 2-HOLE	
	E0332-00	TERMINAL 300-500 MCM CU 1-BARREL, 2-HOLE	
	E0333-00	TERMINAL 500-750 MCM CU 1-BARREL, 4-HOLE	
	E0334-00	TERMINAL 750-1000 MCM CU 1-BARREL, 4-HOLE	
	E0335-00	TERMINAL 300-500 MCM CU 2-BARREL, 4-HOLE	
	E0336-00	TERMINAL 500-750 MCM CU 2-BARREL, 4-HOLE	
	E0337-00	TERMINAL 750-1000 CU 2-BARREL, 4-HOLE	
		<i>Include the following hardware for each hole of each terminal.</i>	
	E0140-00	BOLT 1/2" X 2" HEX STAINLESS STEEL	As Req'd.
	E0142-00	NUT 1/2" HEX STAINLESS STEEL	As Req'd.
	E0143-00	LOCKWASHER 1/2" STAINLESS STEEL	As Req'd.
	E0144-00	WASHER, 1/2" STAINLESS STEEL FLAT	As Req'd.
	Notes:	1. Install ground rod assembly. (Detail No. D-8)	
		2. Install secondary rack for each new service (D-2).	

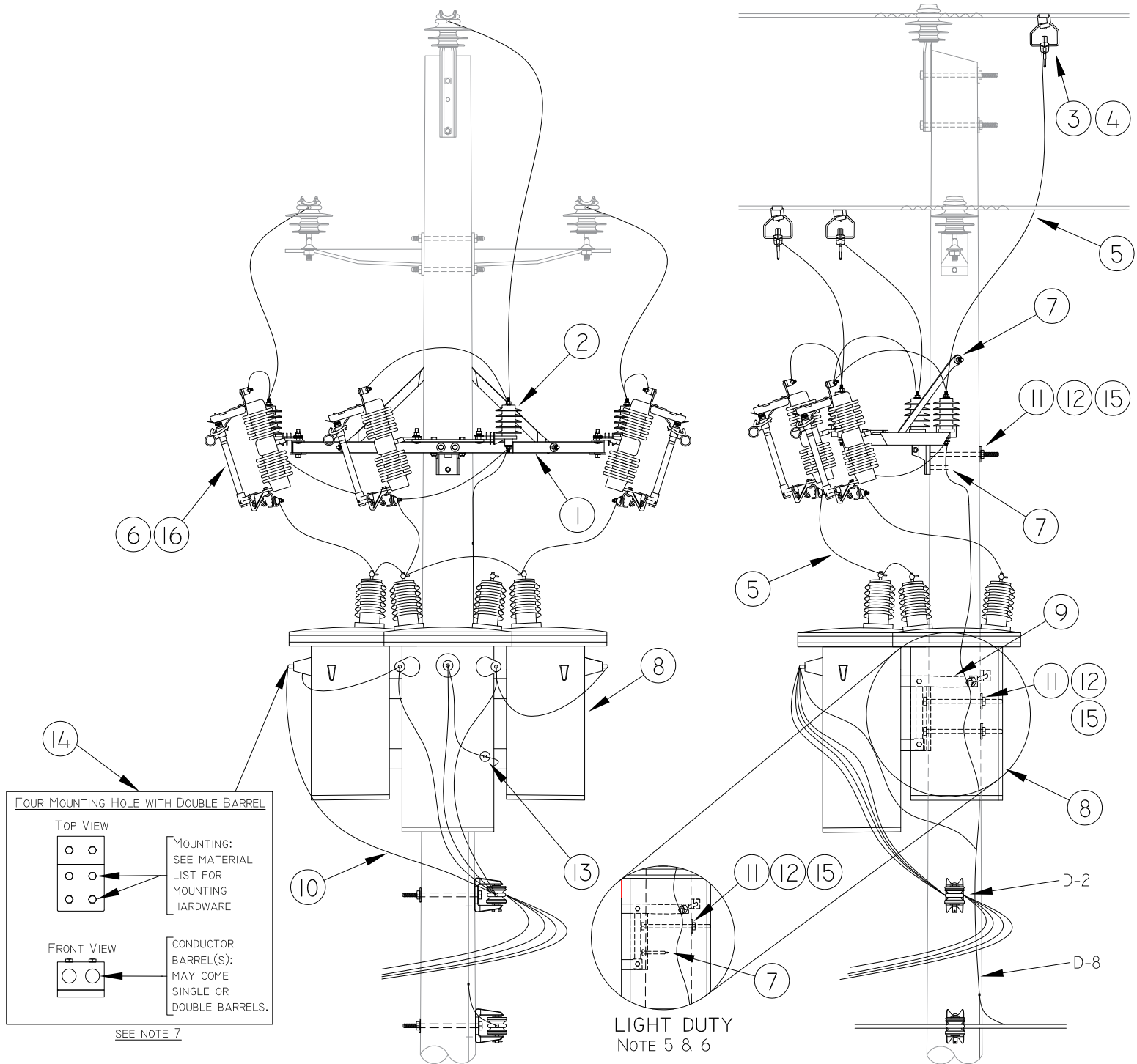


**THREE PHASE WYE-DELTA
TRANSFORMER BANK
ON TANGENT STRUCTURE**

DEVELOPED BY:
APPROVED:
DRAWING NUMBER

STANDARDS COMMITTEE
SEP 2020
D-38





NOTES:

1. TRANSFORMER CLUSTER MOUNT TO BE GROUNDED.
2. SECONDARY NEUTRALS OF ALL TRANSFORMER, EXCEPT ONE SHALL BE DISCONNECTED FROM TANKS AND NOT GROUNDED.
3. WHEN USED FOR COMBINED 1-PHASE AND 3-PHASE LOAD, THE TRANSFORMER FOR THE 1-PHASE LOAD SHALL BE LARGER THAN TWICE THE CAPACITY OF ONE OF THE OTHERS.
4. DO NOT GROUND PRIMARY NEUTRAL ON TRANSFORMER.
5. UTILIZE A HEAVY DUTY CLUSTER MOUNT IF ONE OR MORE TRANSFORMERS ARE 75kVA OR LARGER.
6. LIGHT DUTY USES ONE BOLT, ONE LAG SCREW, ONE SQUARE WASHER, AND ONE SPRING WASHER. HEAVY DUTY TRANSFORMER CLUSTER MOUNT USES TWO BOLTS, TWO SQUARE WASHERS, AND TWO SPRING WASHERS.
7. TERMINALS ARE AVAILABLE IN DIFFERENT COMBINATIONS OF MOUNTING HOLES AND CONDUCTOR BARRELS. REFER TO MATERIAL LIST FOR OPTIONS.



THREE PHASE WYE-DELTA TRANSFORMER BANK ON TANGENT STRUCTURE

DEVELOPED BY:

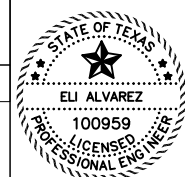
STANDARDS
COMMITTEE

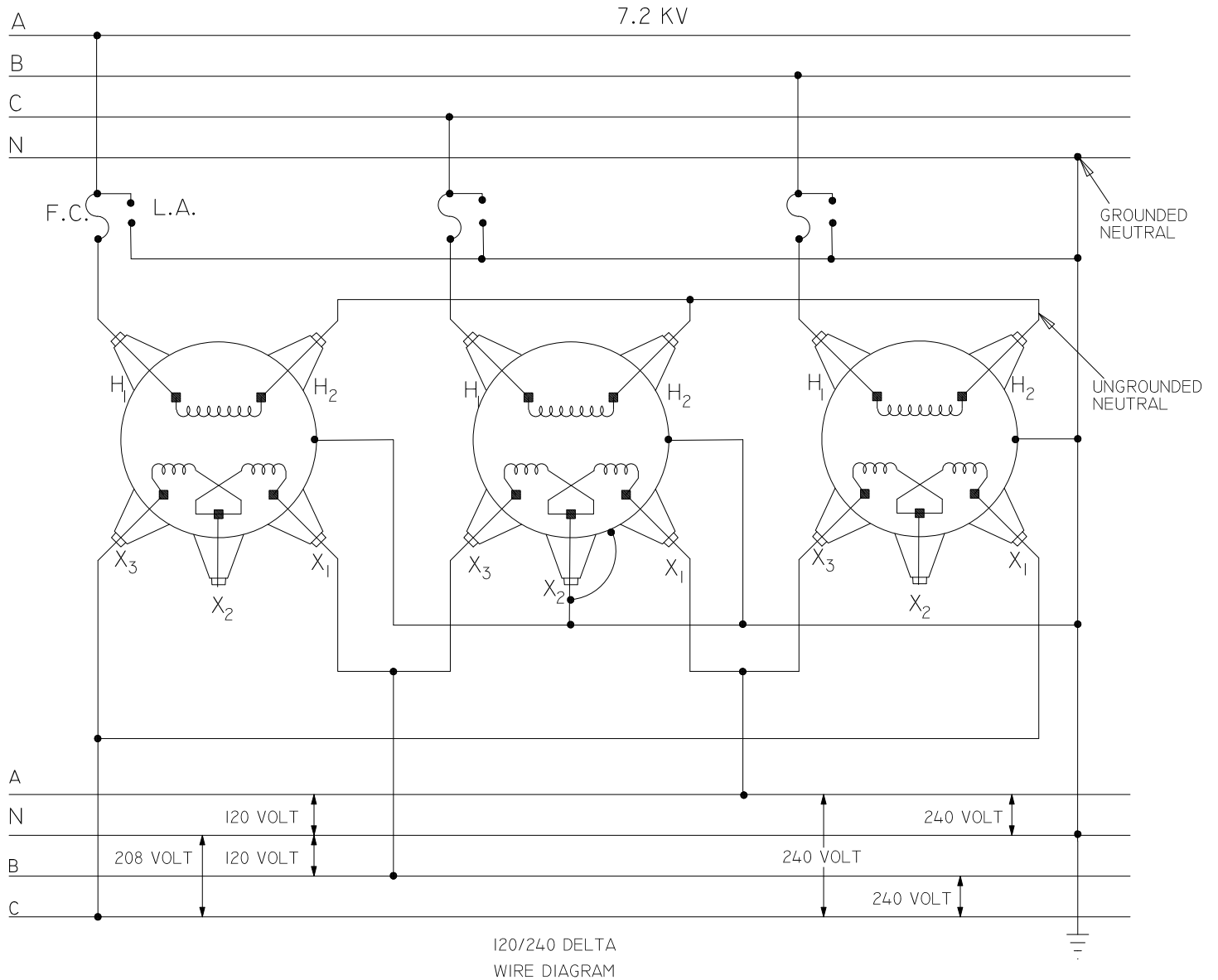
APPROVED:

SEP 2020

DRAWING
NUMBER

D-38





**THREE PHASE WYE
DELTA TRANSFORMER
WIRING DIAGRAM**

DEVELOPED BY:

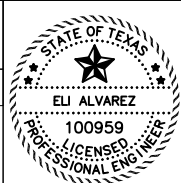
STANDARDS
COMMITTEE

APPROVED:

SEP 2020


DRAWING
NUMBER

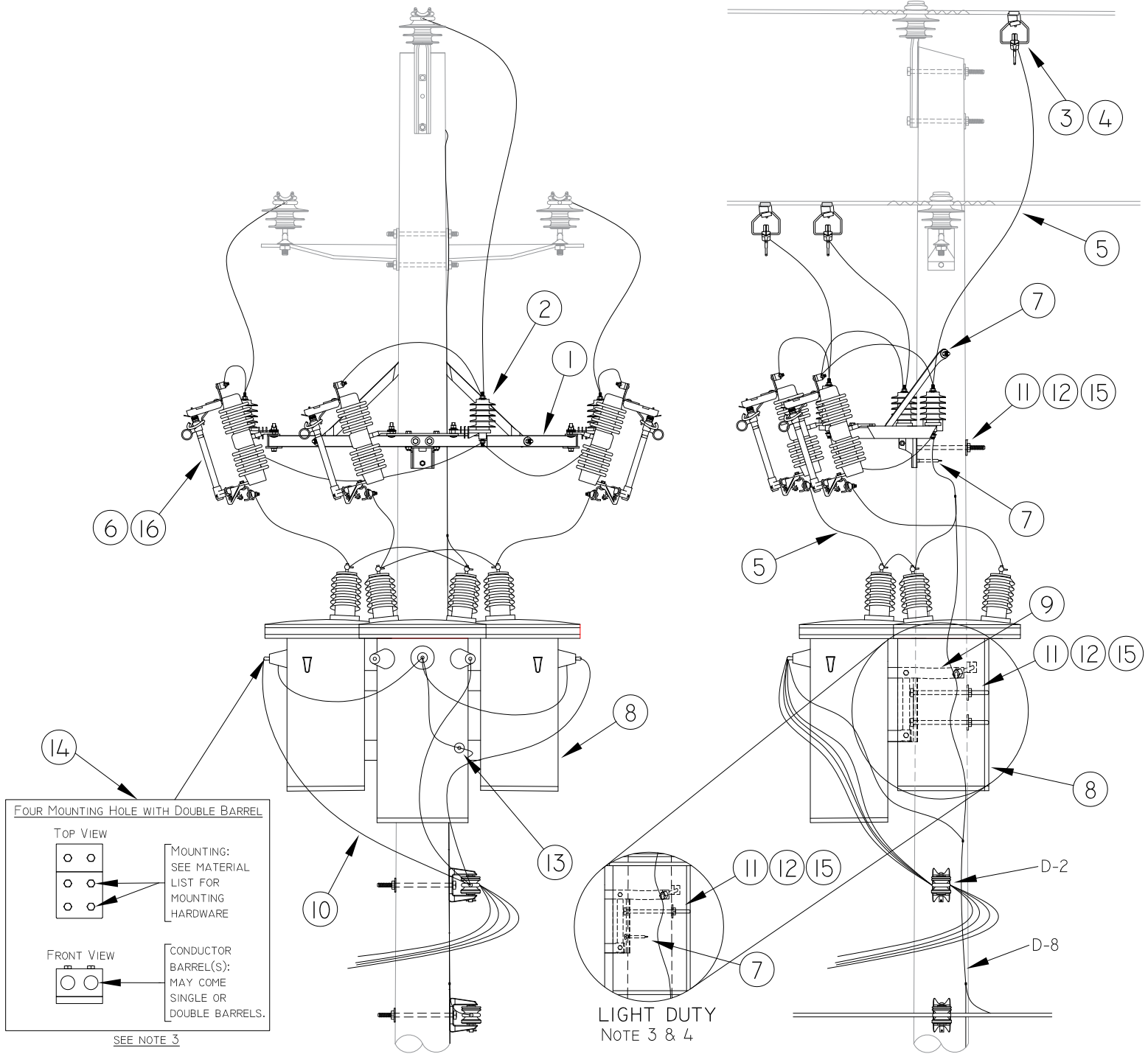
D-38-1





Material List

ITEM	CODE NO.	DESCRIPTION	QUANTITY
1	E1019-00	MOUNT 3-PHASE EQUIPMENT	1
2	E0024-00	LIGHTNING ARRESTOR 10 KV	3
3	E-	STIRRUP W/BAIL	3
4	E0008-00	CLAMP, HOTLINE COPPER	3
5	E0235-00	CABLE, #2 7/STR. BARE COPPER SOFT DRAWN	As Req'd.
6	E-	FUSE CUTOUT	3
7	E0135-00	SCREW 1/2" X 4 1/2" LAG GALVANIZED	4
8	E-	TRANSFORMER (Refer to Inventory List)	3
9	E-	BRACKET, CLUSTER MOUNT	1
10	E-	COPPER LEADS	As Req'd.
11	E0101-00	BOLT, MACHINE 5/8 X 12 GALVANIZED	3
12	E0138-00	WASHER 5/8" SQUARE 2 1/4" GALVANIZED	3
13	E0031-00	LUG TRANS. GROUNDING, 1/2-13	3
14	E-	TERMINALS FOR 100KVA OR LARGER TRANSFORMERS	As Req'd.
15	E0139-00	WASHER LOCK, 5/8" DOUBLE COIL SPRING COMPRESSED	3
16	E-	FUSELINKS (Refer to Inventory List)	3
		STIRRUPS	
	E0727-00	STIRRUP 1/0 STR W/#2 BAIL W/POWER BOOSTER	
	E0728-00	STIRRUP 4/0 STR W/ #2 BAIL W/POWER BOOSTER	
	E0730-00	STIRRUP 477 MCM W/ 1/0 BAIL W/POWER BOOSTER	
	E0731-00	STIRRUP 795 MCM W/ 2/0 BAIL, BURNDY	
		FUSE CUTOUT	
	E0012-00	FUSE CUTOUT 100 AMP, C710-213-P	
	E0012-01	FUSE CUTOUT, 200AMP 127KV BIL	
		TRANSFORMER MOUNT - *HEAVY DUTY: 75KVA AND ABOVE	
	E0007-00	BRACKET LITE DUTY CLUSTER MOUNT	
	E1027-00	BRACKET HEAVY DUTY TRANSFORMER MOUNT	
		COPPER LEADS	
	E0220-00	CABLE, CU #1/0 STR THW/THHN/THWN INSUL 600V BLACK	
	E0222-00	CABLE, CU #4/0 STR THW INSU 600 V, BLACK	
		TERMINALS	
	E0330-00	TERMINAL #2/0-4/0 STR CU 1-BARREL 2-HOLE	
	E0331-00	TERMINAL 4/0-300 MCM CU 1-BARREL, 2-HOLE	
	E0332-00	TERMINAL 300-500 MCM CU 1-BARREL, 2-HOLE	
	E0333-00	TERMINAL 500-750 MCM CU 1-BARREL, 4-HOLE	
	E0334-00	TERMINAL 750-1000 MCM CU 1-BARREL, 4-HOLE	
	E0335-00	TERMINAL 300-500 MCM CU 2-BARREL, 4-HOLE	
	E0336-00	TERMINAL 500-750 MCM CU 2-BARREL, 4-HOLE	
	E0337-00	TERMINAL 750-1000 CU 2-BARREL, 4-HOLE	
		<i>Include the following hardware for each hole of each terminal.</i>	
	E0140-00	BOLT 1/2" X 2" HEX STAINLESS STEEL	As Req'd.
	E0142-00	NUT 1/2" HEX STAINLESS STEEL	As Req'd.
	E0143-00	LOCKWASHER 1/2" STAINLESS STEEL	As Req'd.
	E0144-00	WASHER, 1/2" STAINLESS STEEL FLAT	As Req'd.
	<i>Notes:</i>	1. Install ground rod assembly. (Detail No. D-8)	
		2. Install secondary rack for each new service (D-2).	

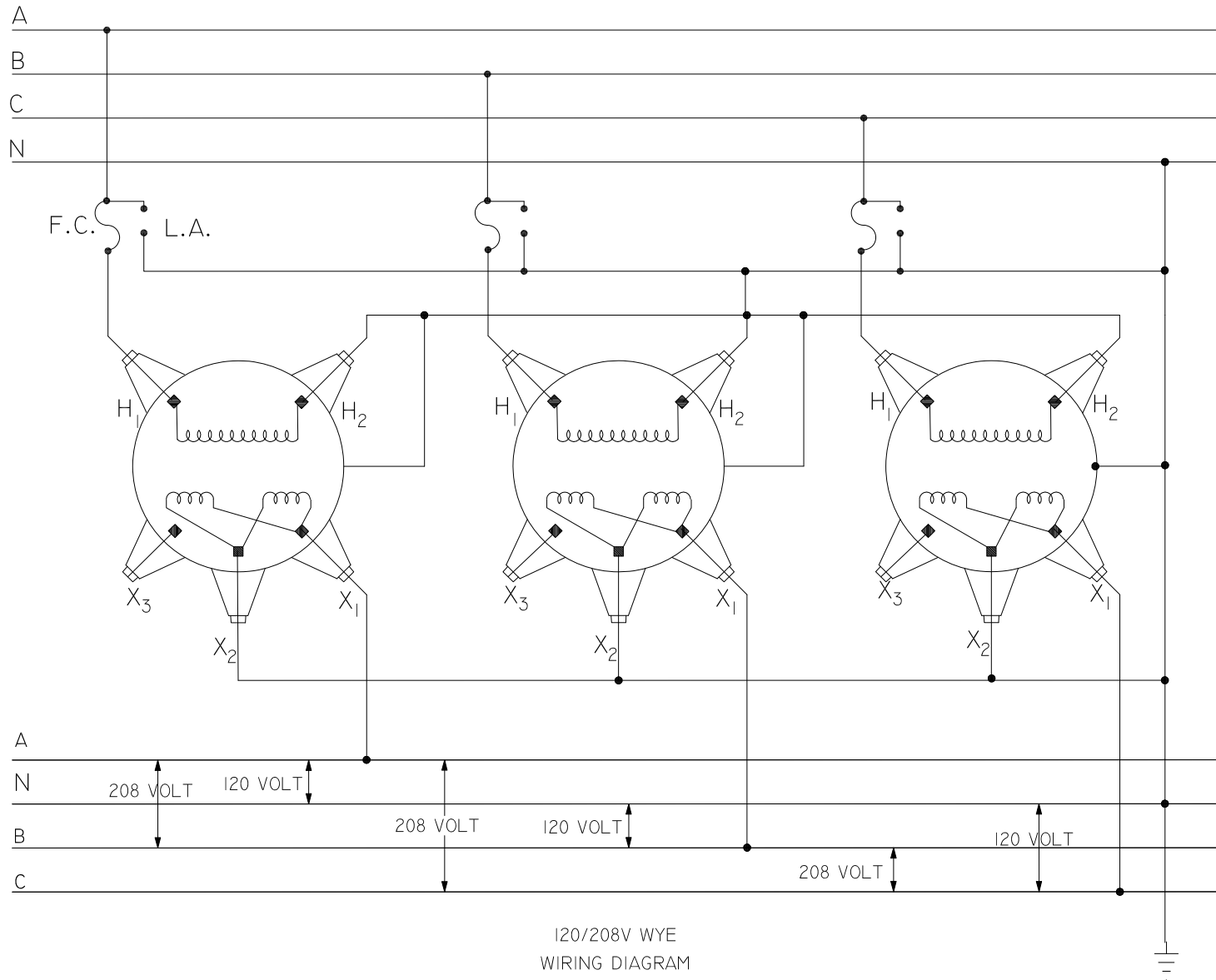
	THREE PHASE WYE-WYE TRANSFORMER BANK ON TANGENT STRUCTURE	DEVELOPED BY:	STANDARDS COMMITTEE
		APPROVED:	SEP 2020
		DRAWING NUMBER	D-39
			



- NOTE:
1. TRANSFORMER CLUSTER MOUNT TO BE GROUNDED.
 2. GROUND PRIMARY NEUTRAL.
 3. UTILIZE A HEAVY DUTY CLUSTER MOUNT IF ONE OR MORE TRANSFORMERS ARE 75kVA OR LARGER.
 4. LIGHT DUTY USES ONE BOLT, ONE LAG SCREW, ONE SQUARE WASHER, AND ONE SPRING WASHER. HEAVY DUTY TRANSFORMER CLUSTER MOUNT USES TWO BOLTS, TWO SQUARE WASHERS, AND TWO SPRING WASHERS.
 5. TERMINALS ARE AVAILABLE IN DIFFERENT COMBINATIONS OF MOUNTING HOLES AND CONDUCTOR BARRELS. REFER TO MATERIAL LIST FOR OPTIONS.

 BROWNSVILLE PUBLIC UTILITIES BOARD	THREE PHASE WYE-WYE TRANSFORMER BANK ON TANGENT STRUCTURE	DEVELOPED BY:	STANDARDS COMMITTEE	
		APPROVED:	SEP 2020	
		DRAWING NUMBER	D-39	

7.2/12.5 KV

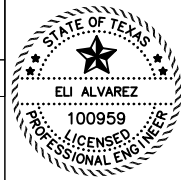


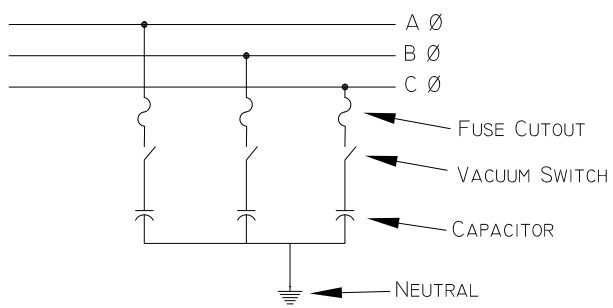
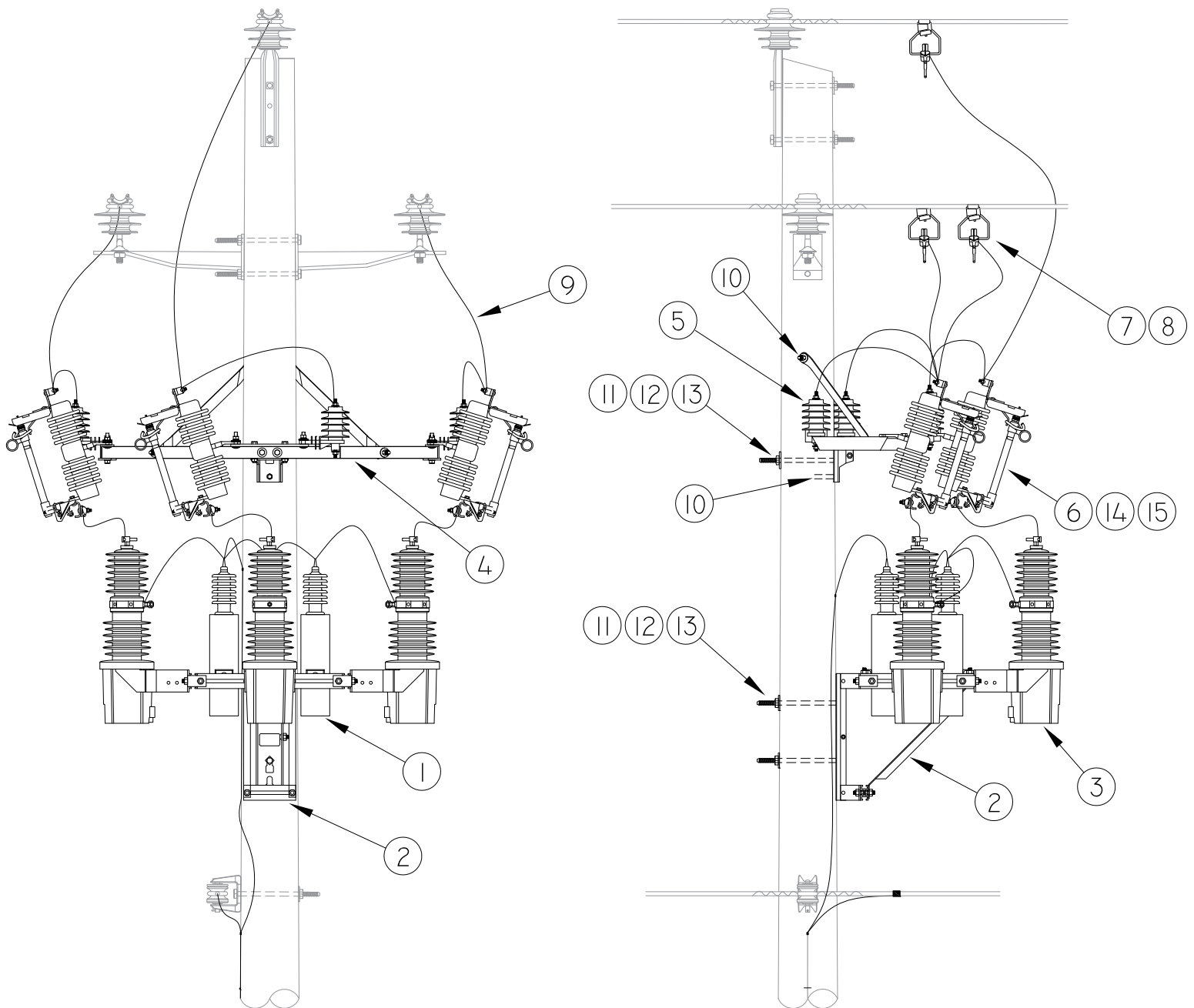
**THREE PHASE WYE-WYE
TRANSFORMER
WIRING DIAGRAM**



DEVELOPED BY:
APPROVED:
DRAWING
NUMBER

STANDARDS
COMMITTEE
SEP 2020
D-39-1





WIRING DIAGRAM

NOTE: I. INSTALL GROUND ROD ASSEMBLY. (DETAIL NO. D-8)



600 KVAR CAPACITOR CLUSTER MOUNT

DEVELOPED BY:
APPROVED:
DRAWING
NUMBER

STANDARDS
COMMITTEE
SEP 2020
D-40A



Material List

ITEM	CODE NO.	DESCRIPTION	QUANTITY
1	E1031-00	CAPACITOR 200 KVAR 7200 VOLTS	6
2	E1034-00	RACK 6-UNIT CAPACITOR	1
3	E1075-00	SWITCH CAPACITOR 200 AMP	3
4	E1019-00	MOUNT 3-PHASE EQUIPMENT	1
5	E0024-00	LIGHTING ARRESTOR 10 KV	3
6	E-	FUSE CUTOUT	3
7	E-	STIRRUP	3
8	E0008-00	CLAMP, HOTLINE COPPER	3
9	E0235-00	CABLE, #2 7/STR BARE COPPER	As Req'd.
10	E0135-00	SCREW 1/2" X 4 1/2" LAG GALVANIZED	3
11	E0101-00	BOLT, MACHINE 5/8 X 12 GALVANIZED	3
12	E0138-00	WASHER 5/8" SQUARE 2 1/4" GALVANIZED	3
13	E0139-00	WASHER LOCK, 5/8" DOUBLE COIL SPRING COMPRESSED	3
14	E0465-00	FUSEHOLDER 100 AMP 15/27KV LOADBREAK W/LEVER	3
15	E-	FUSELINKS (Refer to Inventory List)	3
		FUSE CUTOUT	
	E0012-00	FUSE CUTOUT 100 AMP, C710-213-P	
	E0012-01	FUSE CUTOUT, 200AMP 127KV BIL	
		STIRRUPS	
	E0727-00	STIRRUP 1/0 STR W/#2 BAIL W/POWER BOOSTER	
	E0728-00	STIRRUP 4/0 STR W/#2 BAIL W/POWER BOOSTER	
	E0730-00	STIRRUP 477 MCM W/1/0 BAIL W/POWER BOOSTER	
	E0731-00	STIRRUP 795 MCM W/2/0 BAIL	
		<i>Notes: 1. Install ground rod assembly. (Detail No. D-8)</i>	

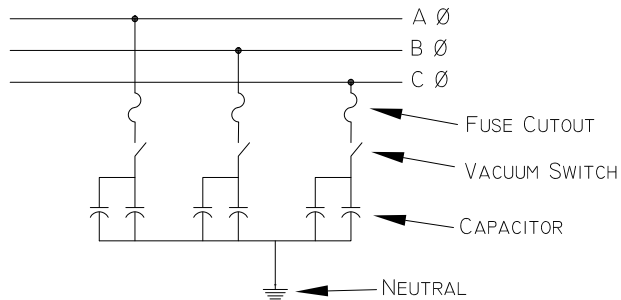
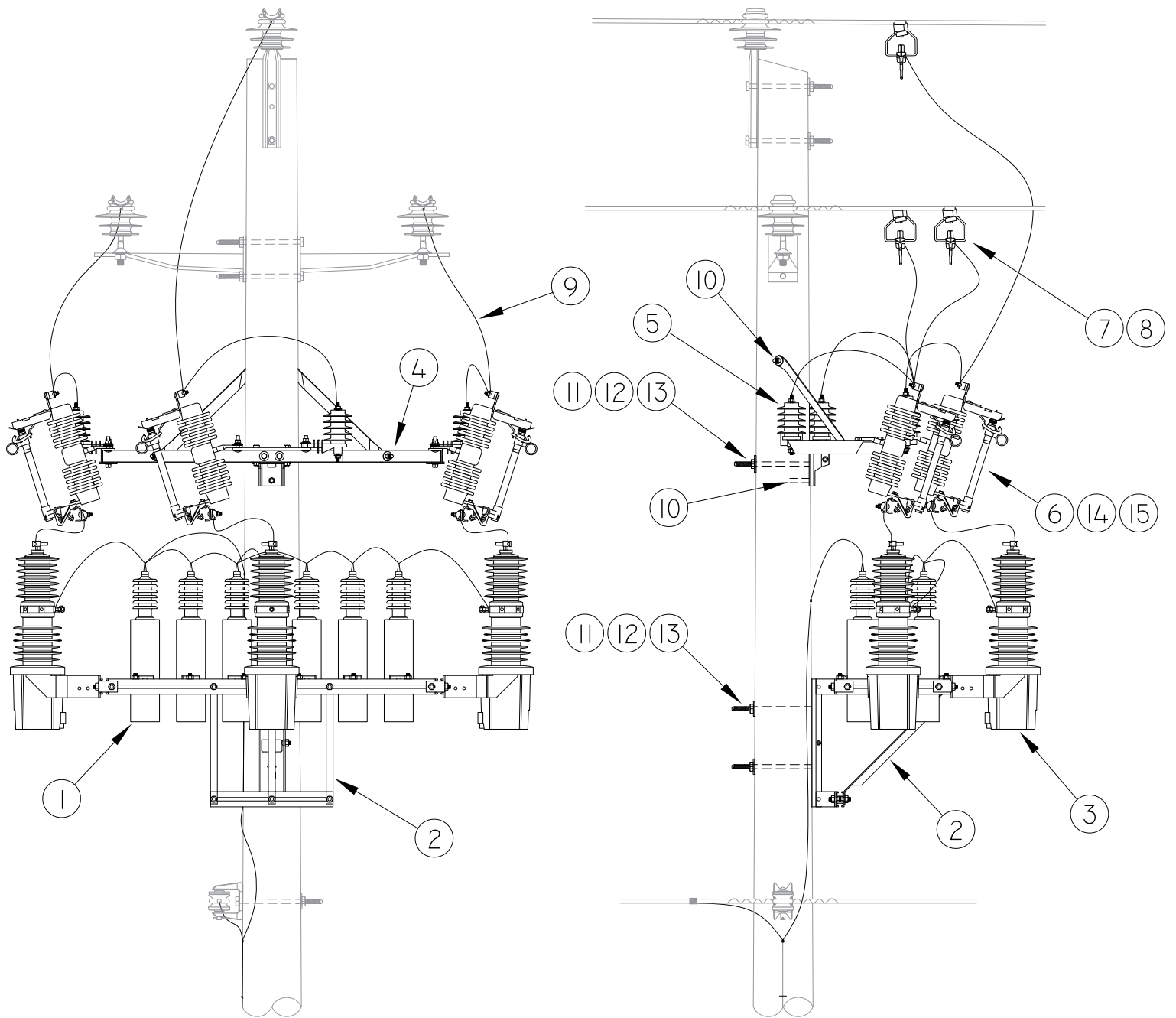


**1200 KVAR
CAPACITOR CLUSTER MOUNT**

DEVELOPED BY:	STANDARDS COMMITTEE
APPROVED:	SEP 2020
DRAWING NUMBER	D-40B

STANDARDS COMMITTEE
SEP 2020
D-40B





WIRING DIAGRAM

NOTE: I. INSTALL GROUND ROD ASSEMBLY. (DETAIL NO. D-8)



1200 KVAR CAMPACITOR CLUSTER MOUNT

DEVELOPED BY:

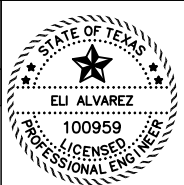
STANDARDS
COMMITTEE

APPROVED:

SEP 2020

DRAWING
NUMBER

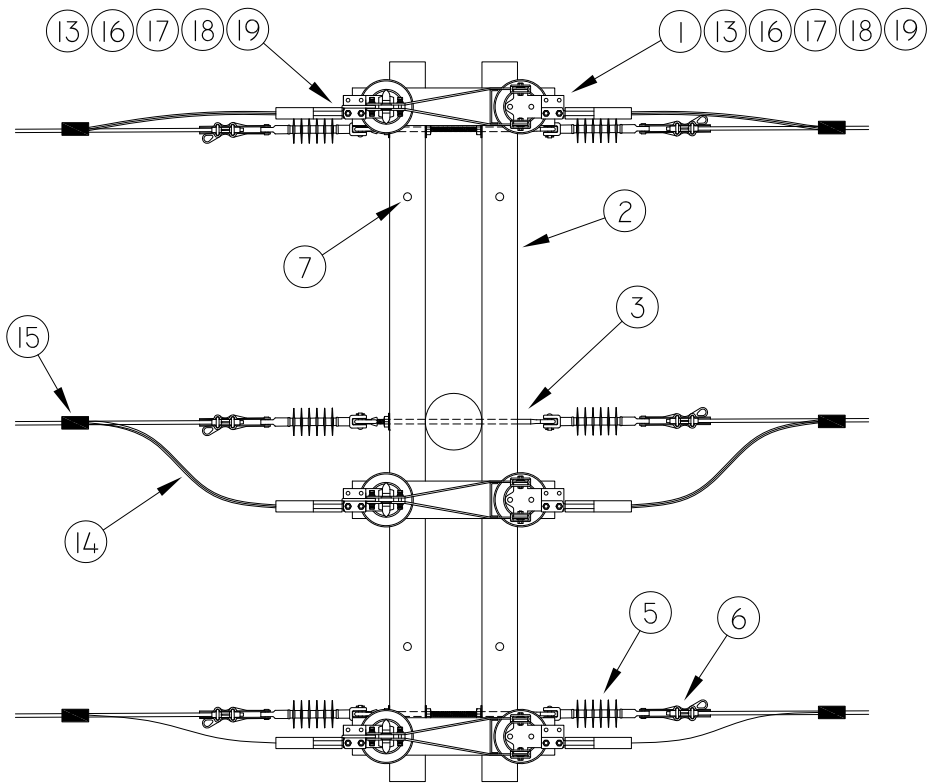
D-40B



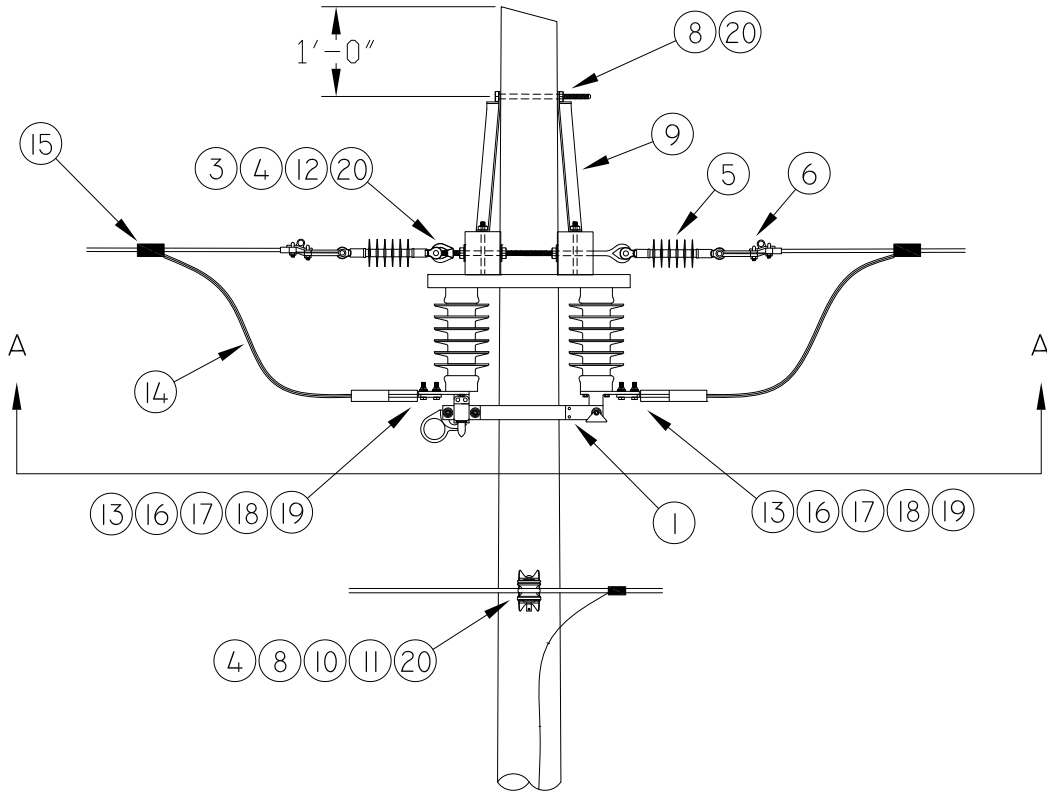
Material List

ITEM	CODE NO.	DESCRIPTION	QUANTITY
1	E1136-00	SWITCH 1200 AMP DISCONNECT	3
2	E1050-00	CROSSARM 8' FT WOODEN HEAVY DUTY D.F.	2
3	E0124-00	BOLT, D.A.E. 5/8" X 22" GALVANIZED	3
4	E0138-00	WASHER 5/8" SQUARE 2 1/4" GALVANIZED	8
5	E0021-00	INSULATOR, 28 KV SUSPENSION	6
6	E-	DEADEND CLAMP	6
7	E0128-00	BOLT, CARRIAGE 1/2-13" X 7" GALVANIZED W/NUTS	4
8	E0101-00	BOLT, MACHINE 5/8 X 12 GALVANIZED	2
9	E1024-00	BRACE CROSSARM ANGLE	2
10	E0010-00	CLEVIS, ONE POINT GALVANIZED	1
11	E0022-00	INSULATOR, 3" SPOOL	1
12	E0136-00	NUT 5/8" OVAL EYE GALVANIZED	3
13	E-	2 HOLE TERMINAL	6
14	E-	JUMPERS	6
15	E-	IMPACT	6
16	E0140-00	BOLT 1/2" X 2" HEX STAINLESS STEEL	12
17	E0142-00	NUT 1/2" HEX STAINLESS STEEL	12
18	E0143-00	LOCKWASHER 1/2" STAINLESS STEEL	12
19	E0144-00	WASHER, 1/2" STAINLESS STEEL FLAT	12
20	E0139-00	WASHER LOCK, 5/8" DOUBLE COIL SPRING COMPRESSED	4
		DEADEND CLAMP	
	E1037-00	CLAMP 1/0-4/0 DEADEND	
	E1038-00	CLAMP 477 MCM DEADEND	
	E1039-00	CLAMP 795 MCM DEADEND	
		2 HOLE TERMINAL	
	E0792-00	ADAPTER 477 MCM TERMINAL	
	E0797-00	ADAPTER 795 MCM TERMINAL	
		IMPACT	
	E0720-00	CONNECTOR 477 MCM-477 MCM AL CU TAP	
	E0724-00	CONNECTOR 795 MCM-795 MCM	
		JUMPERS	
	E0214-00	CABLE, AL 477 MCM BARE AAC	
	E0215-00	CABLE, AL 795 MCM BARE AAC	

	7.2KV W/3-SINGLE PHASE DISCONNECT KNIFE SWITCH	DEVELOPED BY:	STANDARDS COMMITTEE	
		APPROVED:	SEP 2020	
		DRAWING NUMBER	D-41	



SECTION A-A



7.2 KV W/3-SINGLE PHASE
DISCONNECT KNIFE SWITCH

DEVELOPED BY:

STANDARDS
COMMITTEE

APPROVED:

SEP 2020

DRAWING
NUMBER

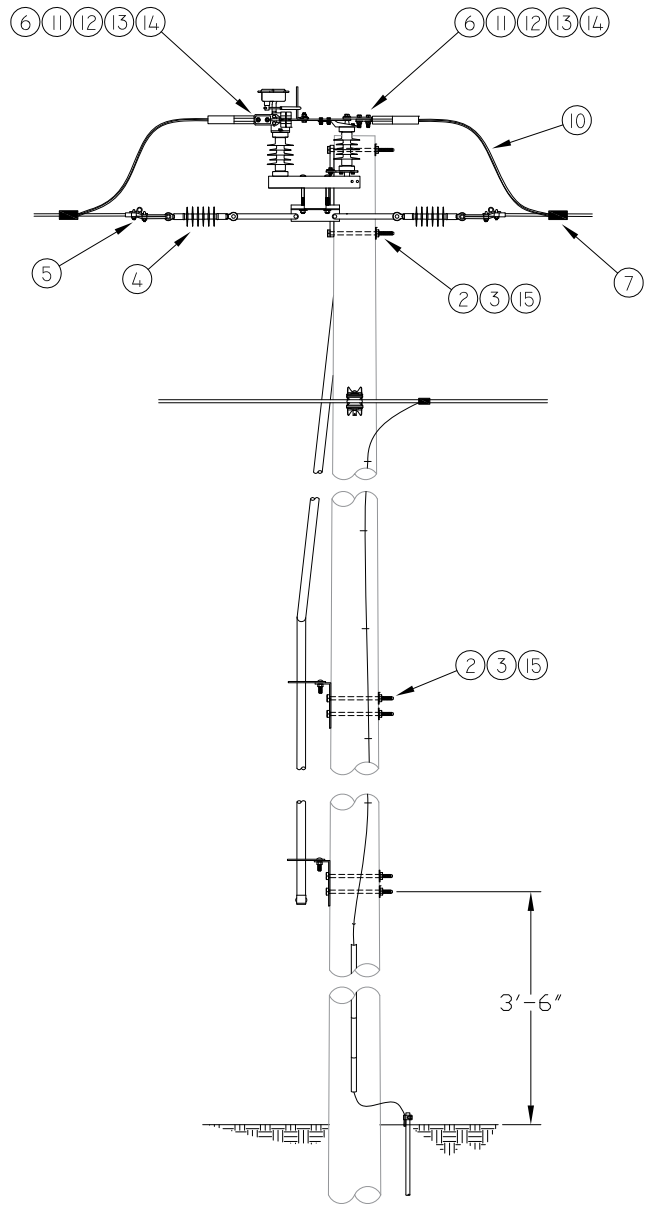
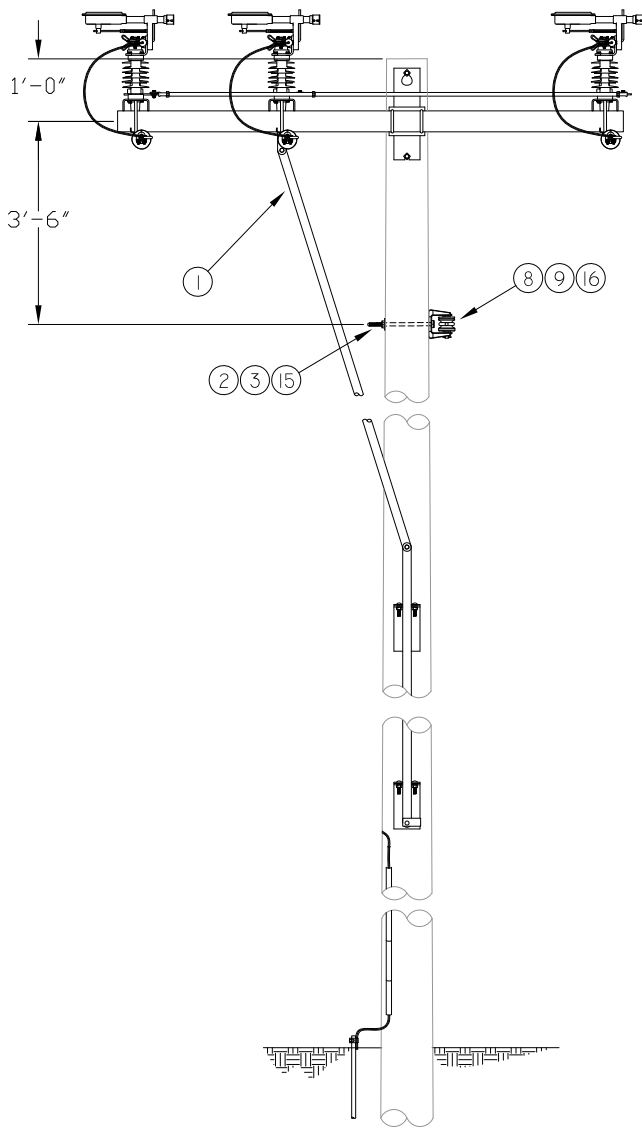
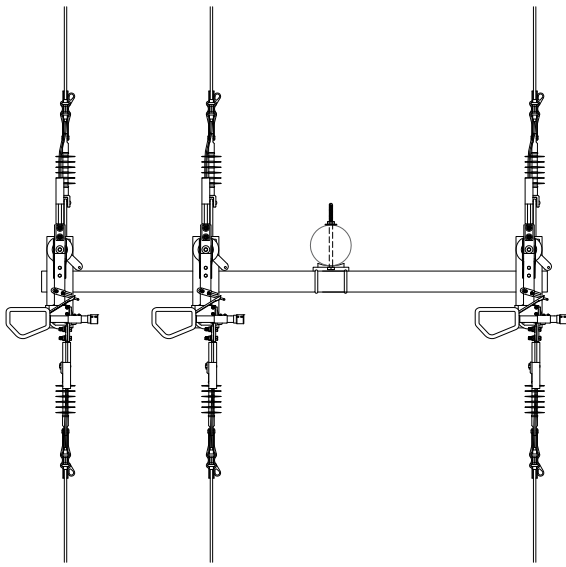
D-41



Material List

ITEM	CODE NO.	DESCRIPTION	QUANTITY
1	E1085-00	SWITCH 3 PHASE 15 KV 900 AMP	1
2	E0101-00	BOLT, MACHINE 5/8 X 12 GALVANIZED	7
3	E0138-00	WASHER 5/8" SQUARE 2 1/4" GALVANIZED	7
4	E0021-00	INSULATOR, 28 KV SUSPENSION	6
5	E-	DEADEND CLAMP	6
6	E-	2-HOLE TERMINAL	6
7	E-	IMPACTS	6
8	E0010-00	CLEVIS, ONE POINT GALVANIZED	1
9	E0022-00	INSULATOR, 3" SPOOL	1
10	E-	JUMPERS	6
11	E0140-00	BOLT 1/2" X 2" HEX STAINLESS STEEL	12
12	E0142-00	NUT 1/2" HEX STAINLESS STEEL	12
13	E0143-00	LOCKWASHER 1/2" STAINLESS STEEL	12
14	E0144-00	WASHER, 1/2" STAINLESS STEEL FLAT	12
15	E0139-00	WASHER LOCK, 5/8" DOUBLE COIL SPRING COMPRESSED	7
16	E0234-00	CABLE, #4 SOL ALUMINUM TIE	As Req'd
		DEADEND CLAMP	
	E1037-00	CLAMP 1/0-4/0 DEADEND	
	E1038-00	CLAMP 477 MCM DEADEND	
	E1039-00	CLAMP 795 MCM DEADEND	
		2 HOLE TERMINAL	
	E0792-00	ADAPTER 477 MCM TERMINAL	
	E0797-00	ADAPTER 795 MCM TERMINAL	
		IMPACT	
	E0720-00	CONNECTOR 477 MCM-477 MCM AL CU TAP	
	E0724-00	CONNECTOR 795 MCM-795 MCM	
		JUMPERS	
	E0214-00	CABLE, AL 477 MCM BARE AAC	
	E0215-00	CABLE, AL 795 MCM BARE AAC	
		<i>Notes:</i>	
		1. Install ground rod assembly. (Detail No. D-8)	
		2. Install impacts as needed.	

 <p>BROWNSVILLE PUBLIC UTILITIES BOARD</p>	<p>12.5KV 3-PHASE GANG OPERATED OVERHEAD SWITCH</p>	DEVELOPED BY:	STANDARDS COMMITTEE
		APPROVED:	SEP 2020
		DRAWING NUMBER	D-42
			



NOTE: 1. INSTALL GROUND ROD ASSEMBLY. (DETAIL NO. D-8)



12.5 KV 3-PHASE GANG OPERATED OVERHEAD SWITCH

DEVELOPED BY:

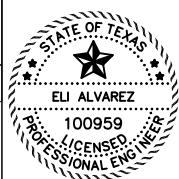
STANDARDS COMMITTEE

APPROVED:

SEP 2020

DRAWING NUMBER

D-42



Material List

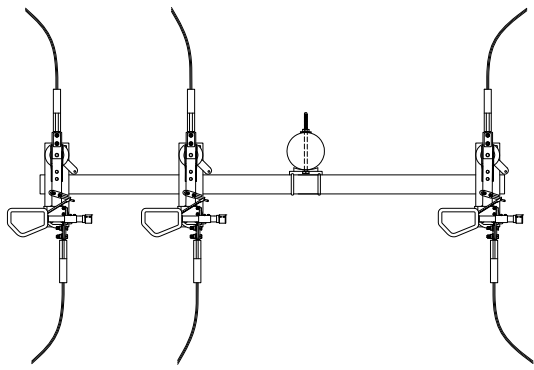
ITEM	CODE NO.	DESCRIPTION	QUANTITY
1	E1050-00	CROSSARM 8' FT WOODEN HEAVY DUTY D.F.	2
2	E0124-00	BOLT, D.A.E. 5/8" X 22" GALVANIZED	3
3	E0136-00	NUT 5/8" OVAL EYE GALVANIZED	3
4	E1024-00	BRACE CROSSARM ANGLE	2
5	E0128-00	BOLT, CARRIAGE 1/2-13" X 7" GALVANIZED W/NUTS	4
6	E1085-00	SWITCH 3 PHASE 15KV 900 AMP	1
7	E0101-00	BOLT, MACHINE 5/8 X 12 GALVANIZED	8
8	E0138-00	WASHER 5/8" SQUARE 2 1/4" GALVANIZED	16
9	E0021-00	INSULATOR, 28 KV SUSPENSION	6
10	E-	DEADEND CLAMP	6
11	E-	2 HOLE TERMINAL	6
12	E-	IMPACT	6
13	E-	JUMPERS	6
14	E0010-00	CLEVIS, ONE POINT GALVANIZED	1
15	E0022-00	INSULATOR, 3" SPOOL	1
16	E0140-00	BOLT 1/2" X 2" HEX STAINLESS STEEL	12
17	E0142-00	NUT 1/2" HEX STAINLESS STEEL	12
18	E0143-00	LOCKWASHER 1/2" STAINLESS STEEL	12
19	E0144-00	WASHER, 1/2" STAINLESS STEEL FLAT	12
20	E0139-00	WASHER LOCK, 5/8" DOUBLE COIL SPRING COMPRESSED	11
		DEADEND CLAMP	
	E1037-00	CLAMP 1/0-4/0 DEADEND	
	E1038-00	CLAMP 477 MCM DEADEND	
	E1039-00	CLAMP 795 MCM DEADEND	
		2 HOLE TERMINAL	
	E0792-00	ADAPTHER 477 MCM TERMINAL	
	E0797-00	ADAPTHER 795 MCM TERMINAL	
		IMPACT	
	E0720-00	CONNECTOR 477 MCM-477 MCM AL CU TAP	
	E0724-00	CONNECTOR 795 MCM-795 MCM	
		JUMPERS	
	E0214-00	CABLE, AL 477 MCM BARE AAC	
	E0215-00	CABLE, AL 795 MCM BARE AAC	
		<i>Note: 1. Install ground rod assembly. (Detail No. D-8)</i>	
		<i>2. Make copper to aluminum connection with copper ground wire oriented below aluminum neutral.</i>	



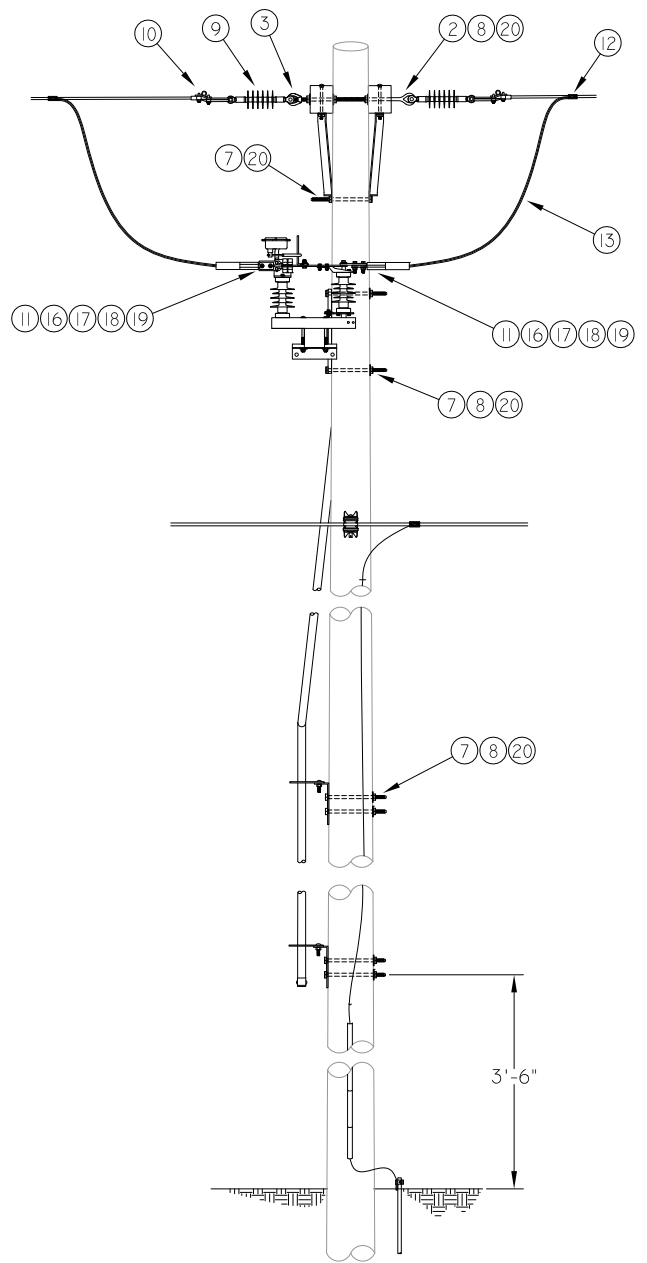
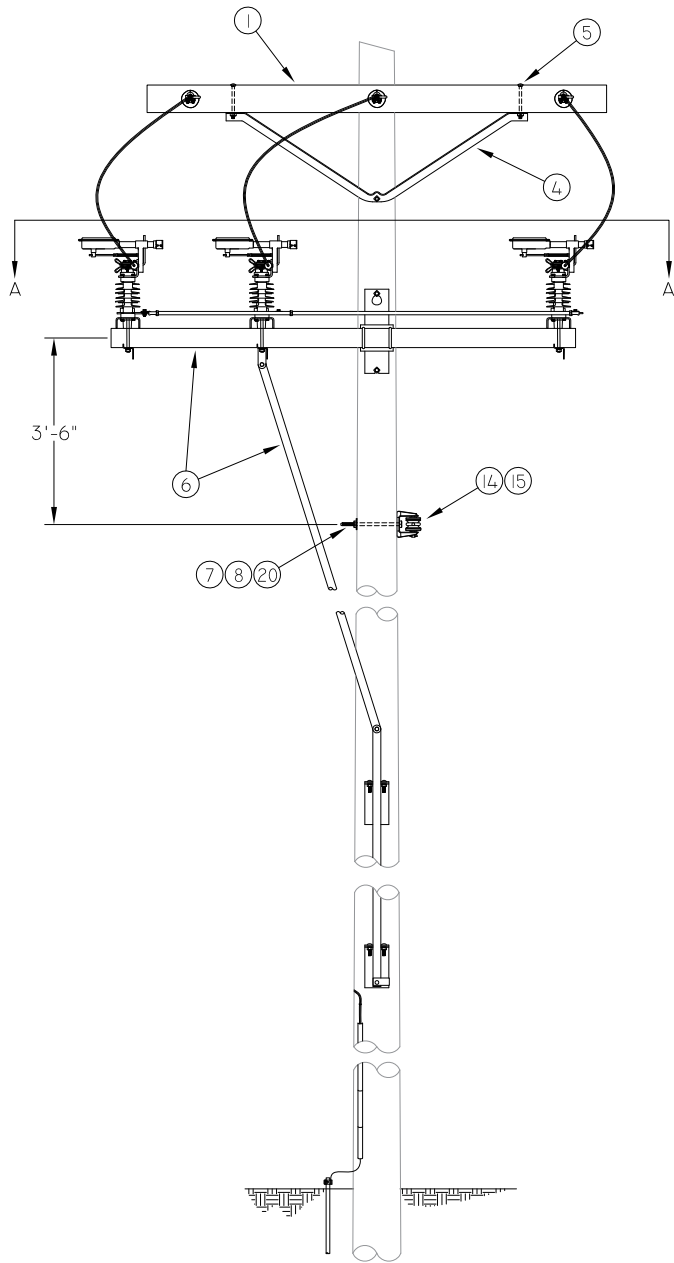
**12.5 KV 3-PHASE GANG
OPERATED OVERHEAD SWITCH**

DEVELOPED BY:	STANDARDS COMMITTEE
APPROVED:	SEP 2020
DRAWING NUMBER	D-42A





SECTION A-A



NOTE: 1. INSTALL GROUND ROD ASSEMBLY. (DETAIL NO. D-8)



12.5 KV 3-PHASE GANG OPERATED OVERHEAD SWITCH

DEVELOPED BY:

STANDARDS COMMITTEE

APPROVED:

SEP 2020

DRAWING NUMBER

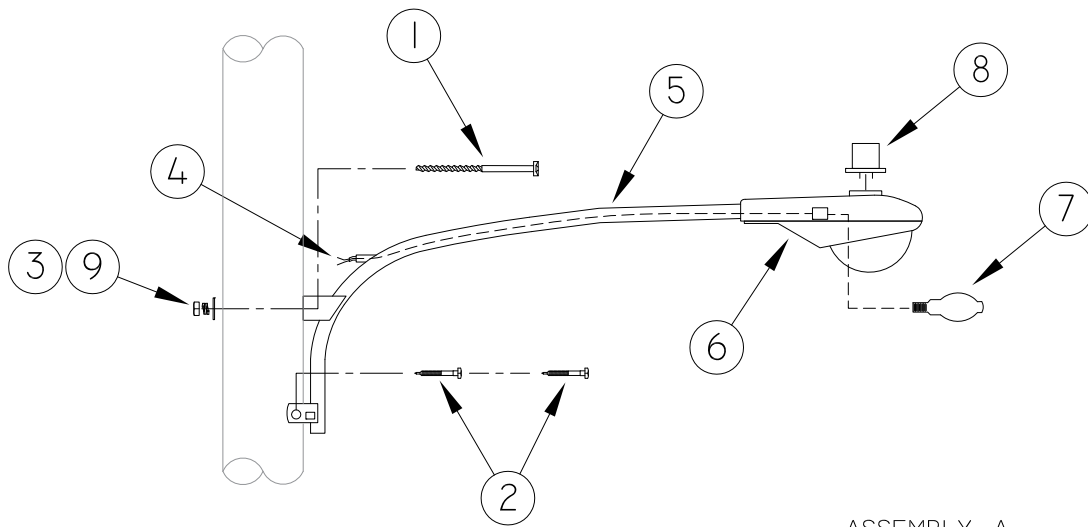
D-42A



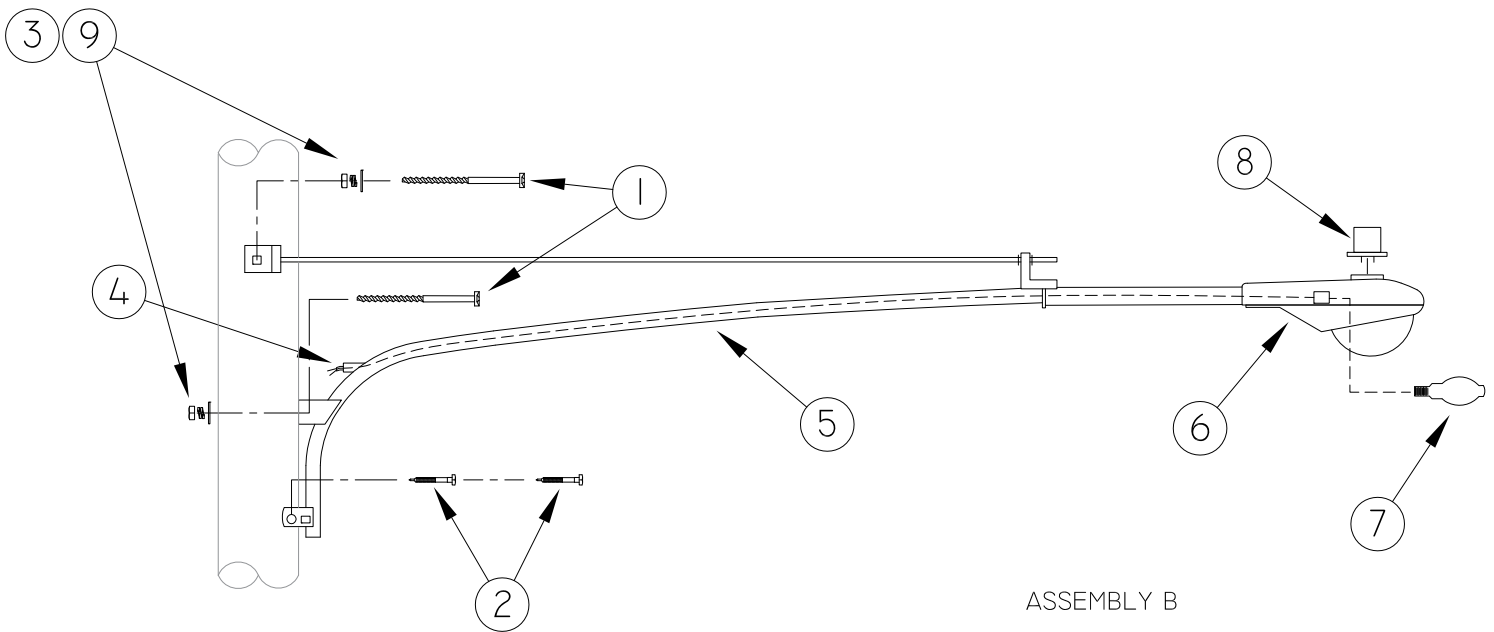
Material List

ITEM	CODE NO.	DESCRIPTION	QUANTITY
ASSEMBLY A			
1	E0101-00	BOLT, MACHINE 5/8" X 12" GALVANIZED	1
2	E0135-00	SCREW 1/2" X 4 1/2" LAG GALVANIZED	2
3	E0138-00	WASHER 5/8" SQUARE 2 1/4" GALVANIZED	1
4	E1214-00	CABLE #12-3 TYPE SEO 600 VOLTS	9 FT
5	E-	ARM	1
6	E-	FIXTURE	1
7	E-	LAMP	1
8	E1242-00	PHOTOCELL 1000W 105-305V	1
9	E0139-00	WASHER LOCK, 5/8" DOUBLE COIL SPRING COMPRESSED	1
10		CRIMPIT	1
ASSEMBLY B			
1	E0101-00	BOLT, MACHINE 5/8" X 12" GALVANIZED	2
2	E0135-00	SCREW 1/2" X 4 1/2" LAG GALVANIZED	2
3	E0138-00	WASHER 5/8" SQUARE 2 1/4" LAG GALVANIZED	2
4	E1214-00	CABLE #12-3 TYPE SEO 600 VOLTS	18 FT
5	E-	ARM	1
6	E-	FIXTURE	1
7	E-	LAMP	1
8	E1242-00	PHOTOCELL 1000W 105-305V	1
9	E0139-00	WASHER LOCK, 5/8" DOUBLE COIL SPRING COMPRESSED	2
10		CRIMPIT	1
ARM (ASSEMBLY A)			
	E1201-00	ARM 2.5 FT STREET LIGHT	
	E1202-00	ARM 4 FT STREET LIGHT	
	E1203-00	ARM 6 FT STREET LIGHT	
ARM (ASSEMBLY B)			
	E1204-00	ARM 12 FT STREET LIGHT	
	E1205-00	ARM 14 FT STREET LIGHT	
FIXTURE			
	E1222-00	100 W HPS LUMINAIRE	
	E1223-00	250 W HPS LUMINAIRE	
	E1224-00	400 W HPS LUMINAIRE	
	E1226-00	400 W HPS LUMINAIRE 480V	
	E1222-01	100 W MH LUMINAIRE	
	E1223-01	250 W MH LUMINAIRE	
	E1224-01	400 W MH LUMINAIRE	
LAMP			
	E1231-00	100 W HPS LAMP	
	E1233-00	250 W HPS LAMP	
	E1234-00	400 W HPS LAMP	
	E1231-01	100 W MH LAMP	
	E1233-01	250 W MH LAMP	
	E1234-01	400 W MH LAMP	

	TYPICAL HPS AND MH AREA LIGHT INSTALLATION ON WOOD POLE	DEVELOPED BY:	STANDARDS COMMITTEE
		APPROVED:	SEP 2020
		DRAWING NUMBER	D-43
			



ASSEMBLY A



ASSEMBLY B



TYPICAL HPS AND MH
AREA LIGHT INSTALLATION
ON WOOD POLE

DEVELOPED BY:

STANDARDS
COMMITTEE

APPROVED:

SEP 2020

DRAWING
NUMBER

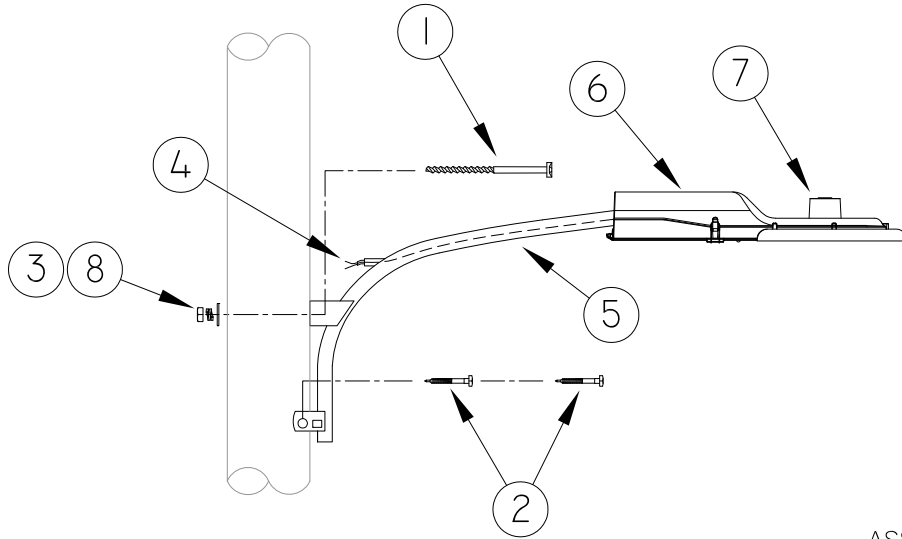
D-43



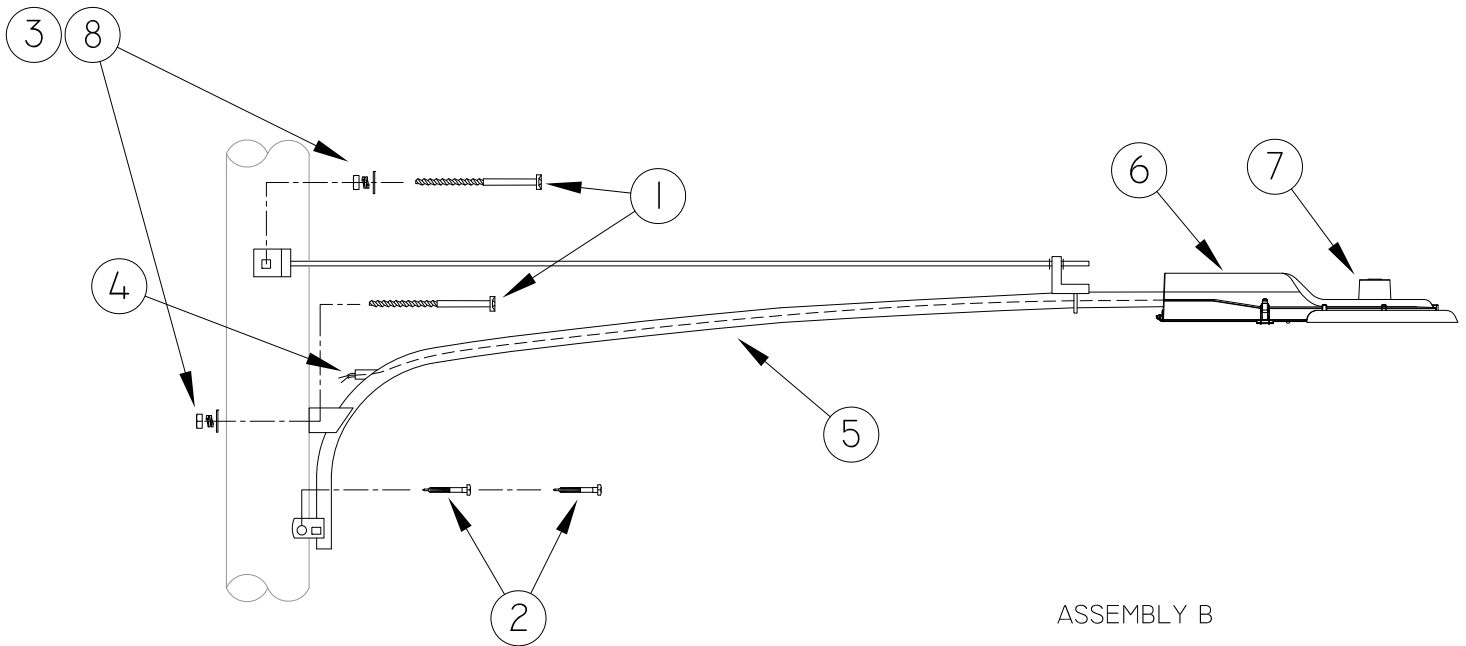
Material List

ITEM	CODE NO.	DESCRIPTION	QUANTITY
ASSEMBLY A			
1	E0101-00	BOLT, MACHINE 5/8" X 12" GALVANIZED	1
2	E0135-00	SCREW 1/2" X 4 1/2" LAG GALVANIZED	2
3	E0138-00	WASHER 5/8" SQUARE 2 1/4" GALVANIZED	1
4	E1214-00	CABLE #12-3 TYPE SEO 600 VOLTS	9 FT
5	E-	ARM	1
6	E-	FIXTURE	1
7	E1242-01	PHOTOCELL LED, 1000W 120/208/240/277V	1
8	E0139-00	WASHER LOCK, 5/8" DOUBLE COIL SPRING COMPRESSED	1
ASSEMBLY B			
1	E0101-00	BOLT, MACHINE 5/8" X 12" GALVANIZED	2
2	E0135-00	SCREW 1/2" X 4 1/2" LAG GALVANIZED	2
3	E0138-00	WASHER 5/8" SQUARE 2 1/4" LAG GALVANIZED	2
4	E1214-00	CABLE #12-3 TYPE SEO 600 VOLTS	18 FT
5	E-	ARM	1
6	E-	FIXTURE	1
7	E1242-01	PHOTOCELL LED, 1000W 120/208/240/277V	1
8	E0139-00	WASHER LOCK, 5/8" DOUBLE COIL SPRING COMPRESSED	2
ARM (ASSEMBLY A)			
	E1201-00	ARM 2.5 FT STREET LIGHT	
	E1202-00	ARM 4 FT STREET LIGHT	
	E1203-00	ARM 6 FT STREET LIGHT	
ARM (ASSEMBLY B)			
	E1204-00	ARM 12 FT STREET LIGHT	
	E1205-00	ARM 14 FT STREET LIGHT	
FIXTURE			
	E1222-02	LED LUMINAIRE EQUIVALENT 100W 120 - 277V	
	E1223-04	LED LUMINAIRE EQUIVALENT 250W 120 - 277V	
	E1224-02	LED LUMINAIRE EQUIVALENT 400W 120 - 277V	
	E1223-03	LED LUMINAIRE EQUIVALENT 250W 480V	
	E1226-01	LED LUMINAIRE EQUIVALENT 400W 480V	
PHOTOCELL			
	E1243-01	PHOTOCELL LED, 1000W 480V	
<i>Note: All new installations will be LED.</i>			

 BROWNSVILLE PUBLIC UTILITIES BOARD	TYPICAL LED AREA LIGHT INSTALLATION ON WOOD POLE	DEVELOPED BY:	STANDARDS COMMITTEE
		APPROVED:	SEP 2020
		DRAWING NUMBER	D-43L
			



ASSEMBLY A



ASSEMBLY B

NOTE: ALL NEW LIGHT INSTALLATIONS WILL BE LED.



TYPICAL LED AREA LIGHT
INSTALLATION ON
WOOD POLE

DEVELOPED BY:

STANDARDS
COMMITTEE

APPROVED:

SEP 2020

DRAWING
NUMBER

D-43L



Material List

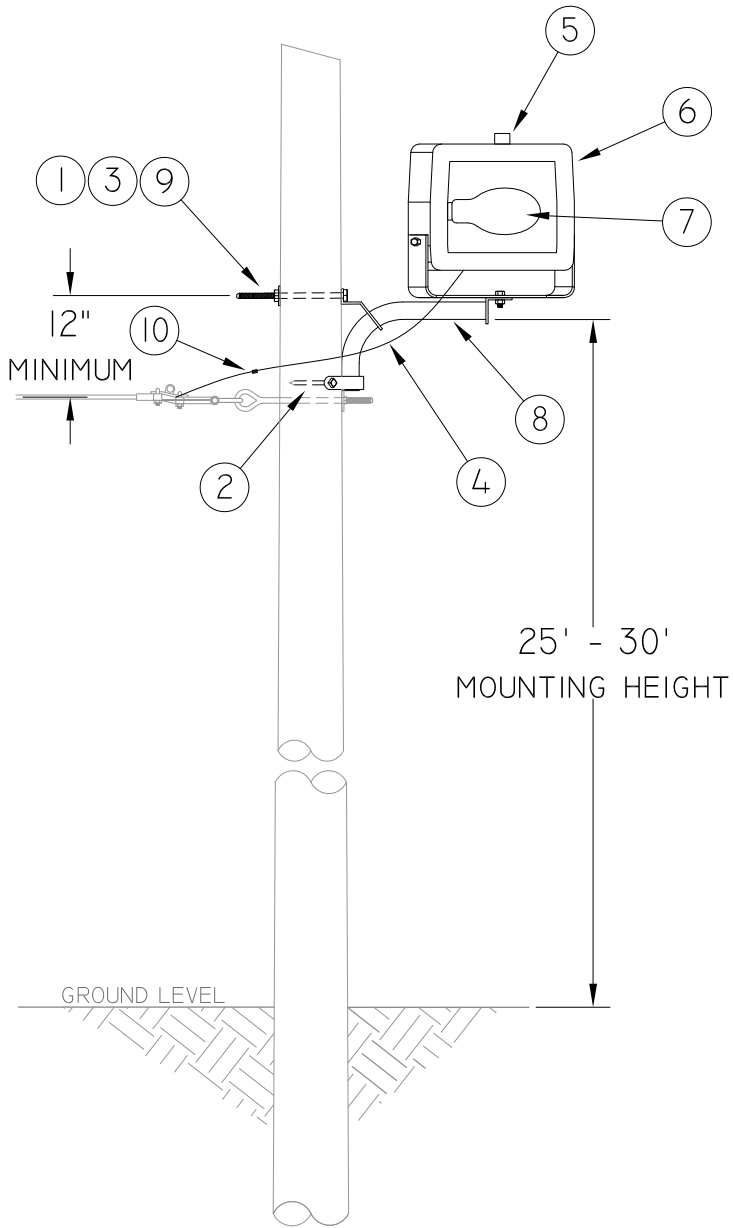
ITEM	CODE NO.	DESCRIPTION	QUANTITY
ASSEMBLY A			
1	E0101-00	BOLT, MACHINE 5/8" X 12" GALVANIZED	1
2	E0135-00	SCREW 1/2" X 4 1/2" LAG GALVANIZED	2
3	E0138-00	WASHER 5/8" SQUARE 2 1/4" GALVANIZED	1
4	E1214-00	CABLE #12-3 TYPE SEO 600 VOLTS	9 FT
5	E1242-00	PHOTOCELL 1000W 105-305V	1
6	E-	FIXTURE	1
7	E-	LAMP	1
8	E1207-00	BRACKET ALUMINUM FLOODLIGHT	1
9	E0139-00	WASHER LOCK, 5/8" DOUBLE COIL SPRING COMPRESSED	1
10		CRIMPIT	
ASSEMBLY B			
1	E0101-00	BOLT, MACHINE 5/8" X 12" GALVANIZED	1
2	E0135-00	SCREW 1/2" X 4 1/2" LAG GALVANIZED	2
3	E0138-00	WASHER 5/8" SQUARE 2 1/4" GALVANIZED	1
4	E1214-00	CABLE #12-3 TYPE SEO 600 VOLTS	18 FT
5	E1242-00	PHOTOCELL 1000W 105-305V	2
6	E-	FIXTURE	2
7	E-	LAMP	2
8	E1207-00	BRACKET ALUMINUM FLOODLIGHT	1
9	E1206-00	BRACKET DOUBLE FLOODLIGHT MOUNTING	1
10	E0139-00	WASHER LOCK, 5/8" DOUBLE COIL SPRING COMPRESSED	1
11		CRIMPIT	
FIXTURE			
	E1219-00	100 W HPS FLOODLIGHT	
	E1220-00	400 W HPS FLOODLIGHT	
	E1221-00	1000 W HPS FLOODLIGHT	
	E1219-01	100 W MH FLOODLIGHT	
	E1220-01	400 W MH FLOODLIGHT	
	E1221-01	1000 W MH FLOODLIGHT	
LAMP			
	E1231-00	100 W HPS FLOODLIGHT	
	E1234-00	400 W HPS FLOODLIGHT	
	E1235-00	1000 W HPS FLOODLIGHT	
	E1231-01	100 W MH FLOODLIGHT	
	E1234-01	400 W MH FLOODLIGHT	
	E1235-01	1000 W MH FLOODLIGHT	



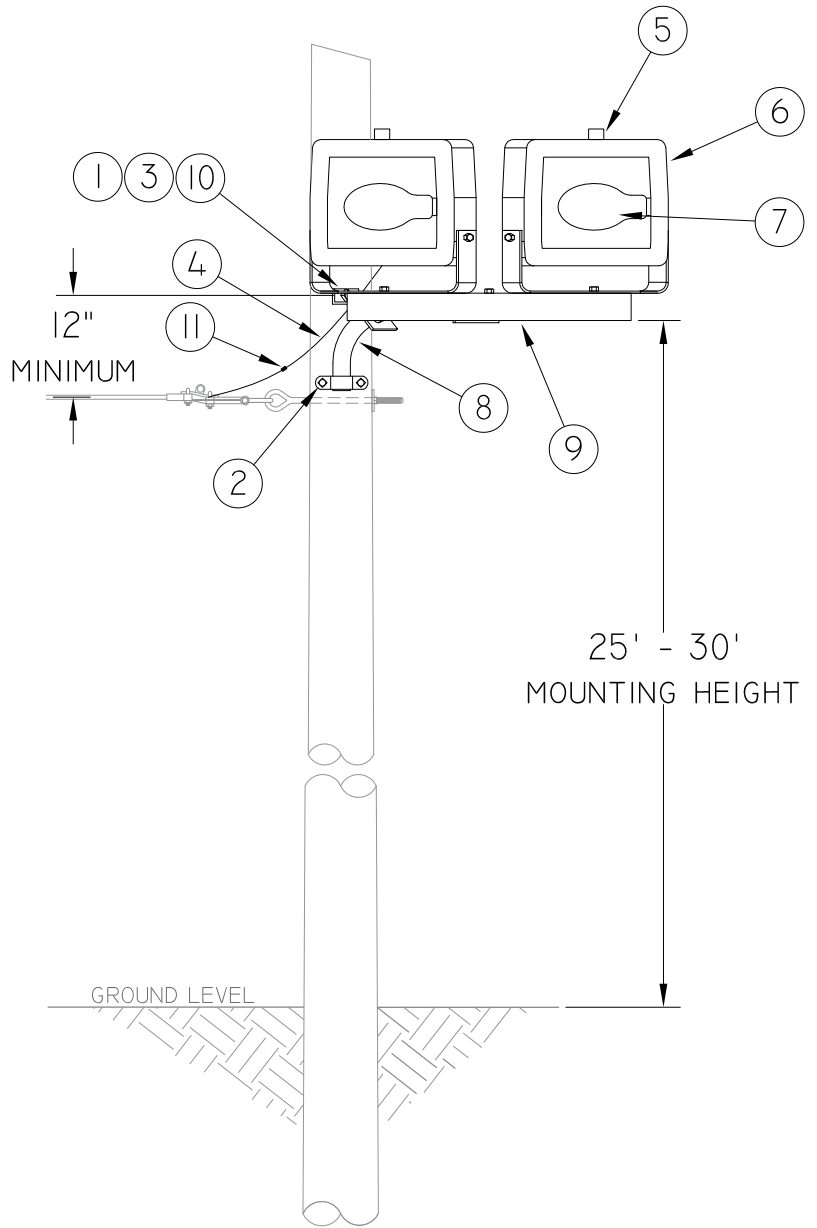
TYPICAL HPS AND MH FLOODLIGHT INSTALLATION ON WOOD POLE

DEVELOPED BY:	STANDARDS COMMITTEE
APPROVED:	Sep 2019
DRAWING NUMBER	D-44





ASSEMBLY A



ASSEMBLY B



TYPICAL HPS AND MH
FLOODLIGHT INSTALLATION
ON WOOD POLE

DEVELOPED BY:

STANDARDS
COMMITTEE

APPROVED:

SEP 2020

DRAWING
NUMBER

D-44



Material List

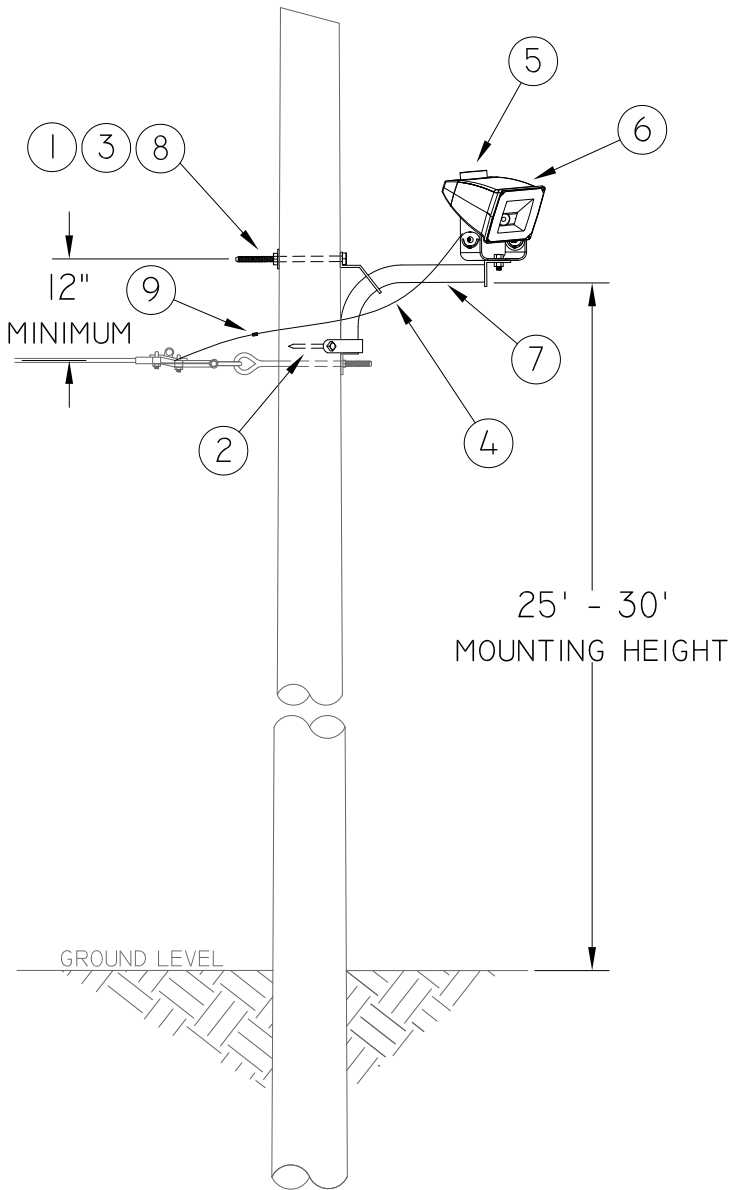
ITEM	CODE NO.	DESCRIPTION	QUANTITY
ASSEMBLY A			
1	E0101-00	BOLT, MACHINE 5/8" X 12" GALVANIZED	1
2	E0135-00	SCREW 1/2" X 4 1/2" LAG GALVANIZED	2
3	E0138-00	WASHER 5/8" SQUARE 2 1/4" GALVANIZED	1
4	E1214-00	CABLE #12-3 TYPE SEO 600 VOLTS	8 ft
5	E1242-01	PHOTOCELL LED, 1000W 120/208/240/277V	1
6	E-	FIXTURE	1
7	E1207-00	BRACKET ALUMINUM FLOODLIGHT	1
8	E0139-00	WASHER LOCK, 5/8" DOUBLE COIL SPRING COMPRESSED	1
9	E0639-00	CRIMPIT	1
ASSEMBLY B			
1	E0101-00	BOLT, MACHINE 5/8" X 12" GALVANIZED	1
2	E0135-00	SCREW 1/2" X 4 1/2" LAG GALVANIZED	2
3	E0138-00	WASHER 5/8" SQUARE 2 1/4" GALVANIZED	1
4	E1214-00	CABLE #12-3 TYPE SEO 600 VOLTS	10 ft
5	E1242-01	PHOTOCELL LED, 1000W 120/208/240/277V	2
6	E-	FIXTURE	2
7	E1207-00	BRACKET ALUMINUM FLOODLIGHT	1
8	E0139-00	WASHER LOCK, 5/8" DOUBLE COIL SPRING COMPRESSED	1
9	E0639-00	CRIMPIT	1
10	E1206-00	BRACKET DOUBLE FLOODLIGHT MOUNTING	1
FIXTURE			
	E1219-02	LED FLOOD EQUIVALENT 100W 120 - 277V	
	E1220-02	LED FLOOD EQUIVALENT 400W 120 - 277V	
	E1221-02	LED FLOOD EQUIVALENT 1000W 120 - 277V	
PHOTOCELL			
	E1243-01	PHOTOCELL LED, 1000W 480V	
Note: All new installations will be LED.			



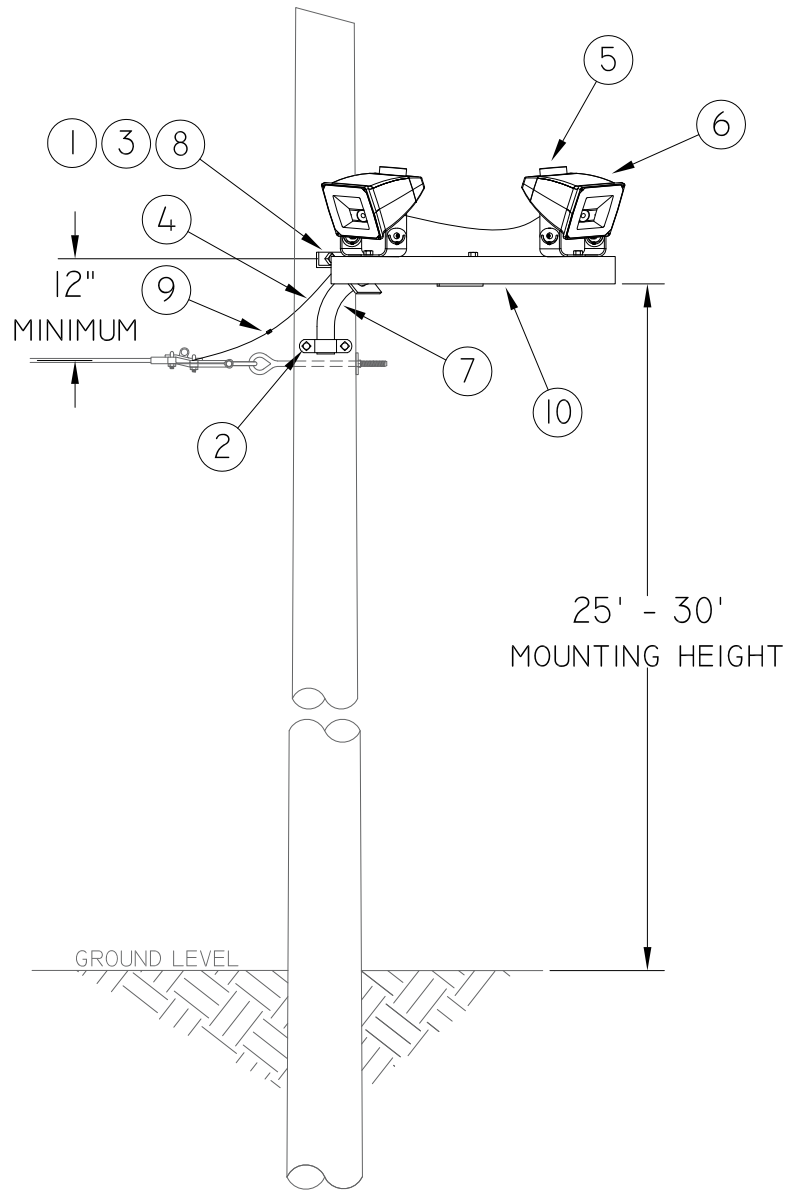
TYPICAL LED FLOODLIGHT INSTALLATION ON WOOD POLE

DEVELOPED BY:	STANDARDS COMMITTEE
APPROVED:	Sep 2020
DRAWING NUMBER	D-44L





ASSEMBLY A



ASSEMBLY B

NOTE: ALL NEW LIGHT INSTALLATIONS WILL BE LED.



TYPICAL LED FLOODLIGHT
INSTALLATION ON
WOOD POLE

DEVELOPED BY:

STANDARDS
COMMITTEE

APPROVED:

SEP 2020

DRAWING
NUMBER


D-44L

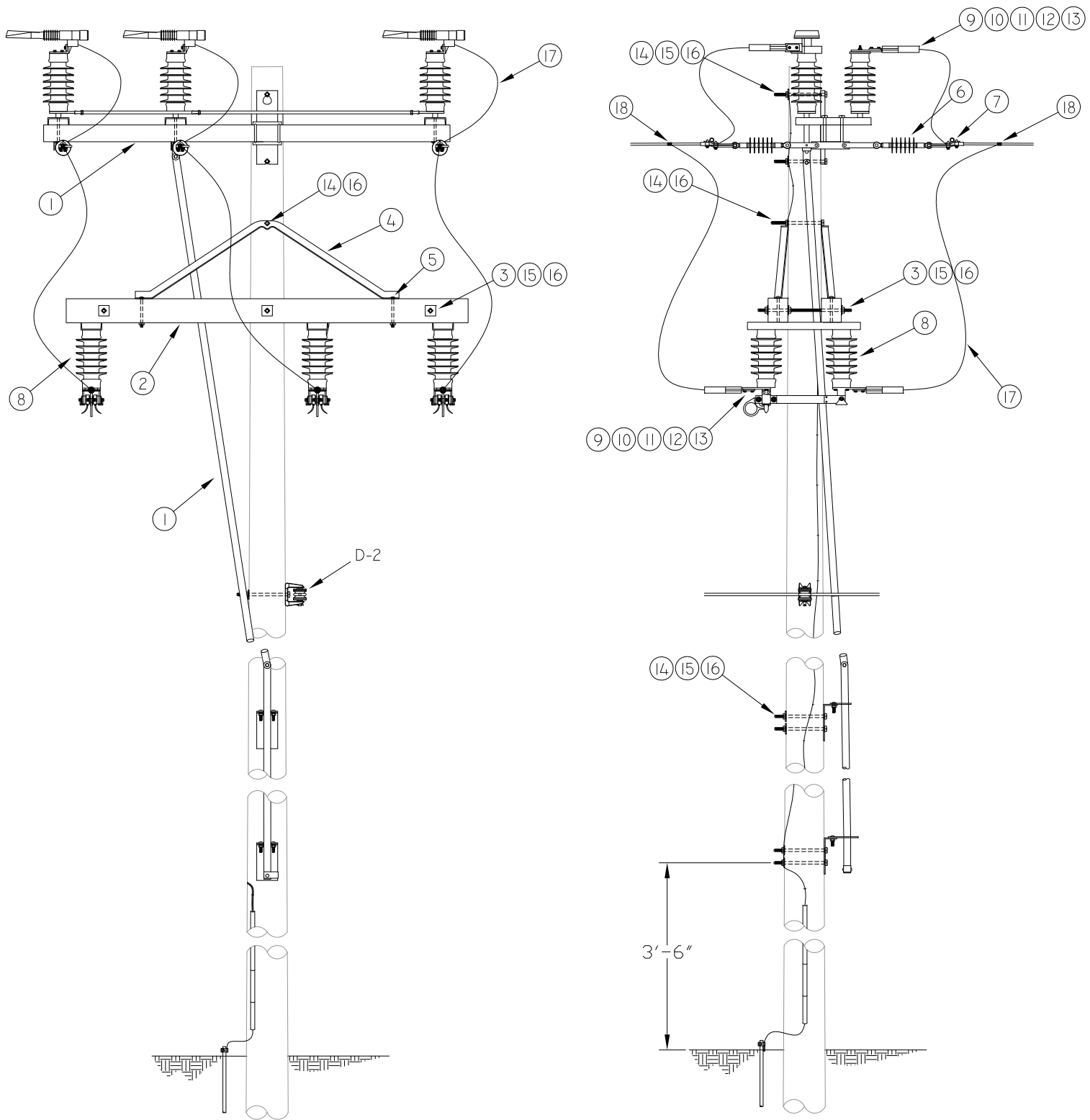


Material List

ITEM	CODE NO.	DESCRIPTION	QUANTITY
1	E1085-00	SWITCH 3 PHASE 15KV 900 AMP	1
2	E1050-00	CROSSARM 8 FT WOODEN HEAVY DUTY D.F.	2
3	E0119-00	BOLT, D.A. 5/8" X 22" GALVANIZED STEEL	3
4	E1024-00	BRACE CROSSARM ANGLE	2
5	E0128-00	BOLT, CARRIAGE 1/2" X 7" GALVANIZED W/NUTS	4
6	E0021-00	INSULATOR, 28 KV SUSPENSION	6
7	E-	DEADEND CLAMP	6
8	E1136-00	SWITCH 1200 AMP DISCONNECT	3
9	E-	2 HOLE TERMINAL	12
10	E0140-00	BOLT 1/2" X 2" HEX STAINLESS STEEL	24
11	E0142-00	NUT 1/2" HEX STAINLESS STEEL	24
12	E0143-00	LOCKWASHER 1/2" STAINLESS STEEL	24
13	E0144-00	WASHER, 1/2" STAINLESS STEEL FLAT	24
14	E0101-00	BOLT, MACHINE 5/8 X 12 GALVANIZED	7
15	E0138-00	WASHER 5/8" SQUARE 2 1/4" GALVANIZED	16
16	E0139-00	WASHER LOCK, 5/8" DOUBLE COIL SPRING COMPRESSED	12
17	E-	JUMPERS	120
18	E-	IMPACT	6
DEADEND CLAMP			
	E1037-00	CLAMP 1/0-4/0 DEADEND	
	E1038-00	CLAMP 477 MCM DEADEND	
	E1039-00	CLAMP 795 MCM DEADEND	
2 HOLE TERMINAL			
	E0792-00	ADAPTER 477 MCM TERMINAL	
	E0797-00	ADAPTER 795 MCM TERMINAL	
JUMPERS			
	E0214-00	CABLE, AL 477 MCM BARE AAC	
	E0215-00	CABLE, AL 785 MCM BARE AAC	
IMPACT			
	E0720-00	CONNECTOR 477 MCM-477 MCM AL CU TAP	
	E0724-00	CONNECTOR 795 MCM-795 MCM TAP	

- Notes:*
- 1. Make copper aluminum connection with copper ground wire oriented below aluminum neutral.*
 - 2. Install secondary rack for neutral conductor (D-2).*
 - 3. Install Pole ground Connection (D-8).*

	GANG OPERATED OVERHEAD SWITCH WITH A BY-PASS	DEVELOPED BY:	STANDARDS COMMITTEE	
		APPROVED:	SEP 2020	
		DRAWING NUMBER	D-45	



- NOTES: 1. MAKE COPPER ALUMINUM CONNECTION WITH COPPER GROUND WIRE ORIENTED BELOW ALUMINUM NEUTRAL.
 2. INSTALL SECONDARY RACK FOR NEUTRAL CONDUCTOR (D-2).
 3. INSTALL POLE GROUND CONNECTION (D-8).



GANG OPERATED OVERHEAD SWITCH WITH A BY-PASS

DEVELOPED BY:

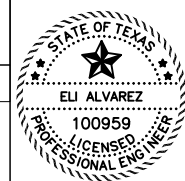
STANDARDS COMMITTEE

APPROVED:

SEP 2020

DRAWING NUMBER

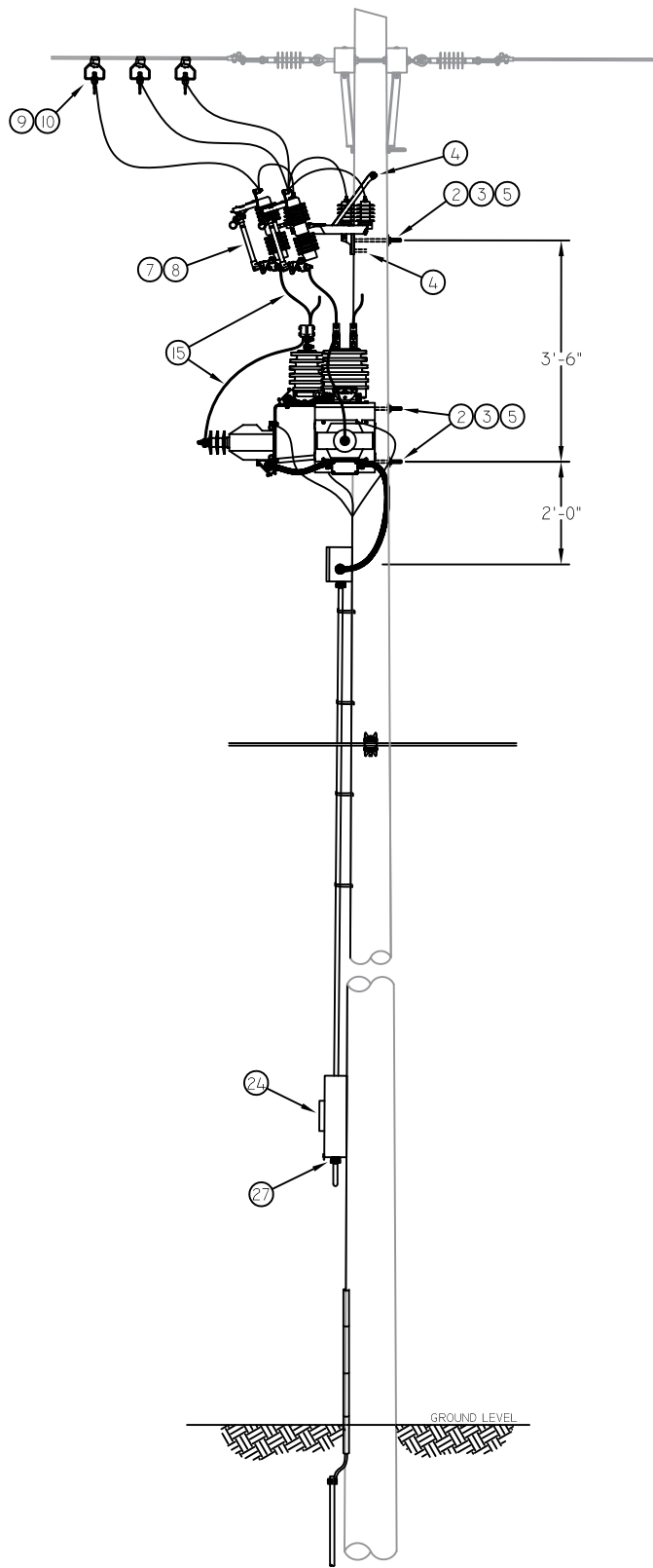
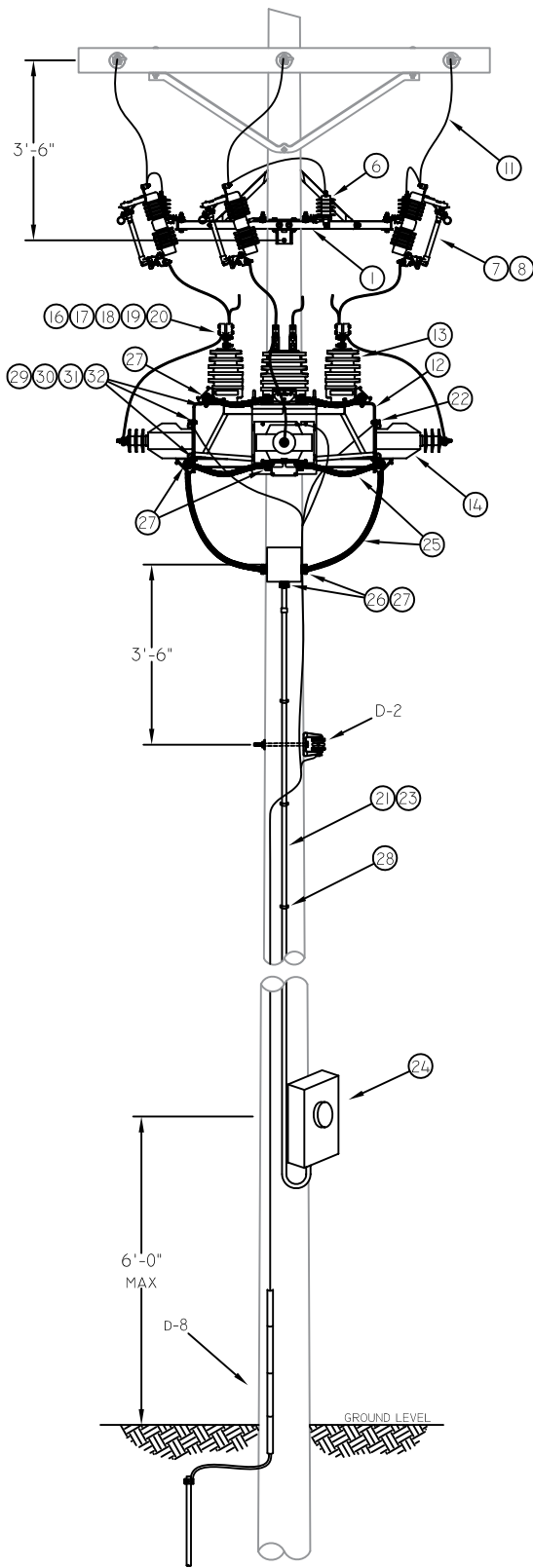
D-45



Material List

ITEM	CODE NO.	DESCRIPTION	QUANTITY
1	E1019-00	MOUNT 3-PHASE EQUIPMENT	1
2	E0101-00	BOLT, MACHINE 5/8" X 12" GALVANIZED	3
3	E0138-00	WASHER 5/8" SQUARE 2-1/4" GALVANIZED	3
4	E0135-00	SCREW 1/2" X 4-1/2" LAG GALVANIZED	3
5	E0139-00	WASHER LOCK, 5/8" DOUBLE COIL SPRING	3
6	E0024-00	LIGHTNING ARRESTOR 10KV	3
7	E-	FUSE CUTOUT	3
8	E-	FUSELINK (Refer to Inventory List)	3
9	E-	STIRRUP W/ BAIL	3
10	E0008-00	CLAMP, HOTLINE COPPER	3
11	E0235-00	CABLE, #2 7/STR BARE COPPER	As Req'd
12	E1079-00	MOUNT PRIMARY METERING, 3- POSITION	1
13	E-	PT (Refer to Inventory List)	3
14	E-	CT (Refer to Inventory List)	3
15	E0222-00	CABLE, CU #4/0 STR THW INSU 600V, BLACK	60FT
16	E0330-00	TERMINAL #2/0-4/0 STR CU 1-BARREL	9
17	E0140-00	BOLT, 1/2" X 2" HEX STAINLESS STEEL	12
18	E0142-00	NUT, 1/2" HEX STAINLESS STEEL	12
19	E0143-00	LOCKWASHER, 1/2" STAINLESS STEEL	12
20	E0144-00	WASHER, 1/2" STAINLESS STEEL FLAT	24
21	E0244-00	CABLE, #10 STR 7/CONDUCTOR THHN INSU CU	180FT
22	E0031-00	LUG TRANS GROUNDING, 1/2-13	1
23	E0160-00	PIPE 1" X 10' RIGID GALVANIZED	4
24	E1313-00	METER DEMAND 3-PHASE SSE 120/480V	1
25	FROM STORE	1" FLEX CONDUIT	40FT
26	FROM STORE	8X8X6 PVC JUNCTION BOX	1
27	FROM STORE	1" LIQUID TIGHT CONNECTOR	14
28	FROM STORE	1" STRAPS GALVANIZED STEEL	7
29	FROM STORE	BOLT, 3/8" - 16X1 HEX STAINLESS STEEL	24
30	FROM STORE	NUT, 3/8" HEX STAINLESS STEEL	24
31	FROM STORE	LOCKWASHER, 3/8" STAINLESS STEEL	24
32	FROM STORE	WASHER, 3/8" STAINLESS STEEL	24
		FUSE CUTOUT	
	E0012-00	FUSE CUTOUT 100 AMP, C710-213-P	
	E0012-01	FUSE CUTOUT, 200AMP 127KV BIL	
		STIRRUPS	
	E0727-00	STIRRUP 1/0 STR W/#2 BAIL W/POWER BOOSTER	
	E0728-00	STIRRUP 4/0 STR W/ #2 BAIL W/POWER BOOSTER	
	E0730-00	STIRRUP 477 MCM W/ 1/0 BAIL W/POWER BOOSTER	
	E0731-00	STIRRUP 795 MCM W/ 2/0 BAIL	
	<i>Notes:</i>	1. Install ground rod assembly (D-8)	
		2. Install secondary rack (D-2)	

	<h2 style="margin: 0;">PRIMARY METERING</h2>	DEVELOPED BY:	STANDARDS COMMITTEE	
		APPROVED:	Apr 2020	
		DRAWING NUMBER	D-46	



NOTE: 1. INSTALL GROUND ROD ASSEMBLY (D-8).
 2. INSTALL SECONDARY RACK (D-2).



3-PH PRIMARY METERING 4 WIRE WYE

DEVELOPED BY:

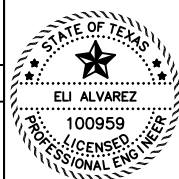
STANDARDS
COMMITTEE

APPROVED:

SEP 2020

DRAWING
NUMBER

D-46



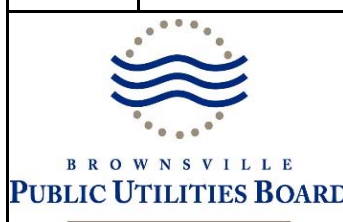
Material List

ITEM	CODE NO.	DESCRIPTION	QUANTITY
1	E-	STIRRUP W/BAIL	2
2	E0008-00	CLAMP, HOTLINE COPPER	2
3	E0222-00	CABLE, CU #4/0 STR THW INSU 600V	30 ft
4	E0002-00	ARM, 1-POSITION ALUMINUM	2
5	E0110-00	BOLT, OVAL EYE 5/8" X 12" GALVANIZED STEEL	1
6	E0136-00	NUT, 5/8" SQUARE 2 1/4" GALVANIZED	1
7	E0101-00	BOLT, MACHINE 5/8" X 12" GALVANIZED	6
8	E0138-00	WASHER 5/8" SQUARE 2 1/4" GALVANIZED	6
9	E0139-00	WASHER LOCK, 5/8" DOUBLE COIL SPRING COMPRESSED	6
10	E0030-00	LUG TRANS. GROUNDING	1
11	E0021-00	INSULATOR, 28 KV SUSPENSION	2
12	E1037-00	CLAMP 1/0 - 4/0 DEADEND	2
13	E0020-00	INSULATOR, "FOG BOWL"	1
14	E0027-00	PIN, SORT SHANK INSULATOR	1
15		RECLOSER	1
16		CONTROL BOX	1
17	E0244-00	CABLE #10 STR 7/C THHN INS CU	30 ft
18	E0140-00	BOLT 1/2" X 2" HEX STAINLESS STEEL	1
19	E0144-00	WASHER, 1/2" STAINLESS STEEL FLAT	1
20	E0142-00	NUT 1/2" HEX STAINLESS STEEL	1
21	E0143-00	LOCKWASHER 1/2" STAINLESS STEEL	1
22	E-	FUSE CUTOUT	1

		STIRRUPS	
	E0727-00	STIRRUP 1/0 STR W/#2 BAIL AMP	
	E0728-00	STIRRUP 4/0 STR W/#2 BAIL AMP	
	E0730-00	STIRRUP 477 MCM W/1/0 BAIL AMP	
	E0731-00	STIRRUP 795 MCM W/2/0 BAIL AMP	

		FUSE CUTOUT	
	E0012-00	FUSE CUTOUT 100 AMP, C710-213-P	
	E0012-01	FUSE CUTOUT, 200AMP 127KV BIL	

	<i>Notes:</i>	<i>1. Install secondary conductor from nearest transformer. Size accordingly</i>	
		<i>2. Install secondary racks (D-2).</i>	
		<i>3. Install ground rod assembly (D-8).</i>	

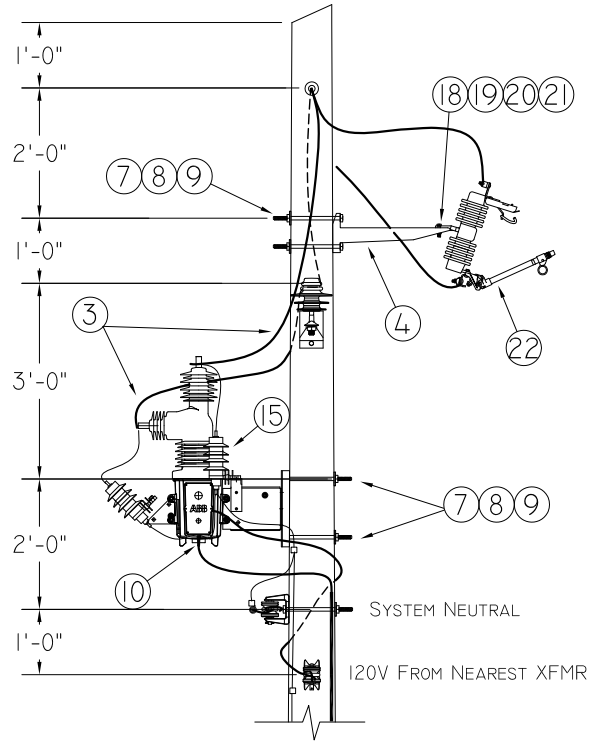
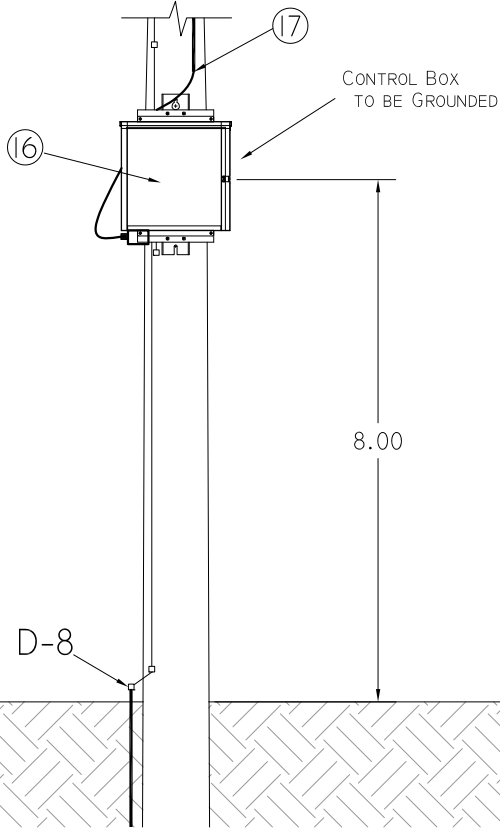
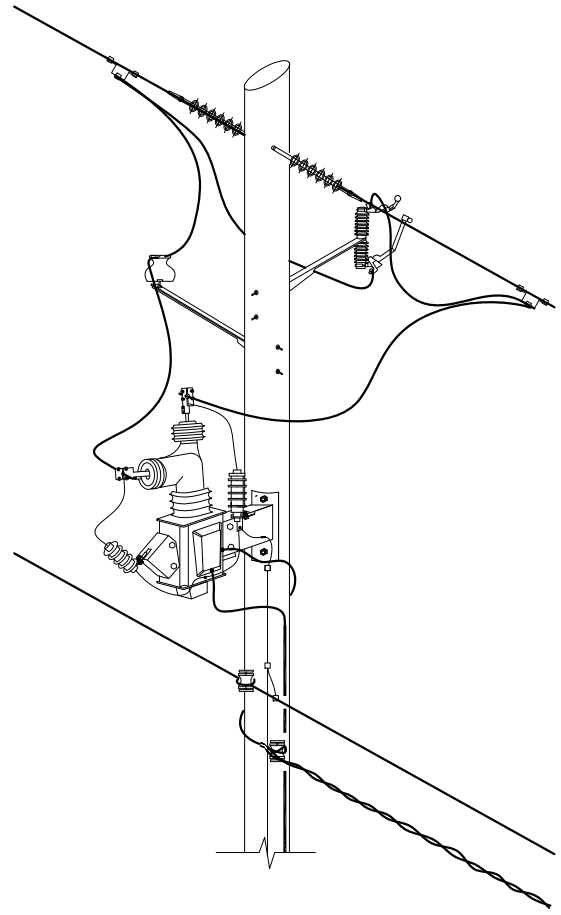
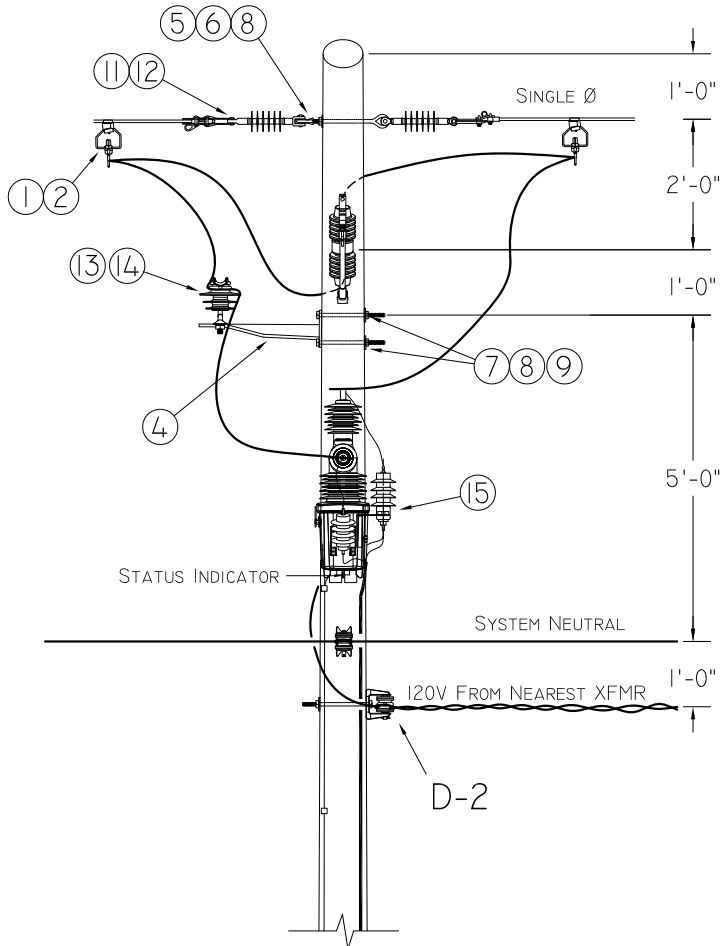


**TYPICAL SINGLE PHASE
RECLOSER ASSEMBLY SET UP**

DEVELOPED BY:
APPROVED:
DRAWING NUMBER

STANDARDS COMMITTEE
Sep 2020
D-47





TYPICAL
SINGLE PHASE RECLOSER
ASSEMBLY SET-UP

DEVELOPED BY:

STANDARDS
COMMITTEE

APPROVED:

SEP 2020

DRAWING
NUMBER

D-47



**BROWNSVILLE PUBLIC UTILITIES BOARD
ELECTRICAL ENGINEERING DEPARTMENT**

Date: _____

CUSTOMER CONTACT INFORMATION

PROPERTY OWNER INFORMATION

Name: _____
Address: _____

Phone: _____
Fax: _____
Signed: _____

Name: _____
Address: _____

Phone: _____
Fax: _____
Signed: _____

PROPERTY INFORMATION

Street Address: _____
Legal Description: _____
Lot Block Subdivision

Construction Type: New Construction Addition

POWER REQUIREMENTS (Connecting Loads)

Voltage: 120/240 1-Phase 120/240 3-Phase 240/480 1-Phase 240/480 3-Phase
 120/208 3-Phase 277/480 3-Phase 7200/12470 3-Phase
Current: 100 AMP 200 AMP 400 AMP _____ AMP *

* Services above 400 AMP will require current transformers (CT).

	<u>1-Phase</u>	<u>3-Phase</u>
Load: Lighting	_____ KW	_____ KW
Receptacles	_____ KW	_____ KW
HVAC	_____ KW	_____ KW
Motors/Machines	_____ HP	_____ HP
Others	_____ KW	_____ KW

Total Estimated KW Demand _____

TEMPORARY POWER NEEDED Month _____ Day _____ Year _____

PERMANENT POWER NEEDED Month _____ Day _____ Year _____

IMPORTANT TELEPHONE NUMBERS

B PUB Electrical Engineering..... (956) 983-6201
B PUB Customer Service..... (956) 983-6121
City of Brownsville Permitting/Inspections..... (956) 550-5345
Cameron County Permitting/Inspections..... (956) 548-9553

NOTE: ALUMINUM METER SOCKETS REQUIRED (EFFECTIVE 7/1/07)

Fax to B PUB Electrical Engineering Department (956) 983-6220 or E-mail to nvasquez@brownsville-pub.com



CUSTOMER CHECKLIST

DEVELOPED BY:
APPROVED:
DRAWING NUMBER

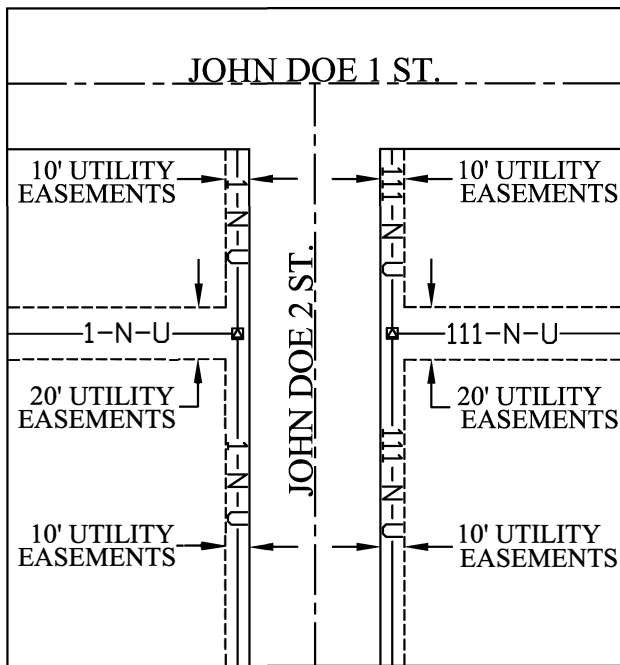
STANDARDS COMMITTEE
SEP 2020
ENG-1



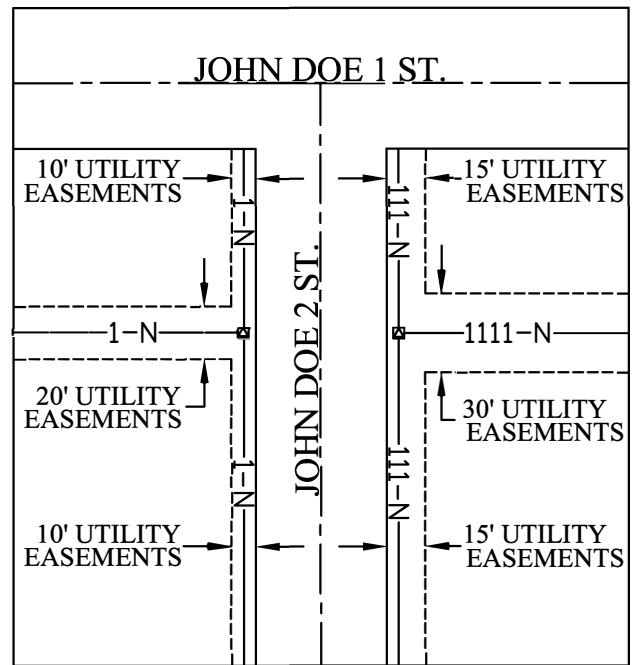
BROWNSVILLE PUBLIC UTILITIES BOARD ELECTRICAL ENGINEERING DEPARTMENT

LINE / EQUIPMENT DESCRIPTION	OVER OPEN LAND (FEET)	ALONG STREETS (FEET)
THREE PHASE OVERHEAD TRANSMISSION LINES (69,000-138,000 VOLTS)	50	25
THREE PHASE OVERHEAD TRANSMISSION LINES (15,000 VOLTS)	30	15
SINGLE PHASE OVERHEAD DISTRIBUTION LINES (72,00 VOLTS)	20	10
UNDERGROUND DISTRIBUTION LINES (7,200 OF 15,000 VOLTS)	20	10
SERVICE LINES (120 - 480 VOLTS)	10	5
PAD MOUNTED TRANSFORMERS	20 X 20	10 X 20
PAD MOUNTED SWITCHGEAR	20 X 30	10 X 30

**EXAMPLE #1
UNDERGROUND**



**EXAMPLE #2
OVERHEAD**



NOTE:

1. ADDITIONAL EASEMENTS MAY BE NEEDED.
2. ANY PROPOSED STRUCTURE (FENCE, SIDEWALK, ETC.) WITHING THE EASEMENT IS SUBJECT TO REVIEW AND APPROVAL BY BPUB.



ELECTRICAL EASEMENT REQUIREMENTS

DEVELOPED BY:

STANDARDS
COMMITTEE

APPROVED:

SEP 2020

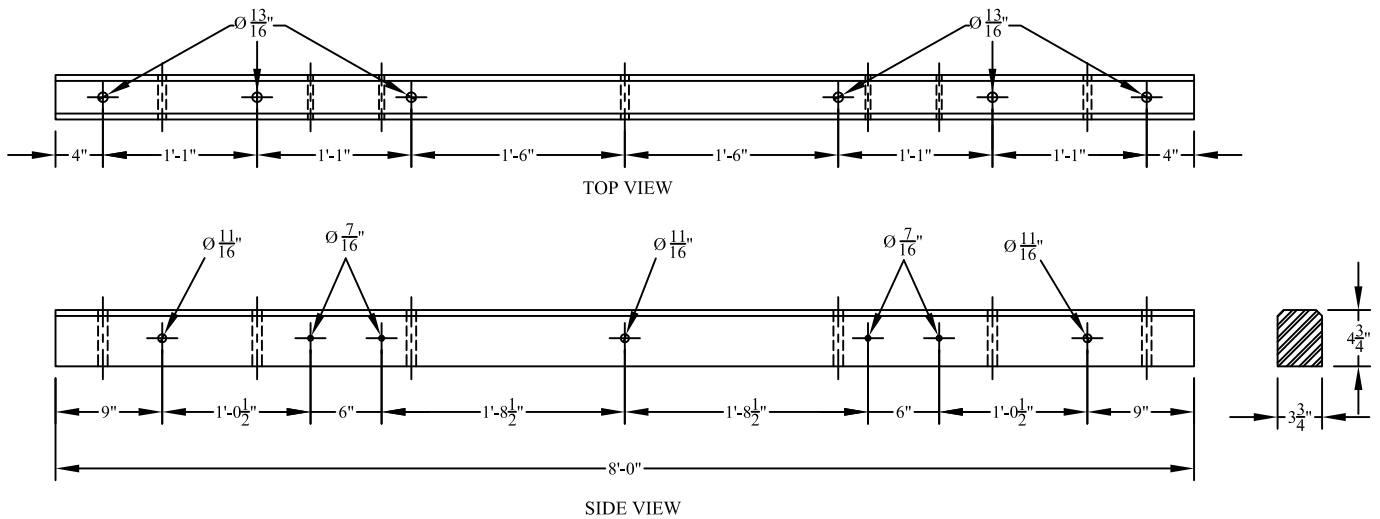
DRAWING
NUMBER

ENG-2



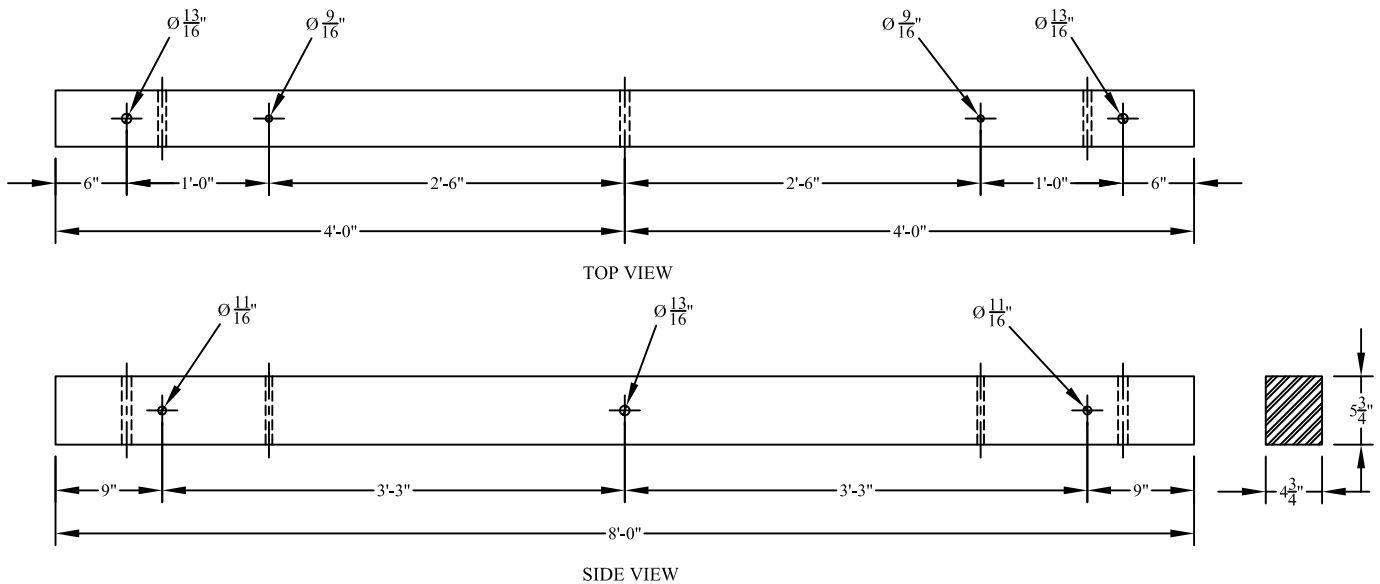
BROWNSVILLE PUBLIC UTILITIES BOARD
ELECTRICAL ENGINEERING DEPARTMENT

8FT LIGHT DUTY CROSSARM DETAIL





MATERIAL: DOUGLAS FIR-DENSE SELECT STRUCTURAL GRADE
TREATMENT: EEI SPEC. T.D. 90 HOT & COLD PENTA DIPPED
INCISING: ALL FOUR FACE SPACING $\frac{1}{2}$ " ALTERNATING, DEPTH $\frac{3}{16}$ " MIN, $\frac{1}{4}$ " MAX.

8FT HEAVY DUTY CROSSARM DETAIL



MATERIAL: DOUGLAS FIR-DENSE SELECT STRUCTURAL GRADE
TREATMENT: EEI SPEC. T.D. 90 HOT & COLD PENTA DIPPED
INCISING: ALL FOUR FACE SPACING $\frac{1}{2}$ " ALTERNATING, DEPTH $\frac{3}{16}$ " MIN, $\frac{1}{4}$ " MAX.

NOTE: FIELD DRILL AS REQUIRED

	<p>CROSSARM DETAILS 8FT LIGHT DUTY CROSSARM 8FT HEAVY DUTY CROSSARM</p>	DEVELOPED BY:	STANDARDS COMMITTEE	
		APPROVED:	SEP 2020	
		DRAWING NUMBER	ENG-4	

Meter Sockets for Self Contained Meters



**125 Amp, 4-Terminal,
Ringless, Aluminum, OH/UG.**

**Milbank: UAP7487-RL-TG
Landis & Gyr: UAT131-XGF
Square D: UAT-RS101C-SQD**

**125 Amp, 5-Terminal (9:00 or 6:00 Position),
Ringless, Aluminum, OH/UG.**

**Milbank: Kit 5T8K2 - 5th Terminal field mounted
Landis & Gyr: Kit 659-0121-5th Terminal field mounted
Square D: Kit A5J - 5th Terminal field mounted**



**200 Amp, 4-Terminal, Ringless,
Bypass Lever, Aluminum, OH/UG.**

**Milbank: UAP9801-RRL
Landis & Gyr: 41404-015F
Square D: UAT-H4213C-SQD
Cutler-Hammer: UAT-4213U-FLCH**



**320 Amp, 4-Terminal, Ringless,
Bypass Lever, Aluminum, OH/UG.**

**Milbank: UAP2448-X
Landis & Gyr: 41704-01
Square D: UAT-H4330U-SQD**



**200 Amp, 5-Terminal (6:00 position),
Ringless, Bypass Lever, Aluminum,
OH/UG.**

**Milbank: UAP9551-RRL
Landis & Gyr: 41405-025F
Square D: UAT-H5213C-SQD**



**320 Amp, 5-Terminal (6:00 Position),
Ringless, Bypass Lever, Aluminum,
OH/UG.**

**Milbank: UAP2448-X with Kit K3865
5th Terminal field mounted
Landis & Gyr: 49105-02FL
Square D: UAT-H5330U-SQD**



**200 Amp, 7-Terminal, Ringless,
Bypass Lever, Aluminum, OH/UG.**

**Milbank: UAP9701-RRL
Landis & Gyr: 41407-025F
Square D: UAT-H7213C-SQD**



**320 Amp, 7-Terminal, Ringless,
Bypass Lever, Side Wireway,
Aluminum, OH/UG.**

**Milbank: UAP2594-X
Landis & Gyr: 49107-02FL
Square D: UAT-H7330U-SQD**

- Note:**
1. - All Meter Sockets provided and installed by customer at site approved by BPUB.
 2. - All Meter Sockets are to be new stock and UL listed.
 3. - Meter and Service installations must also meet City of Brownsville inspection requirements.
 4. - Meter cans less than 100 Amps need BPUB Engineering approval in advance.



METER SOCKETS

DEVELOPED BY:	STANDARDS COMMITTEE
APPROVED:	Jan 2023
DRAWING NUMBER	ENG - 6



Meter - Pack for Self Contained Meters **



**** A main disconnect switch is required for over 6 meters served by a single service.**

100 Amp, 4-Terminal, OH/UG, Ringless, Aluminum

2 - Sockets

Landis & Gyr: UA2331-OG
 Square D: UAT-2R1121C-SQD
 Cutler-Hammer: UATZ2R1121C-FLCH

3 - Sockets

Landis & Gyr: UA3331-OG
 Square D: UAT-3R1121C-SQD
 Cutler-Hammer: UATZ3R1121C-FLCH

4 - Sockets

Landis & Gyr: UA4331-OG
 Square D: UAT-4R1121C-SQD
 Cutler-Hammer: UATZ4R1121C-FLCH

5 - Sockets

Square D: UAT-5R1121C-SQD
 Cutler-Hammer: UATZ5R1121C-FLCH

6 - Sockets

Square D: UAT-6R1131C-SQD
 Cutler-Hammer: UATZ6R1131C-FLCH

200 Amp, 4-Terminal, OH/UG, Ringless, Aluminum

2 - Sockets

Milbank: UAP1252-X-HSP
 Landis & Gyr: UA2736-ZGF
 Square D: UAT-2R2332U-SQD
 Cutler-Hammer: UAT2R2332U-FLCH

3 - Sockets

Milbank: UAP1253-X-HSP
 Landis & Gyr: UA3737-ZGF
 Square D: UAT-3R2332U-SQD
 Cutler-Hammer: UAT3R2332U-FLCH

4 - Sockets

Milbank: UAP1254-X-HSP
 Landis & Gyr: UA4739-ZGF
 Square D: UAT-4R2352U-SQD
 Cutler-Hammer: UAT4R2352U-FLCH

5 - Sockets

Milbank: UAP1255-X-HSP
 Landis & Gyr: UA5739-MGF
 Square D: UAT-5R2392UU-SQD
 Cutler-Hammer: UAT5R2392UU-FLCH

6 - Sockets

Milbank: UAP1256-X-HSP
 Landis & Gyr: UA6739-MGF
 Square D: UAT-6R2392UU-SQD
 Cutler-Hammer: UAT6R2392UU-FLCH

Notes:

1. - All Meter Sockets provided and installed by customer at site approved by BPUB.
2. - All Meter Sockets are to be new stock and UL listed.
3. - Meter and Service installations must also meet City of Brownsville or Cameron County inspection requirements.
4. - 7-Terminal Steel Meter-Packs must be UL listed or have a Texas Professional Engineer's Seal on the specifications.



METER - PACK

DEVELOPED BY:

STANDARDS
COMMITTEE

APPROVED

Sep 2020

DRAWING
NUMBER

ENG - 6A



20 Amp CT/PT Meter Sockets, Aluminum, Ringless, Terminal Block and Test Switch Provision **



** Must have integrated prewired switches per BPUB's specifications for all CT and PT connections:

Voltages: Use RED/BLACK, BROWN, ORANGE.

Currents: Use RED, BLUE, YELLOW.

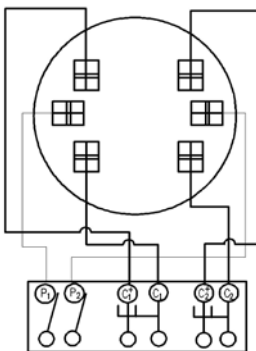
Neutral: Use BLACK.

** Wire must be Copper, Gage 10, THHN, Stranded.

** For Single phase: 120 / 240 volts 3-wire use Wiring Form 4S.

** For Three phase: 120 / 208 volts Wye 4-wire use Wiring Form 9S.
 277 / 480 volts Wye 4-wire use Wiring Form 9S.
 120 / 240 volts Delta 4-wire use Wiring Form 9S.
 240 / 480 volts Delta 3-wire use Wiring Form 5S.

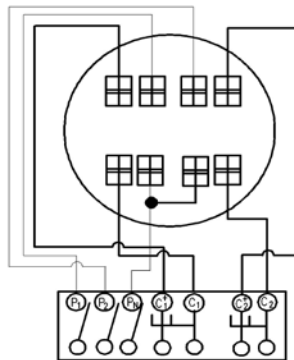
Form 4S



6 - Terminals

Milbank: UAPC7478-XL
 Landis & Gyr: 9837-8200
 Square D: USTS6-1C224-SQD

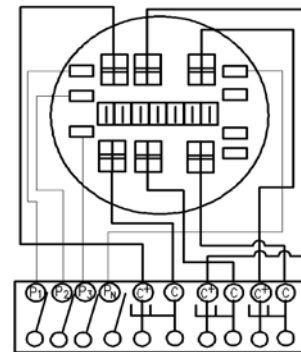
Form 5S



8 - Terminals

Milbank: UAPC7444-XL
 Landis & Gyr: 9837-8400
 Square D: USTS8-1C225-SQD

Form 9S



13 - Terminals

Milbank: UAPC7445-XL
 Landis & Gyr: 9837-8500
 Square D: USTS13-1C226-SQD

- Note: 1. - All Meter Sockets provided and installed by customer at site approved by BPUB.
 2. - All Meter Sockets are to be new stock and UL listed.
 3. - Meter and Service installations must also meet City of Brownsville inspection requirements.



CT/PT METER SOCKETS

DEVELOPED BY:

STANDARDS COMMITTEE

APPROVED:

Jan 2023

DRAWING NUMBER

ENG - 6B



Scope and Purpose

This document describes the policies and procedures for the BPUB transmission and distribution switching. It is intended to provide guidance and coordination to BPUB engineers, operators and field staff in order to maintain the BPUB system in a reliable state at all times.

Switching Request Procedure

1. A proposed switching request shall be submitted to Engineering (copy to all on "# Outage Request" distribution list) at least 5 working days prior to the outage starting date.
2. Engineering will study the proposed switching.
3. Engineering will advise to all concerned of the study results at least 3 working days prior to the outage starting date.
 - a) If approved:
 1. Engineering will forward request to Energy Control (copies to all on "# Outage Request" distribution list).
 2. Engineering will update the Outage Scheduler Chart and forward to Energy Control (copies to all on "# Outage Request" distribution list).
 - b) If denied, Engineering will advise originator with suggestions on how to obtain needed results.
4. Upon engineering approval, Energy Control will submit the outage request into the ERCOT Outage Scheduler Portal for the ERCOT approval. Energy Control will report to all concerned with ERCOT's response. **
5. Upon ERCOT approval the Energy Control will advise those concerned and will enter in the ERCOT Outage Scheduler the actual outage start time within 2 hours of the outage starting time. **

Switching Procedure

1. Originator will contact Energy Control at approval time to make the switching.
2. Originator will Lockout/Tagout/Ground as needed.
3. Originator will advise Energy Control that switching has been completed.

**Note: Only Transmission outages will be submitted to ERCOT.



Transmission and Distribution Switching Policy

DEVELOPED BY:

STANDARDS
COMMITTEE

APPROVED:

SEP 2020

DRAWING
NUMBER

ENG-7



**BROWNSVILLE PUBLIC UTILITIES BOARD
ELECTRICAL ENGINEERING DEPARTMENT**

1. All concrete pad locations, pad construction such as dimensions, materials, grade compaction and any requested modifications such as retaining walls, bollards, integrated drainage, etc. are to be approved by the BPUB Electrical Engineering Department before the construction of the concrete pad.
2. If bollards are required, the BPUB Electrical Engineering will design and inspect bollard locations prior to permanent placement.
3. All concrete pads shall have a 10 feet unobstructed clearance to the front of the cabinet side, and a 5 feet unobstructed clearance from the remaining sides.
4. There must be truck access to the concrete pad location.
5. Customer will verify and supply all the needed conduits prior to the construction of the concrete pad.
6. The Transformer and Switchgear concrete pads top surface is to be at least 6 inches above finish grade, and Sectionalizer concrete pad top surface is to be at least 4 inches above finish grade.
7. Concrete is to be 3000 psi cured for a minimum of 3 calendar days before BPUB sets transformer.
8. Customer must supply to BPUB any required easement prior to the construction of the concrete pad.
9. The Transformer primary conduits should be separated at least 2 feet from the secondary conduits.

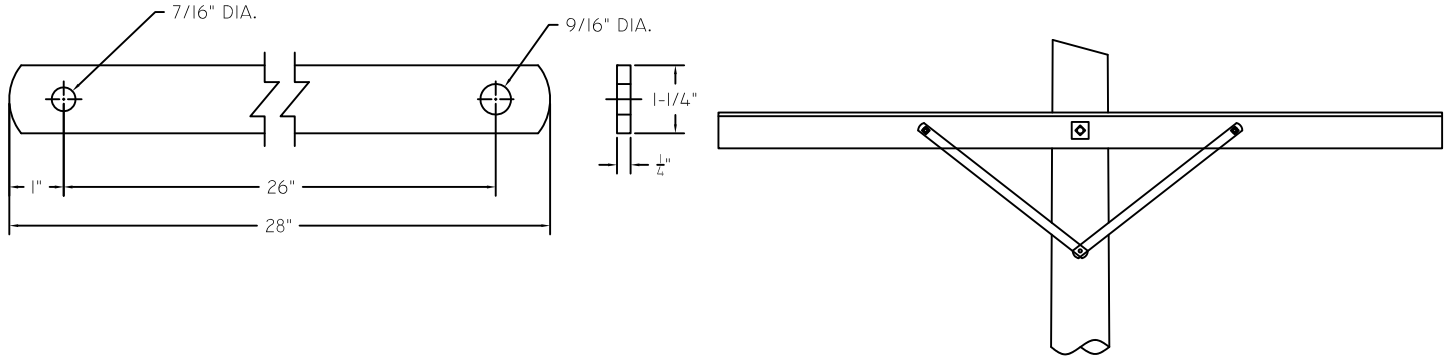


**CUSTOMER RESPONSIBILITIES FOR
CONCRETE PADS CONSTRUCTION**

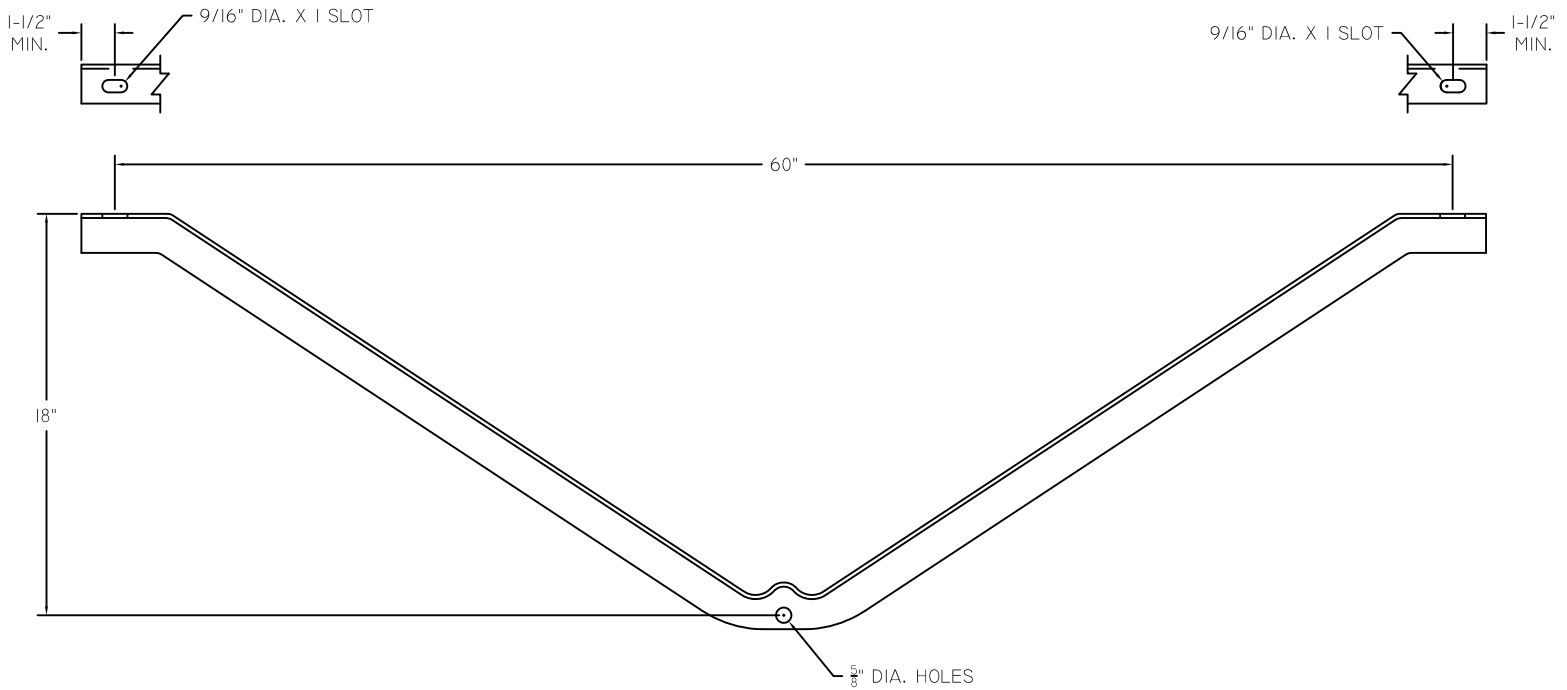
DEVELOPED BY:	STANDARDS COMMITTEE	<p>The seal is circular with a star in the center. The text around the star reads "STATE OF TEXAS" at the top, "ELI ALVAREZ" in the middle, and "100959 LICENSED PROFESSIONAL ENGINEER" at the bottom.</p>
APPROVED:	Sep 2020	
DRAWING NUMBER	ENG - 8	

BROWNSVILLE PUBLIC UTILITIES BOARD
ELECTRICAL ENGINEERING DEPARTMENT

FLAT STEEL CROSSARM BRACE FOR LIGHT DUTY



ANGEL DOUBLE SPAN BRACE FOR HEAVY DUTY



MATERIAL: 1-1/2" X 1-1/2" X 3/16" ANGLE

SPECIFICATIONS:
I. FINISH: HOT DIP GALVANIZED



BROWNSVILLE
PUBLIC UTILITIES BOARD

CROSSARM BRACES
STEEL DISTRIBUTION ARMS

DEVELOPED BY:

STANDARDS
COMMITTEE

APPROVED:

SEP 2020

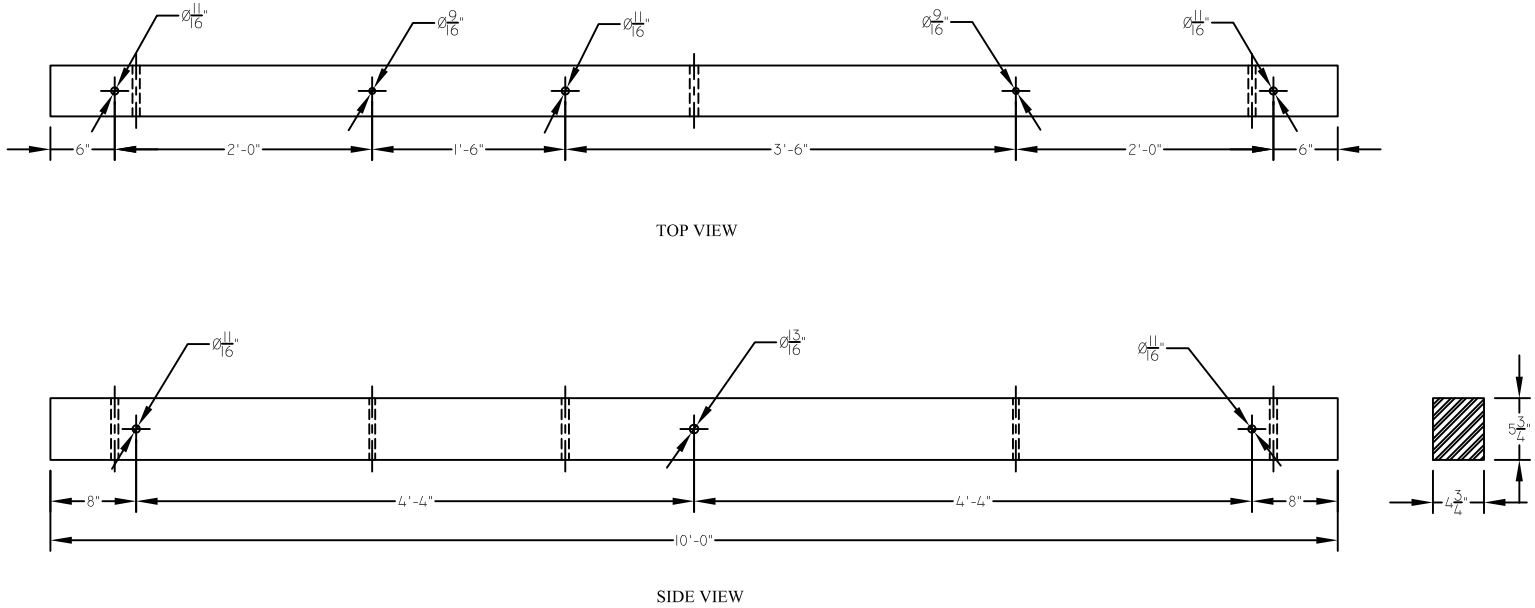
DRAWING
NUMBER

ENG-9




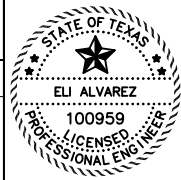
BROWNSVILLE PUBLIC UTILITIES BOARD
ELECTRICAL ENGINEERING DEPARTMENT

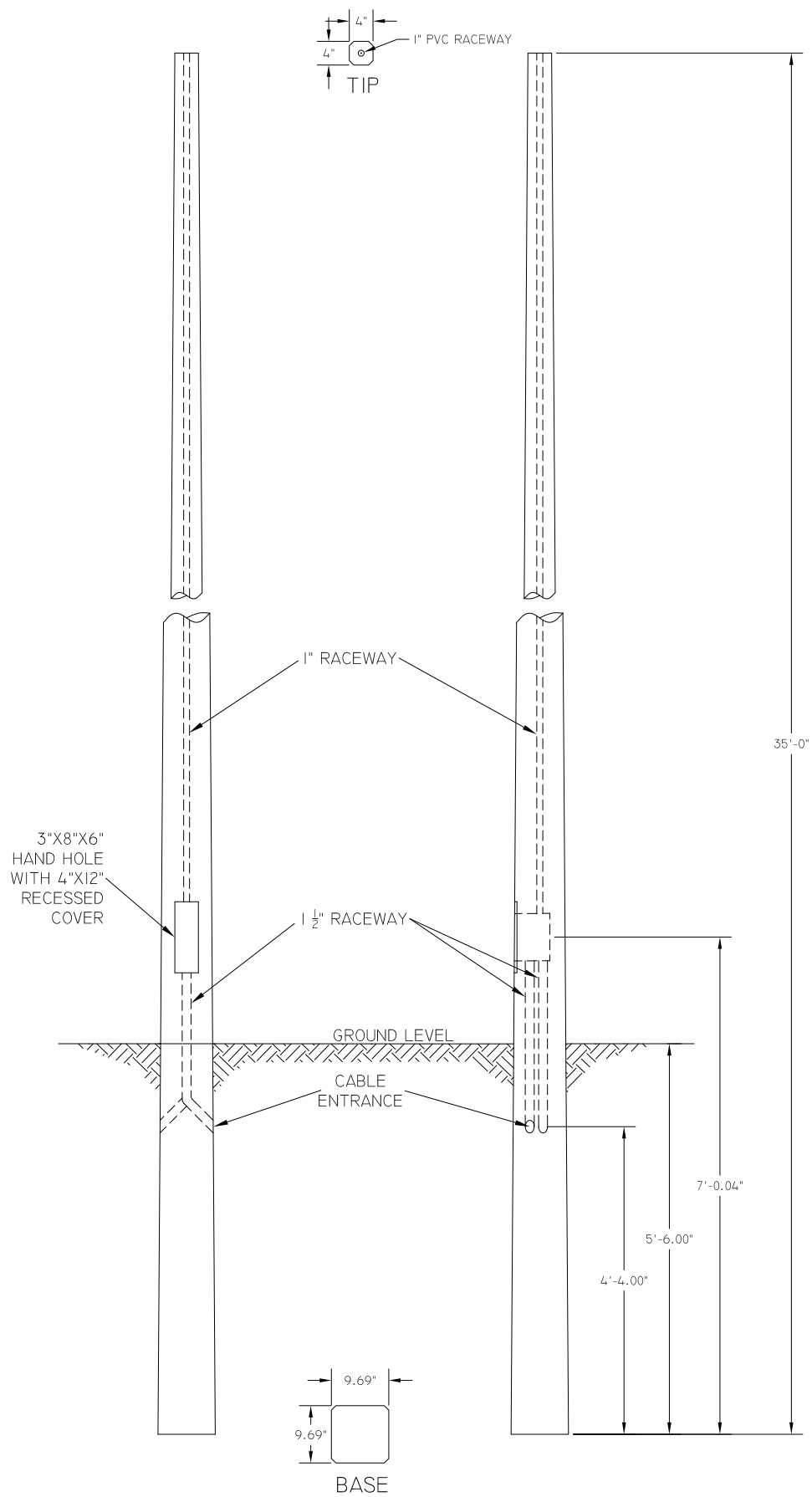
10FT HEAVY DUTY CROSSARM DETAIL



MATERIAL: DOUGLAS FIR-DENSE SELECT STRUCTURAL GRADE
TREATMENT: EEI SPEC. T.D. 90 HOT & COLD PENTA DIPPED
INCISING: ALL FOUR FACE SPACING $\frac{1}{2}$ " ALTERNATING, DEPTH $\frac{3}{16}$ " MIN, $\frac{1}{4}$ " MAX.

NOTE: FIELD DRILL AS REQUIRED.

	<p>CROSSARM DETAILS 10FT HEAVY DUTY CROSSARM</p>	DEVELOPED BY:	STANDARDS COMMITTEE	
		APPROVED:	SEP 2020	
		DRAWING NUMBER	ENG-10	

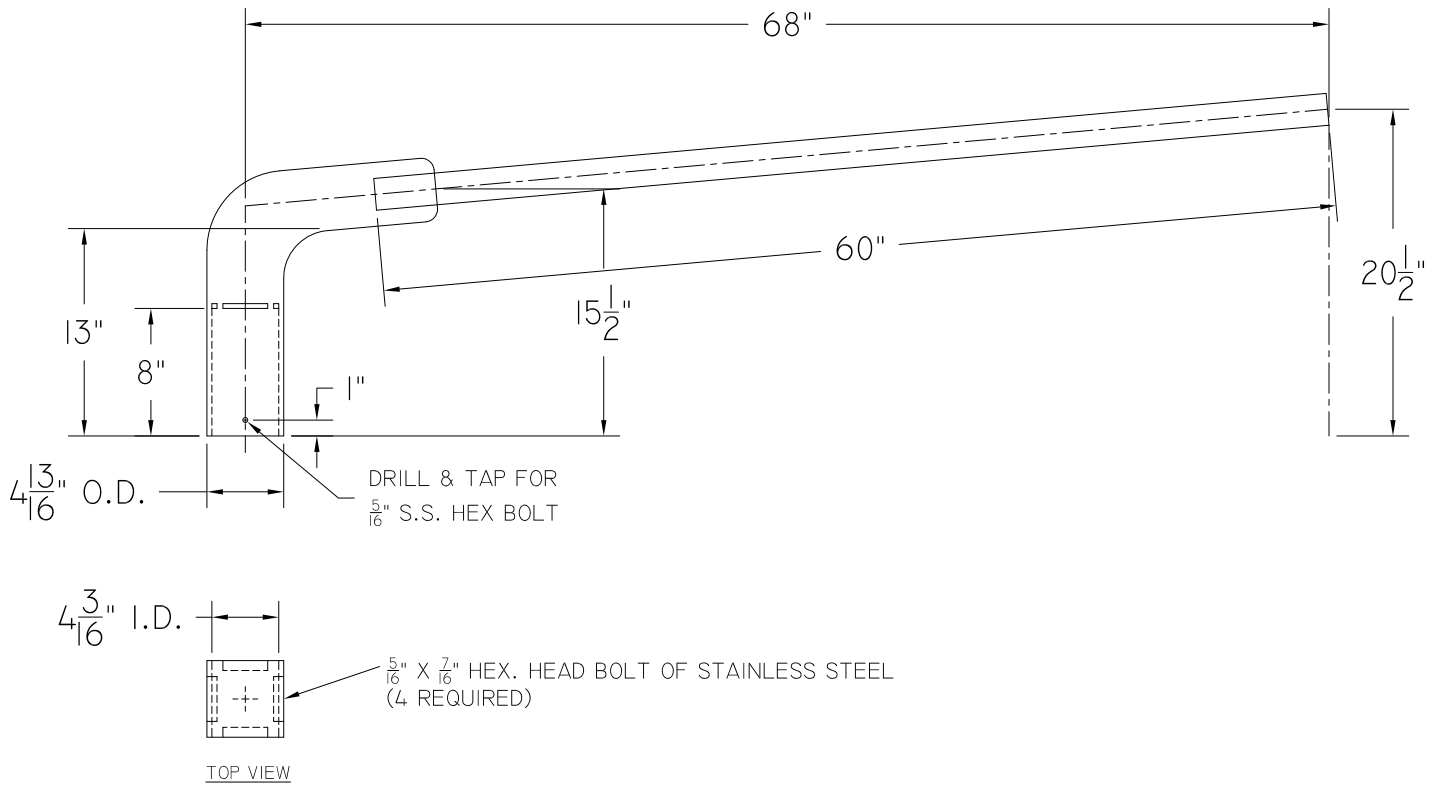


CONCRETE POLE
(STREET AND SECURITY LIGHTING)

DEVELOPED BY:	STANDARDS COMMITTEE
APPROVED:	SEP 2020
DRAWING NUMBER	ENG-11A



6' ALUMINUM BRACKET ARM



STREET LIGHT BRACKET DETAIL

BRACKETS:

COMPLETE ASSEMBLY - THE BRACKETS SHALL BE OF A LENGTH TO MOUNT TO A LUMINAIRE APPROXIMATELY SIX FEET FROM CENTER OF POLE AS PER DRAWING.

POLE TOP FITTING - THE POLE TOP FITTING SHALL BE CAST ALUMINUM. THE CASTING AND PARTS SHALL BE AS PER DRAWING. CASTING SHALL BE ALUMINUM ALLOY #356-T6 OR TENZOLOY.

SUPPORTS - THE LUMINAIRE SUPPORT SHALL BE MADE OF TWO INCH IPS ALUMINUM PIPE. A5A SCHEDULE 40. THE PIPE SHALL BE ALLUMINUM ASSOCIATION #6063-T6.



CONCRETE POLE BRACKET ARM

DEVELOPED BY:

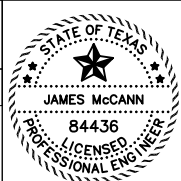
STANDARDS
COMMITTEE

APPROVED:

SEP 2020

DRAWING
NUMBER

ENG-11B



Current Transformer (CT) Cabinets, NEMA 3R
Aluminum (at least 0.08 thick)



Overhead / Pole Mounted Transformer Cabinets

Manufacture:	Barfield	Milbank	Meter Devices Co.
Catalog #:	BATCW7818NSGRC	1887-CT3RXA-SP1	558-5127 TCWM Alum

Underground / Wall Mounted Transformer Cabinets

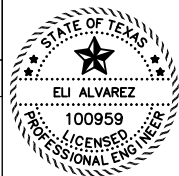
Manufacture:	Milbank	Meter Devices Co.	Durham
Catalog #:	363612-CT3RXA-SP2	561U3815G TC-3 Alum	A-363612-RDR A-363612-SFR A-363612-DDR
Max Cond:	8 - 500MCM	8 - 500MCM	8 - 500MCM

- Notes: 1. All CT cabinets provided and installed by customer at site approved by BPUB.
 2. All CT Cabinets are to be new stock.
 3. BPUB Engineering may approve a non-standard CT cabinet on a case by case basis. Please provide cut sheets and allow an extra two weeks for Engineering review and approval.



**CURRENT TRANSFORMER
ENCLOSURES**

DEVELOPED BY:	STANDARDS COMMITTEE
APPROVED:	SEP 2020
DRAWING NUMBER	ENG-12



BROWNSVILLE PUBLIC UTILITIES BOARD
ELECTRICAL ENGINEERING DEPARTMENT

1. Applicability

Voltage and Phasing shall be checked anytime the meter socket, service, service cable, or transformer(s) are changed or modified.

2. Safety

Workers shall use all Personal Protective Equipment including, hard hat, safety glasses and/or shields, uniforms, and properly rated rubber gloves.

3. Voltage

Voltage will be measured with a utility class Cat III 600V voltmeter prior to installing meter(s). Voltage shall be measured from phase to ground and phase to phase to ensure proper connections have been made. Variations by more than 5% from nominal will require rechecking connections and voltage at an adjacent service before meter(s) are installed. If measured voltages are more than 10% from nominal, the worker shall call a supervisor before proceeding.

4. Phase Rotation

Using a BPUB issued phase sequence/ rotation meter, the phase rotation shall be checked at the meter socket and noted on the inside of the meter socket with a permanent marker. If phasing is not consistent with previous tests, the customer or his electrician shall be notified to determine what steps should be taken.

5. If misconnections or damage is caused or discovered on a customer's premise, the worker shall immediately notify his supervisor to determine what steps should be taken.



**SECONDARY VOLTAGE AND
PHASING CHECKS**

DEVELOPED BY:

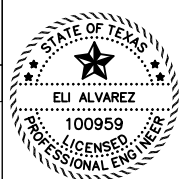
STANDARDS
COMMITTEE

APPROVED:

SEP 2020

DRAWING
NUMBER

ENG-13



Certificate of Convenience and Necessity (CCN) Checklist

Engineers or technicians assigned and authorized to prepare Certificate of Convenience and Necessity (CCN) packages must refer the following checklist before submitting to Management for approval. This assures uniformity of process and streamlines document preparation time.

Preparer: _____ Date: _____
 Project: _____ Work Order #: _____
 Location: _____

All CCN packages must include:

- Letter from customer requesting service:
 - a) All letters must include:
 - 1. A statement by the customer detailing whether or not they will be receiving BPUB water/wastewaters services.
 - b) If the customer currently has an existing electrical service provider, the letter must include the following:
 - 1. A statement by the customer acknowledging that conversion will require an exit fee to their current electrical provider
 - 2. A statement by the customer acknowledging they are prepared to pay applicable fees as a condition of service.

- A copy of the Deed (i.e. Warranty Deed, tax parcel ID) that includes the acreage. The Deed must also include recording information (date, Vol., Subdivision, etc.).

- *A letter sized (8.5 by 11") drawing showing the following:
 - c) Service territories (including amendments)
 - d) City limits
 - e) Street names (including cross streets)
 - f) Existing and proposed electrical lines for all utilities
 - g) Scale
 - h) North arrow

 Signature of Primary Surveyor (CCN package preparer)

 Signature of Secondary Surveyor (CAD Drafter / Tech)

- An ANSI E drawing showing the information detailed in requirement 3.
- A Work Order and drawing detailing cost of service.
- Customer Checklist detailing loads.
- An Expected Revenue Study

***This item requires two qualified engineering staff members to verify the existing conditions.**



CERTIFICATE OF CONVENIENCE AND NECESSITY (CCN) CHECKLIST

DEVELOPED BY:

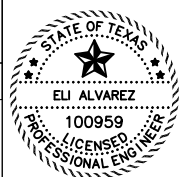
STANDARDS
COMMITTEE

APPROVED:

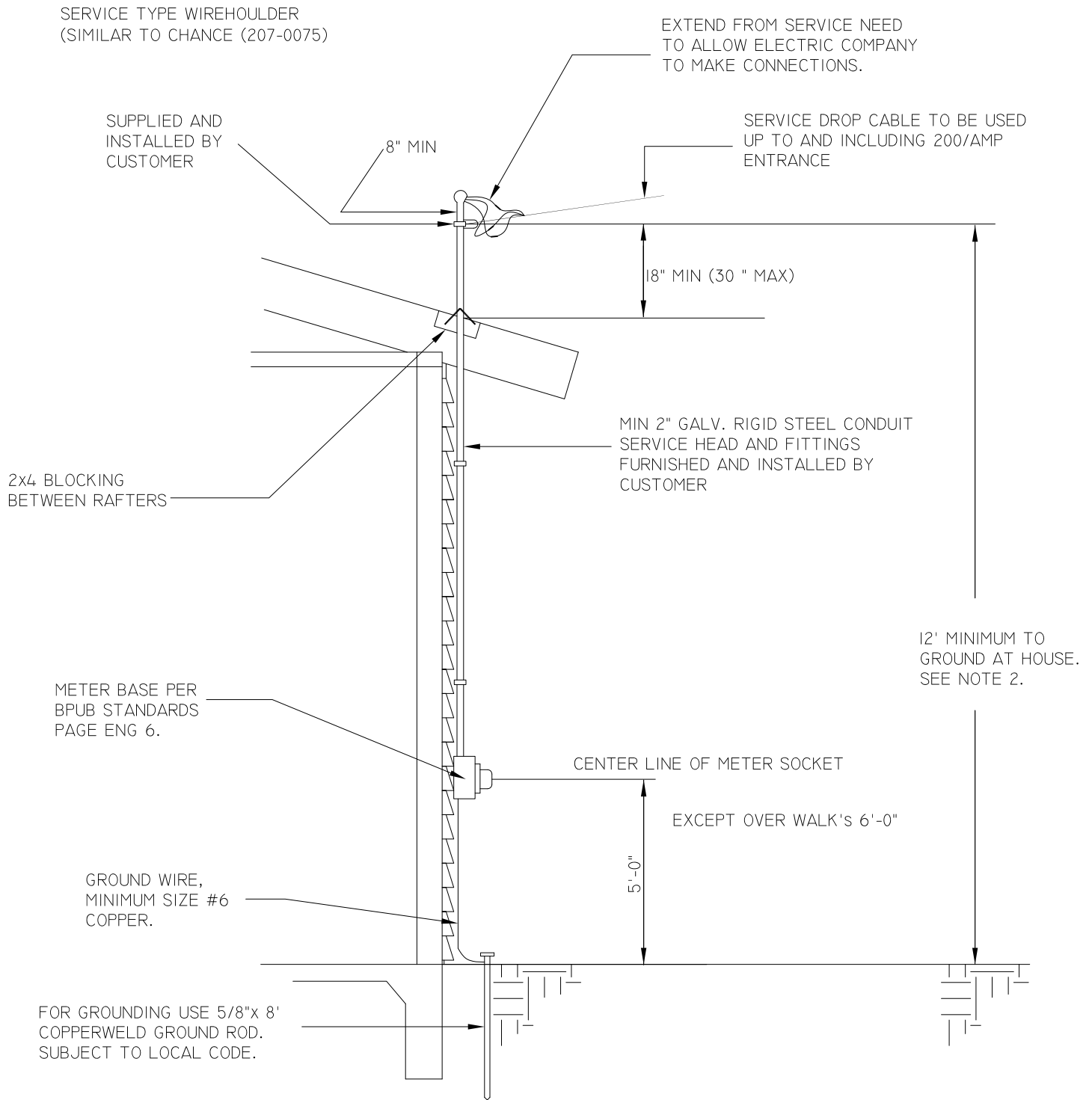
SEP 2021

DRAWING
NUMBER

ENG-15



**BROWNSVILLE PUBLIC UTILITIES BOARD
ELECTRICAL ENGINEERING DEPARTMENT**



NOTE:

1. RECOMMENDED METHOD FOR LOW ROOF RANCH TYPE HOUSE WHERE CABLES ARE NOT EXISTING OR HOUSE IS NOT HIGH ENOUGH FOR ATTACHMENT OF SERVICE IN USUAL MANNER.
2. POINT OF ATTACHMENT FOR SERVICE MUST BE OF SUFFICIENT HEIGHT TO MAINTAIN, FOR THE SERVICE, A 12' MINIMUM CLEARANCE, 18' MINIMUM TO COMMERCIAL DRIVEWAY AND 22' MINIMUM TO STREET.



**STANDARD DISTRIBUTION CONSTRUCTION
SERVICE ENTRANCE FOR LOW
ROOF HOUSING
F-1**

DEVELOPED BY:

STANDARDS
COMMITTEE

APPROVED:

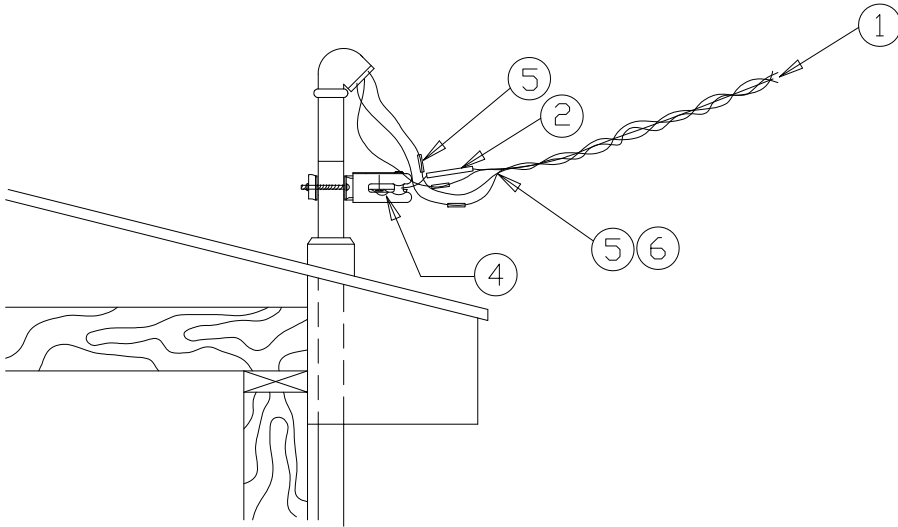
SEP 2020

DRAWING
NUMBER

STD D-101

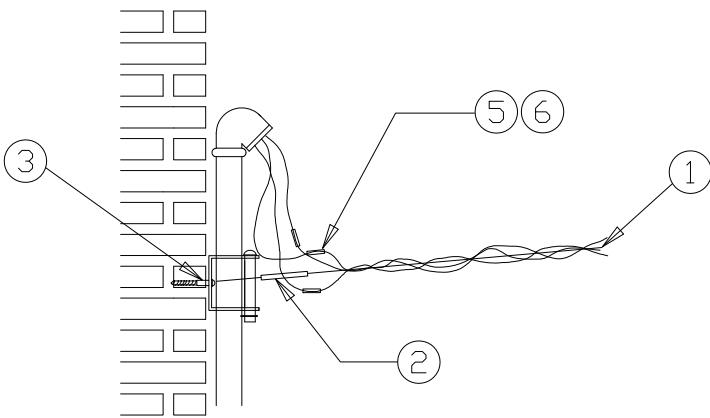


**BROWNSVILLE PUBLIC UTILITIES BOARD
ELECTRICAL ENGINEERING DEPARTMENT**



NOTES:

1. TRIPLEX OR QUADRUPLEX SERVICE DROP CABLE.
2. CABLE GRIP.
3. CLEVIS TYPE WIREHOLDER WITH INSULATOR (SIMILAR TO CHANCE # 0912) PROVIDED AND INSTALLED BY CUSTOMER.
4. SERVICE TYPE WIREHOLDER (SIMILAR TO CHANCE C207-0075)
5. SERVICE ENTRANCE SLEEVES
6. PLASTIC COVERS FOR HOT LEGS IF NON-INSULATED SERVICE ENTRANCE SLEEVES ARE USED
7. ON 4 WIRE QUADRUPLEX SERVICES, THE COVERED CONDUCTOR WITH MOST NUMBER OF RIBS WILL BE CONNECTED AS THE "WILD LEG".
8. POINT OF ATTACHMENT FOR SERVICE MUST BE OF SUFFICIENT HEIGHT TO MAINTAIN, FOR THE SERVICE, 12' MINIMUM CLEARANCE TO GROUND, 18' MINIMUM TO COMMERCIAL DRIVEWAY AND 22' MINIMUM TO STREET.



**STANDARD DISTRIBUTION CONSTRUCTION
STANDARD PRACTICE FOR USE OF
ALUMINUM TRIPLEX SERVICE DROP CABLE**

E-1

DEVELOPED BY:

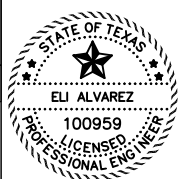
STANDARDS
COMMITTEE

APPROVED:

SEP 2020

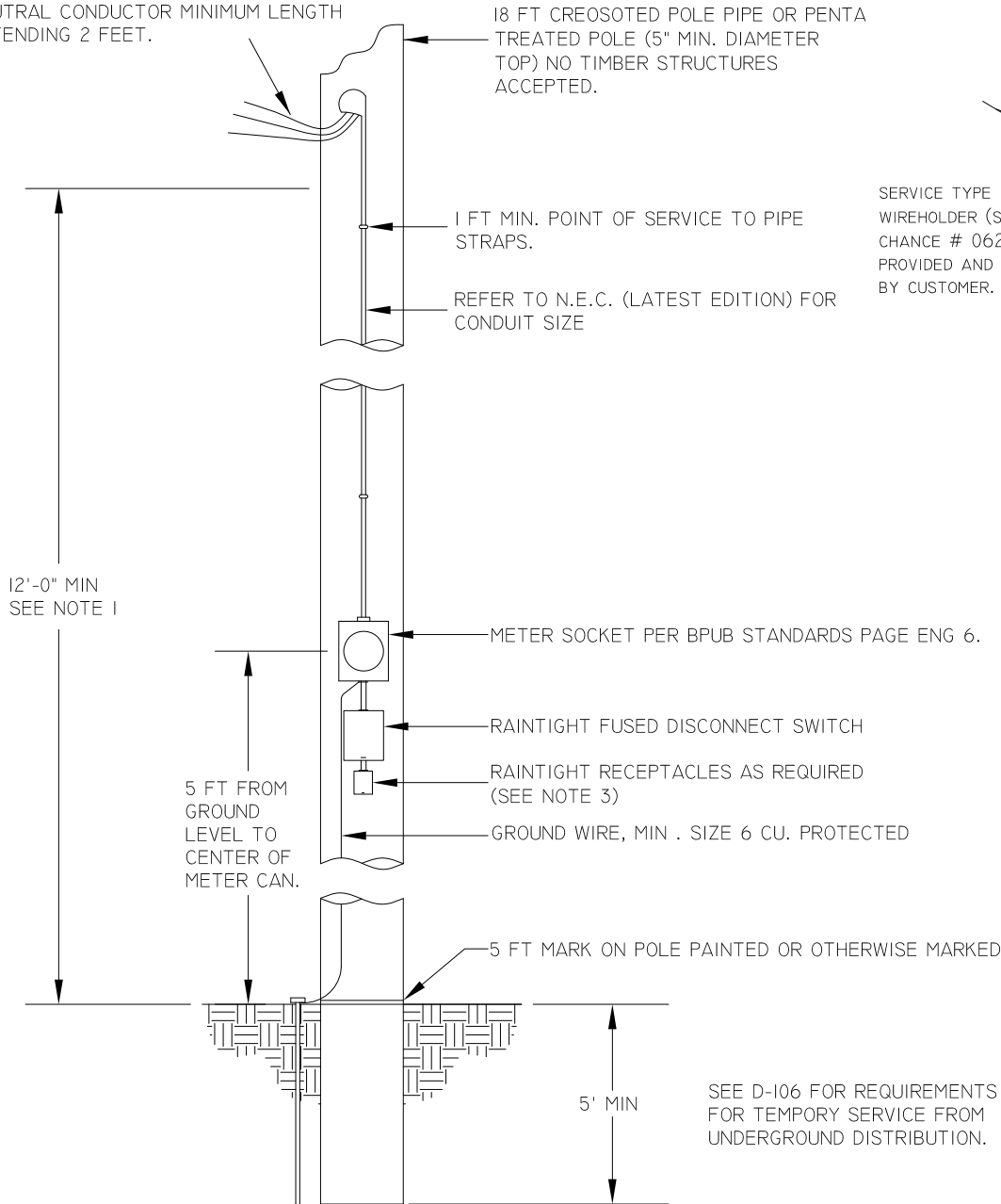
DRAWING
NUMBER

STD D-102

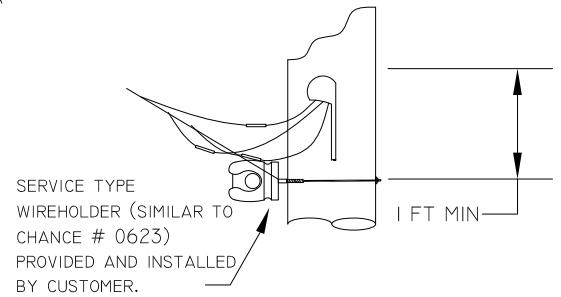


BROWNSVILLE PUBLIC UTILITIES BOARD ELECTRICAL ENGINEERING DEPARTMENT

MINIMUM 3-#6 AWG. AL., U.L. APPROVED CONDUCTOR; 2 BLACK INSULATED AND ONE WHITE INSULATED NEUTRAL CONDUCTOR MINIMUM LENGTH EXTENDING 2 FEET.



POLE TOP DETAIL



NOTE:

1. A MINIMUM CLEARANCE OF 18' IS REQUIRED OVER COMMERCIAL DRIVEWAYS OR PARKING LOTS. MINIMUM OF 22' REQUIRED OVER PUBLIC STREETS. ADDITIONAL POLE HEIGHT MAYBE REQUIRED TO ACCOMPLISH ADEQUATE CLEARANCES.
2. RECEPTACLES SHALL HAVE APPROVED GROUND-FAULT CIRCUIT PROTECTION FOR PERSONAL AS REQUIRED BY LOCAL CODES.
3. DISTANCE TO PUB SECONDARY POLE SHALL NOT BE MORE THAN 100' FOR 100AMP OR SMALLER SERVICES AND NOT MORE THAN 75' FOR 150AMP AND 200AMP SERVICES. FOR SERVICES LARGER THAN 200AMP CONSULT WITH BPUB ENGINEERING DEPARTMENT.



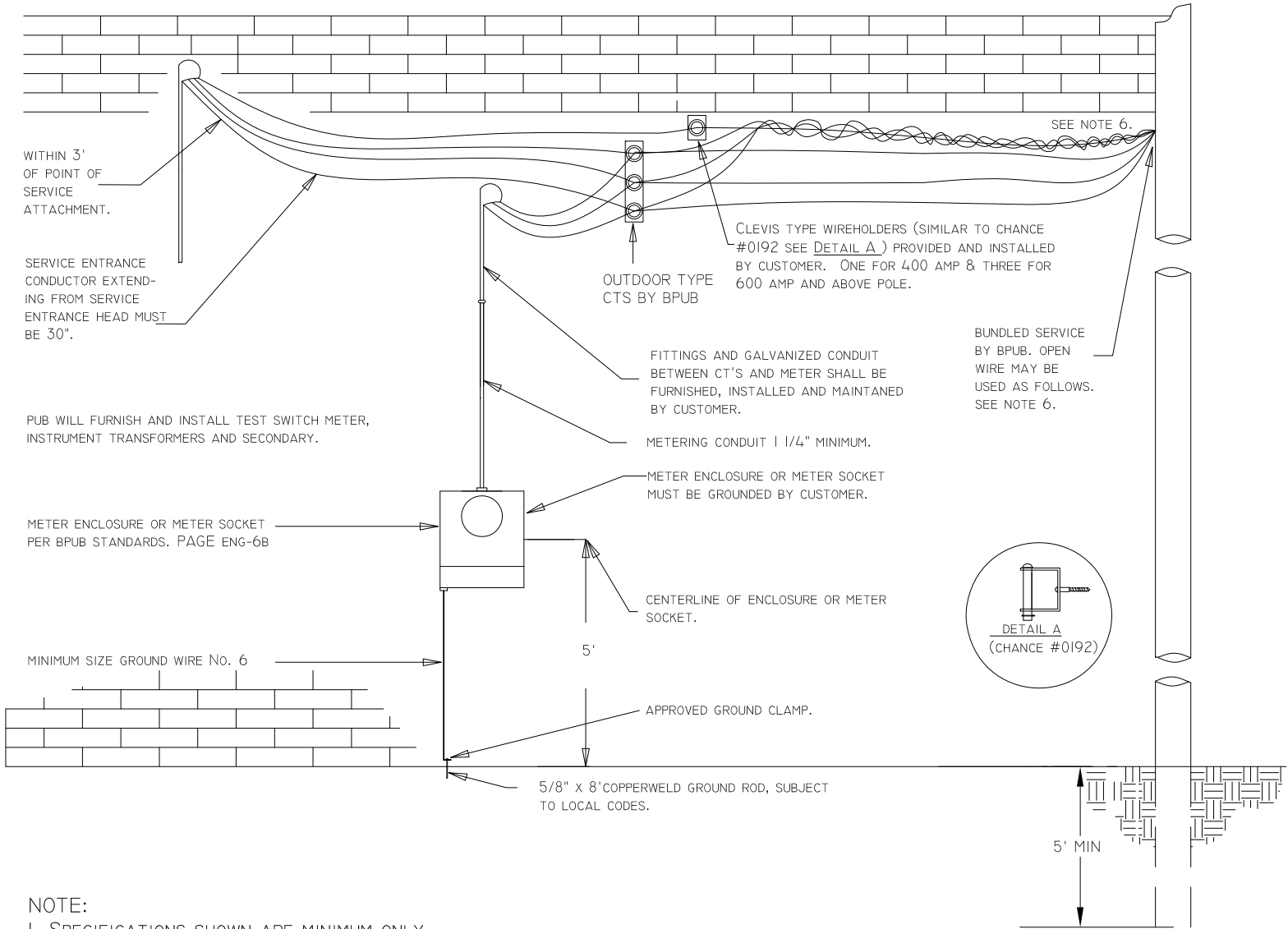
STANDARD DISTRIBUTION CONSTRUCTION REQUIREMENTS FOR TEMPORARY SERVICE POLE C-1

DEVELOPED BY:
APPROVED:
DRAWING NUMBER

STANDARDS COMMITTEE
SEP 2020
STD D-103



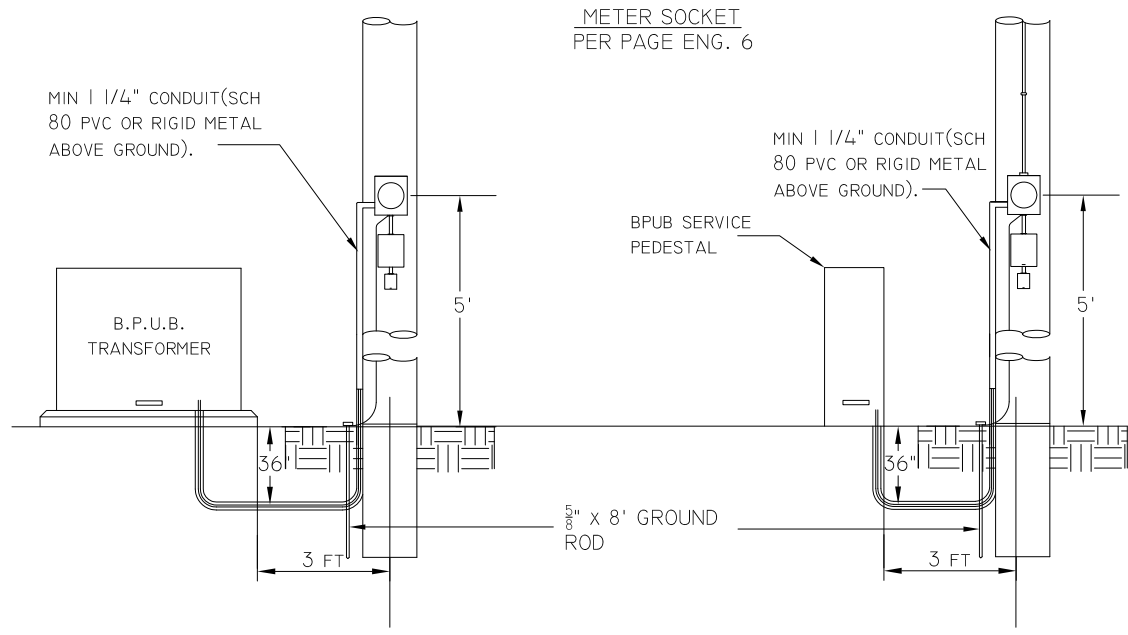
BROWNSVILLE PUBLIC UTILITIES BOARD ELECTRICAL ENGINEERING DEPARTMENT



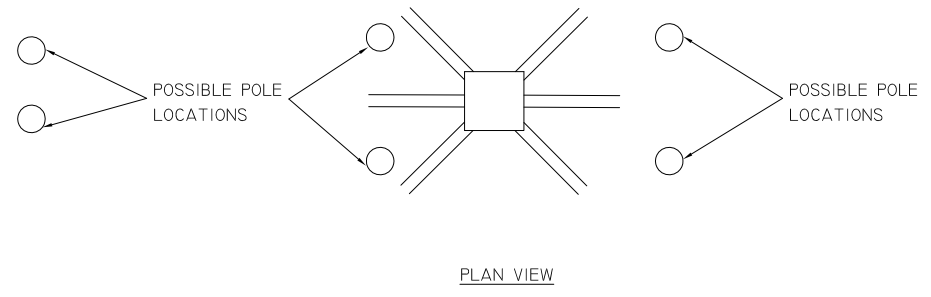
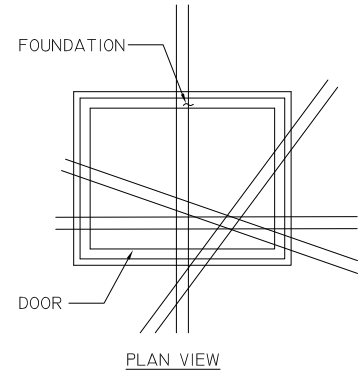
- NOTE:
1. SPECIFICATIONS SHOWN ARE MINIMUM ONLY.
 2. PUB SHALL BE CONSULTED ON EACH INSTALLATION REQUIRING CONDUCTOR LARGER THAN 300 MCM.
 3. METER SOCKET AND METERING CONDUIT WILL BE FIRMLY SECURED TO BUILDING.
 4. PROVISIONS FOR ANCHORING SERVICE ATTACHMENT TO BUILDING TO BE PROVIDED BY CUSTOMER.
 5. SERVICE ENTRANCE CAP MUST BE ABOVE POINT OF SERVICE ATTACHEMENTS AND HIGH ENOUGH TO MAINTAIN SERVICE WIRES A GROUND CLEARANCE OF 12' MINIMUM, 18' MINIMUM TO COMMERCIAL DRIVEWAYS OR PARKING LOTS, AND 22' MINIMUM TO STREET.
 6. PARALLEL PHASE CONDUCTORS SHALL BE MARKED BY THEIR RESPECTIVE PHASE.

 <p>BROWNSVILLE PUBLIC UTILITIES BOARD</p>	STANDARD DISTRIBUTION CONSTRUCTION	DEVELOPED BY:	STANDARDS COMMITTEE	
	TYPICAL CURRENT TRANSFORMER INSTALLATION	APPROVED:	SEP 2020	
	G-1	DRAWING NUMBER	STD D-105	

BROWNSVILLE PUBLIC UTILITIES BOARD ELECTRICAL ENGINEERING DEPARTMENT





ELEVATION VIEW
DASHED LINES ARE APPROXIMATE LOCATIONS
OF UNDERGROUND ENERGIZED CABLES.



NOTE:

1. ALL COMPONENTS SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE AND LOCAL CODES.
2. CUSTOMER TO PROVIDE 36" OF SERVICE ENTRANCE CONDUCTOR BEYOND CONDUIT.
3. RECEPTACLES SHALL HAVE APPROVED GROUND FAULT CIRCUIT PROTECTION, AS REQUIRED BY LOCAL CODES.

 <p>BROWNSVILLE PUBLIC UTILITIES BOARD</p>	<u>STANDARD DISTRIBUTION CONSTRUCTION</u>	DEVELOPED BY:	STANDARDS COMMITTEE	
	TEMPORARY SERVICE FROM UNDERGROUND RESIDENTIAL DISTRIBUTION	APPROVED:	SEP 2020	
	D-1	DRAWING NUMBER	STD-D-106	

Material List

ITEM	CODE NO.	DESCRIPTION	QUANTITY
1	E0008-00	CLAMP, HOTLINE COPPER	1
2	E-	STIRRUPS	1
3	E0024-00	LIGHTNING ARRESTOR 10 KV	1
4	E0959-00	TERMINATION, 1/0 STR. OUTDOOR CABLE	1
5	E0172-01	COUPLING, 2 1/2" PVC SCH 40 GRAY	4
6	E0161-00	PIPE, 2-1/2" X 10 FT GALVANIZED RIGID	10
7	E0163-00	PIPE 2 1/2" X 10 FT PVC SCH. 40 ELECTRIC GRAY	20
8	E0965-02	STRAP URD 2.5" CONDUIT	3
9	E0965-00	BRACKET URD CONDUIT	3
10	E0135-00	SCREW 1/2" X 4 1/2" LAG GALVANIZED	3
11	E0101-00	BOLT, MACHINE 5/8 X 12 GALVANIZED	3
12	E0138-00	WASHER 5/8" SQUARE 2 1/4" GALVANIZED	3
13	E0139-00	WASHER LOCK, 5/8" DOUBLE COIL SPRING COMPRESSED	3
14	E0140-00	BOLT 1/2" X 2" HEX STAINLESS STEEL	1
15	E0144-00	FLATWASHER 1/2" STAINLESS STEEL	1
16	E0143-00	LOCKWASHER 1/2" STAINLESS STEEL	1
17	E0142-00	NUT 1/2" HEX STAINLESS STEEL	1
18	E0182-01	ELL 2 1/2" PVC 90 DEG LONG RADIUS SCH 40 ELEC GRAY	1

STIRRUPS

	E0727-00	STIRRUP 1/0 STR W/#2 BAIL W/POWER BOOSTER	
	E0728-00	STIRRUP 4/0 STR W/ #2 BAIL W/POWER BOOSTER	
	E0730-00	STIRRUP 477 MCM W/ 1/0 BAIL W/POWER BOOSTER	
	E0731-00	STIRRUP 795 MCM W/ 2/0 BAIL, BURNDY	

- Notes:*
1. Install ground rod assembly (D-8).
 2. Install single phase fuse cutout assembly (D-10).



**SINGLE-PHASE PRIMARY
RISER POLE**

DEVELOPED BY:

STANDARD
S
COMMITTEE

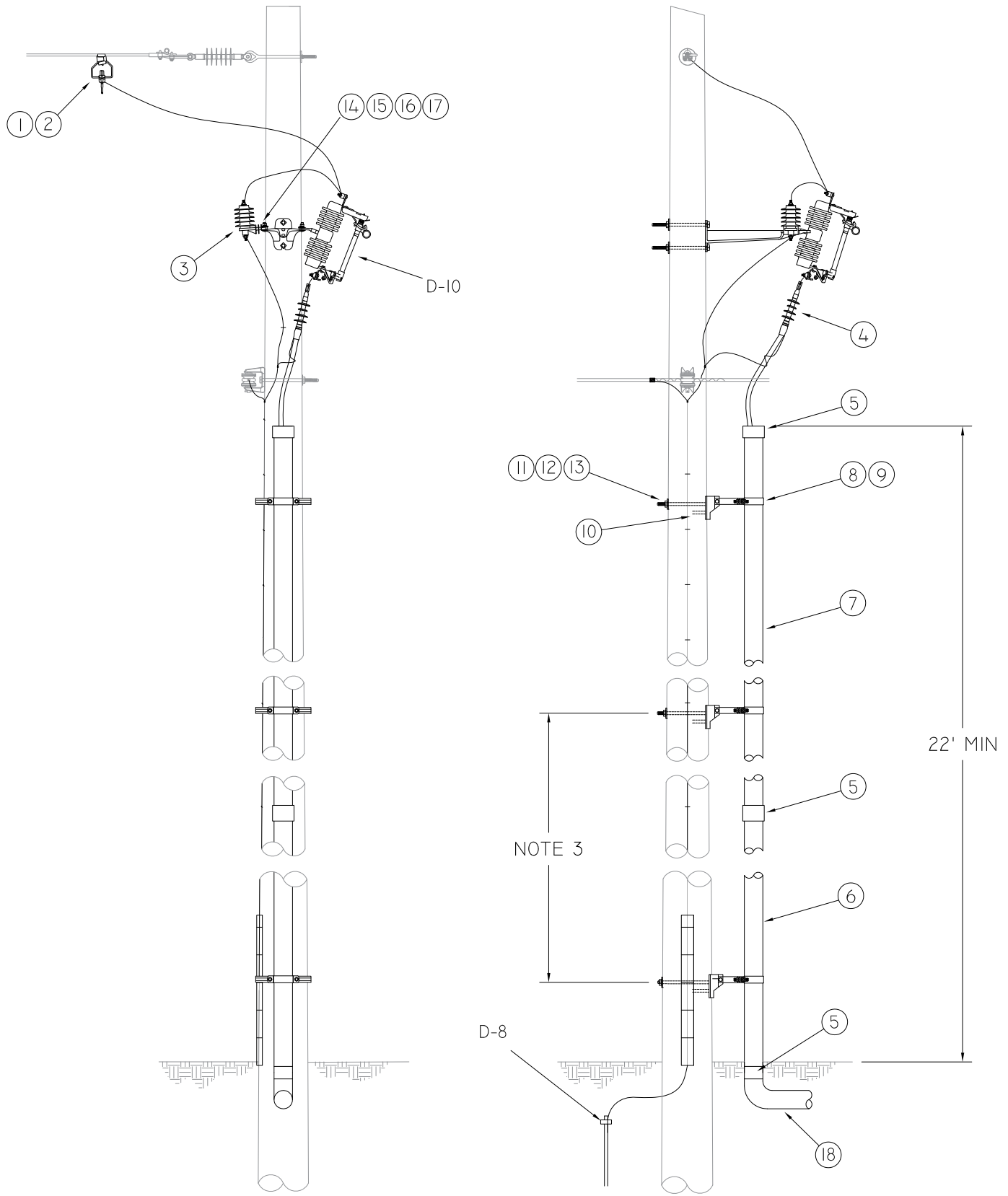
APPROVED:

Sep 2020

DRAWING
NUMBER

UD-1





- NOTES:
1. INSTALL GROUND ROD ASSEMBLY (D-8).
 2. INSTALL SINGLE PHASE FUSE CUTOUT ASSEMBLY (D-10).
 3. STANDOFF BRACKETS SHOULD BE SPACED SO THAT THERE IS A MINIMUM OF 8' BETWEEN EITHER THE LOWEST BRACKET AND GROUND OR THE TWO LOWEST BRACKETS.



SINGLE PHASE PRIMARY RISER POLE



DEVELOPED BY:
APPROVED:
DRAWING
NUMBER

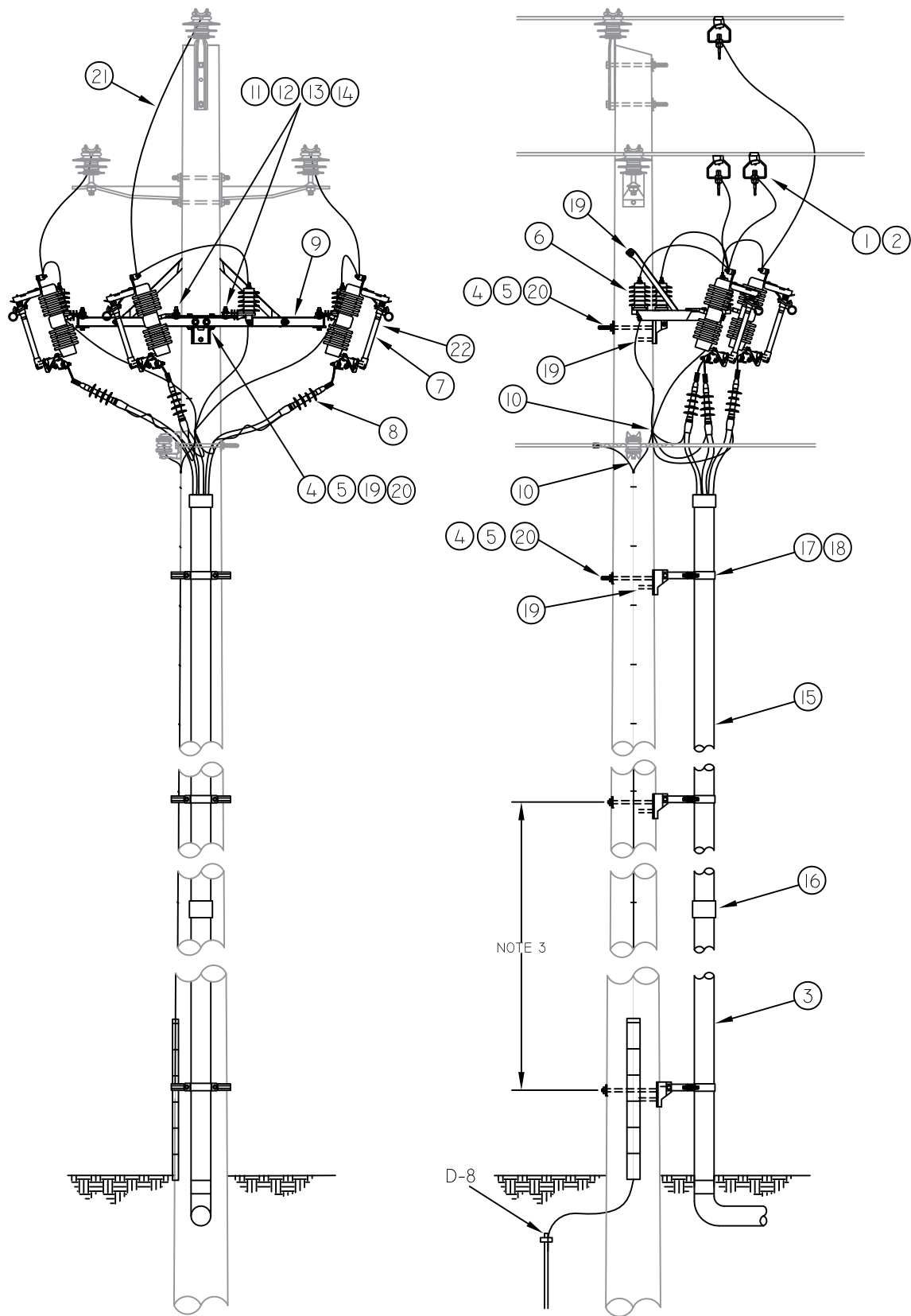
STANDARDS
COMMITTEE
SEP 2020
UD-1



Material List

ITEM	CODE NO.	DESCRIPTION	QUANTITY
1	E-	STIRRUPS	3
2	E0008-00	CLAMP, HOTLINE COPPER	3
3	E0165-00	PIPE 4" X 10' RIGID, GALVANIZED	10
4	E0101-00	BOLT, MACHINE 5/8 X 12 GALVANIZED	4
5	E0138-00	WASHER 5/8" SQUARE 2 1/4" GALVANIZED	4
6	E0024-00	LIGHTNING ARRESTOR 10 KV	3
7	E-	FUSE CUTOUT	3
8	E0959-00	TERMINATION, 1/0 STR. OUTDOOR CABLE	3
9	E1019-00	MOUNT 3-PHASE EQUIPMENT	1
10	E0418-00	CRIMPIT #2 STR -2 STR. CU	3
11	E0140-00	BOLT 1/2" X 2" HEX STAINLESS STEEL	6
12	E0144-00	FLATWASHER 1/2" STAINLESS STEEL	6
13	E0143-00	LOCKWASHER 1/2" STAINLESS STEEL	6
14	E0142-00	NUT 1/2" HEX STAINLESS STEEL	6
15	E0164-00	PIPE 4" X 10' FT PVC SCH 40 ELECTRIC GRAY	20
16	E0174-00	COUPLING, 4" PVC SCH 40 ELECTRIC GRAY	4
17	E0966-00	STRAP URD 4" CONDUIT KIT	3
18	E0965-00	BRACKET URD CONDUIT	3
19	E0135-00	SCREW 1/2" X 4 1/2" LAG GALVANIZED	6
20	E0139-00	WASHER LOCK, 5/8" DOUBLE COIL SPRING COMPRESSED	4
21	E0235-00	CABLE, #2 7/STR. BARE COPPER SOFT DRAWN	10 lb
22	E-	FUSELINK (Refer to Inventory List)	3
		STIRRUPS	
	E0727-00	STIRRUP 1/0 STR W/#2 BAIL W/POWER BOOSTER	
	E0728-00	STIRRUP 4/0 STR W/ #2 BAIL W/POWER BOOSTER	
	E0730-00	STIRRUP 477 MCM W/ 1/0 BAIL W/POWER BOOSTER	
	E0731-00	STIRRUP 795 MCM W/ 2/0 BAIL	
		FUSE CUTOUT	
	E0012-00	FUSE CUTOUT 100 AMP, C710-213-P	
	E0012-01	FUSE CUTOUT, 200 AMP 127KV BIL	
<i>Notes:</i>		1. Install ground rod assembly (D-8).	

	7.2/12.5 KV 3-PHASE PRIMARY RISER POLE	DEVELOPED BY:	STANDARDS COMMITTEE	
		APPROVED:	Sep 2020	
		DRAWING NUMBER	UD-2	



NOTES:

1. INSTALL GROUND ROD ASSEMBLY (D-8).
2. INSTALL FUSELINK ACCORDING TO RATED LOAD.
3. STANDOFF BRACKETS SHOULD BE SPACED SO THAT THERE IS A MINIMUM OF 8' BETWEEN EITHER THE LOWEST BRACKET AND GROUND OR THE TWO LOWEST BRACKETS.



7.2/12.5 KV THREE PHASE
PRIMARY RISER POLE

DEVELOPED BY:

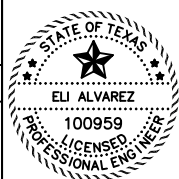
STANDARDS
COMMITTEE

APPROVED:

SEP 2020

DRAWING
NUMBER

UD-2



Material List

ITEM	CODE NO.	DESCRIPTION	QUANTITY
1	E-	COMPRESSION CONNECTORS	3
2	E1077-00	MOUNT HEAVY DUTY EQUIPMENT	1
3	E1136-00	SWITCH 1200 AMP DISCONNECT	3
4	E0024-00	LIGHTNING ARRESTOR 10 KV	3
5	E0985-00	LUG, TERMINAL URD 500 MCM, 2 HOLE	3
6	E0986-01	TERMINATOR, 500 MCM 15 KV URD, OUTDOOR	3
7	E0166-00	PIPE 6" X 10' FT PVC SCH 40 ELECTRIC GRAY	20
8	E0167-00	PIPE 6" X 10' RIGID, GALVANIZED	10
9	E0176-00	COUPLING 6" PVC SCH 40 ELECTRIC GRAY	4
10	E0965-00	BRACKET URD CONDUIT	3
11	E0967-00	STRAP URD 6" CONDUIT KIT	3
12	E0135-00	SCREW 1/2" X 4 1/2" LAG GALVANIZED	5
13	E0101-00	BOLT, MACHINE 5/8 X 12 GALVANIZED	5
14	E0138-00	WASHER 5/8" SQUARE 2 1/4" GALVANIZED	5
15	E0139-00	WASHER LOCK, 5/8" DOUBLE COIL SPRING COMPRESSED	5
16	E0140-00	BOLT 1/2" X 2" HEX STAINLESS STEEL	15
17	E0142-00	NUT 1/2" HEX STAINLESS STEEL	15
18	E0143-00	LOCKWASHER 1/2" STAINLESS STEEL	15
19	E0144-00	WASHER, 1/2" STAINLESS STEEL FLAT	15
20	E0214-00	CABLE, AL 477 MCM BARE AAC	60
21	E0792-00	ADAPTER 477 MCM TERMINAL	3

COMPRESSION CONNECTORS

E0720-00	CONNECTOR 477 MCM-477 MCM AL CU TAP	
E0723-00	CONNECTOR 795 MCM-477 MCM TAP	

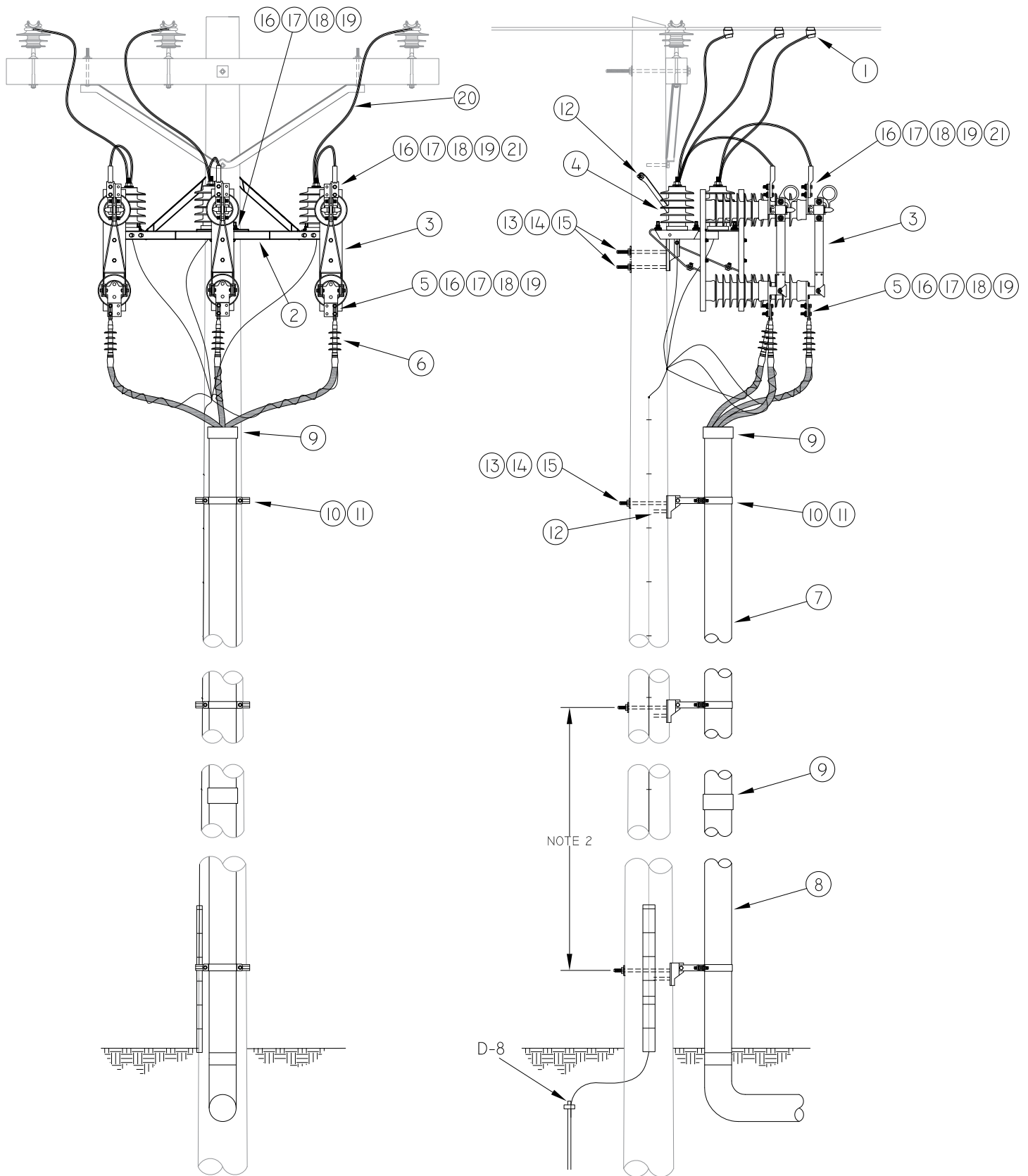
Notes: 1. Riser's bottom 10ft must be Sch. 80 or rigid conduit E0165-00
2. Install ground rod assembly (D-8).



**POWER CABLE RISER
KNIFE SWITCH DISCONNECT
12.5 / 7200 KV**

DEVELOPED BY:	STANDARDS COMMITTEE
APPROVED:	Sep 2020
DRAWING NUMBER	UD-3





NOTES:

1. INSTALL GROUND ROD ASSEMBLY (D-8).
2. STANDOFF BRACKETS SHOULD BE SPACED SO THAT THERE IS A MINIMUM OF 8' BETWEEN EITHER THE LOWEST BRACKET AND GROUND OR THE TWO LOWEST BRACKETS.



**POWER CABLE RISER
KNIFE SWITCH DISCONNECT
12.5 / 7200 KV**

DEVELOPED BY:

STANDARDS
COMMITTEE

APPROVED:

SEP 2020

DRAWING
NUMBER

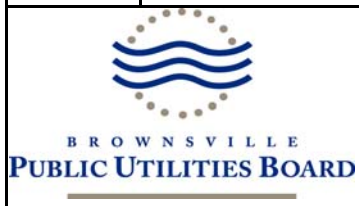
UD-3



Material List

ITEM	CODE NO.	DESCRIPTION	QUANTITY
1	E0724-00	CONNECTOR 795 MCM-795 MCM	3
2	E1077-00	MOUNT HEAVY DUTY EQUIPMENT	1
3	E1136-00	SWITCH 1200 AMP DISCONNECT	3
4	E0024-00	LIGHTNING ARRESTOR 10 KV	3
5	E0985-00	LUG, TERMINAL URD 500 MCM, 2 HOLE	6
6	E0986-01	TERMINATOR, 500 MCM 15 KV URD, OUTDOOR	6
7	E0166-00	PIPE 6" X 10' FT PVC SCH 40 ELECTRIC GRAY	40
8	E0167-00	PIPE 6" X 10' RIGID, GALVANIZED	20
9	E0176-00	COUPLING 6" PVC SCH 40 ELECTRIC GRAY	8
10	E0965-00	BRACKET URD CONDUIT	3
11	E0968-00	120" 4 WAY T-SLOT	3
12	E0967-00	STRAP URD 6" CONDUIT KIT	6
13	E0135-00	SCREW 1/2" X 4 1/2" LAG GALVANIZED	5
14	E0101-00	BOLT, MACHINE 5/8 X 12 GALV.	5
15	E0138-00	WASHER 5/8" SQUARE 2 1/4" GALVANIZED	5
16	E0139-00	WASHER LOCK, 5/8" DOUBLE COIL SPRING COMPRESSED	5
17	E0140-00	BOLT 1/2" X 2" HEX STAINLESS STEEL	21
18	E0142-00	NUT 1/2" HEX STAINLESS STEEL	21
19	E0143-00	LOCKWASHER 1/2" STAINLESS STEEL	21
20	E0144-00	WASHER, 1/2" STAINLESS STEEL FLAT	21
21	E0215-00	CABLE, AL 795 MCM BARE AAC	60
22	E0797-00	ADAPTER 795 MCM TERMINAL	3

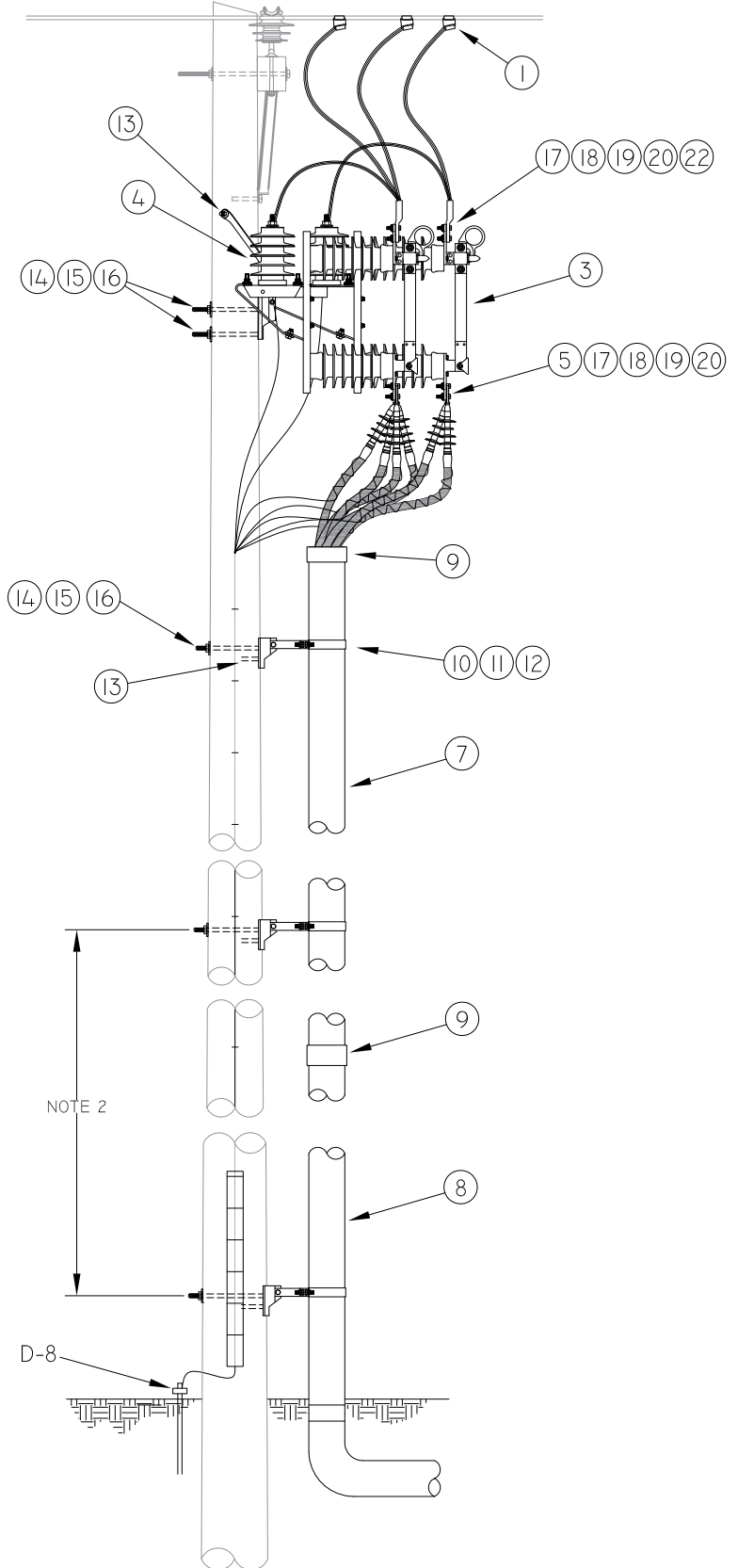
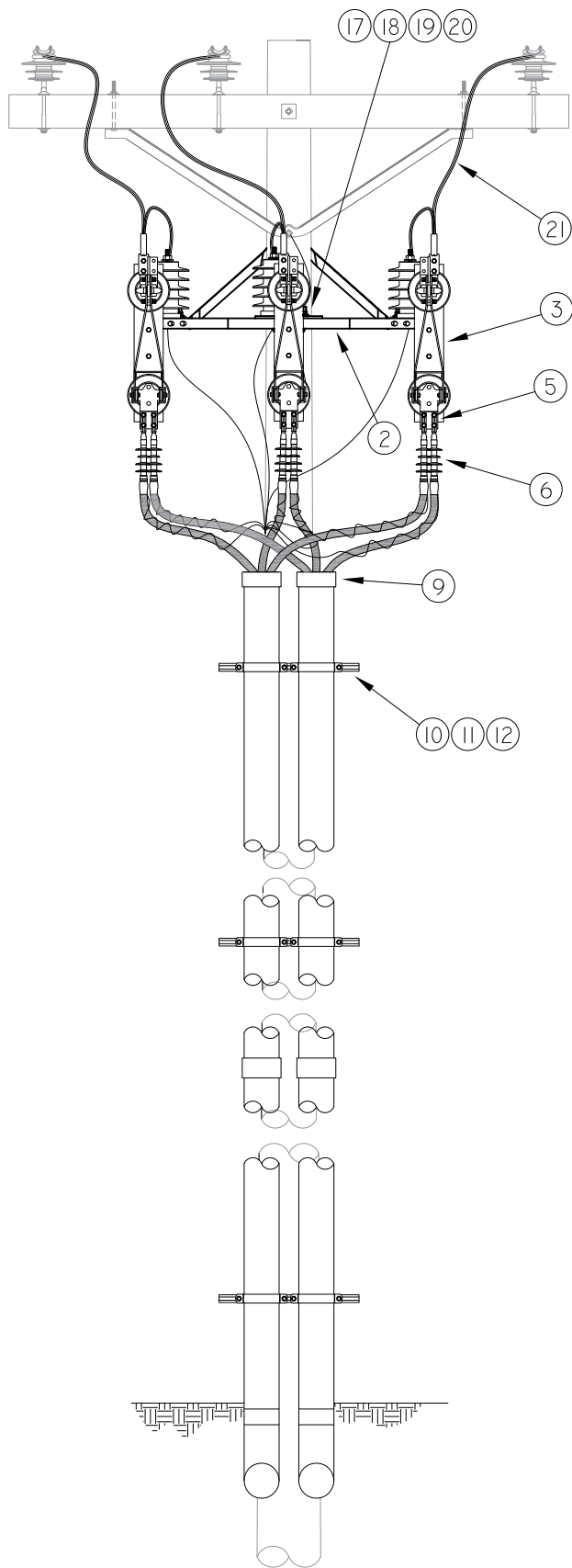
Notes: 1. Riser's bottom 10ft must be Sch. 80 or rigid conduit E0165-00
 2. Install ground rod assembly (D-8).
 3. The 120" 4 way T-Slot (E0968-00) should be cut to 24".



**POWER CABLE RISER
KNIFE SWITCH DISCONNECT
12.5 / 7200 KV
(PARALLEL)**

DEVELOPED BY:	STANDARDS COMMITTEE
APPROVED:	Sep 2020
DRAWING NUMBER	UD-3A





NOTES:

1. INSTALL GROUND ROD ASSEMBLY (D-8).
2. STANDOFF BRACKETS SHOULD BE SPACED SO THAT THERE IS A MINIMUM OF 8' BETWEEN EITHER THE LOWEST BRACKET AND GROUND OR THE TWO LOWEST BRACKETS.



**POWER CABLE RISER
KNIFE SWITCH DISCONNECT
12.5 / 7200 KV
(PARALLEL)**

DEVELOPED BY:

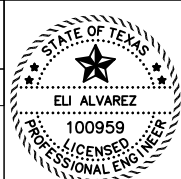
STANDARDS
COMMITTEE

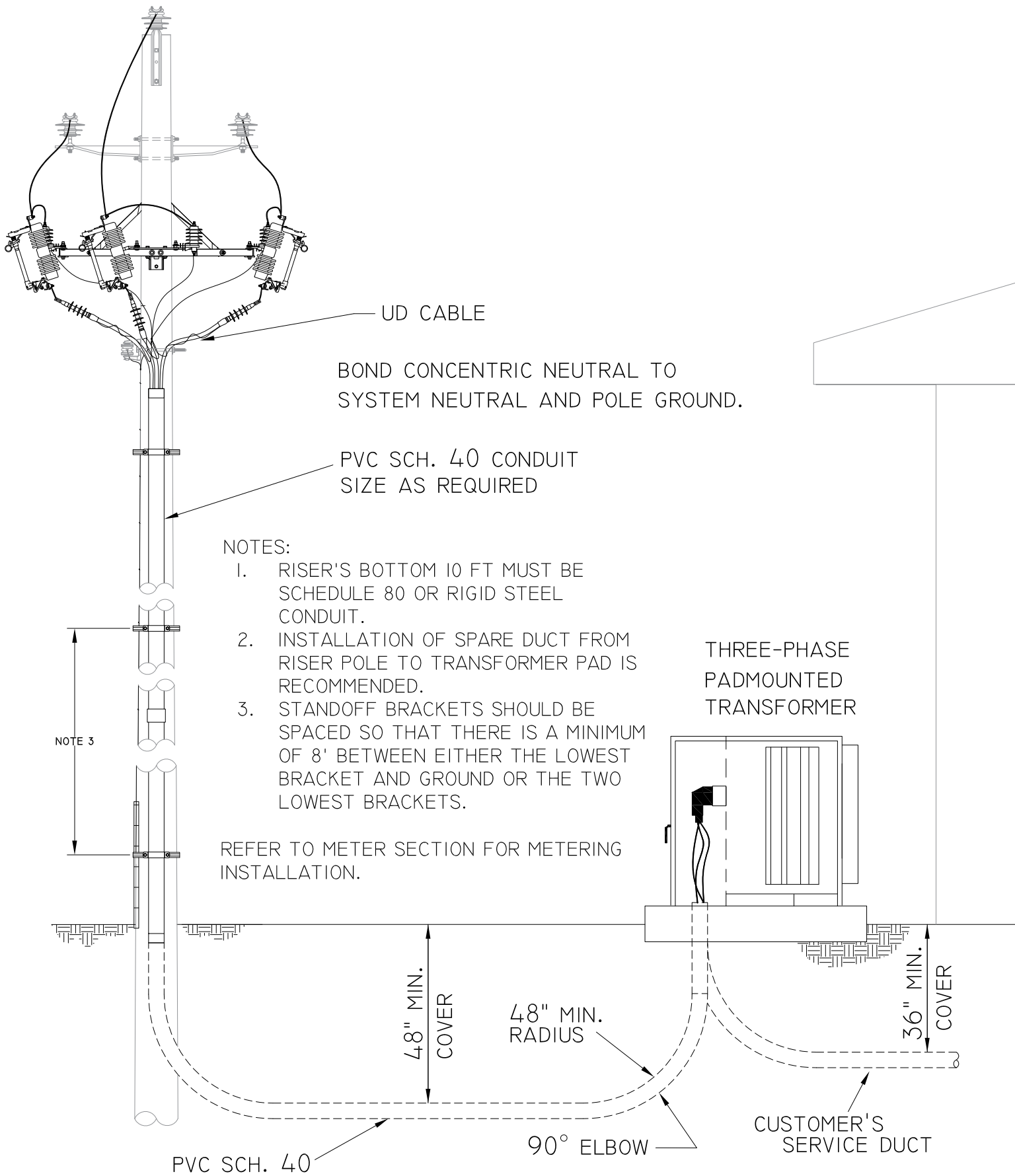
APPROVED:

SEP 2020

DRAWING
NUMBER

UD-3A





TYPICAL THREE PHASE
PRIMARY U.R.D. SERVICE

DEVELOPED BY:

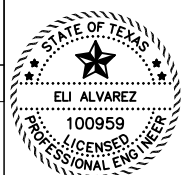
STANDARDS
COMMITTEE

APPROVED:

SEP 2020

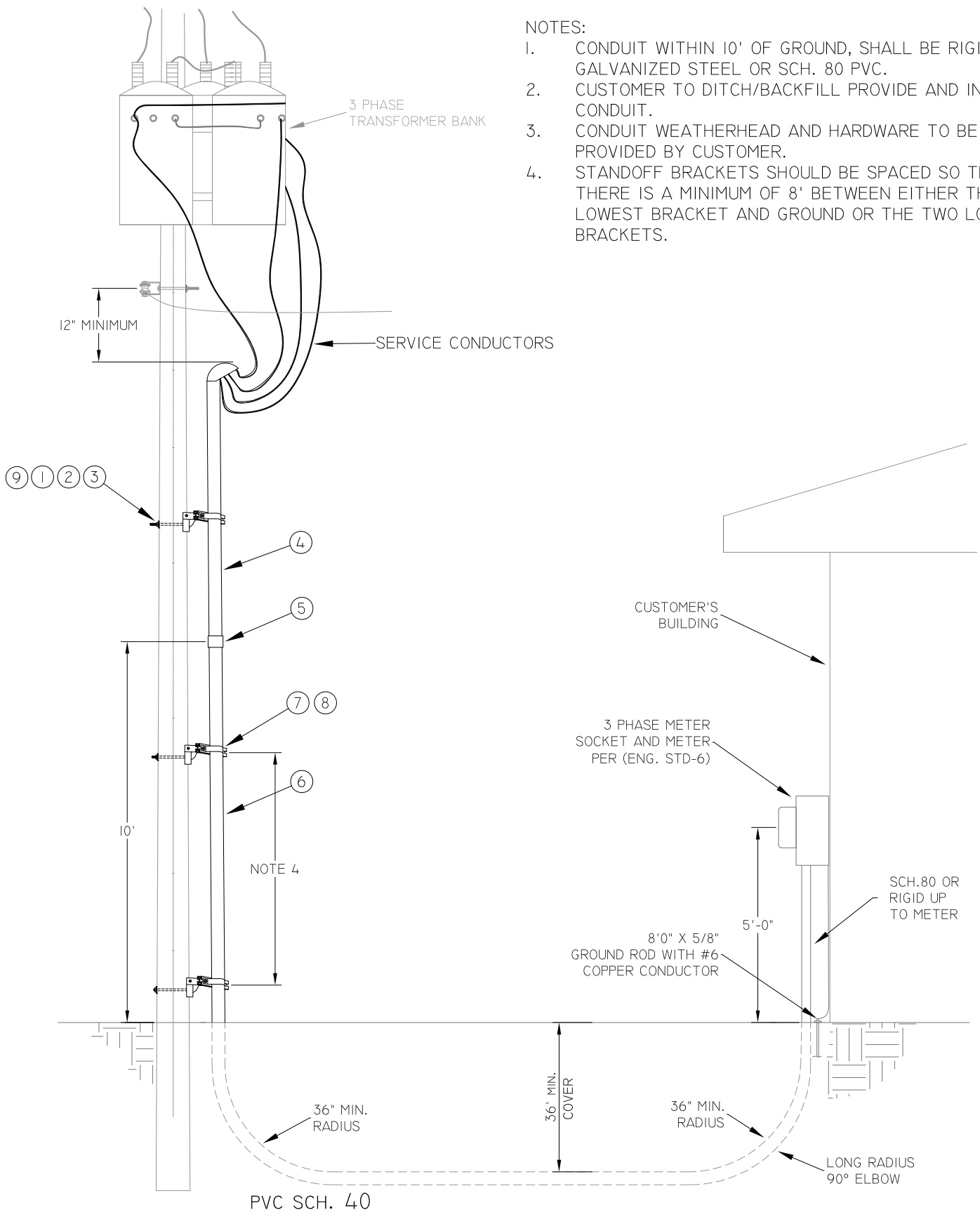
DRAWING
NUMBER

UD-4



NOTES:

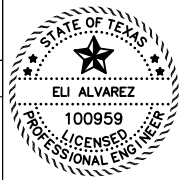
1. CONDUIT WITHIN 10' OF GROUND, SHALL BE RIGID GALVANIZED STEEL OR SCH. 80 PVC.
2. CUSTOMER TO DITCH/BACKFILL PROVIDE AND INSTALL CONDUIT.
3. CONDUIT WEATHERHEAD AND HARDWARE TO BE PROVIDED BY CUSTOMER.
4. STANDOFF BRACKETS SHOULD BE SPACED SO THAT THERE IS A MINIMUM OF 8' BETWEEN EITHER THE LOWEST BRACKET AND GROUND OR THE TWO LOWEST BRACKETS.



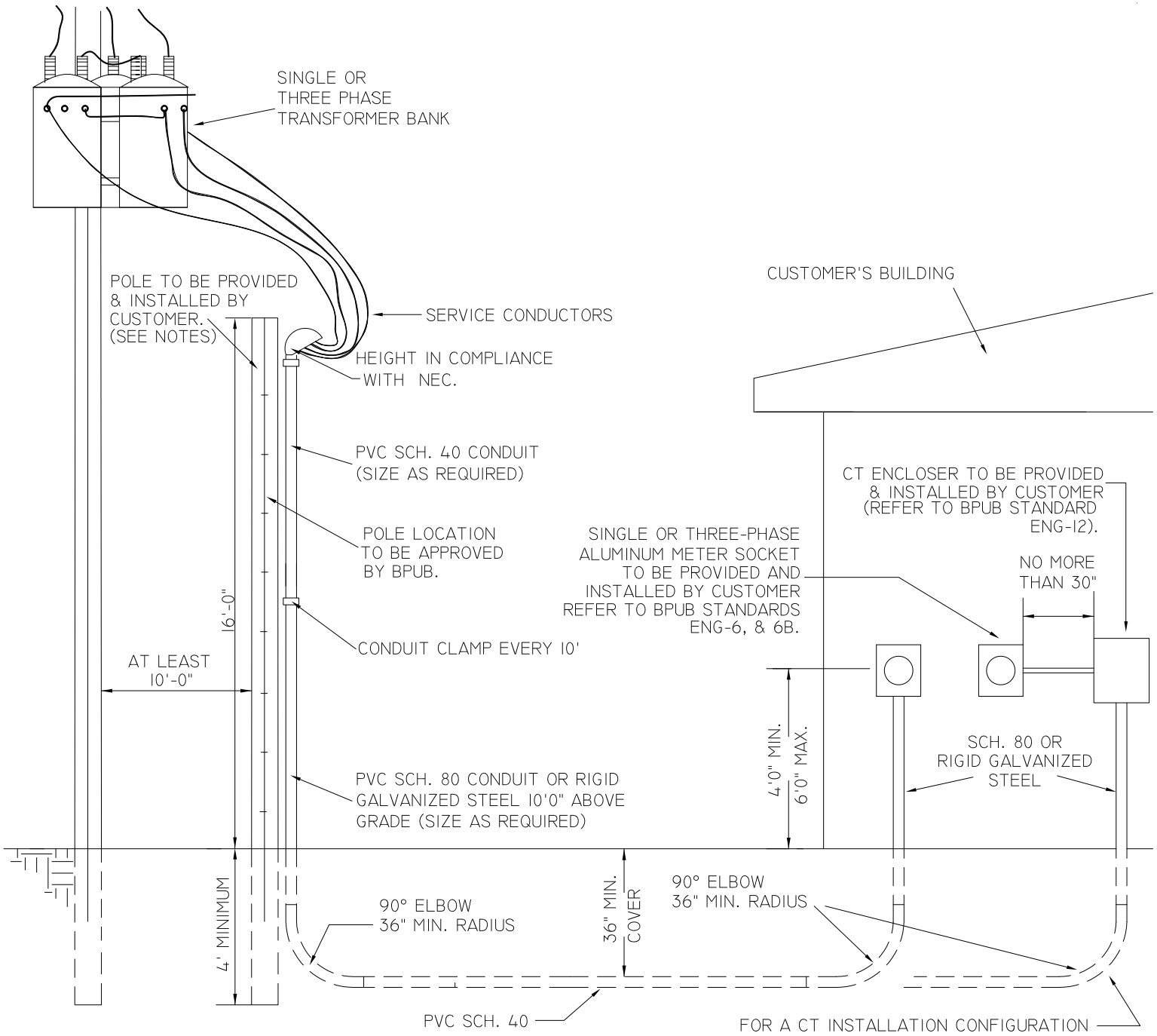
**TYPICAL THREE-PHASE
SECONDARY U.R.D. SERVICE
(SELF CONTAINED)**

DEVELOPED BY:
APPROVED:
DRAWING NUMBER

STANDARDS COMMITTEE
SEP 2020
UD-5



SERVICE CABLE	CONDUIT SIZE
2/0	2"
4/0	3"



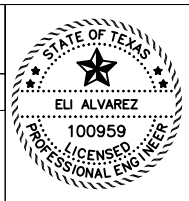
NOTE:

1. CUSTOMER TO DITCH, BACKFILL, AND PROVIDE AND INSTALL CONDUIT.
2. 20' POLE MINIMUM ROUND CLASS 7 (5"-6" DIAMETER) TREATED POLE.



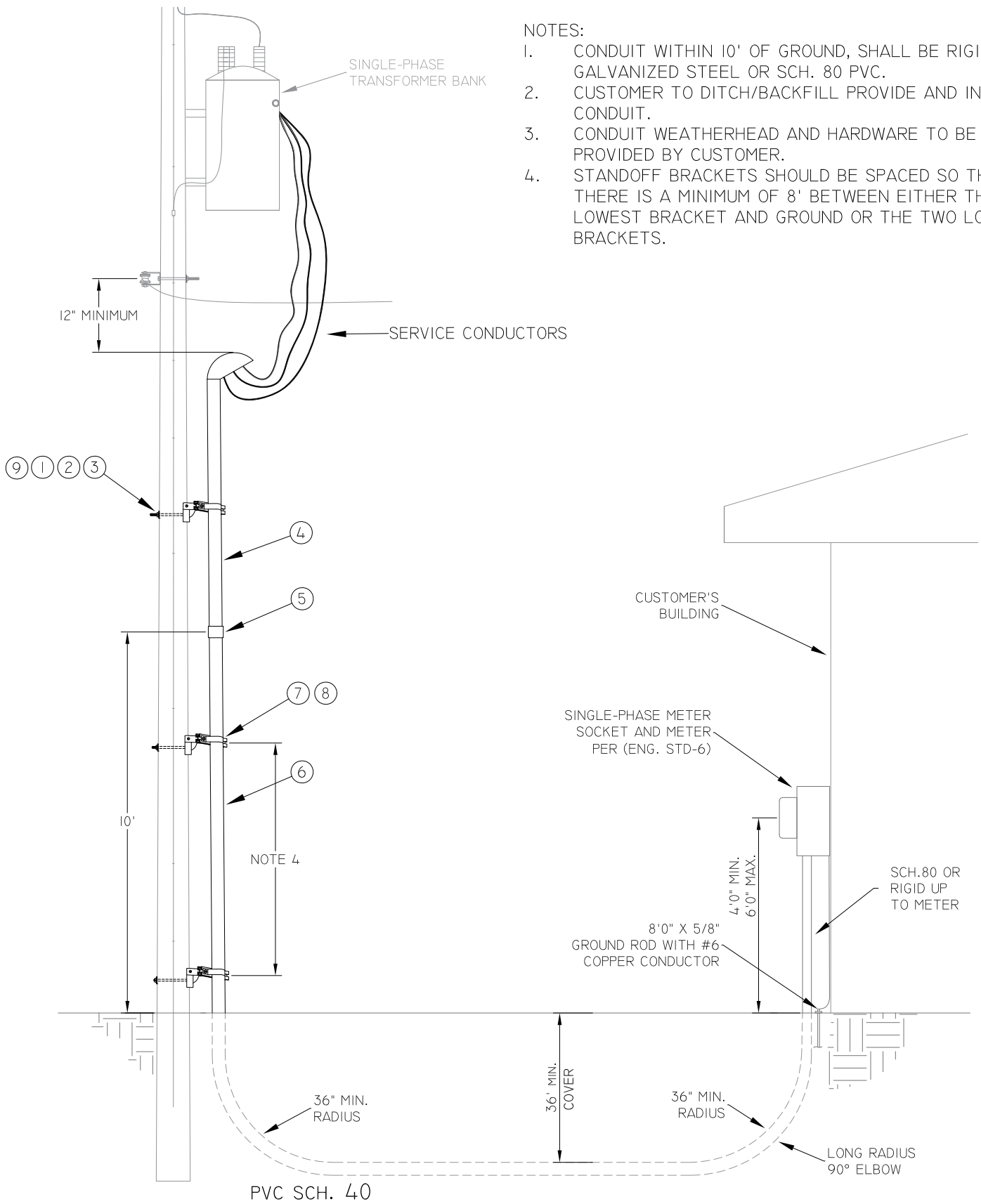
**TYPICAL
SECONDARY U.R.D. SERVICE**

DEVELOPED BY:	STANDARDS COMMITTEE
APPROVED:	SEP 2020
DRAWING NUMBER	UD-5A



NOTES:

1. CONDUIT WITHIN 10' OF GROUND, SHALL BE RIGID GALVANIZED STEEL OR SCH. 80 PVC.
2. CUSTOMER TO DITCH/BACKFILL PROVIDE AND INSTALL CONDUIT.
3. CONDUIT WEATHERHEAD AND HARDWARE TO BE PROVIDED BY CUSTOMER.
4. STANDOFF BRACKETS SHOULD BE SPACED SO THAT THERE IS A MINIMUM OF 8' BETWEEN EITHER THE LOWEST BRACKET AND GROUND OR THE TWO LOWEST BRACKETS.



**TYPICAL SINGLE-PHASE
SECONDARY U.R.D. SERVICE
(SELF CONTAINED)**

DEVELOPED BY:

STANDARDS
COMMITTEE

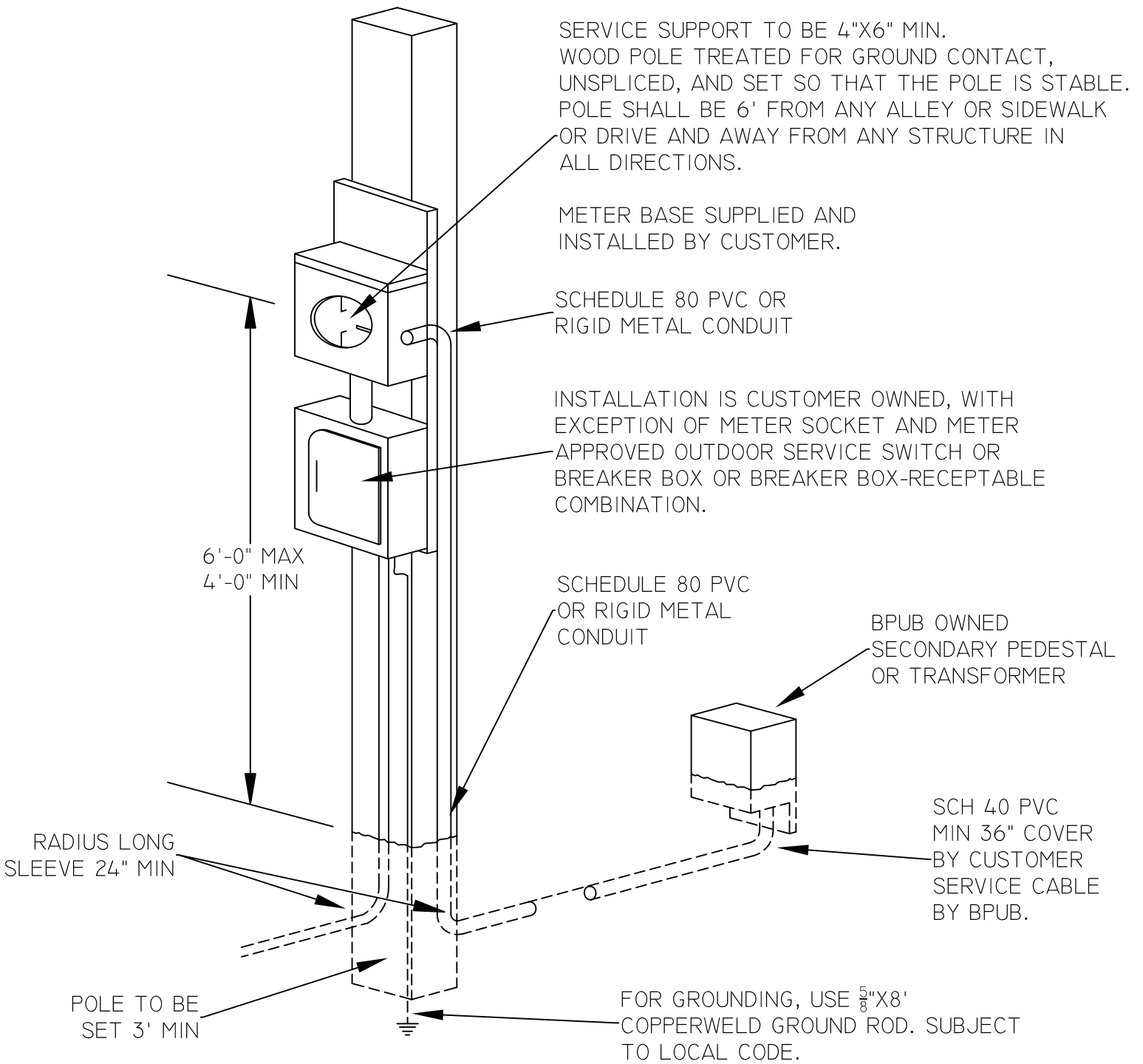
APPROVED:

SEP 2020

DRAWING
NUMBER

UD-5B





NOTES:

1. ALL MATERIAL TO BE SUPPLIED AND INSTALLED BY THE CUSTOMER. CUSTOMER WILL TRENCH WITHIN 2'-0" OF TRANSFORMER PAD, PEDESTAL OR HANDHOLE. BPUB WILL MAKE FINAL TRENCHING AND CONNECTIONS. CUSTOMERS WIRING FROM LINE TERMINALS OF METER SOCKET TO CONNECTIONS AT SERVICE PEDESTAL, HANDHOLE OR PAD TRANSFORMER. MUST BE PROTECTED BY SCHEDULE 80 OR RIGID IN ALL AREAS EXPOSED ABOVE GROUND.
2. CUSTOMER SHALL NOT ALLOW POLE TO BE MOVED OR TAMPERED WITH AS LONG AS COMPANY'S SERVICE WIRES ARE ATTACHED.



**CUSTOMER'S PERMANENT
METER POLE INSTALLATION
FOR UNDERGROUND SERVICE
INCLUDING RVS & MOBILE HOMES**

DEVELOPED BY:

STANDARDS
COMMITTEE

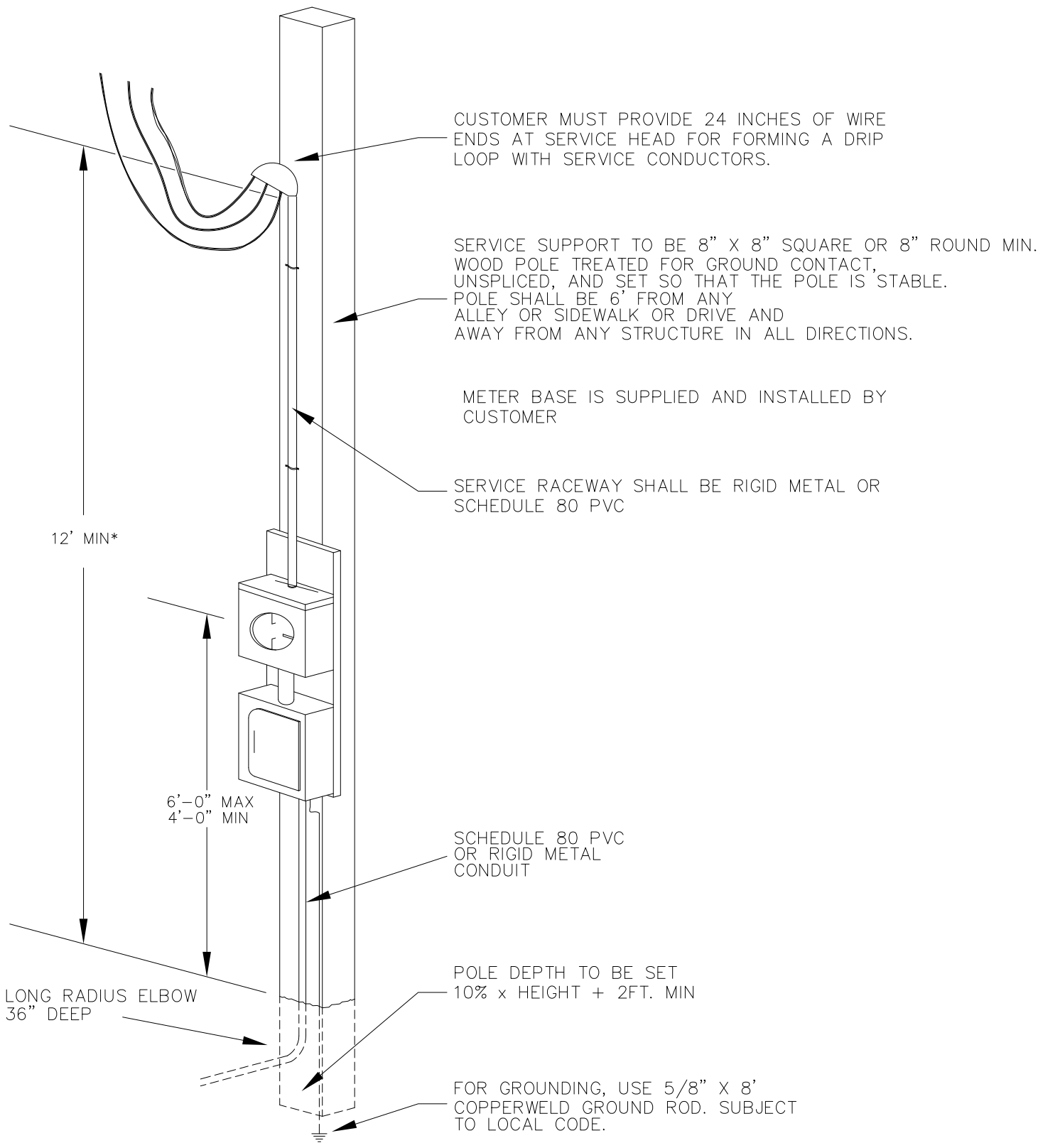
APPROVED:

SEP 2020

DRAWING
NUMBER

UD-5C

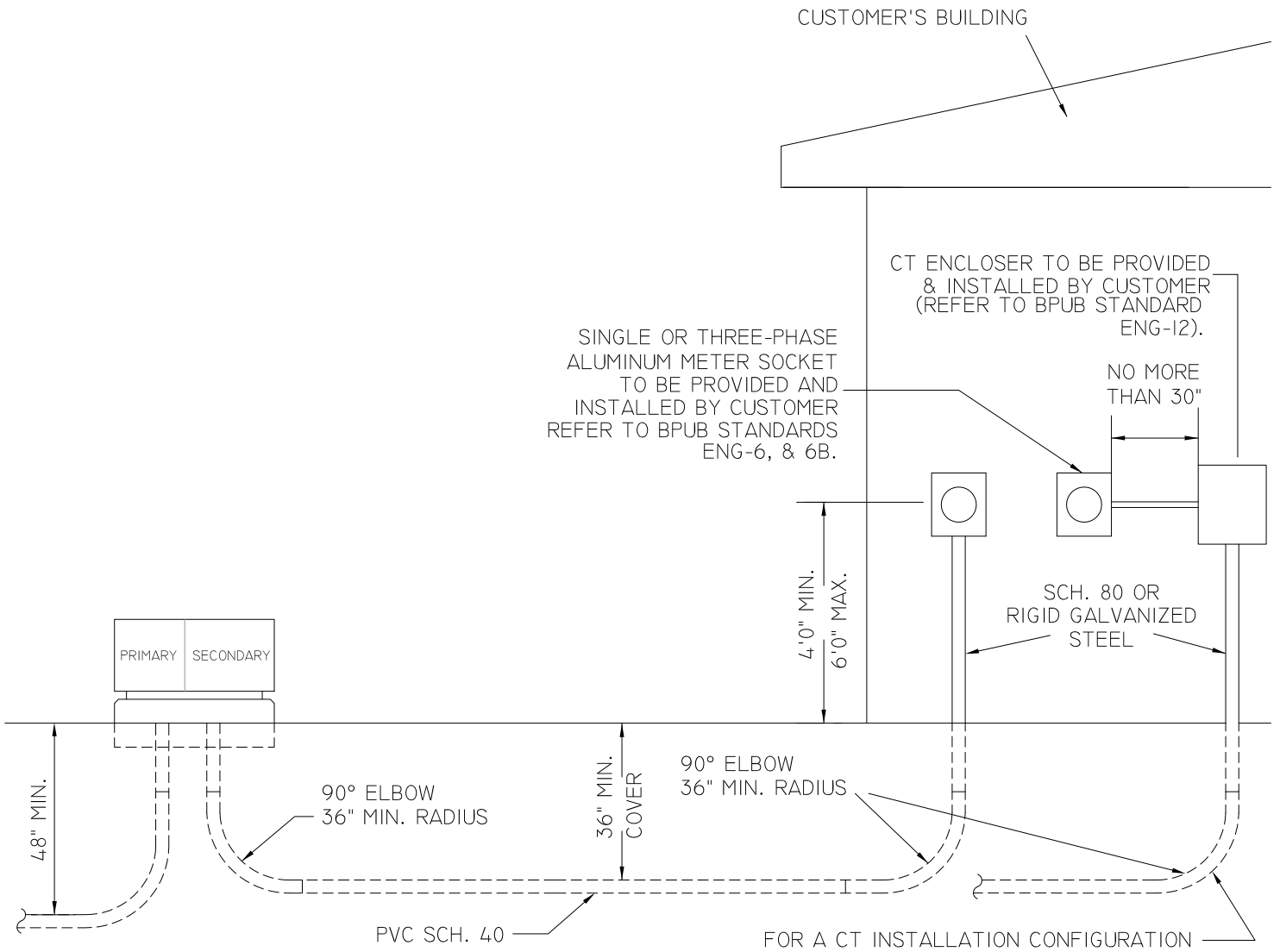




NOTES:

1. ALL MATERIAL TO BE SUPPLIED AND INSTALLED BY THE CUSTOMER, MUST BE PROTECTED BY SCHEDULE 80 OR RIGID IN ALL AREAS EXPOSED ABOVE GROUND.
2. CUSTOMER SHALL NOT ALLOW POLE TO BE MOVED OR TAMPERED WITH AS LONG AS COMPANY'S SERVICE WIRES ARE ATTACHED.
3. CLEARANCE SHALL BE 20' WHEN SUBJECT TO VEHICULAR TRAFFIC IN ANY DIRECTION.

 BROWNSVILLE PUBLIC UTILITIES BOARD	CUSTOMER'S PERMANENT METER POLE INSTALLATION FOR OVERHEAD SERVICE	DEVELOPED BY:	STANDARDS COMMITTEE	
		APPROVED:	SEP 2020	
		DRAWING NUMBER	UD-5D	

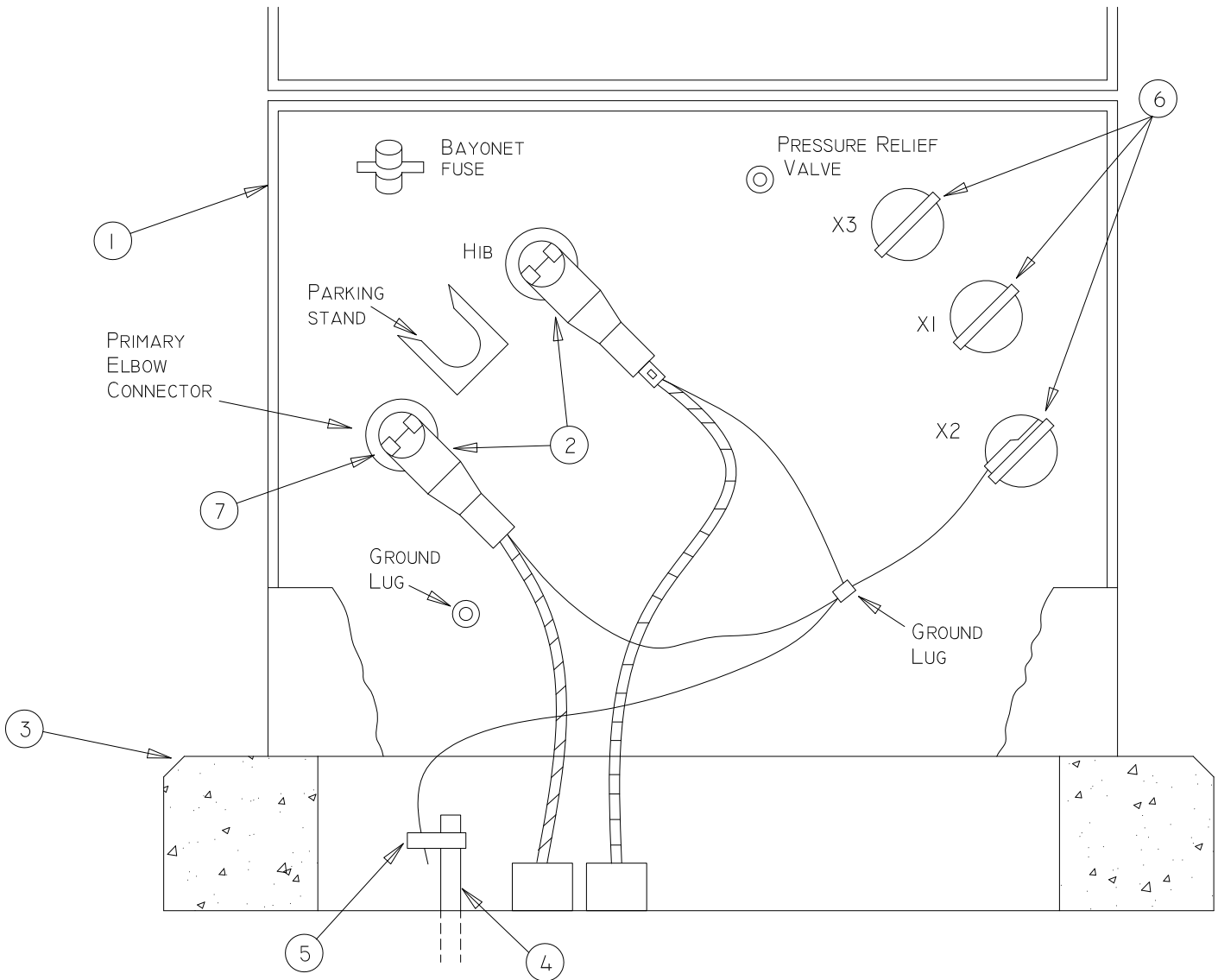


NOTE: CUSTOMER TO DITCH, BACKFILL, AND PROVIDE AND INSTALL CONDUIT.



TYPICAL
SECONDARY U.R.D. SERVICE

DEVELOPED BY:	STANDARDS COMMITTEE	
APPROVED:	SEP 2020	
DRAWING NUMBER	UD-5E	



NOTES:

1. CABLE DUCT AND CONDUIT IS TO EXTEND A MINIMUM 2" ABOVE GROUND LEVEL IN THE CABLE SLOT.
2. IN GROUNDING THE CONCENTRIC NEUTRAL SLACK IS TO BE ALLOWED FOR OPERATING THE ELBOW CONNECTOR.



**TYPICAL PRIMARY CONNECTIONS
FOR A SINGLE PHASE GROUND-
FRONT PAD MOUNTED
TRANSFORMER (LOOP FEED)**

DEVELOPED BY:	STANDARDS COMMITTEE
APPROVED:	SEP 2019
DRAWING NUMBER	UD-6



Material List

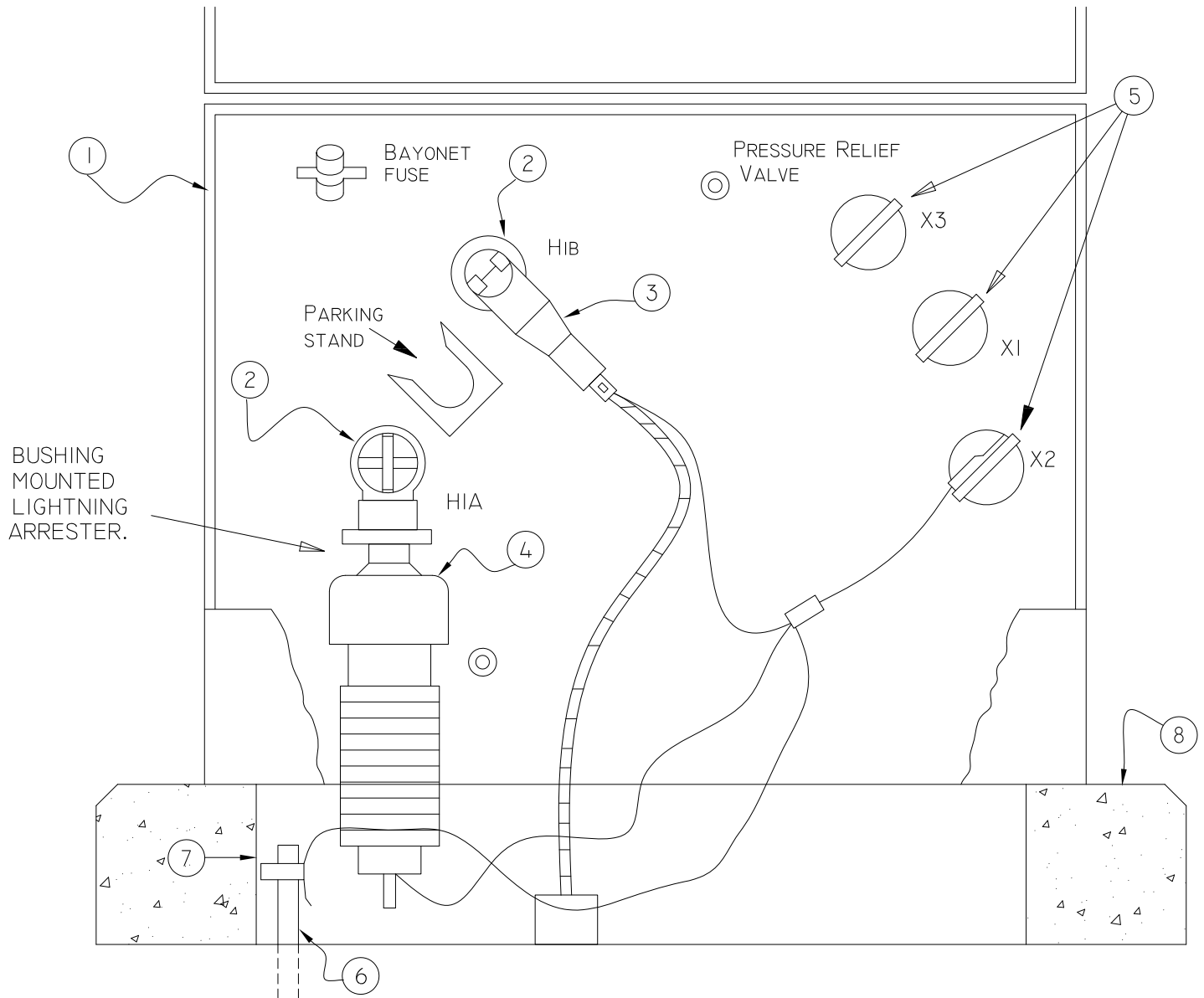
ITEM	CODE NO.	DESCRIPTION	QUANTITY
1	E-	TRANSFORMER	1
2	E0903-00	BUSHING, URD 200 AMP 15KV	2
3	E0937-00	ELBOW URD 1/0 STR 220 MIL LOADBREAK	1
4	E0900-00	ARRESTOR URD, 15KV	1
5	E-	CONNECTOR	3
6	E0013-00	ROD GROUND 5/8" X 8' COPPER WELD UL	1
7	E0014-00	CLAMP GROUND ROD 5/8" COPPER WELD UL	1
8	E0996-00	PAD URD TRANSFORMER	1
		TRANSFORMER	
	E1502-00	TRANSFORMER	
	TO E1510-00		
		CONNECTORS	
	E0926-00	CONNECTOR URD TRANSFORMER STUD	
	E0927-00	CONNECTOR URD TRANSFORMER STUD (FOR 100 KVA & ABOVE)	
	<i>Notes:</i>	1. Cable duct and conduit is to extend a minimum 2" above ground level in the cable slot.	
		2. In grounding the concentric neutral slack is to be allowed for operating the elbow connector.	
		3. The 10KV elbows arrestor is unshielded and is to be treated as a hot conductor.	



**BUSHING MOUNTED
LIGHTING ARRESTOR FOR A
SINGLE PHASE GROUNDED FRONT
PADMOUNTED TRANSFORMER**

DEVELOPED BY:	STANDARDS COMMITTEE
APPROVED:	Sep 2020
DRAWING NUMBER	UD-7





NOTES:

1. CABLE DUCT AND CONDUIT IS TO EXTEND A MINIMUM 2" ABOVE GROUND LEVEL IN THE CABLE SLOT.
2. IN GROUNDING THE CONCENTRIC NEUTRAL SLACK IS TO BE ALLOWED FOR OPERATING THE ELBOW CONNECTOR.
3. THE 10KV ELBOW ARRESTER IS UNSHIELDED AND IS TO BE TREATED AS A HOT CONDUCTOR.



**BUSHING MOUNTED LIGHTNING ARRESTER
FOR A SINGLE PHASE GROUND FRONT
PAD-MOUNTED TRANSFORMER**

DEVELOPED BY:

STANDARDS
COMMITTEE

APPROVED:

SEP 2020

DRAWING
NUMBER

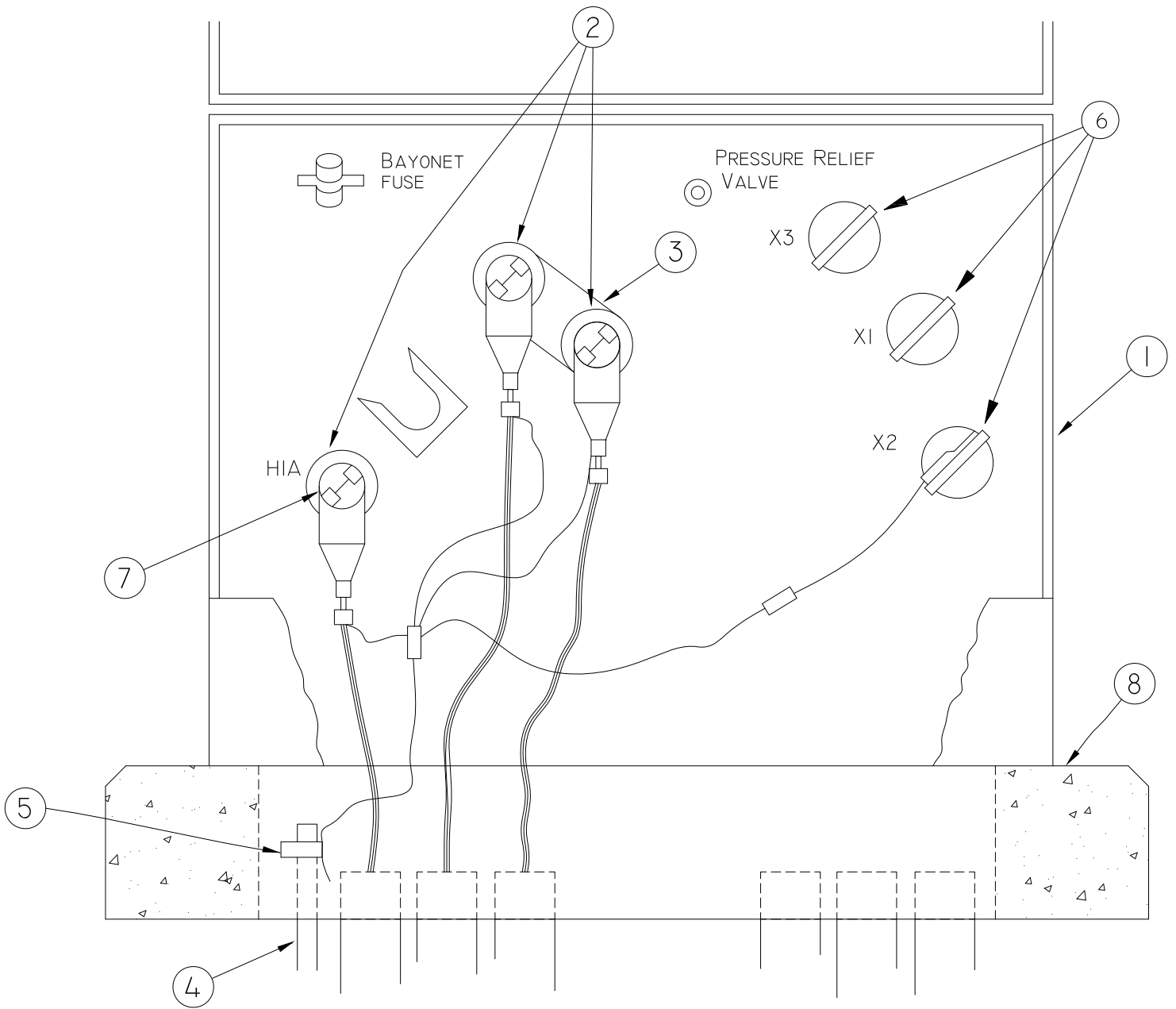
UD-7



Material List

ITEM	CODE NO.	DESCRIPTION	QUANTITY
1	E-	TRANSFORMER (Size as Req'd.)	1
2	E0937-00	ELBOW URD 1/0 STR 220 MIL LOADBREAK	3
3	E0904-00	FEED THRU URD 200 AMP 15KV INS	1
4	E0013-00	ROD GROUND 5/8" X 8' COPPER WELD UL	1
5	E0014-00	CLAMP GROUND ROD 5/8" COPPER WELD UL	1
6	E-	CONNECTOR (Size As Req'd. See Below)	3
7	E0903-00	BUSHING, URD 200 AMP 15KV	1
8	E0996-00	PAD URD TRANSFORMER	1
		TRANSFORMER	
	E1502-00	TRANSFORMER	
	TO E1510-00		
		CONNECTORS	
	E0926-00	CONNECTOR URD TRANSFORMER STUD	
	E0927-00	CONNECTOR URD TRANSFORMER STUD (FOR 100 KVA & ABOVE)	
		<i>Notes: 1. Cable duct and conduit is to extend a minimum 2" above ground level in the cable slot.</i>	
		<i>2. In grounding the concentric neutral slack is to be allowed for operating the elbow connector.</i>	

 BROWNSVILLE PUBLIC UTILITIES BOARD	SINGLE PHASE GROUNDED FRONT PADMOUNTED TRANSFORMER WITH SINGLE PHASE TAP	DEVELOPED BY: APPROVED: DRAWING NUMBER	STANDARDS COMMITTEE Sep 2020 UD-8	 ELI ALVAREZ LICENSED PROFESSIONAL ENGINEER 100959
---	---	---	---	--



NOTES:

1. CABLE DUCT AND CONDUIT IS TO EXTEND A MINIMUM 2" ABOVE GROUND LEVEL IN THE CABLE SLOT.
2. IN GROUNDING THE CONCENTRIC NEUTRAL SLACK IS TO BE ALLOWED FOR OPERATING THE ELBOW CONNECTOR.
3. OMIT THE SECONDARY NEUTRAL GROUND CONNECTION IF A GROUND STRAP IS PRESENT.



**SINGLE-PHASE GROUND FRONT
PAD-MOUNTED TRANSFORMER
WITH SINGLE-PHASE TAP**

DEVELOPED BY:

STANDARDS
COMMITTEE

APPROVED:

SEP 2020

DRAWING
NUMBER

UD-8



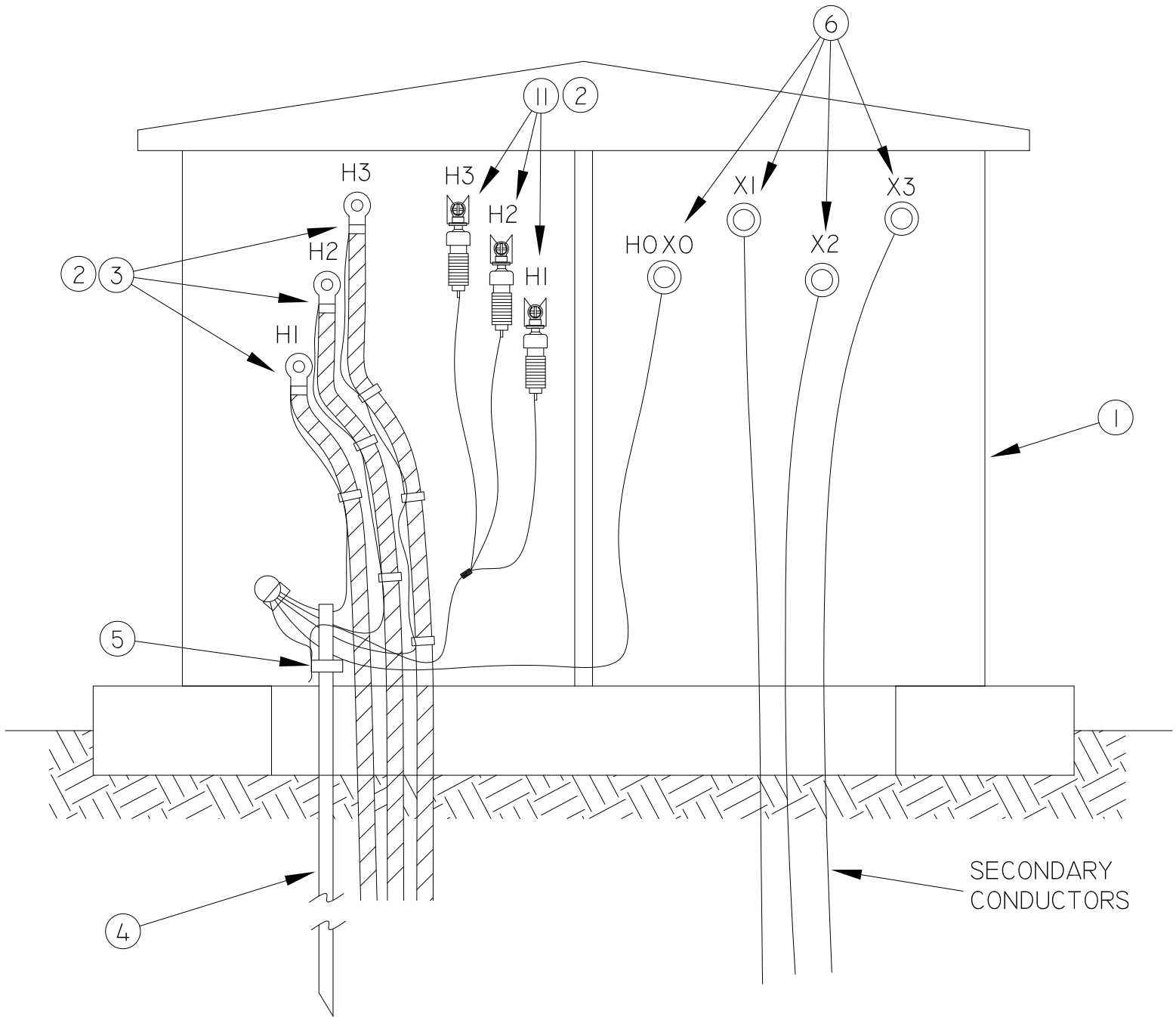
Material List

ITEM	CODE NO.	DESCRIPTION	QUANTITY
1	E-	TRANSFORMER	1
2	E0903-00	BUSHING, URD 200 AMP 15KV	6
3	E0937-00	ELBOW URD 1/0 STR 220 MIL LOADBREAK	3
4	E0013-00	ROD GROUND 5/8" X 8' COPPER WELD UL	1
5	E0014-00	CLAMP GROUND ROD 5/8" COPPER WELD UL	1
6	E-	CONNECTOR	4
7	E0140-00	BOLT 1/2" X 2" HEX STAINLESS STEEL	As Req'd
8	E0142-00	NUT 1/2" HEX STAINLESS STEEL	As Req'd
9	E0143-00	LOCKWASHER 1/2" STAINLESS STEEL	As Req'd
10	E0144-00	WASHER, 1/2" STAINLESS STEEL FLAT	As Req'd
11	E0900-00	ARRESTOR URD, 15KV	3
		TRANSFORMER	
	E1520-00 TO E1540-00	TRANSFORMER	
		CONNECTOR	
	E0989-00	TERMINAL URD 250 MCM	
	E0990-00	TERMINAL URD 350 MCM	
	E0994-00	LUG URD TERMINAL 350 MCM	
	<i>Notes:</i>	1. Customer shall provide connectors for secondary wires and tags.	
		2. Customer shall provide transformer pad as per BPUB specs.	



DEAD FRONT THREE PHASE GROUNDED FRONT PAD MOUNTED TRANSFORMER RADIAL FEED	DEVELOPED BY:	STANDARDS COMMITTEE
	APPROVED:	Sep 2020
	DRAWING NUMBER	UD-9





NOTE:

1. CUSTOMER SHOULD CONNECT SECONDARY SIDE.
2. TRANSFORMER PAD PROVIDED BY CUSTOMER.



**DEAD FRONT
THREE-PHASE GROUND-FRONT
PAD-MOUNTED TRANSFORMER
RADIAL FEED**

DEVELOPED BY:

STANDARDS
COMMITTEE

APPROVED:

SEP 2020


DRAWING
NUMBER

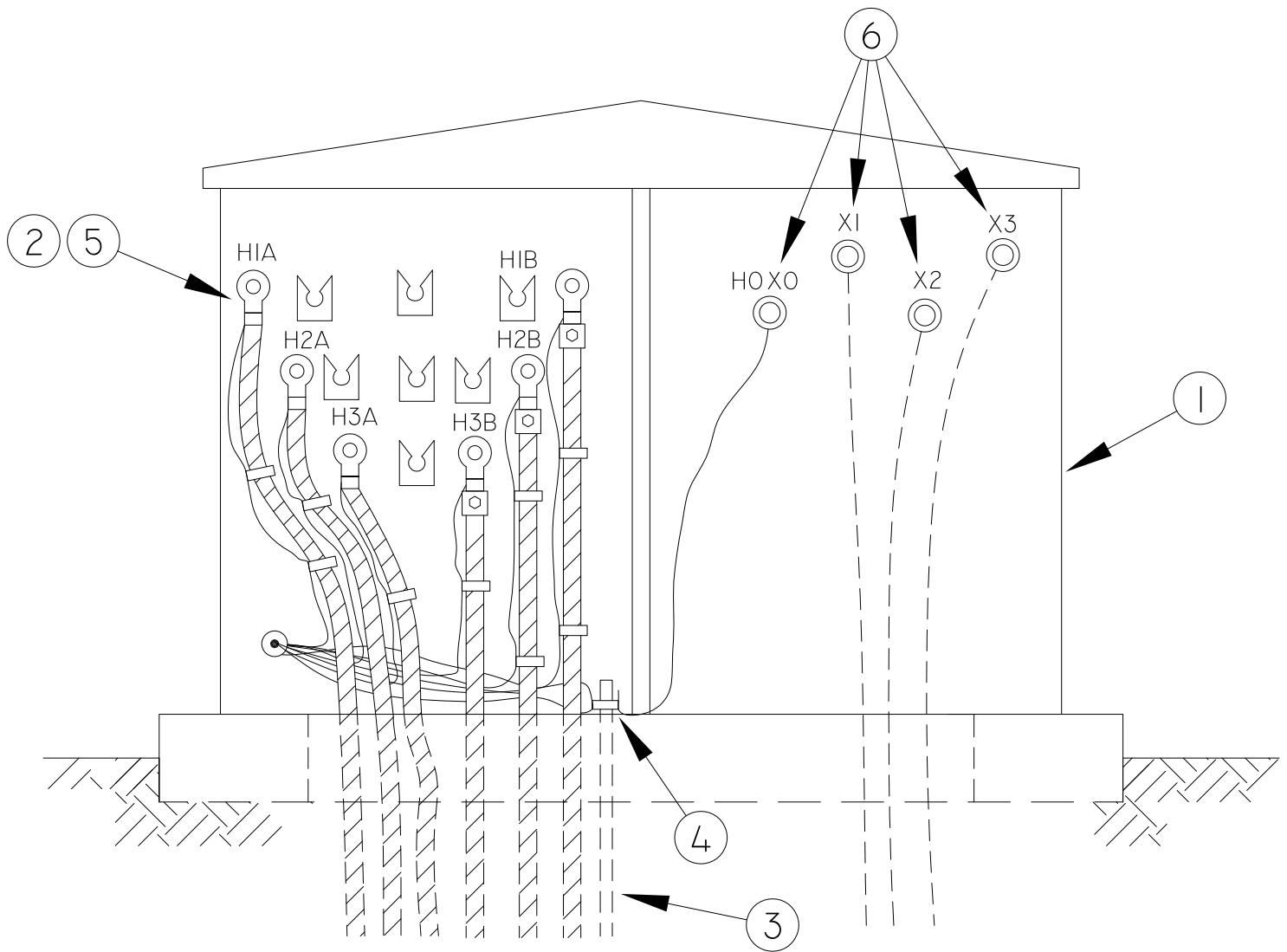
UD-9



Material List

ITEM	CODE NO.	DESCRIPTION	QUANTITY
1	E-	TRANSFORMER	1
2	E0937-00	ELBOW URD 1/0 STR 220 MIL LOADBREAK	6
3	E0013-00	ROD GROUND 5/8" X 8' COPPER WELD UL	1
4	E0014-00	CLAMP GROUND ROD 5/8" COPPER WELD UL	1
5	E0903-00	BUSHING, URD 200 AMP 15KV	6
6	E-	CONNECTOR	4
7	E0140-00	BOLT 1/2" X 2" HEX STAINLESS STEEL	As Req'd
8	E0142-00	NUT 1/2" HEX STAINLESS STEEL	As Req'd
9	E0143-00	LOCKWASHER 1/2" STAINLESS STEEL	As Req'd
10	E0144-00	WASHER, 1/2" STAINLESS STEEL FLAT	As Req'd
		TRANSFORMER	
	E1520-00 TO E1540-00	TRANSFORMER	
		CONNECTOR	
	E0989-00	TERMINAL URD 250 MCM	
	E0990-00	TERMINAL URD 350 MCM	
	E0994-00	LUG URD TERMINAL 350 MCM	
	<i>Notes:</i>	1. Customer shall provide connectors for secondary wires and tags.	
		2. Customer shall provide transformer pad as per BPUB specs.	

 BROWNSVILLE PUBLIC UTILITIES BOARD	THREE PHASE GROUNDED FRONT PAD MOUNTED TRANSFORMER LOOP FEED	DEVELOPED BY:	STANDARDS COMMITTEE	
		APPROVED:	Sep 2020	
		DRAWING NUMBER	UD-10	



NOTE:

1. CUSTOMER SHOULD CONNECT ALL SEC. WIRE.
2. TRANSFORMER PAD PROVIDED BY CUSTOMER, AS PER PUB SPECS.



**DEAD FRONT
THREE-PHASE GROUNDED-FRONT
PAD-MOUNTED TRANSFORMER
LOOP FEED**

DEVELOPED BY:

STANDARDS
COMMITTEE

APPROVED:

SEP 2020


DRAWING
NUMBER

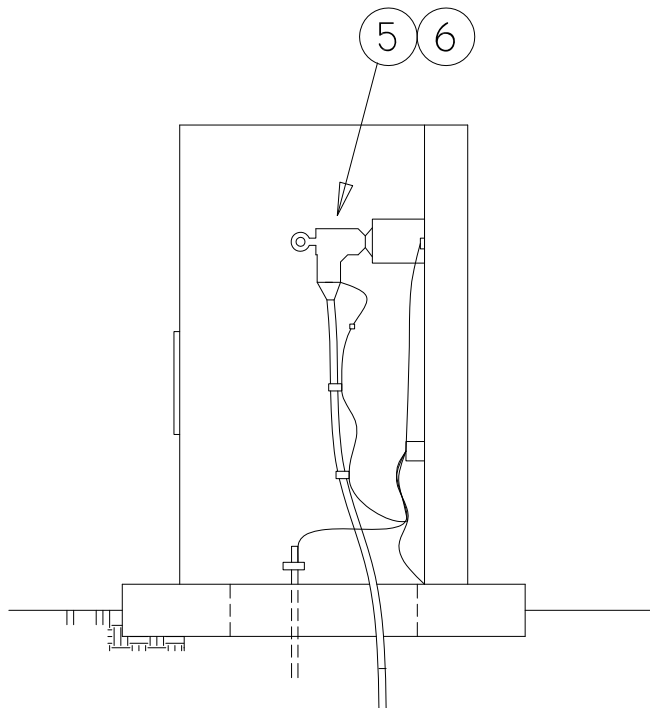
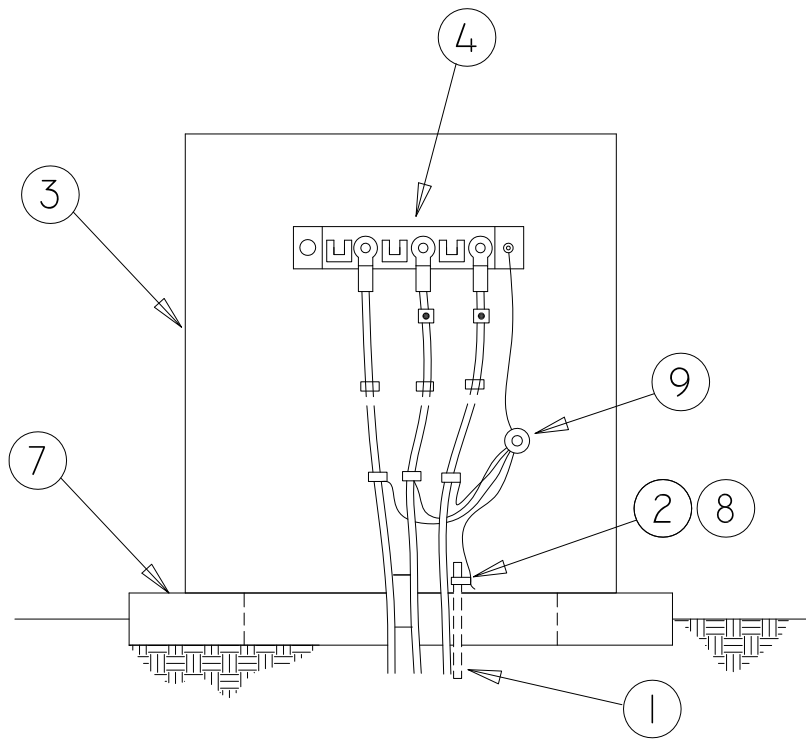
UD-10



Material List

ITEM	CODE NO.	DESCRIPTION	QUANTITY
1	E0013-00	ROD GROUND 5/8" X 8' COPPER WELD UL	1
2	E0014-00	CLAMP GROUND ROD 5/8" COPPER WELD UL	1
3	E0970-00	CABINET URD, 15KV	1
4	E0908-00	JUNCTION URD, 200 A 15KV 4-WAY	1
5	E0937-00	ELBOW URD 1/0 STR 220 MIL LOADBREAK	As Req'd.
6	E0924-00	CAP URD, 200 AMP 15KV	As Req'd.
7	UD-18A	CONCRETE PAD	1
8	E0031-00	LUG TRANS. GROUNDING, 3/8-16	1
9	E0418-00	CRIMPIT #2 STR -2 STR. CU	4

 <p>BROWNSVILLE PUBLIC UTILITIES BOARD</p>	<p>SINGLE PHASE PAD MOUNTED SECTIONALIZING ASSEMBLY</p>	DEVELOPED BY:	STANDARDS COMMITTEE	
		APPROVED:	Sep 2020	
		DRAWING NUMBER	UD-11	



**SINGLE-PHASE PAD MOUNTED
SECTIONALIZING ASSEMBLY**

DEVELOPED BY:

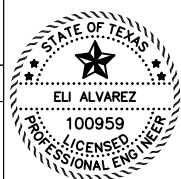
STANDARDS
COMMITTEE

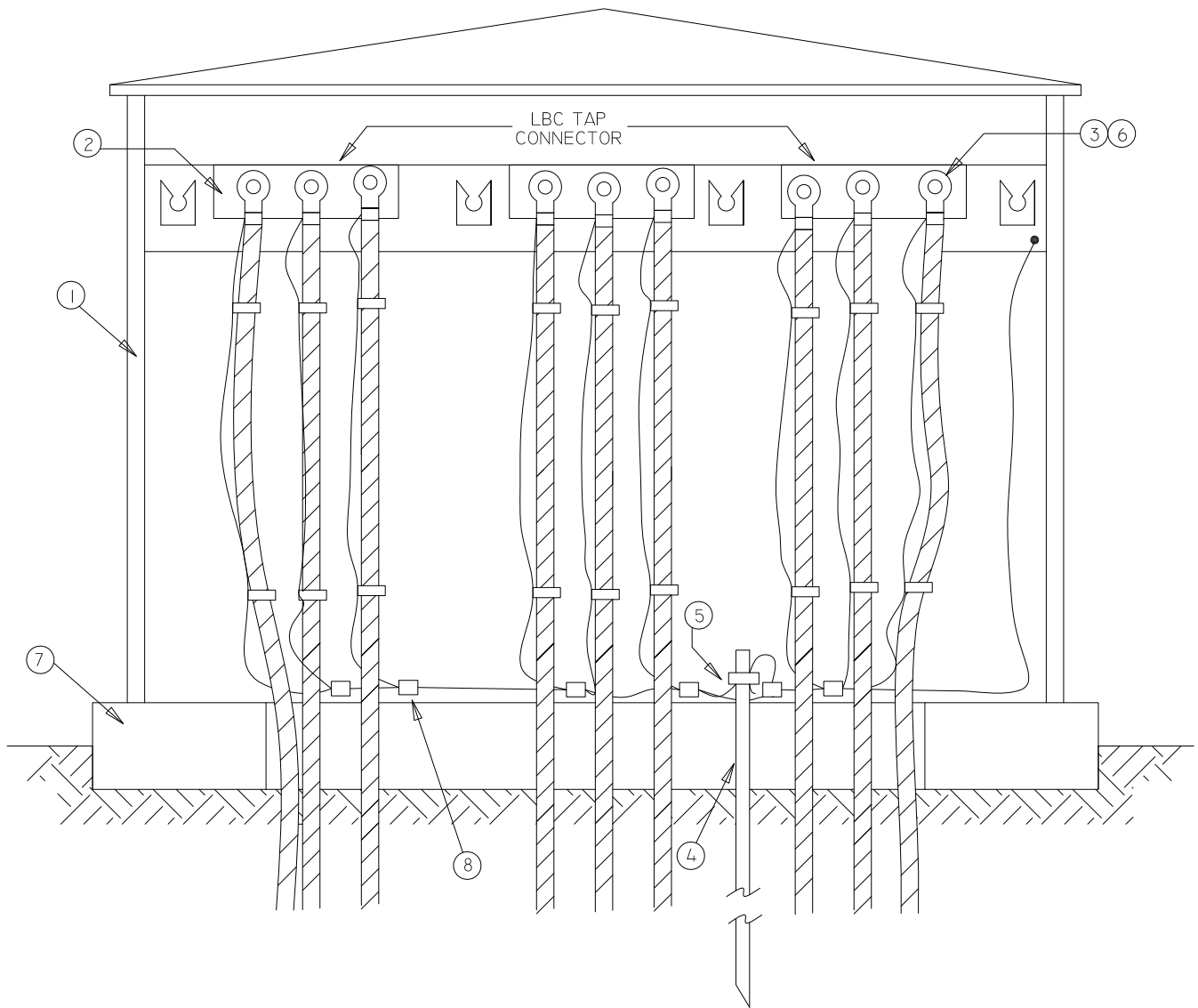
APPROVED:

SEP 2020

DRAWING
NUMBER

UD-11





**DEAD FRONT 200A
THREE-PHASE PAD-MOUNTED
SECTIONALIZING ASSEMBLY**

DEVELOPED BY:

STANDARDS
COMMITTEE

APPROVED:

SEP 2020

DRAWING
NUMBER

UD-12



Material List

ITEM	CODE NO.	DESCRIPTION	QUANTITY
1	E0974-00	CABINET URD 3-PHASE 15KV 600 AMP	1
2	E0909-01	JUNCTION URD, 600 A 15KV 4-WAY	3
3	E0939-00	ELBOW URD 500 MCM 220 MIL DEADBREAK	6
4	E0013-00	ROD GROUND 5/8" X 8' COPPER WELD UL	1
5	E0014-00	CLAMP GROUND ROD 5/8" COPPER WELD UL	1
6	E0925-00	CAP URD PROTECT 600 A 8.3/14.4 KV	AS REQ.
7	UD-18A	THREE-PHASE SECTIONALIZER CONCRETE PAD	1
8	E0418-00	CRIMPIT #2 STR -2 STR. CU	4

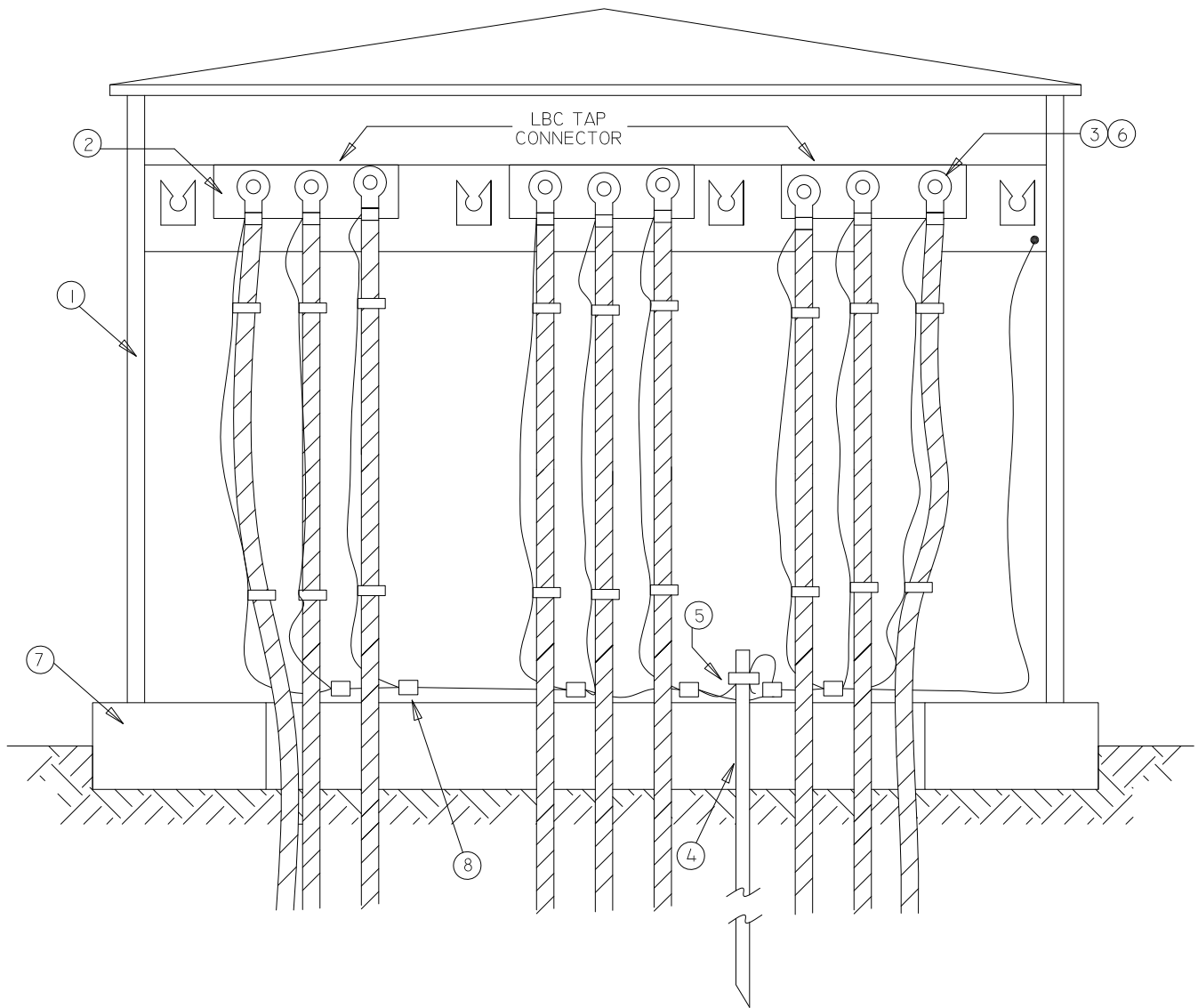


**DEAD END THREE PHASE 600A
PAD MOUNTED
SECTIONALIZING ASSEMBLY**

DEVELOPED BY: STANDARDS COMMITTEE
APPROVED: Sep 2020
DRAWING NUMBER

UD-12A





**DEAD FRONT 600A
THREE-PHASE PAD-MOUNTED
SECTIONALIZING ASSEMBLY**



DEVELOPED BY:

STANDARDS
COMMITTEE

APPROVED:

SEP 2020

DRAWING
NUMBER

UD-12A



Material List

ITEM	CODE NO.	DESCRIPTION	QUANTITY
1	E0961-00	SPLICE URD, 1/0 TO #2STR.	As Req'd
2	E0962-00	SPLICE URD #2 STR 175M #2637858B01M	As Req'd
3	E0963-00	SPLICE URD 1/0 STR 175M & 220M #2637858B03M	As Req'd
4	E0964-00	SPLICE URD 500 MCM 175M & 220 M #2602877B04M	As Req'd

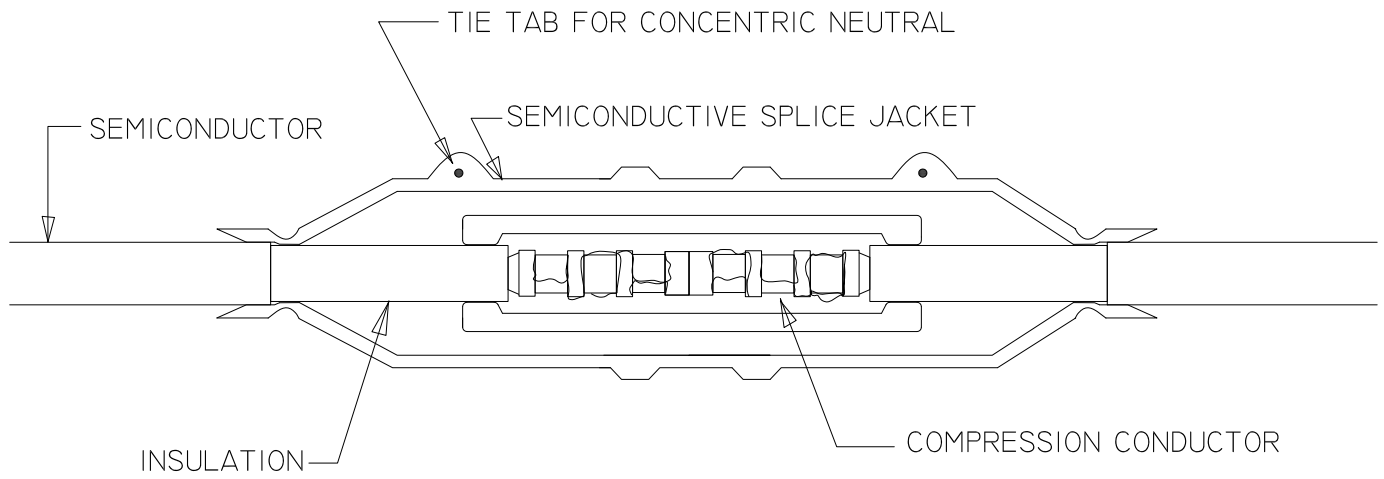


**COMPRESSION TYPE U.R.D.
 PRIMARY CABLE SPLICE**

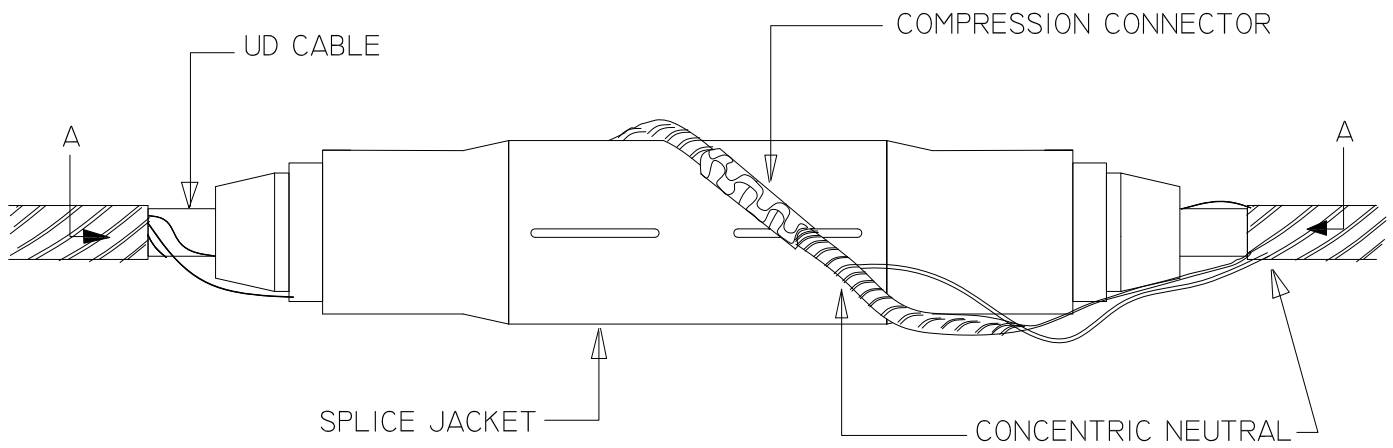
DEVELOPED BY:
APPROVED:
DRAWING NUMBER

STANDARDS COMMITTEE
Sep 2020
UD-13





SECTION AA



COMPLETE SPLICE WITH CONCENTRIC NEUTRAL



**COMPRESSION TYPE URD
PRIMARY CABLE SPLICE**

DEVELOPED BY:

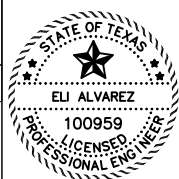
STANDARDS
COMMITTEE

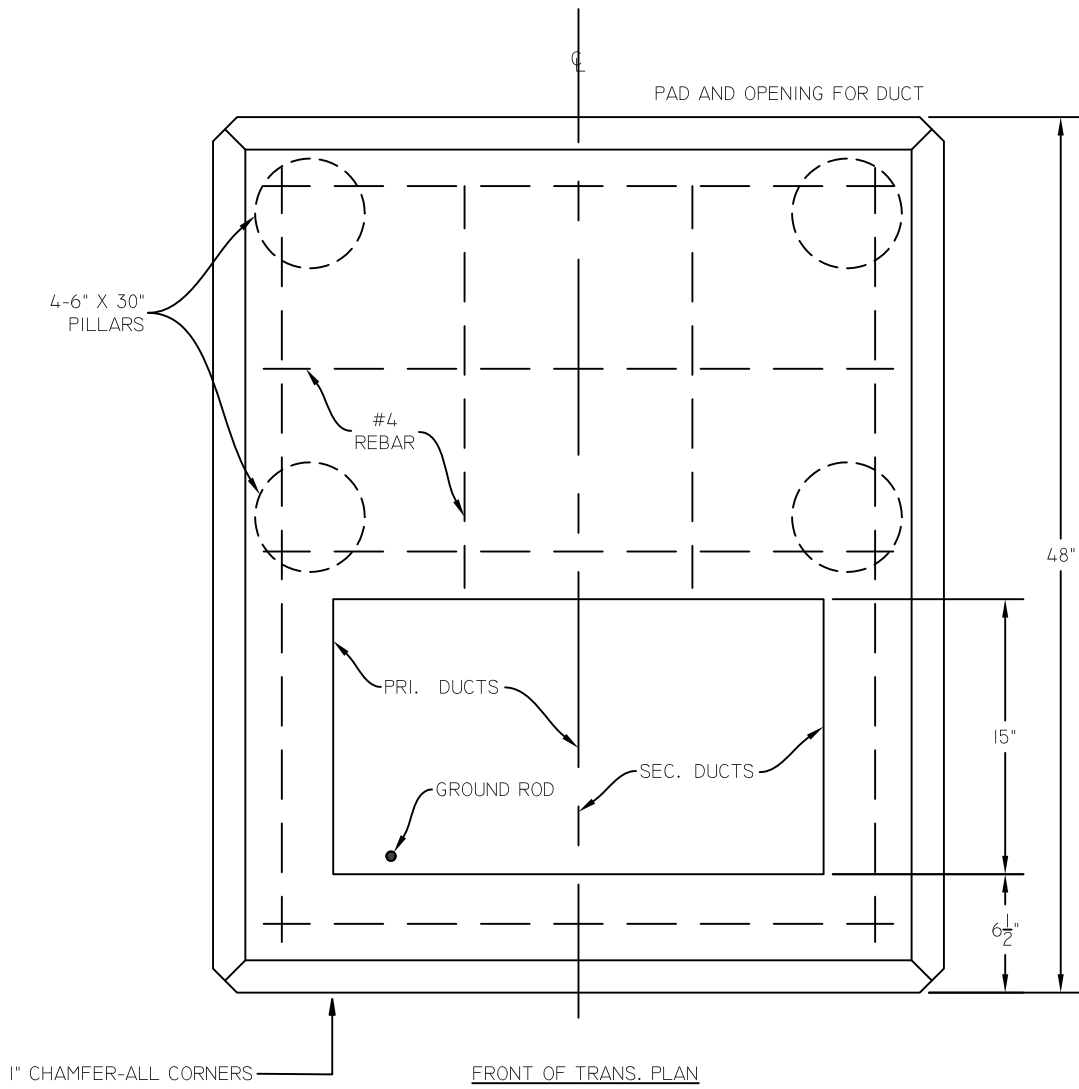
APPROVED:

SEP 2020

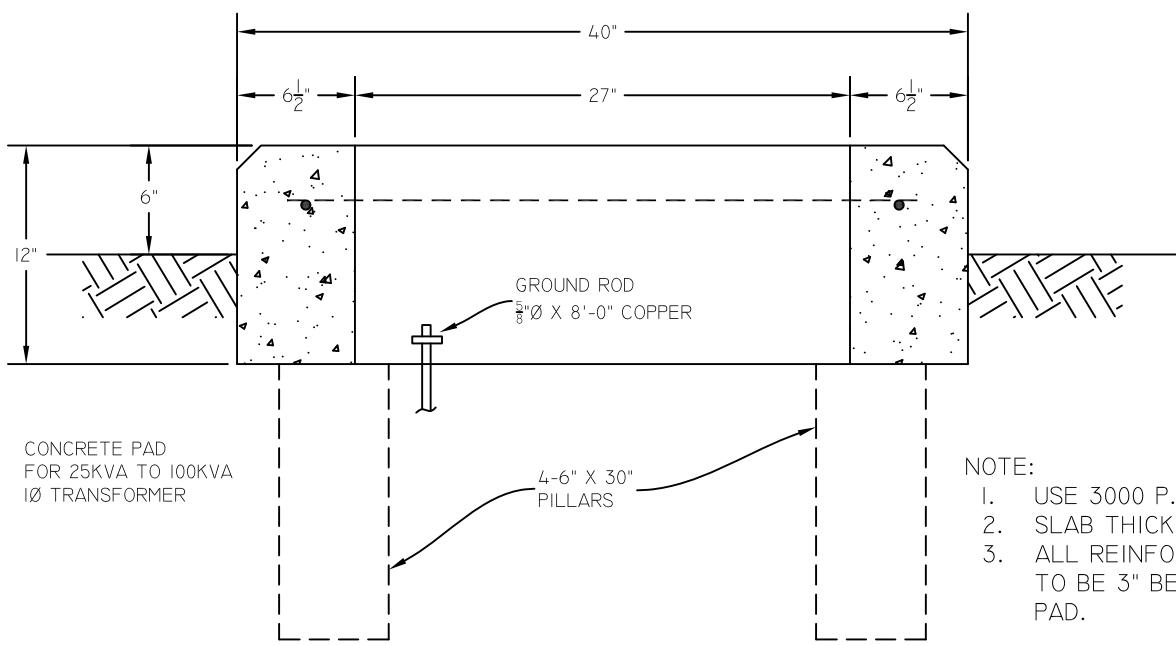
DRAWING
NUMBER

UD-13





1" CHAMFER-ALL CORNERS FRONT OF TRANS. PLAN



CONCRETE PAD FOR 25KVA TO 100KVA Ø TRANSFORMER

- NOTE:
1. USE 3000 P.S.I. CONCRETE.
 2. SLAB THICKNESS TO BE 12".
 3. ALL REINFORCING STEEL TO BE 3" BELOW TOP OF PAD.

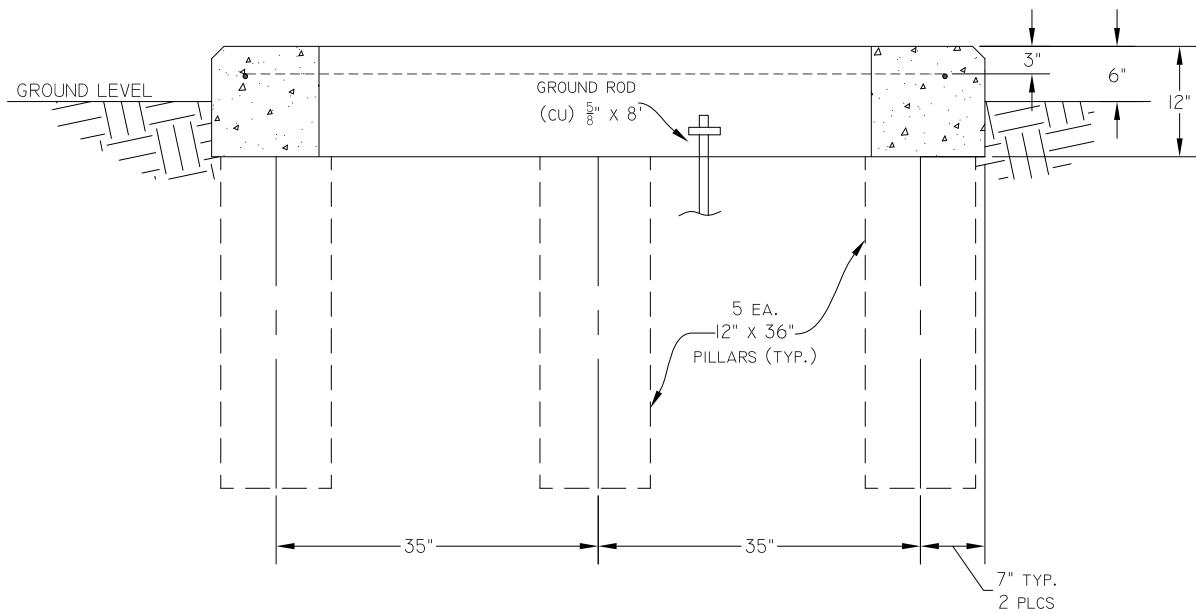
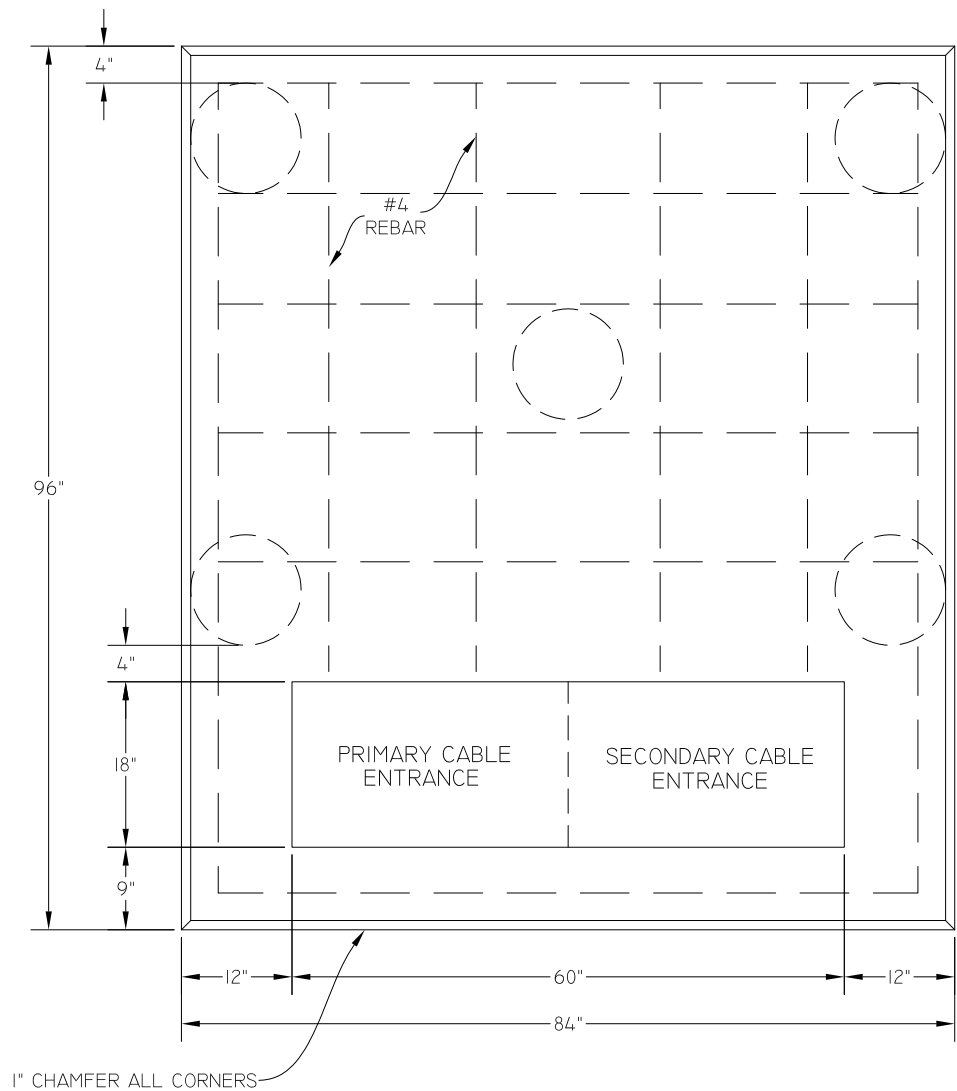


TYPICAL STEEL REINFORCED CONCRETE PAD FOR SINGLE-PHASE PAD-MOUNTED TRANSFORMER

DEVELOPED BY:
APPROVED:
DRAWING NUMBER

STANDARDS COMMITTEE
SEP 2020
UD-14





NOTE:

1. USE 3000 P.S.I. CONCRETE.
2. SLAB THICKNESS TO BE 12".
3. ALL REINFORCING STEEL TO BE 3" BELOW TOP OF PAD.



**TYPICAL CONCRETE PAD FOR
1500 KVA / 2400V 3 PHASE
PAD-MOUNTED TRANSFORMER**

DEVELOPED BY:

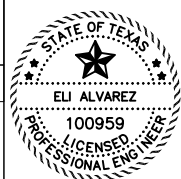
STANDARDS
COMMITTEE

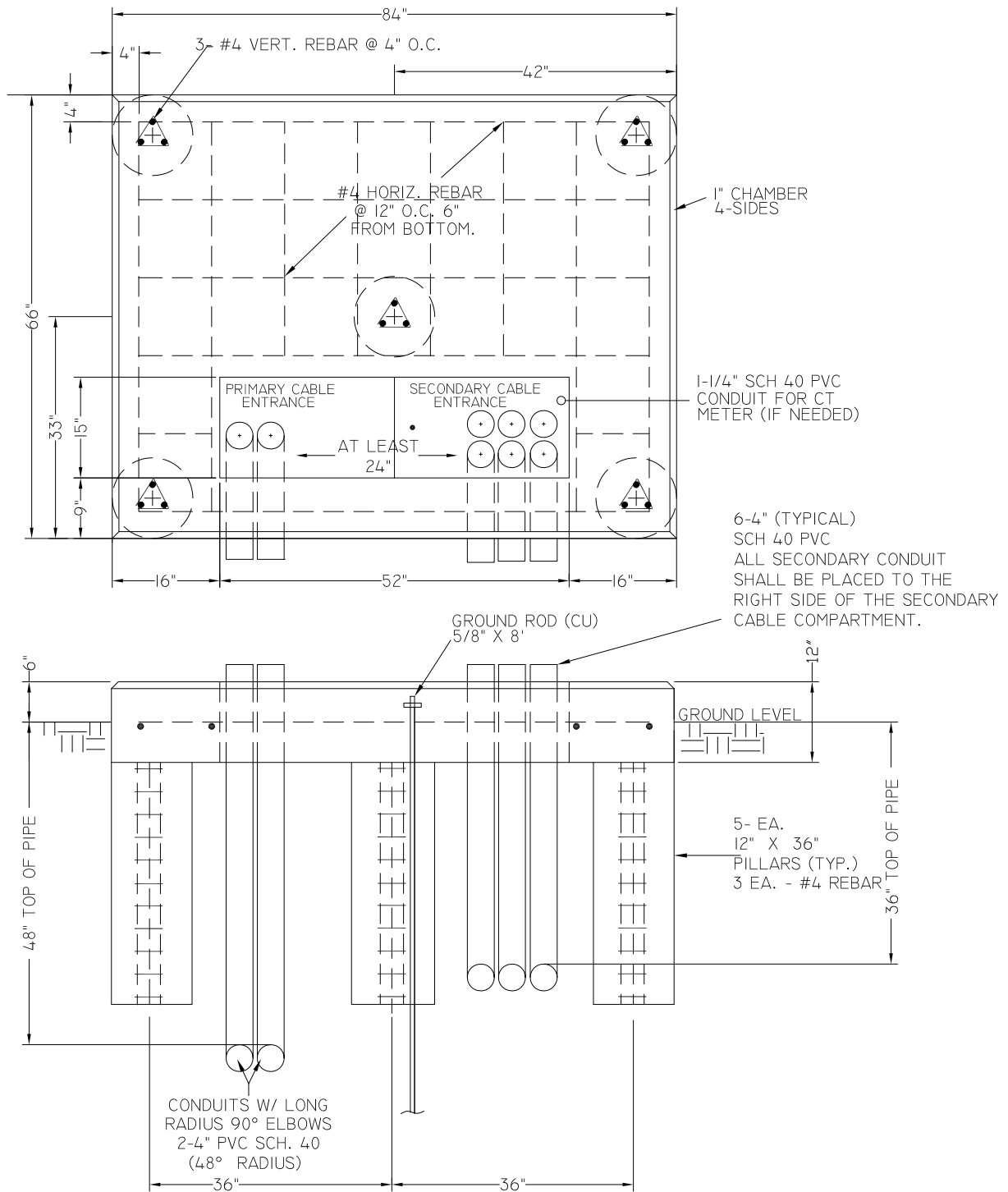
APPROVED:

SEP 2020

DRAWING
NUMBER

UD-15





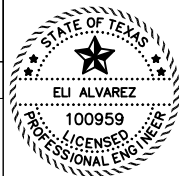
NOTES:

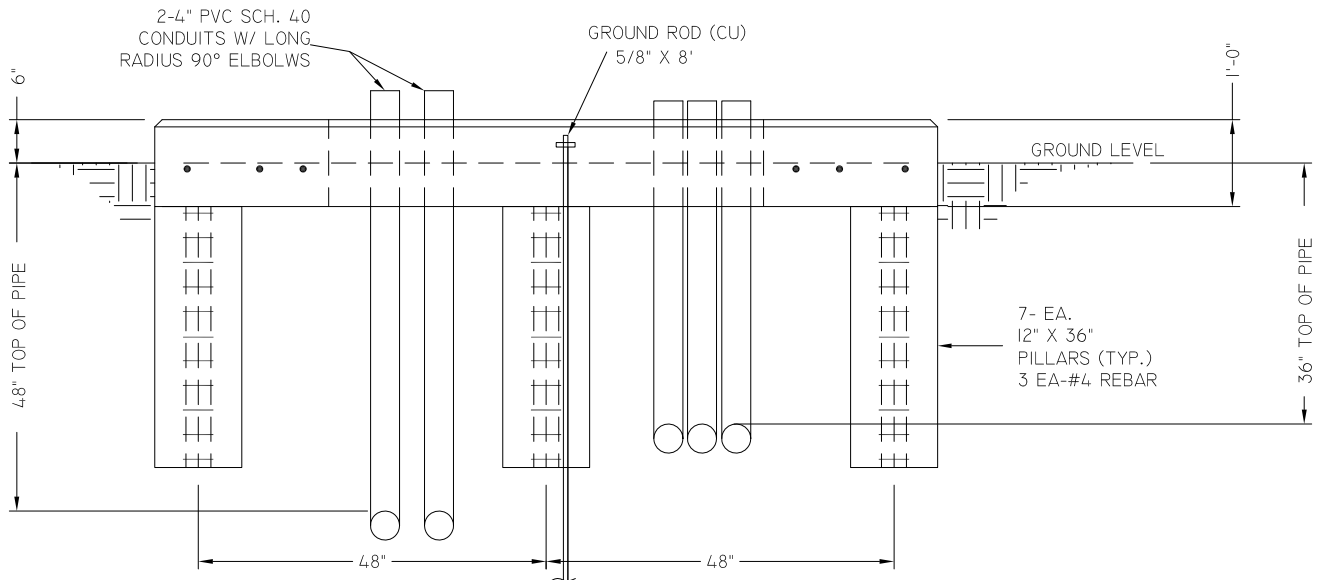
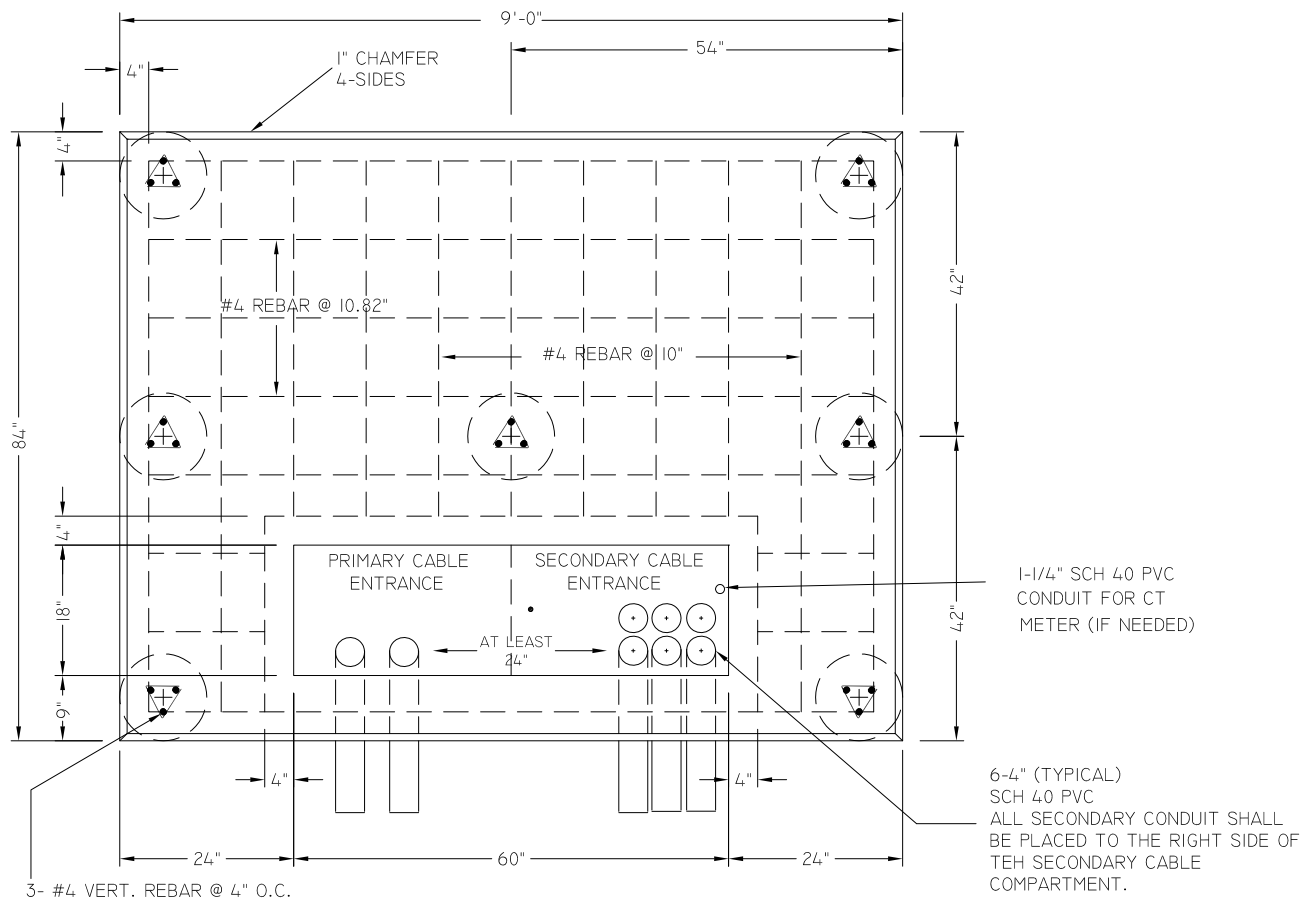
1. USE 3000 P.S.I. CONCRETE.
2. SLAB THICKNESS TO BE 12" MINIMUM.
3. ALL REINFORCING STEEL TO BE 6" BELOW TOP OF PAD.
4. 1 1/4" MIN PVC CONDUIT FOR CT'S WIRES @ SEC. CABLE ENTRANCE TO METER LOCATION.
5. COMPACT SOIL 95% BEFORE INSTALLING CONCRETE PAD.
6. ALL MATERIALS PROVIDED AND INSTALLED BY THE COSTUMER.
7. MUST MEET ALL REQUIREMENTS OF BPUB STANDARD DRAWING ENG-8.



**TYPICAL CONCRETE PAD FOR
45 TO 500 KVA 3 PHASE
PAD-MOUNTED TRANSFORMER**

DEVELOPED BY:	STANDARDS COMMITTEE
APPROVED:	SEP 2020
DRAWING NUMBER	UD-16





NOTES:

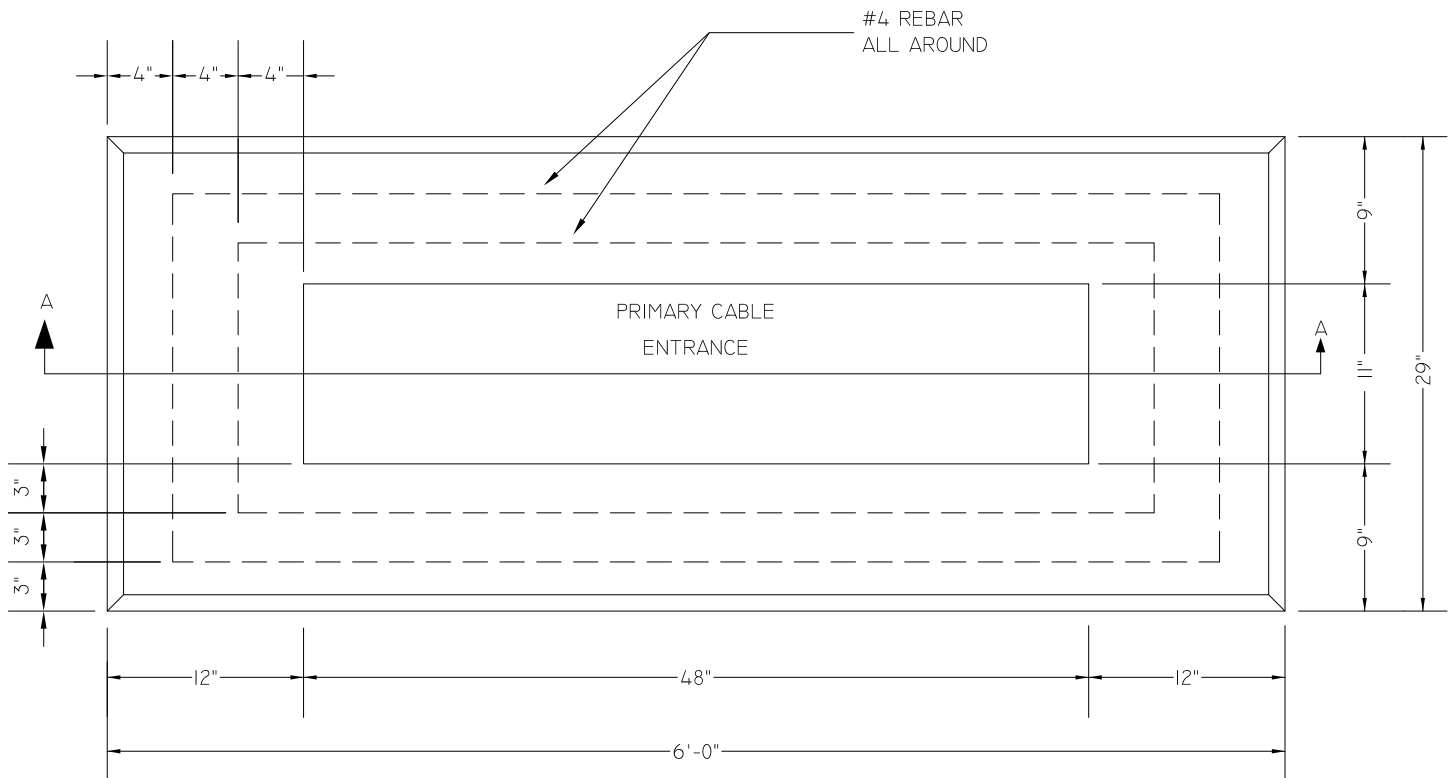
1. USE 3000 P.S.I. CONCRETE.
2. SLAB THICKNESS TO BE 12" MINIMUM.
3. ALL REINFORCING STEEL TO BE 6" BELOW TOP OF PAD.
4. 1 1/4" MIN PVC CONDUIT FOR CT'S WIRES @ SEC. CABLE ENTRANCE TO METER LOCATION.
5. COMPACT SOIL 95% BEFORE INSTALLING CONCRETE PAD.
6. ALL MATERIALS PROVIDED AND INSTALLED BY THE COSTUMER.
7. MUST MEET ALL REQUIREMENTS OF BPUB STANDARD DRAWING ENG-8.



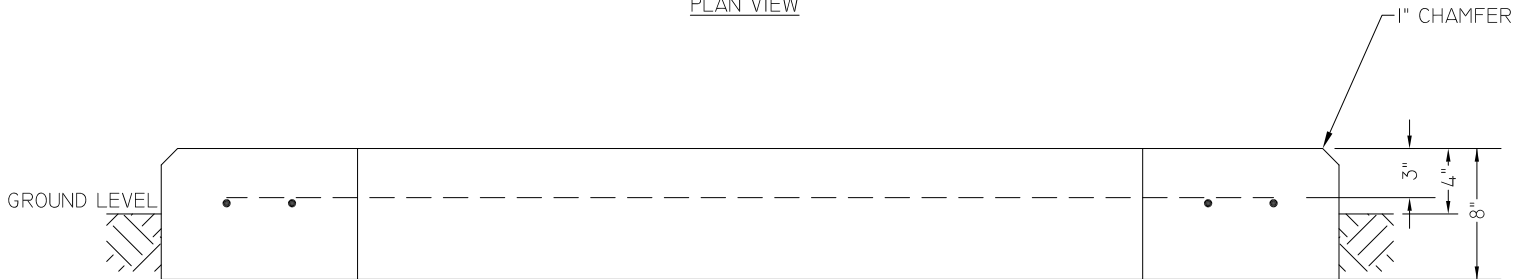
**TYPICAL CONCRETE PAD FOR
750 TO 2500 KVA 3 PHASE
PAD-MOUNTED TRANSFORMER**

DEVELOPED BY:	STANDARDS COMMITTEE
APPROVED:	SEP 2020
DRAWING NUMBER	UD-17





PLAN VIEW



SECTION A-A

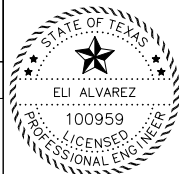
NOTES:

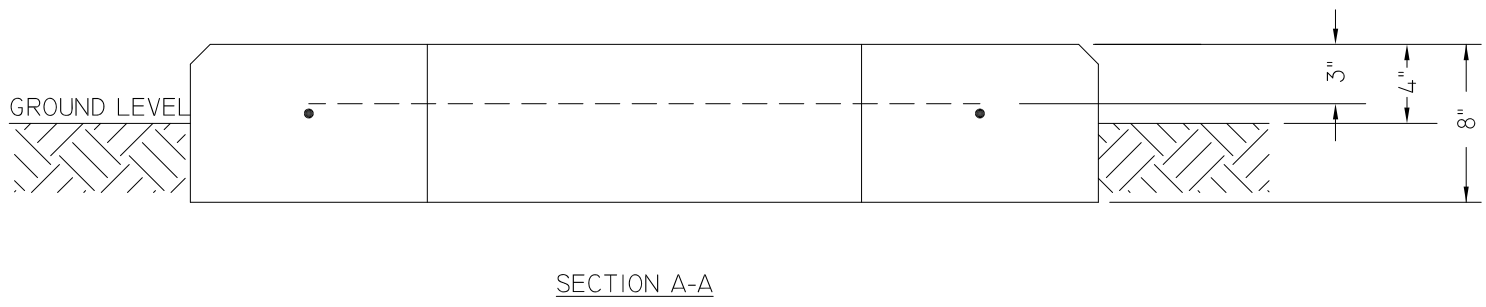
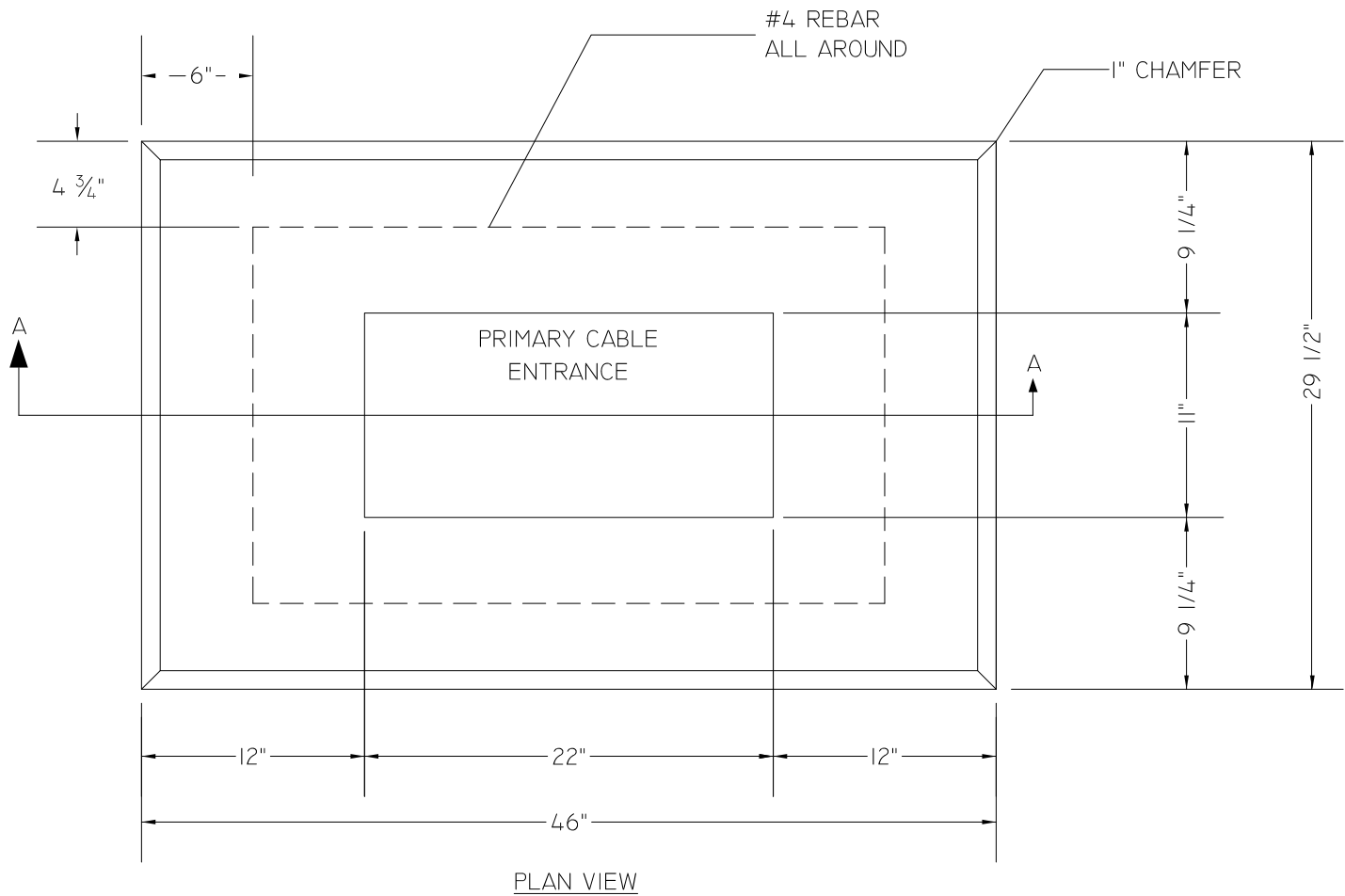
1. USE 3000 P.S.I. CONCRETE.
2. SLAB THICKNESS TO BE 8" MINIMUM.
3. ALL REINFORCING STEEL TO BE 3" BELOW TOP OF PAD.
4. COMPACT SOIL 95% BEFORE INSTALLING CONCRETE PAD.
5. ALL MATERIALS PROVIDED AND INSTALLED BY THE COSTUMER.
6. ANCHOR BOLTS INSTALLED BY BPUB.
7. MUST MEET ALL REQUIREMENTS OF BPUB STANDARD DRAWING ENG-8.



**THREE-PHASE
SECTIONALIZER CONCRETE PAD**

DEVELOPED BY:	STANDARDS COMMITTEE
APPROVED:	SEP 2020
DRAWING NUMBER	UD-18A





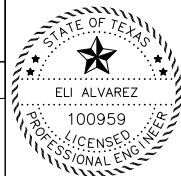
NOTES:

1. USE 3000 P.S.I. CONCRETE.
2. SLAB THICKNESS TO BE 8" MINIMUM.
3. ALL REINFORCING STEEL TO BE 3" BELOW TOP OF PAD.
4. COMPACT SOIL 95% BEFORE INSTALLING CONCRETE PAD.
5. ALL MATERIALS PROVIDED AND INSTALLED BY THE COSTUMER.
6. ANCHOR BOLTS INSTALLED BY BPUB.
7. MUST MEET ALL REQUIREMENTS OF BPUB STANDARD DRAWING ENG-8.



**SINGLE-PHASE
SECTIONALIZER CONCRETE PAD**

DEVELOPED BY:	STANDARDS COMMITTEE
APPROVED:	SEP 2020
DRAWING NUMBER	UD-18B



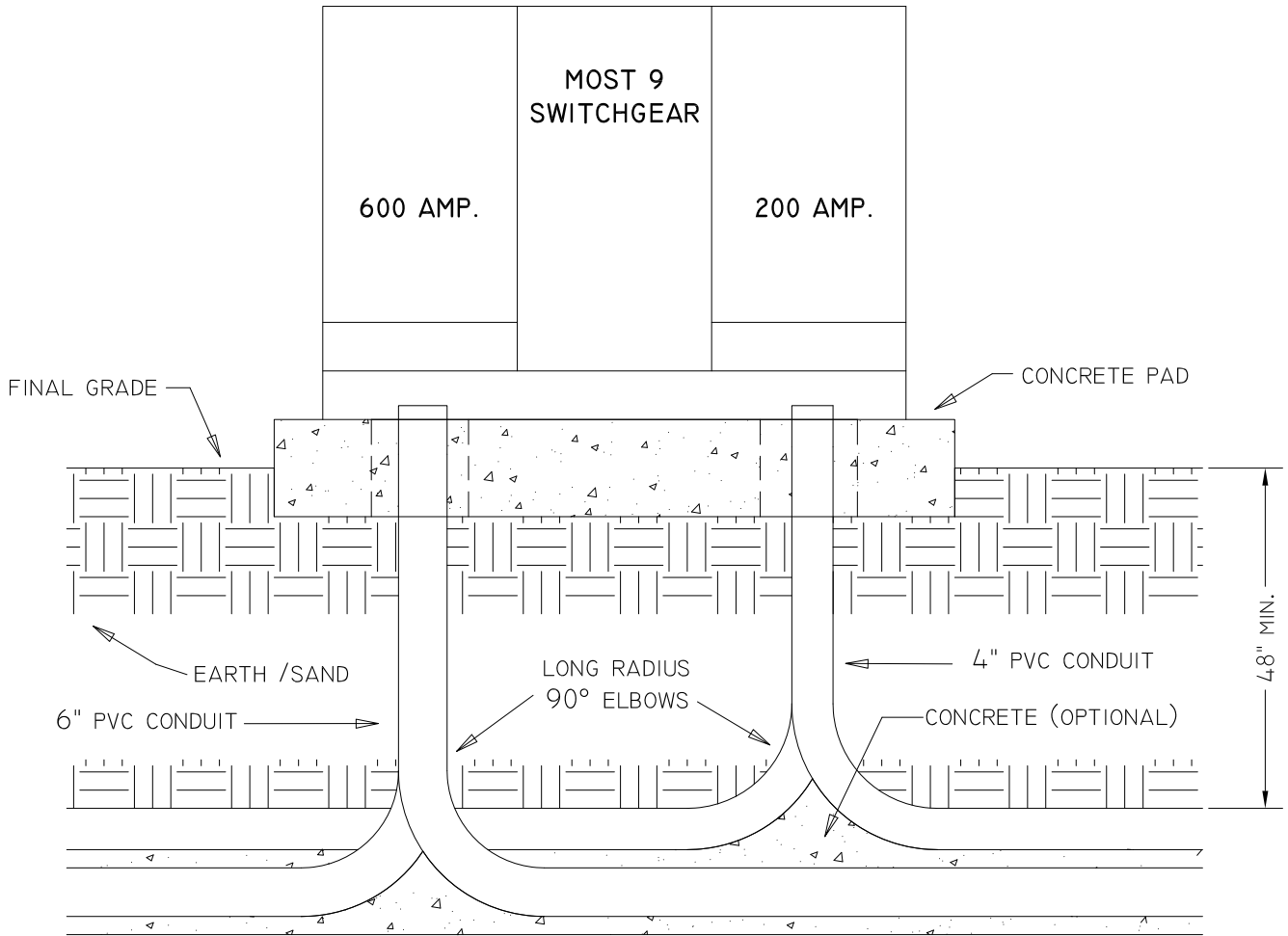
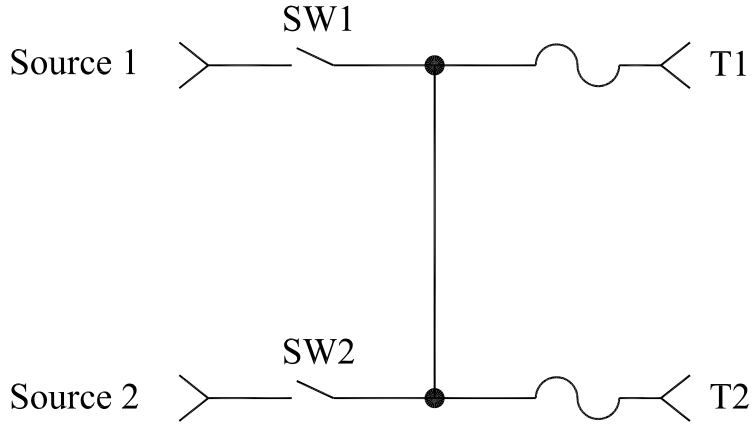
Material List

ITEM	CODE NO.	DESCRIPTION	QUANTITY
1	E0969-01	SWITCHGEAR 15KV-2SD MOST 9 OIL S/S 600/200A	1
2	E0939-00	ELBOW URD 500 MCM 220 MIL DEADBREAK	6
3	E0937-00	ELBOW URD 1/0 STR 220 MIL LOADBREAK	6
4	E0925-00	CAP URD PROTECT 600A	As Req'd.
5	E0924-00	CAP URD, 200 AMP 15KV PRO	As Req'd.
6	E0945-00	FUSE URD 100 AMP CURRENT LIMITING	6

Note: Concrete pad as per UD-35A.

 BROWNSVILLE PUBLIC UTILITIES BOARD	TYPICAL THREE-PHASE MOST 9 SWITCHGEAR CONDUIT ENTRANCE	DEVELOPED BY:	STANDARDS COMMITTEE	
		APPROVED:	Sep 2020	
		DRAWING NUMBER	UD-30A	

MOST 9 - DIAGRAM



TYPICAL THREE PHASE
MOST 9 SWITCHGEAR
CONDUIT ENTRANCE

DEVELOPED BY:	STANDARDS COMMITTEE
APPROVED:	SEP 2020
DRAWING NUMBER	UD-30A



Material List

ITEM	CODE NO.	DESCRIPTION	QUANTITY
1	E0972-01	SWITCHGEAR 15KV-2SD MOST 11OIL S/S 600/200A	1
2	E0939-00	ELBOW URD 500 MCM 220 MIL DEADBREAK	9
3	E0937-00	ELBOW URD 1/0 STR 220 MIL LOADBREAK	3
4	E0925-00	CAP URD PROTECT 600A	As Req'd.
5	E0924-00	CAP URD, 200 AMP 15KV PRO	As Req'd.
6	E0945-00	FUSE URD 100 AMP CURRENT LIMITING	3

Note: Concrete pad as per UD-35B.



TYPICAL THREE-PHASE MOST 11 SWITCHGEAR CONDUIT ENTRANCE

DEVELOPED BY:

STANDARDS
COMMITTEE

APPROVED:

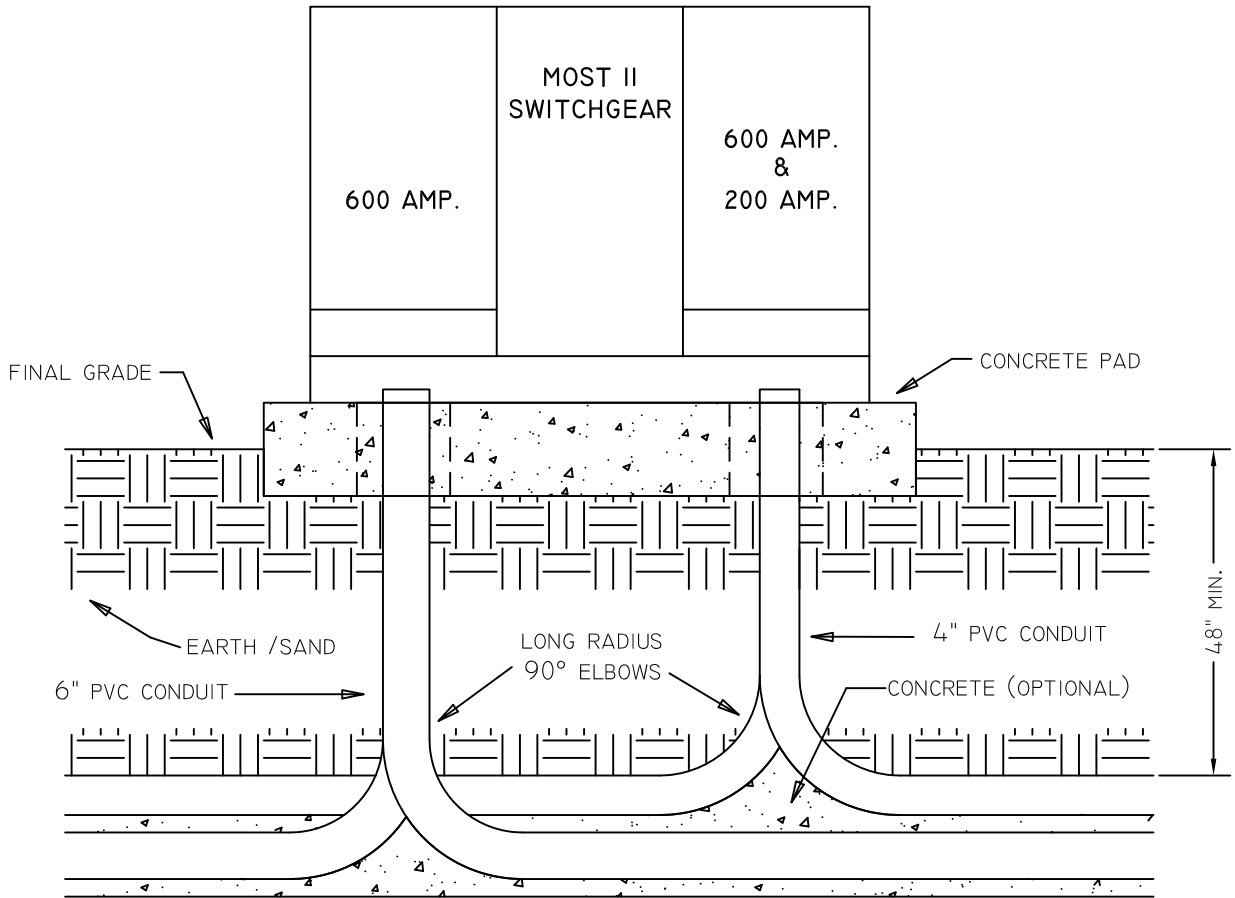
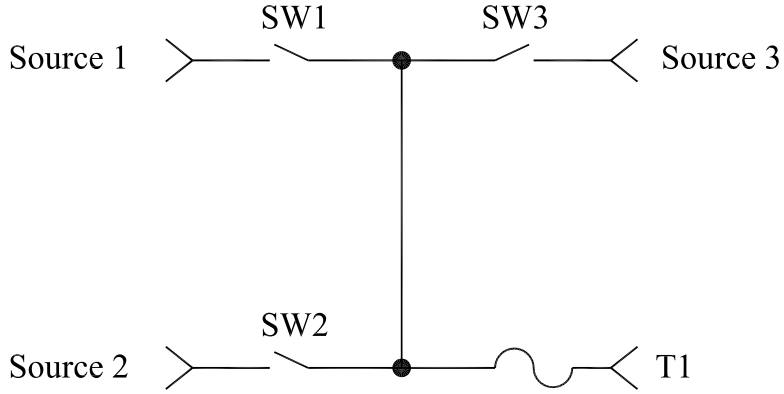
Sep 2020

DRAWING
NUMBER

UD-30B



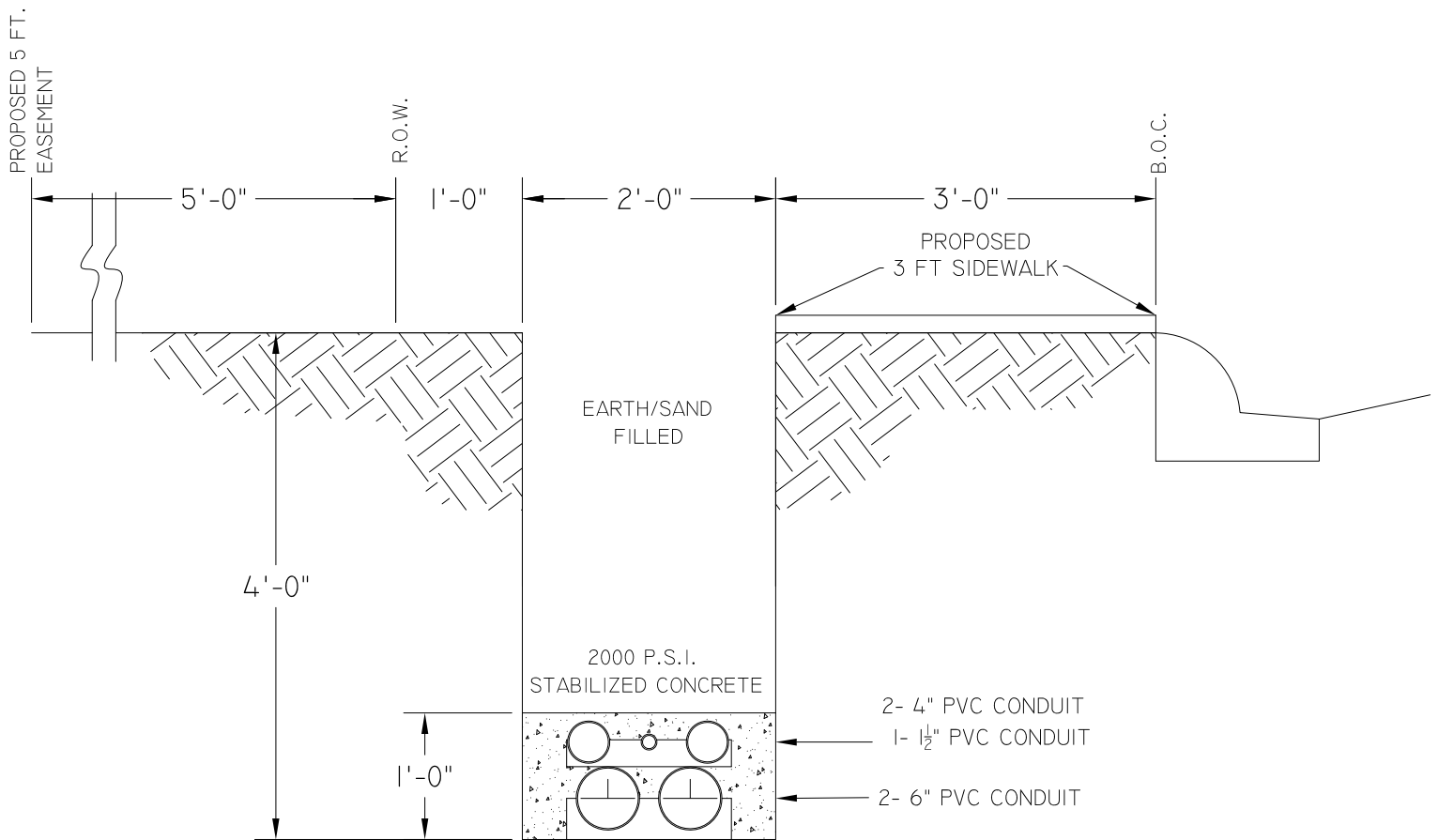
MOST II - DIAGRAM



TYPICAL THREE PHASE
MOST II SWITCHGEAR
CONDUIT ENTRANCE

DEVELOPED BY:	STANDARDS COMMITTEE
APPROVED:	SEP 2020
DRAWING NUMBER	UD-30B



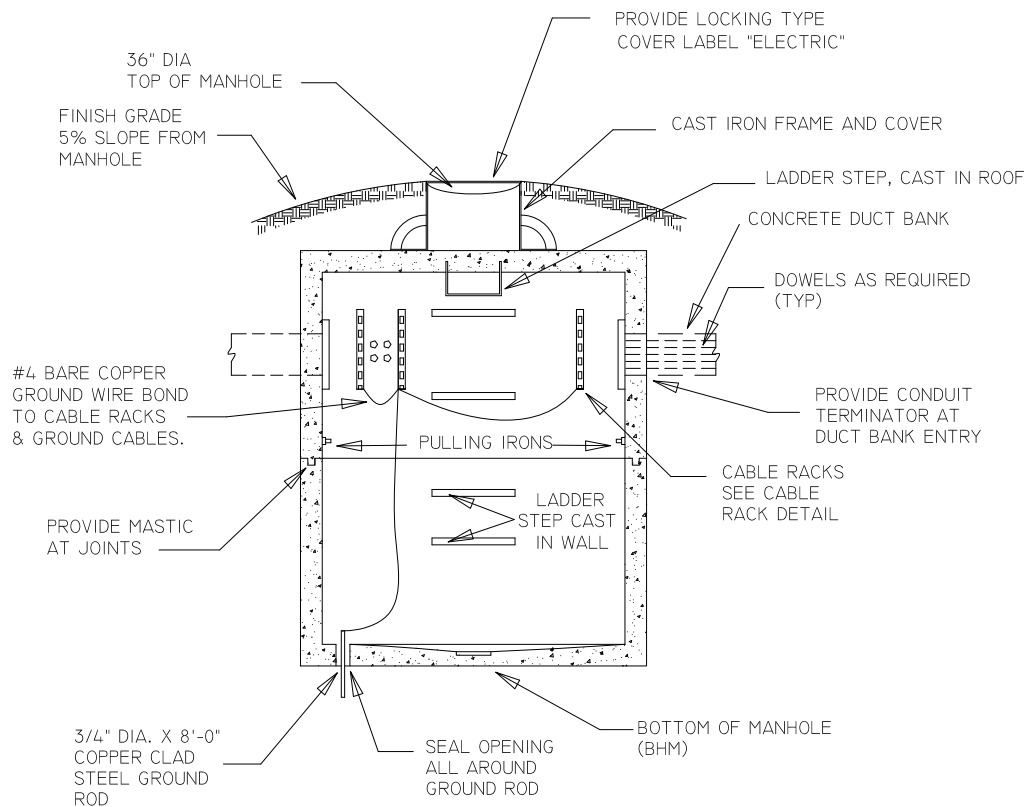
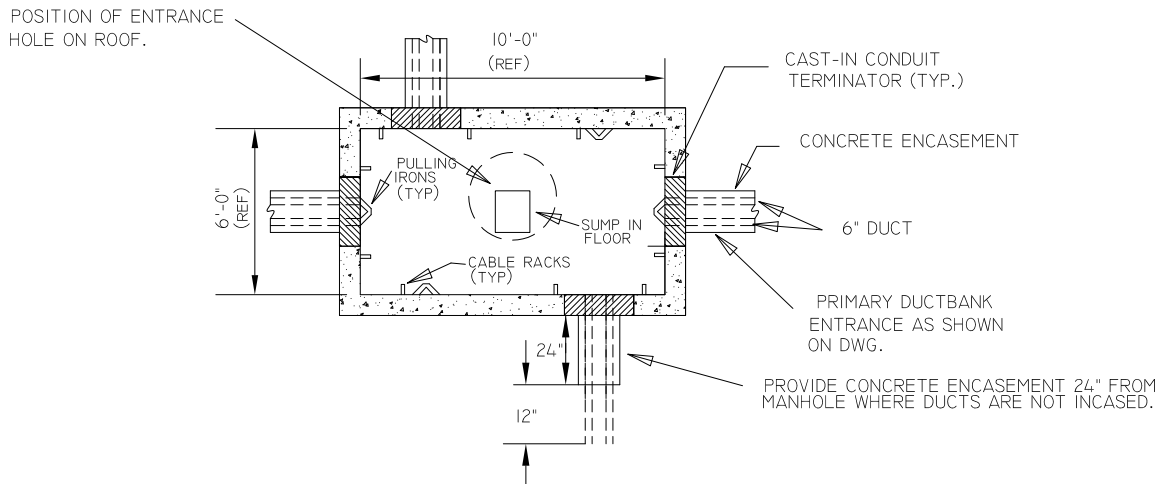


TRENCH DETAIL
U.R.D.

DEVELOPED BY:	STANDARDS COMMITTEE
APPROVED:	SEP 2020
DRAWING NUMBER	UD-31



NOTE:
CABLE SHALL TRANVERSE A360
PATH THROUGH MANHOLE.

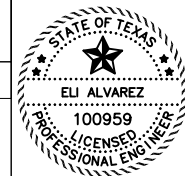


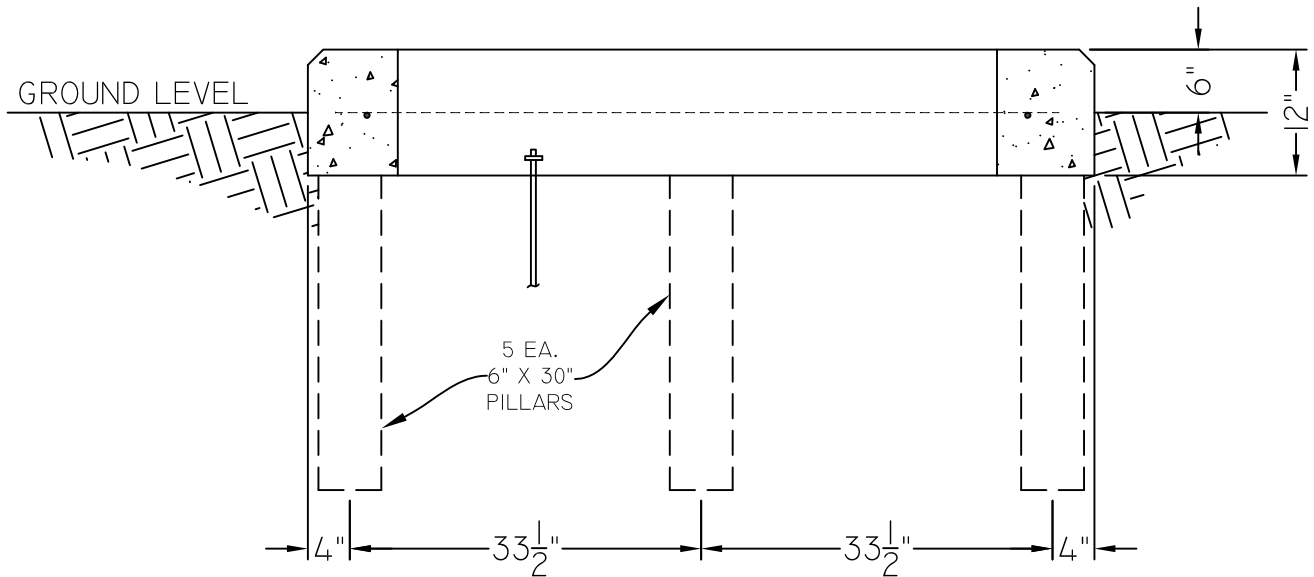
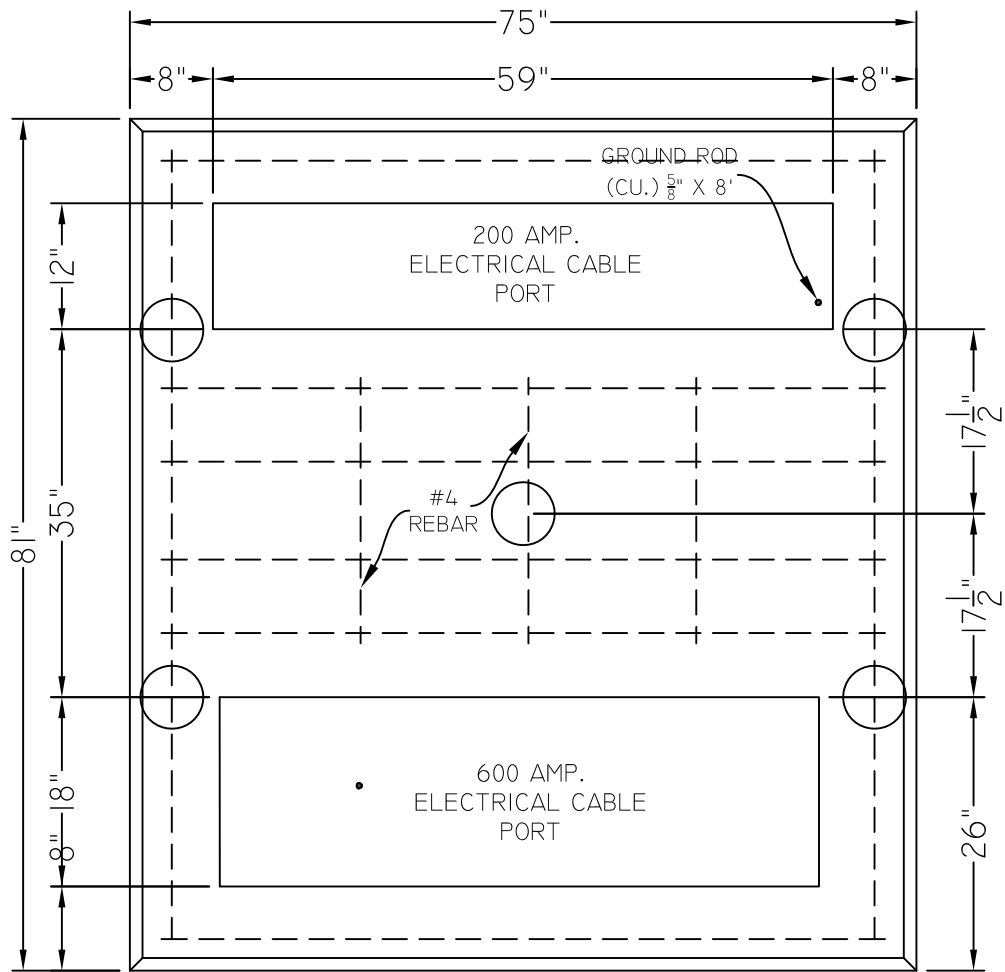
FRONT SECTION PROFILE



**PRECAST MANHOLE SECTION 4-WAY
ELECTRIC PRIMARY
DIMENSIONAL SPECIFICATION: 6'X10'X7'**

DEVELOPED BY:	STANDARDS COMMITTEE
APPROVED:	SEP 2020
DRAWING NUMBER	UD-32





NOTE:

1. USE 3000 P.S.I. CONCRETE.
2. SLAB THICKNESS TO BE 12" MIN.
3. ALL REINFORCING STEEL TO BE 6" BELOW TOP OF PAD.



**SWITCH GEAR
CONCRETE PAD**

DEVELOPED BY:

STANDARDS
COMMITTEE

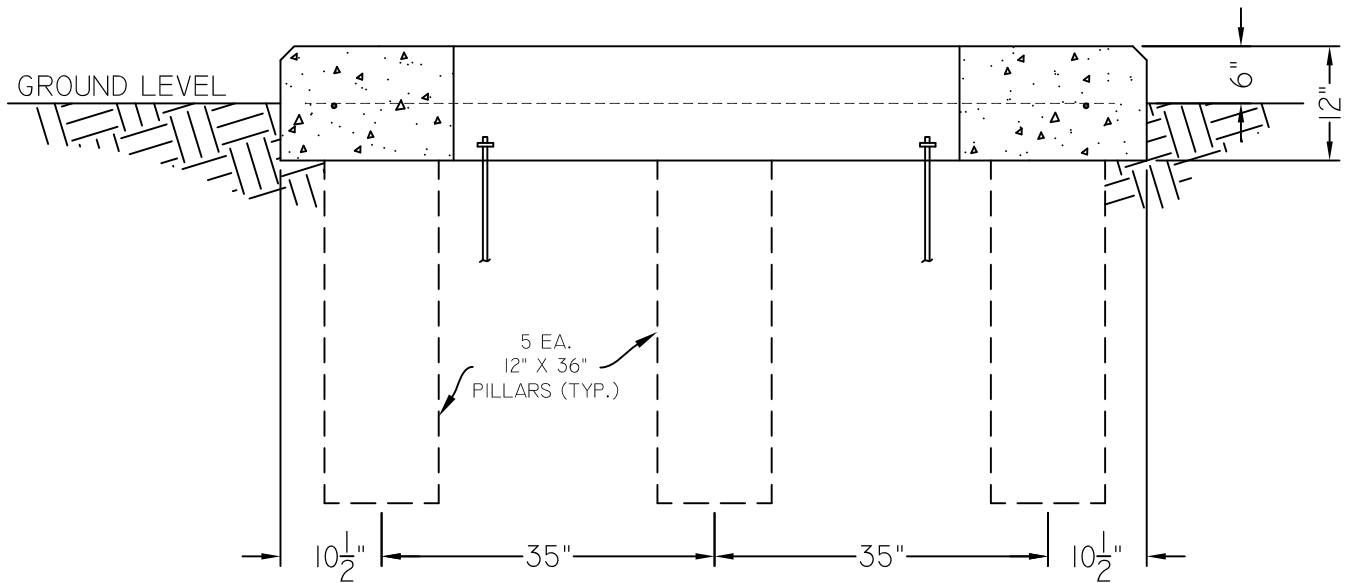
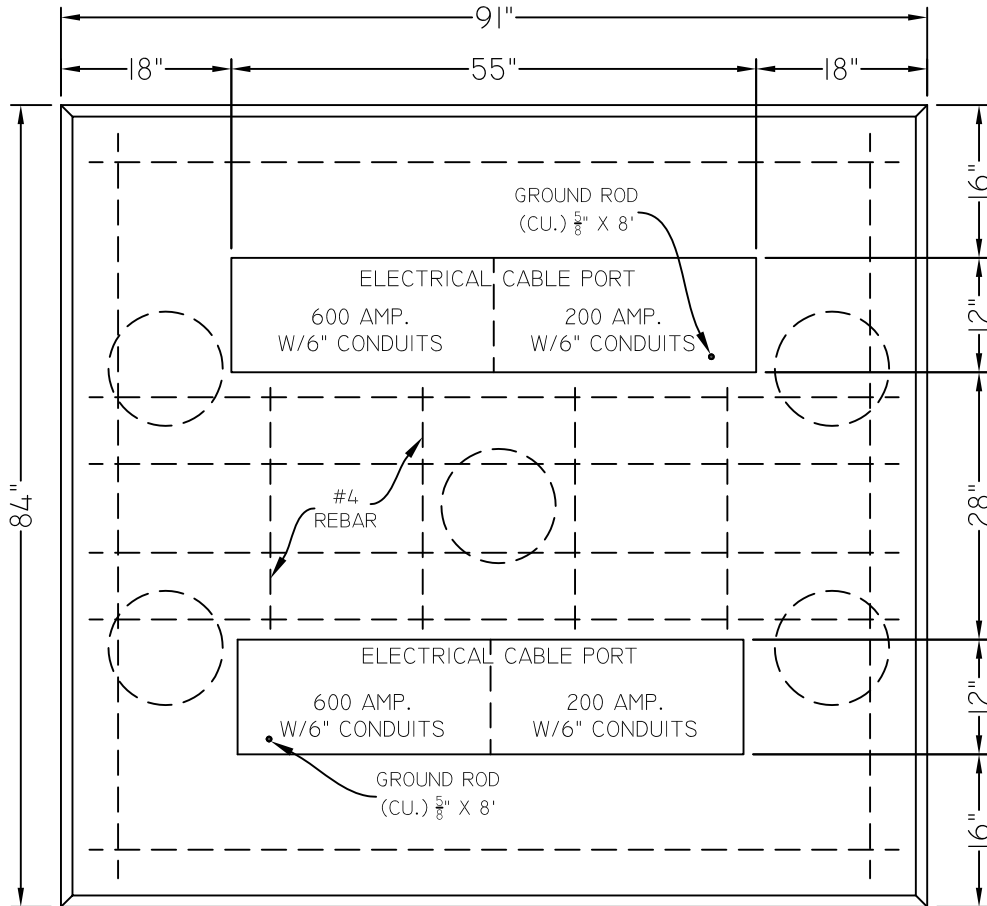
APPROVED:

SEPT 2020

DRAWING
NUMBER

UD-33





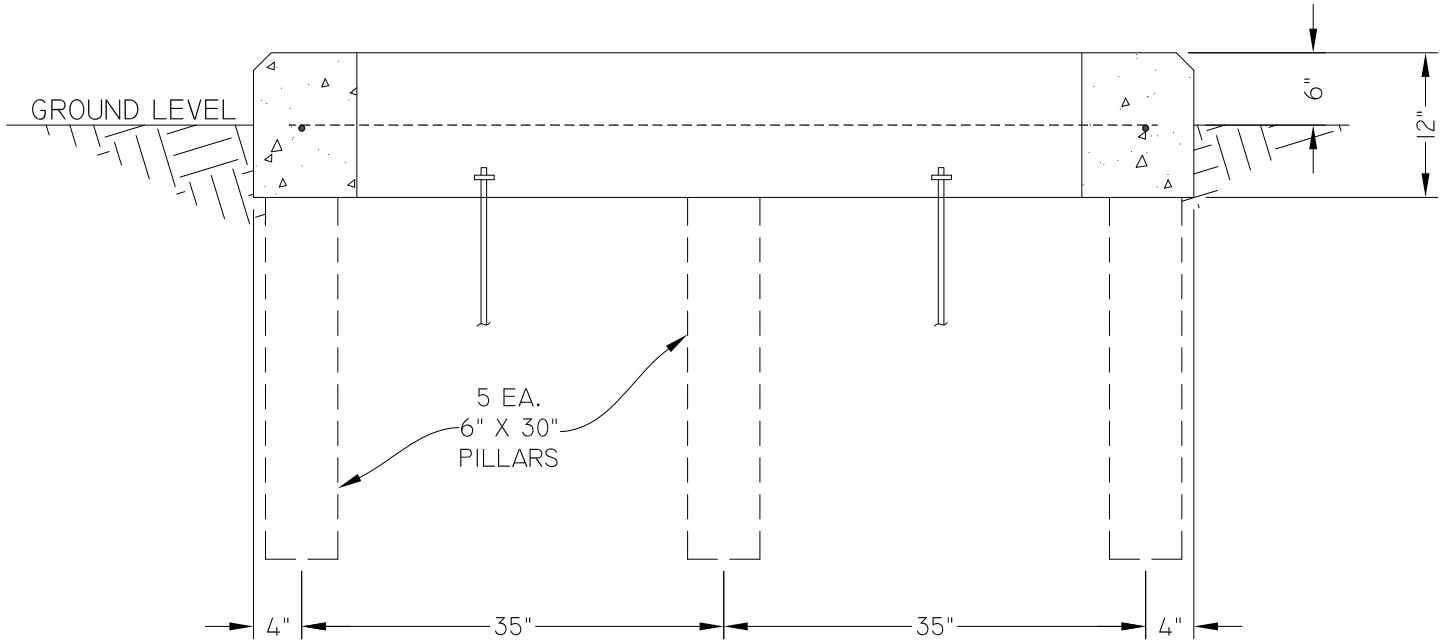
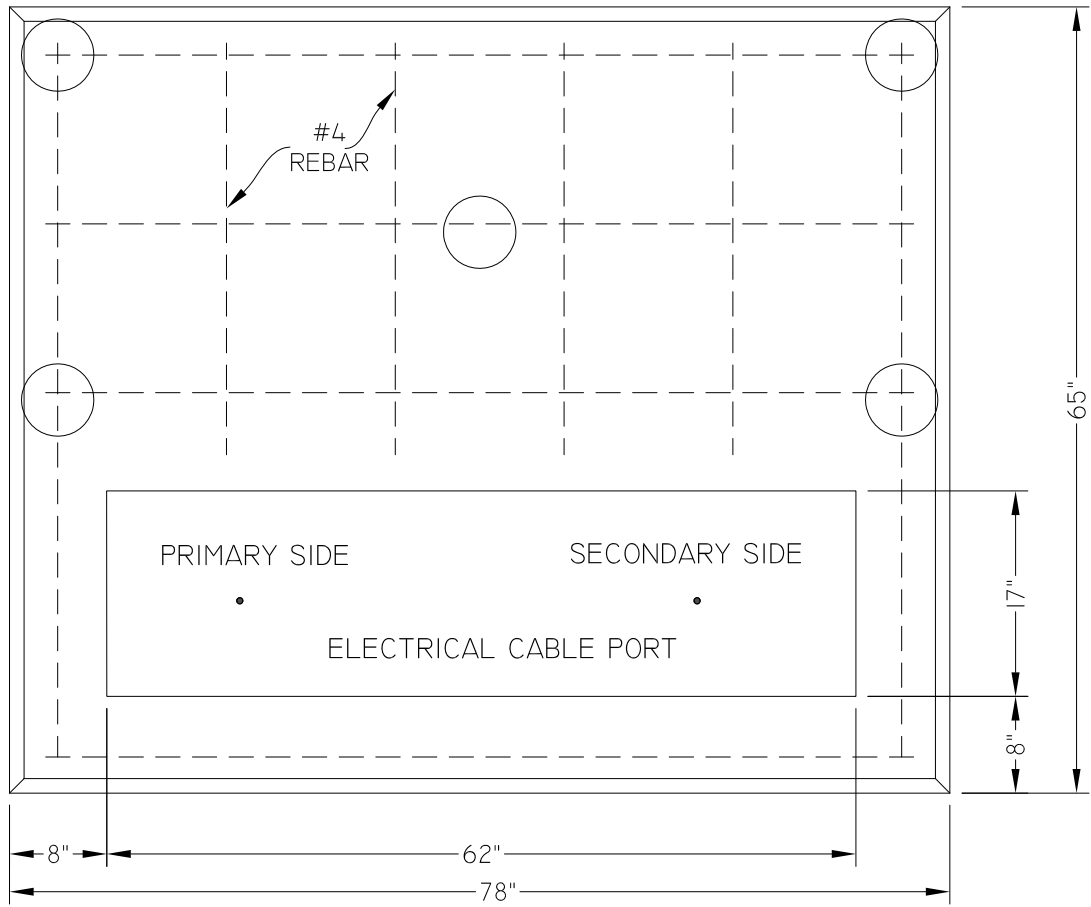
- NOTE:
1. USE 3000 P.S.I. CONCRETE.
 2. SLAB THICKNESS TO BE 12" MIN.
 3. ALL REINFORCING STEEL TO BE 6" BELOW TOP OF PAD.



**AUTOMATIC TRANSFER
SWITCH GEAR
CONCRETE PAD**

DEVELOPED BY:	STANDARDS COMMITTEE
APPROVED:	SEP 2020
DRAWING NUMBER	UD-33A





NOTE:

1. USE 3000 P.S.I. CONCRETE.
2. SLAB THICKNESS TO BE 12" MIN.
3. ALL REINFORCING STEEL TO BE 6" BELOW TOP OF PAD.



TYPICAL TRANSFORMER PAD
(DIMENSIONS MAY VARY)
CONCRETE PAD

DEVELOPED BY:	STANDARDS COMMITTEE
APPROVED:	SEPT 2020
DRAWING NUMBER	UD-34



Material List

ITEM	CODE NO.	DESCRIPTION	QUANTITY
1	-	PRE-FABRICATED SWITCHGEAR PAD	1
2	E0013-00	ROD GROUND 5/8" X 8' COPPER WELD U	2
3	E0014-00	CLAMP, 5/8" GROUND ROD	2
4	E0184-00	ELL 4" PVC 90 DEGREE, SCH. 40 LONG RADIUS	As Req'd.
5	E0186-00	ELL, 6" x 48" PVC LONG RADIUS 90 SCH 40 ELEC GRAY	As Req'd.
	<i>NOTES:</i>	1. USE 3000 P.S.I. CONCRETE.	
		2. SLAB THICKNESS TO BE 12" MINIMUM.	
		3. ALL REINFORCING STEEL TO BE 6" BELOW TOP OF PAD.	



MOST 9 SWITCHGEAR CONCRETE PAD

DEVELOPED BY:

STANDARDS
COMMITTEE

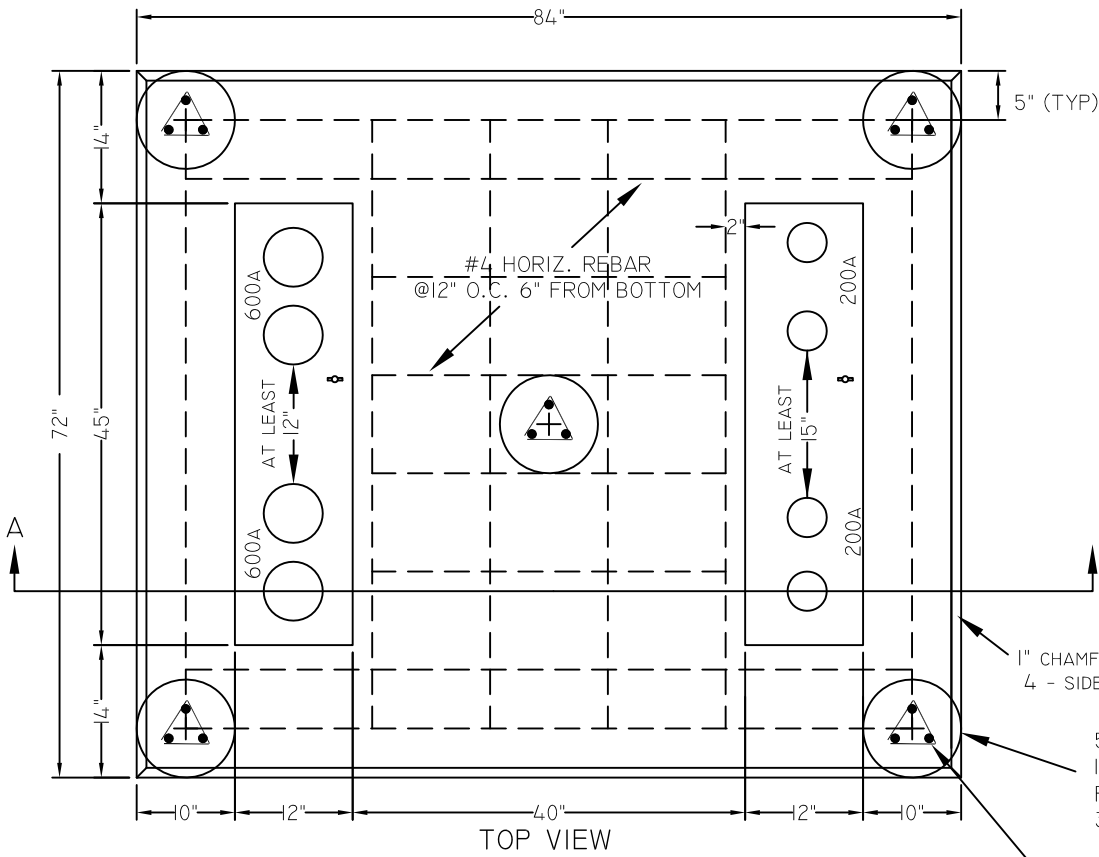
APPROVED:

Sep 2020

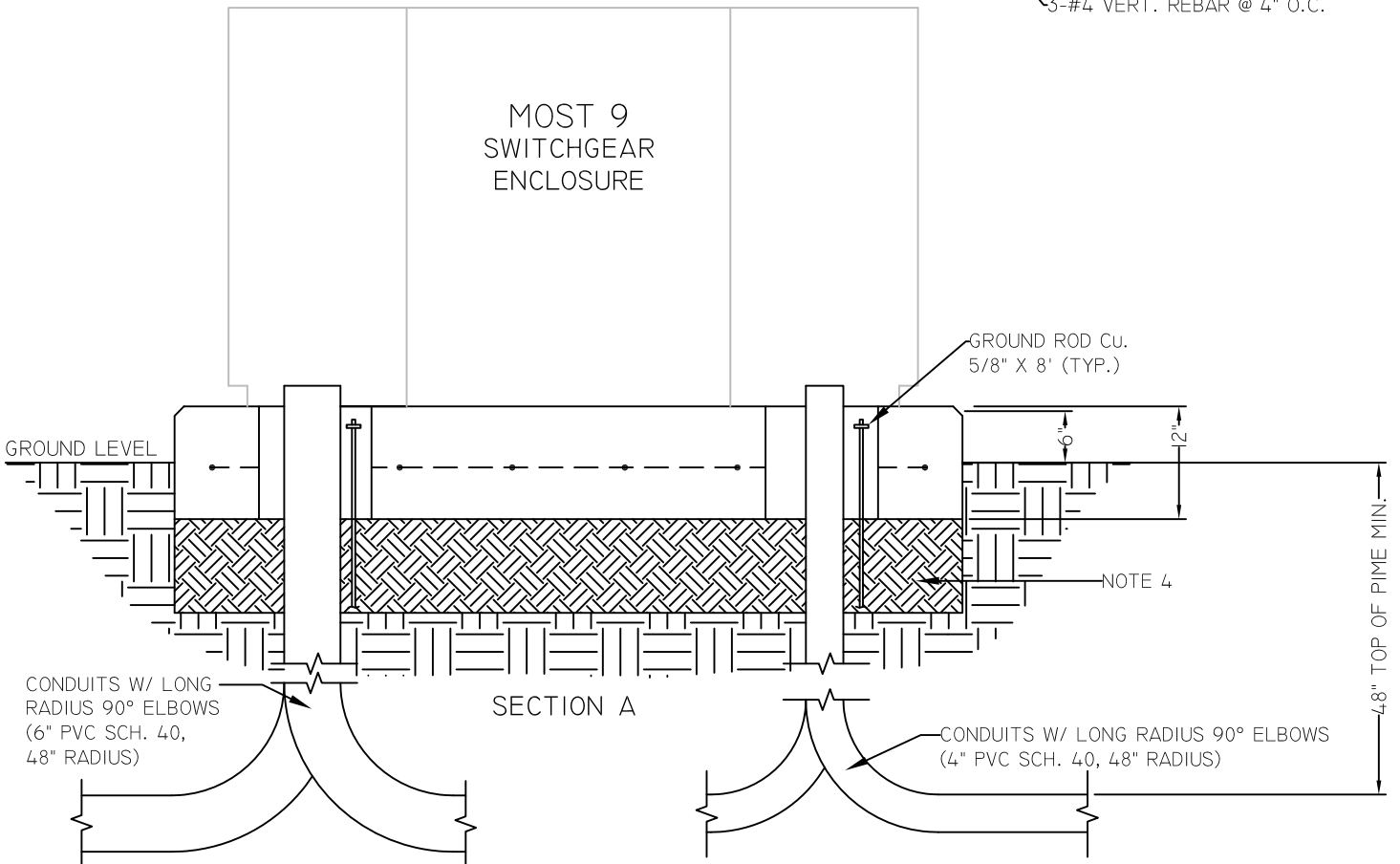
DRAWING
NUMBER

UD-35A



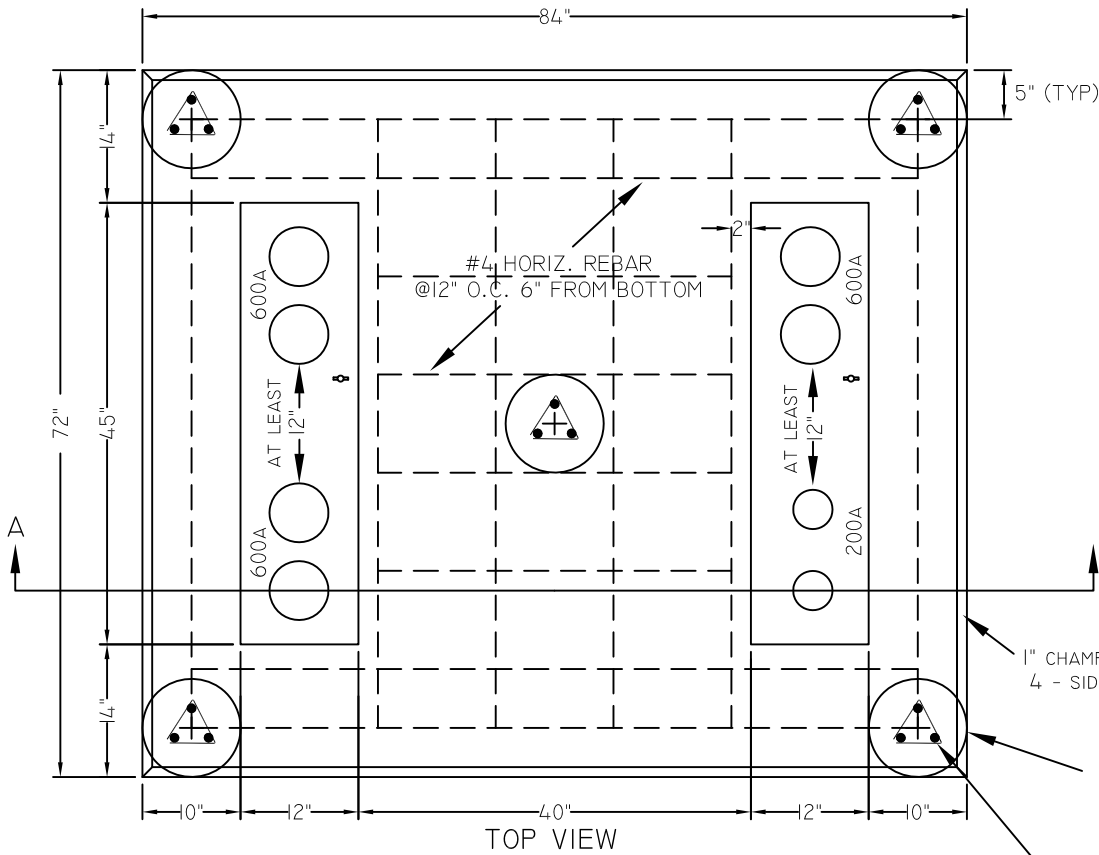


- NOTE:
1. USE 3000 P.S.I. CONCRETE.
 2. SLAB THICKNESS TO BE 12" MINIMUM.
 3. ALL REINFORCING STEEL STEEL TO BE 6" BELOW TOP OF PAD.
 4. COMPACT SOIL 95% BEFORE INSTALLING CONCRETE PAD.
 5. ALL MATERILAS PROVIDED AND INSTALLED BY THE CUSTOMER.
 6. USE 2-6" PVC CONDUITS FOR 600A AND 2-4" PVC CONDUITS FOR 200A SECTIONS. (ONE SPARE)
 7. MUST MEET ALL REQUIREMENTS OF BPUB STANDARD DRAWING ENG-8.



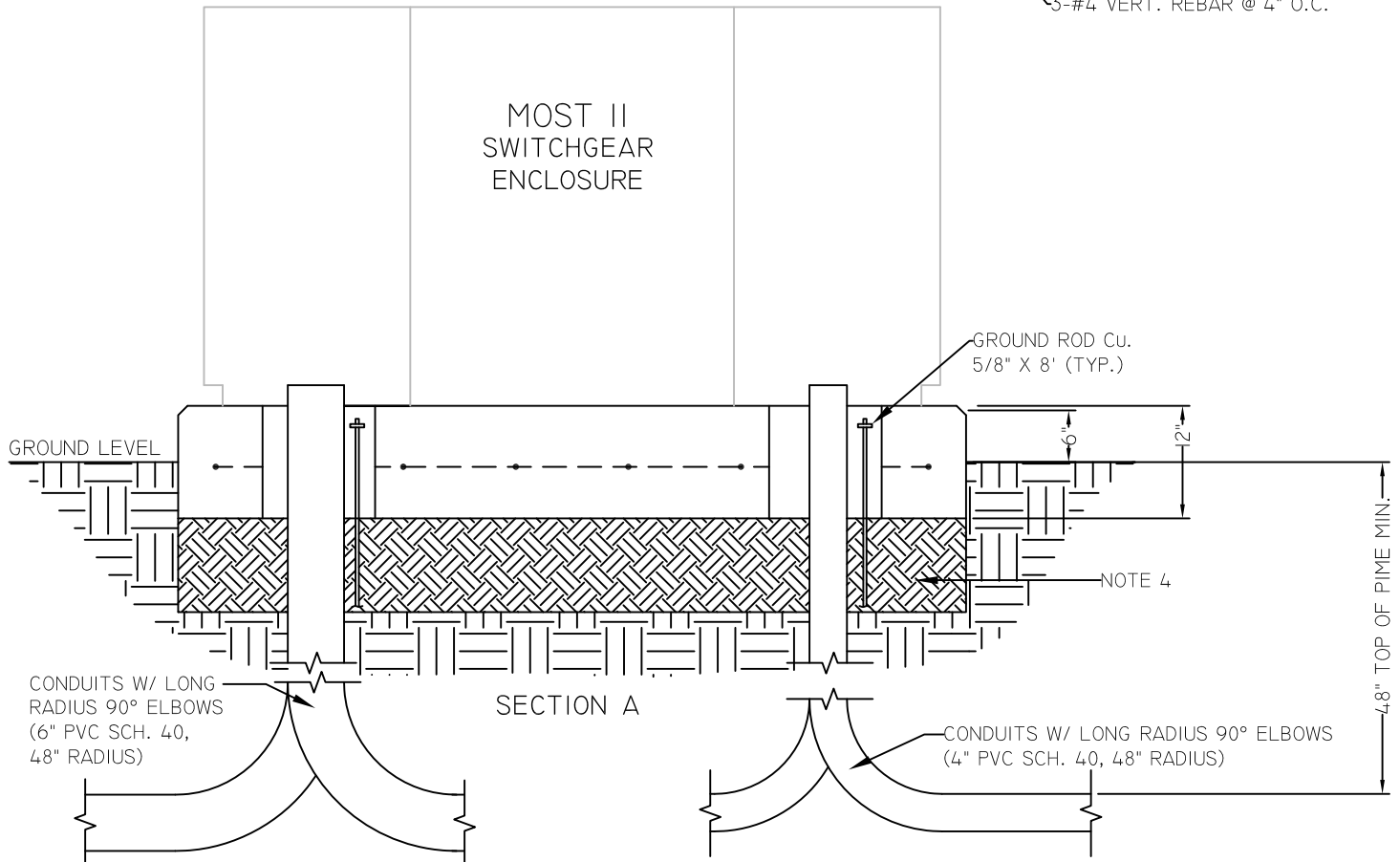
Material List

ITEM	CODE NO.	DESCRIPTION	QUANTITY
1	-	PRE-FABRICATED SWITCHGEAR PAD	1
2	E0013-00	ROD GROUND 5/8" X 8' COPPER WELD UL	2
3	E0014-00	CLAMP, 5/8" GROUND ROD	2
4	E0184-00	ELL 4" PVC 90 DEGREE, SCH. 40 LONG RADIUS	As Req'd.
5	E0186-00	ELL, 6" x 48" PVC LONG RADIUS 90 SCH 40 ELEC GRAY	As Req'd.
NOTES:			
1. USE 3000 P.S.I. CONCRETE.			
2. SLAB THICKNESS TO BE 12" MINIMUM.			
3. ALL REINFORCING STEEL TO BE 6" BELOW TOP OF PAD.			



NOTE:

1. USE 3000 P.S.I. CONCRETE.
2. SLAB THICKNESS TO BE 12" MINIMUM.
3. ALL REINFORCING STEEL STEEL TO BE 6" BELOW TOP OF PAD.
4. COMPACT SOIL 95% BEFORE INSTALLING CONCRETE PAD.
5. ALL MATERILAS PROVIDED AND INSTALLED BY THE CUSTOMER.
6. USE 2-6" PVC CONDUITS FOR 600A AND 2-4" PVC CONDUITS FOR 200A SECTIONS. (ONE SPARE)
7. MUST MEET ALL REQUIREMENTS OF BPUB STANDARD DRAWING ENG-8.



MOST 11 SWITCHGEAR CONCRETE PAD



DEVELOPED BY:

STANDARDS COMMITTEE

APPROVED:

SEP 2020

DRAWING NUMBER

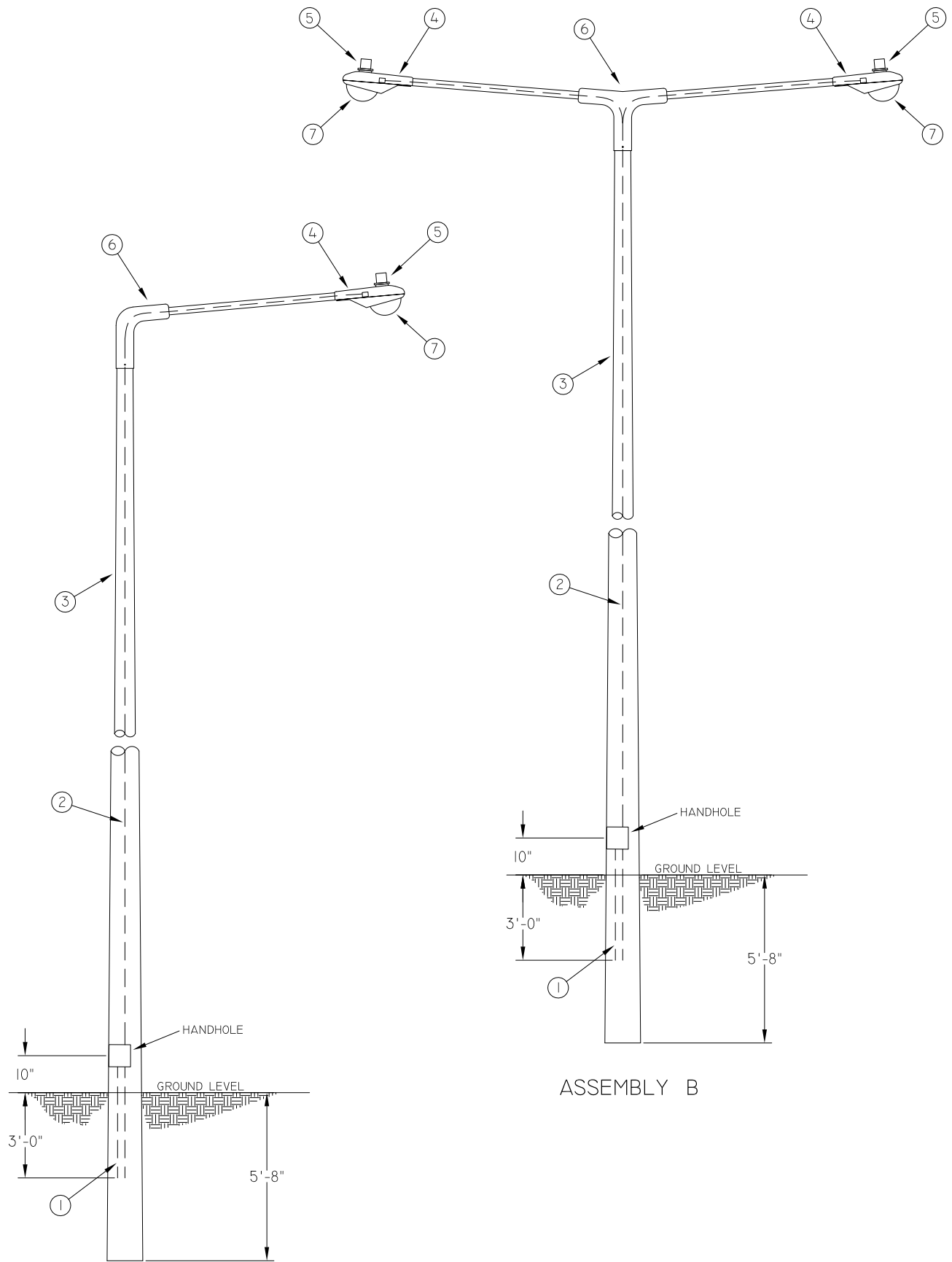
UD - 35B



Material List

ITEM	CODE NO.	DESCRIPTION	QUANTITY
ASSEMBLY A			
1	E-	CABLE	AS REQ'D.
2	E1214-00	CABLE #12-3 TYPE SEO 600 VOLTS	40
3	E1000-00	POLE CONCRETE 35 FT TYPE 1	1
4	E-	FIXTURE	1
5	E1242-00	PHOTOCELL 1000W 120-305V	1
6	E1001-00	BRACKET, 6' ALUMINUM SINGLE ARM	1
7	E-	LAMP	1
ASSEMBLY B			
1	E-	CABLE	AS REQ'D.
2	E1214-00	CABLE #12-3 TYPE SEO 600 VOLTS	50
3	E1000-00	POLE CONCRETE 35 FT TYPE 1	1
4	E-	FIXTURE	2
5	E1242-00	PHOTOCELL 1000W 120-305V	2
6	E1003-00	BRACKET, ALUM. DOUBLE ARM, LONG	1
7	E-	LAMP	2
CABLE			
	E0245-00	#6 STR. 1/C THHN/THWN INSU CU BLACK	
	E0901-00	URD #4 DUPLEX AL XLP	
FIXTURE			
	E1222-00	100 W HPS LUMINAIRE	
	E1223-00	250 W HPS LUMINAIRE	
	E1224-00	400 W HPS LUMINAIRE	
	E1226-00	400 W HPS LUMINAIRE 480V	
	E1222-01	100 W MH LUMINAIRE	
	E1223-01	250 W MH LUMINAIRE	
	E1224-01	400 W MH LUMINAIRE	
LAMP			
	E1231-00	100 W HPS Lamp	
	E1233-00	250 W HPS Lamp	
	E1234-00	400 W HPS Lamp	
	E1231-01	100 W MH Lamp	
	E1233-01	250 W MH Lamp	
	E1234-01	400 W MH Lamp	
PHOTOCELL			
	E1243-00	1000 W 240-480V	

 BROWNSVILLE PUBLIC UTILITIES BOARD	TYPICAL HPS AND MH AREA LIGHTS INSTALLATION ON CONCRETE POLE	DEVELOPED BY:	STANDARDS COMMITTEE
		APPROVED:	Sep 2020
		DRAWING NUMBER	UD-43C
			



ASSEMBLY A

ASSEMBLY B

NOTE: ALL NEW LIGHT INSTALLATIONS TO BE LED.



TYPICAL HPS AND MH
AREA LIGHTS INSTALLATION
ON CONCRETE POLE

DEVELOPED BY:	STANDARDS COMMITTEE
APPROVED:	SEP 2020
DRAWING NUMBER	UD-43C



Material List

ITEM	CODE NO.	DESCRIPTION	QUANTITY
ASSEMBLY A			
1	E-	CABLE (See Below)	AS REQ'D.
2	E1214-00	CABLE #12-3 TYPE SEO 600 VOLTS	40
3	E1000-00	POLE CONCRETE 35 FT TYPE 1	1
4	E1001-00	BRACKET, 6' ALUMINUM SINGLE ARM	1
5	E-	FIXTURE (See Below)	1
6	E1242-01	PHOTOCELL LED, 1000W 120/208/240/277V	1
ASSEMBLY B			
1	E-	CABLE (See Below)	AS REQ'D.
2	E1214-00	CABLE #12-3 TYPE SEO 600 VOLTS	50
3	E1000-00	POLE CONCRETE 35 FT TYPE 1	1
4	E1003-00	BRACKET, 6' ALUMINUM DOUBLE ARM	1
5	E-	FIXTURE (See Below)	2
6	E1242-01	PHOTOCELL LED, 1000W 120/208/240/277V	2
CABLE			
	E0245-00	#6 STR. 1/C THHN/THWN INSU CU BLACK	
	E0901-00	URD #4 DUPLEX AL XLP	
FIXTURE			
	E1222-02	LED LUMINAIRE EQUIVALENT 100W 120 - 277V	
	E1223-04	LED LUMINAIRE EQUIVALENT 250W 120 - 277V	
	E1224-02	LED LUMINAIRE EQUIVALENT 400W 120 - 277V	
	E1223-03	LED LUMINAIRE EQUIVALENT 250W 480V	
	E1226-01	LED LUMINAIRE EQUIVALENT 400W 480V	
PHOTOCELL			
	E1243-01	PHOTOCELL LED, 1000W 480V	
Note: All new installations will be LED.			

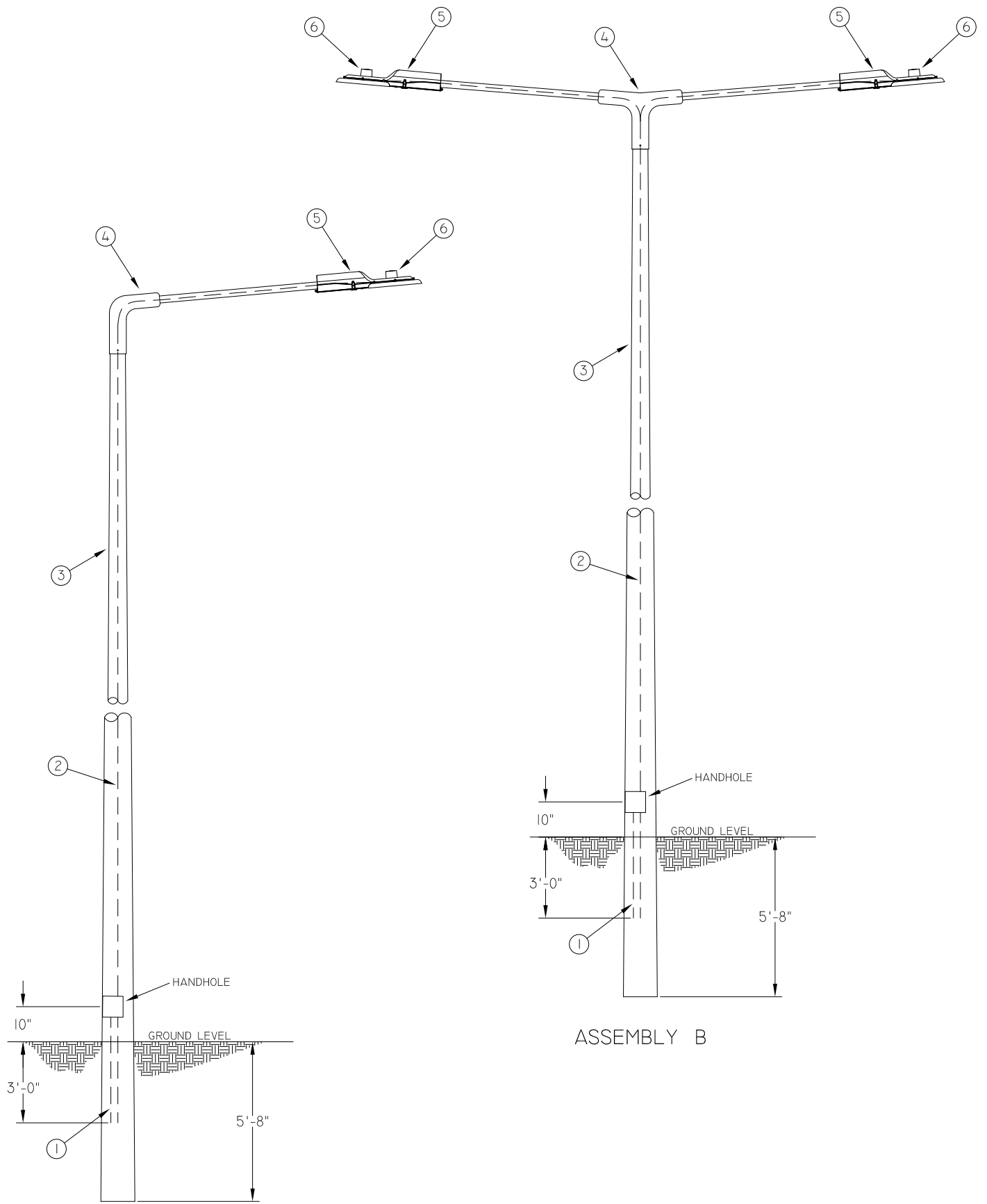


**TYPICAL LED AREA LIGHT
 INSTALLATION ON
 CONCRETE POLE**

DEVELOPED BY:
 APPROVED:
 DRAWING NUMBER

STANDARDS COMMITTEE
 Sep 2020
UD-43CL





ASSEMBLY A

ASSEMBLY B

NOTE: ALL NEW LIGHT INSTALLATIONS TO BE LED.



TYPICAL LED AREA LIGHT
INSTALLATION ON
CONCRETE POLE

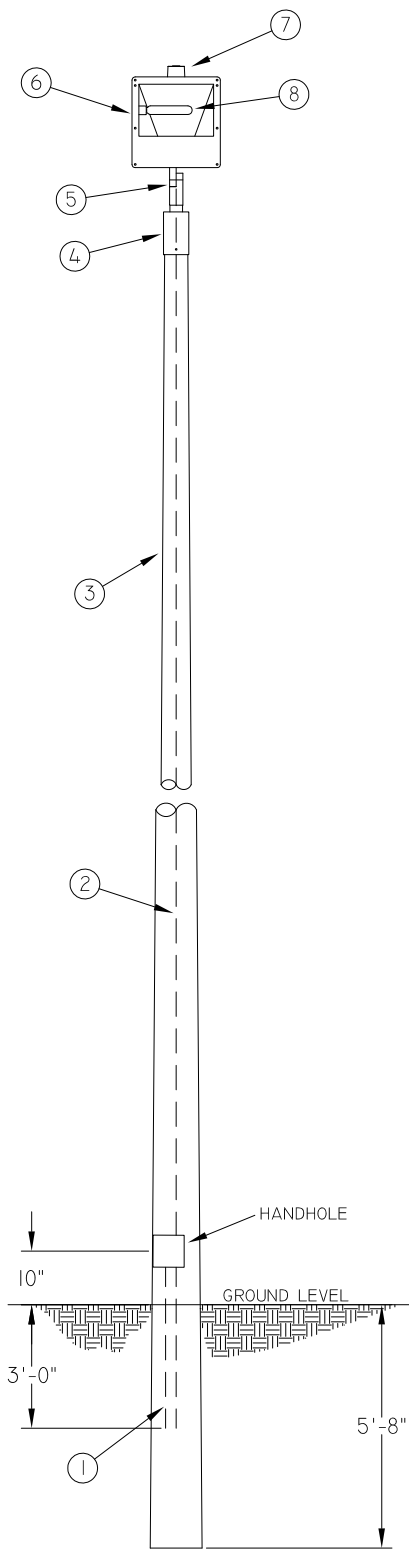
DEVELOPED BY:	STANDARDS COMMITTEE
APPROVED:	SEP 2020
DRAWING NUMBER	UD-43CL



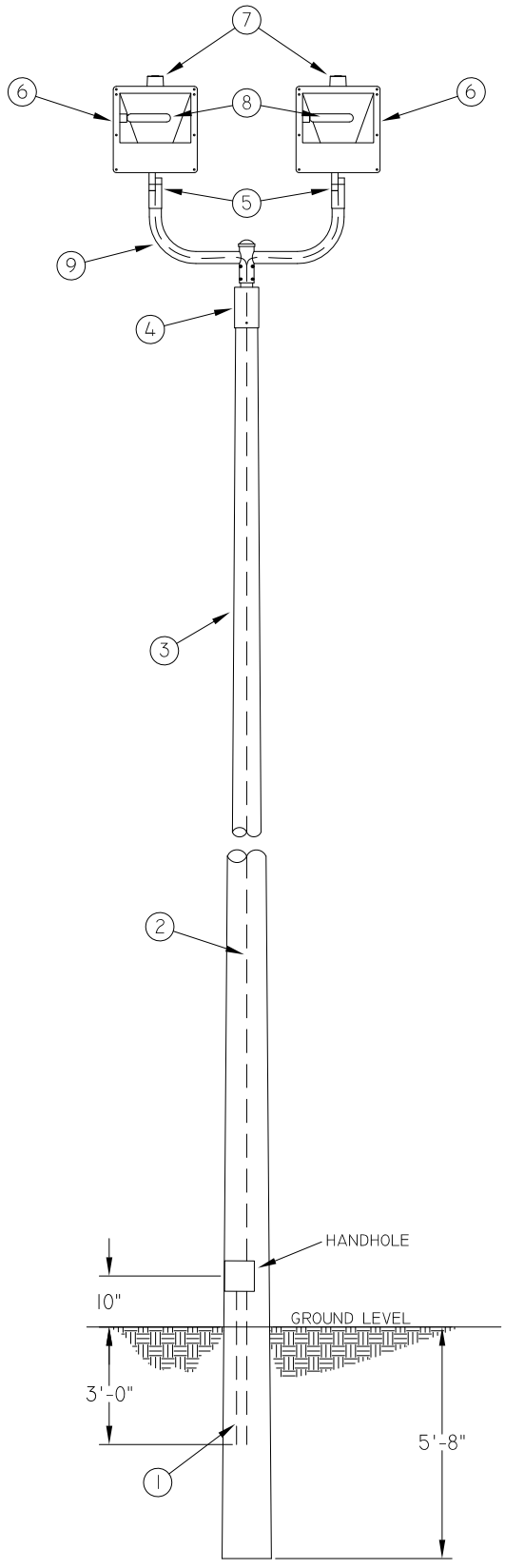
Material List

ITEM	CODE NO.	DESCRIPTION	QUANTITY
ASSEMBLY A			
1	E-	CABLE (See Below)	AS REQ'D
2	E1214-00	CABLE #12-3 TYPE SEO 600 VOLTS	40
3	E1000-00	POLE CONCRETE 35 FT TYPE 1	1
4	E1009-00	POLE CAP TENON TYPE 1	1
5	E1266-00	MOUNT FLOOD LIGHT SLIPFITTER	1
6	E-	FIXTURE (See Below)	1
7	E1242-00	PHOTOCELL 1000W 120-305V	1
8	E-	LAMP (See Below)	1
ASSEMBLY B			
1	E-	CABLE (See Below)	AS REQ'D
2	E1214-00	CABLE #12-3 TYPE SEO 600 VOLTS	50
3	E1000-00	POLE CONCRETE 35 FT TYPE 1	1
4	E1009-00	POLE CAP TENON TYPE 1	1
5	E1266-00	MOUNT FLOOD LIGHT SLIPFITTER	2
6	E-	FIXTURE (See Below)	2
7	E1242-00	PHOTOCELL 1000W 120-305V	2
8	E-	LAMP (See Below)	2
9	E1002-00	BRACKET, TYPE I ALUM DBL TENON BULLHORN	1
CABLE			
	E-0245-00	#6 STR. 1/C THHN/THWN INSU CU BLACK	
	E-0901-00	URD #4 DUPLEX AL XLP	
FIXTURE			
	E1219-00	100 W HPS FLOOD	
	E1220-00	400 W HPS FLOOD	
	E1221-00	1000 W HPS FLOOD	
	E1219-00	100 W HPS FLOOD MULTI-TAP	
	E1219-01	100 W MH FLOOD	
	E1220-01	400 W MH FLOOD	
	E1221-01	1000 W MH FLOOD	
	E1220-01	400 W MH FLOOD MULTI-TAP	
LAMP			
	E1231-00	100 W HPS LAMP	
	E1234-00	400 W HPS LAMP	
	E1235-00	1000 W HPS LAMP	
	E1231-01	100 W MH LAMP	
	E1234-01	400 W MH LAMP	
	E1235-01	1000 W MH LAMP	
PHOTOCELL			
	E1243-00	1000W 240-480V	

 BROWNSVILLE PUBLIC UTILITIES BOARD	TYPICAL HPS AND MH FLOODLIGHT INSTALLATION ON CONCRETE POLE	DEVELOPED BY:	STANDARDS COMMITTEE
		APPROVED:	Sep 2020
		DRAWING NUMBER	UD-44C
			



ASSEMBLY A



ASSEMBLY B

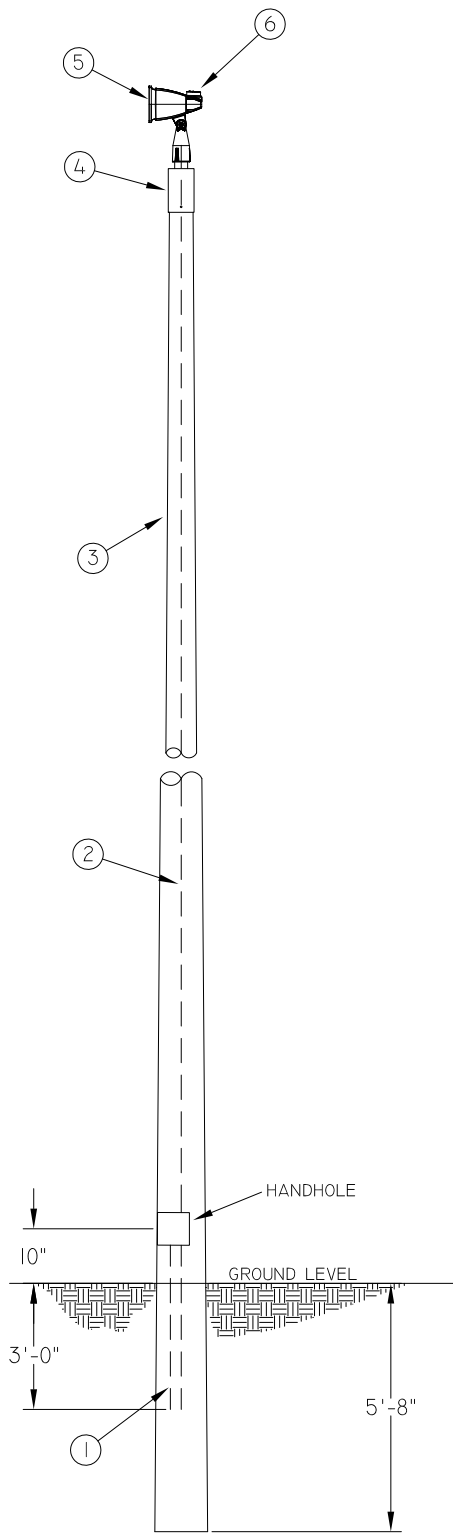
NOTE: ALL NEW INSTALLATIONS WILL BE LED.



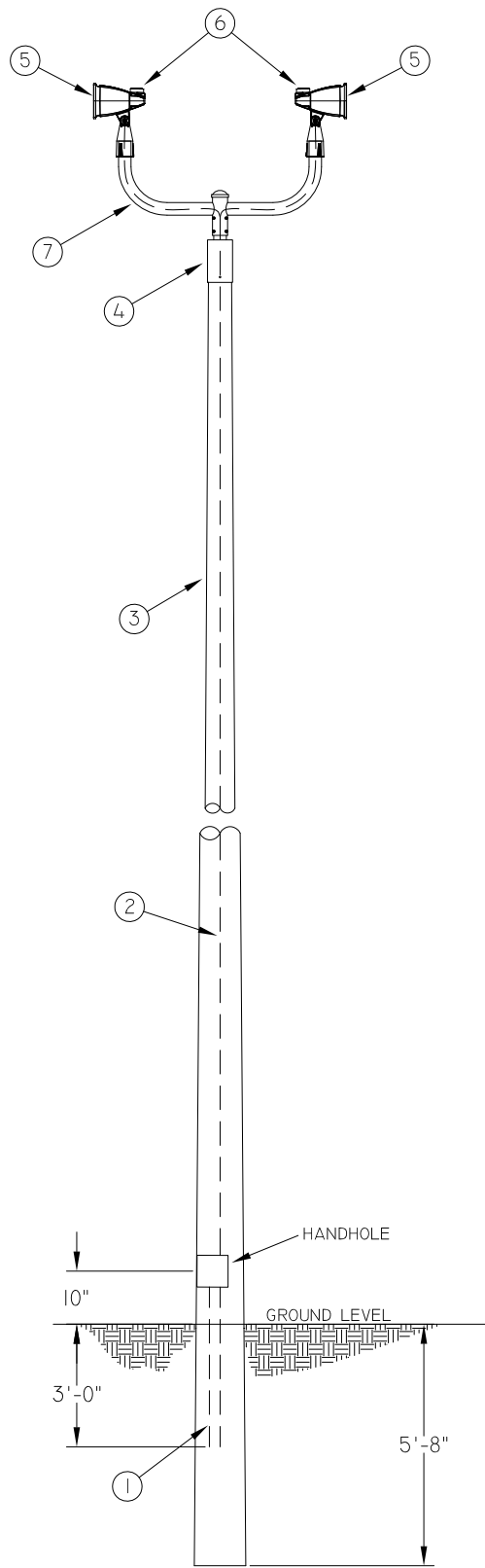
TYPICAL HPS AND MH FLOODLIGHT INSTALLATION ON CONCRETE POLE

DEVELOPED BY:	STANDARDS COMMITTEE
APPROVED:	SEP 2020
DRAWING NUMBER	UD-44C





ASSEMBLY A



ASSEMBLY B

NOTE: ALL NEW INSTALLATIONS WILL BE LED.



TYPICAL LED FLOODLIGHT
INSTALLATION ON
CONCRETE POLE

DEVELOPED BY:	STANDARDS COMMITTEE
APPROVED:	SEP 2020
DRAWING NUMBER	UD-44CL

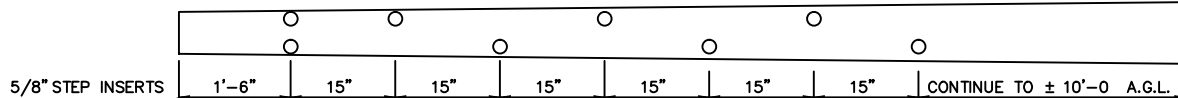
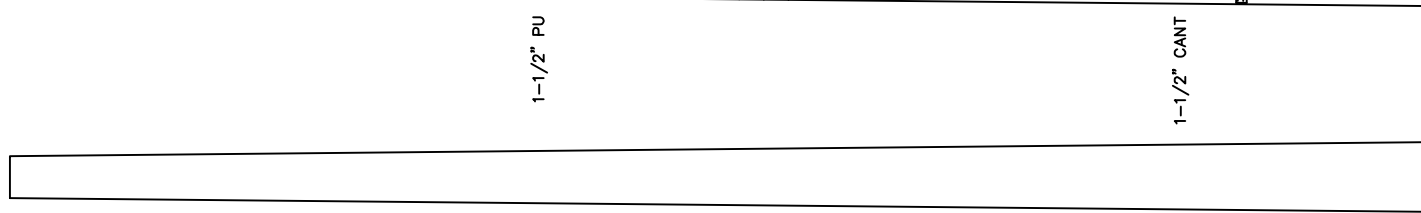
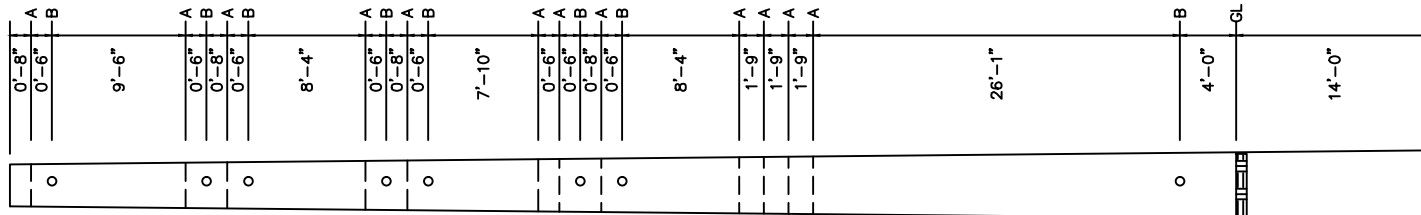


REVISED

MATERIALS LIST

STRAND	1/2" IN.	2035	FT.
SPIRAL	3/16" IN.	252	LB.
STR. RINGS		31	EA.
REBAR			EA.
			FT.
			LB.
INSERTS			
1/2" W/BOLT		19	EA.
5/8"		55	EA.
3/4"			EA.
1/2" NYLON W/BOLT			EA.
5/8" NYLON W/BOLT			EA.
STEP BOLTS			EA.
LADDER CLIPS			EA.
LADDER LUGS			EA.
GND CLIPS	#SMALL	19	EA.
NAME PLATE		1	EA.
2 1/2" X 8 DOOR			EA.
4" X 8" DOOR			EA.
4" X 8" DOOR W/RUB.CVR.			EA.
2" X 4" BLOCKOUT			EA.
2 1/2" X 8" BLOCKOUT			EA.
4" X 8" BLOCKOUT			EA.
4" X 12" BLOCKOUT			EA.
6" X 12" BLOCKOUT			EA.
WIRE SUPPORT BAR			EA.
1" COUPLING			EA.
1-1/2" COUPLING			EA.
2" COUPLING			EA.
TANK GROUND		2	EA.
COPPER WIRE	#		FT.
LIGHTNING ROD			EA.
LIGHTNING ROD ATT.			EA.
SAFETY CABLE			FT.
SAFETY CABLE HARDWARE			EA.
SAFETY BELT-TOTAL JOB			EA.
QUICK STOP-TOTAL JOB			EA.
SPECIAL HARDWARE:			

USE PVC PIPES FOR BOLT HOLES
STEP INSERTS ARE REQUIRED
STAINLESS STEEL MARKER FOR GROUND LINE

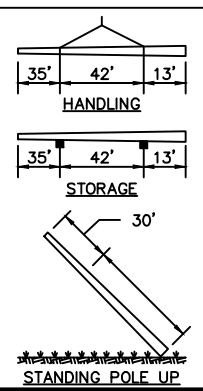
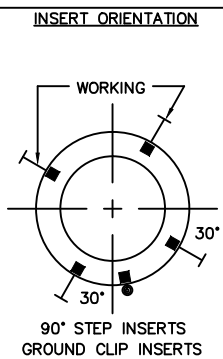
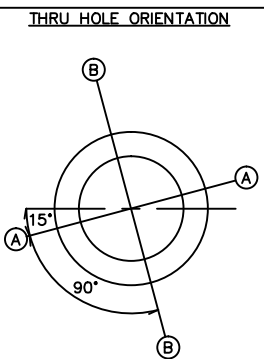


- ALL HOLES ARE 1" DIA. UNLESS NOTED
- GROUND CLIPS ON 5'-0" CENTERS TO 12'-0" B.G.L.
- PROVIDE VENT HOLES APPROX 10' FROM TIP & 5' AGL



PROPERTY OF VALMONT INDUSTRIES INC. THE DESIGN AND DETAILS SHOWN ON THIS DRAWING ARE PROPRIETARY AND CONFIDENTIAL. REPRODUCTION, PUBLICATION OR DISTRIBUTION OF THIS DRAWING REQUIRES THE WRITTEN CONSENT OF VALMONT. POSSESSION CONFERS NO LICENSE TO USE OR TO DISCLOSE TO OTHERS FOR ANY PURPOSE WHATSOEVER. IT IS SUBJECT TO RETURN ON DEMAND AND IS LOANED UPON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED DIRECTLY OR INDIRECTLY IN ANY WAY DETRIMENTAL TO THE INTEREST OF VALMONT.

POLE WEIGHT ESTIMATED ON DRAWING FOR ACTUAL WEIGHT SEE NAMEPLATE ON POLE



REV	DATE	BY	REMARKS
1	05/12/2015	SGP	REVISED TO C...

UTILITY DIVISION, VALMONT INDUSTRIES, INC.			
BROWNSVILLE PUBLIC UTILITIES BOARD WAREHOUSE STOCK INVENTORY			
STR. NO.	90FT TANGENT	DATE:	4-27-2015
TYPE	90'-0" /14'-0"	CHECKED BY:	SP
LENGTH	18867	APPROVED BY:	
WEIGHT	714	POLE LENGTH	90'-0"
CLASS	4N334-02-1...15	O.D. TIP	11.07"
FABR. NO.	BROWNSVILLE	O.D. BUTT	30.51"
MFG. DATE	PUB	TIP THICKNESS	2.50"
CUSTOMER		BUTT THICKNESS	3.58"
		STRAND	22 EA. 1/2"-270KSI
		PRESTRESS LBS.	17840
		C.G. FROM BUTT	3.3
		TAPER IN./FT.	0.216"/FT
		DEBOND	4 AT 9', 4 AT 18'
		EST. WEIGHT LBS.	18,867
		CUBIC YARDS	4.43
		CONCRETE P.S.I.	12000
		ULT. MOMENT K-FT.	714
		EMBEDMENT	14'-0"
		P.O. NO.	P1500354
		QUANTITY	15
		FABR. NO.	4N334-02-1...15

MATERIALS LIST

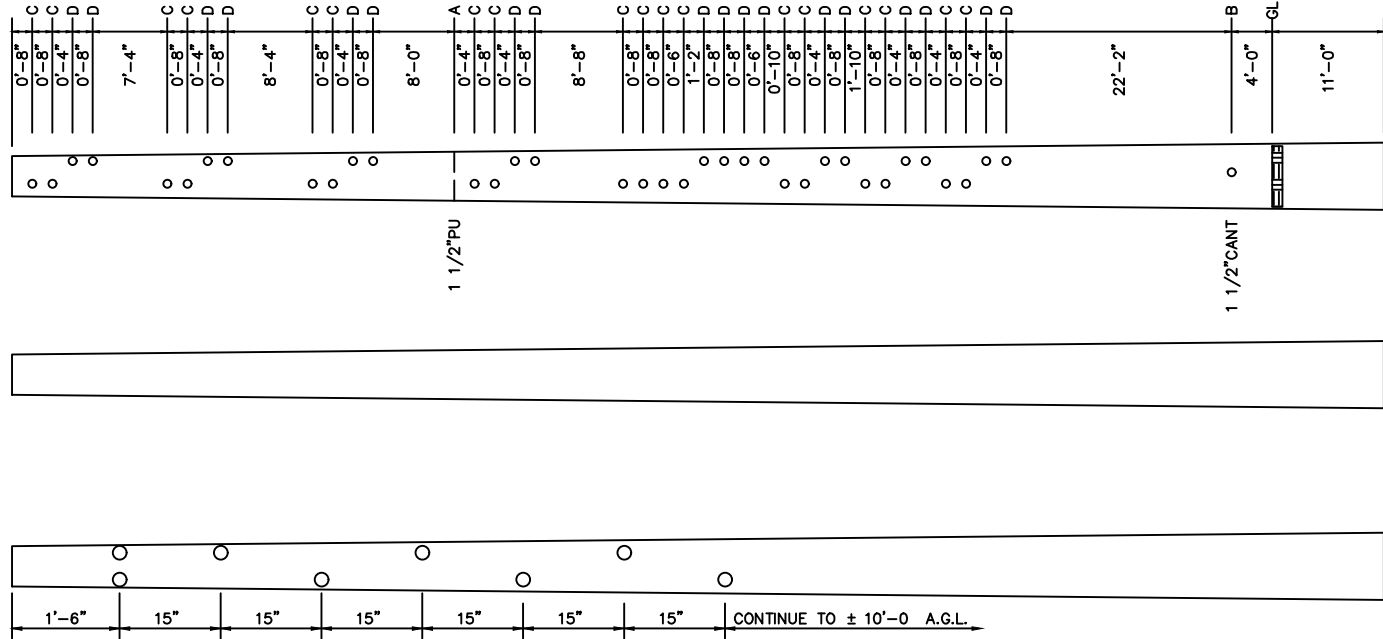
STRAND	1/2" IN.	2035	FT.
SPIRAL	3/16" IN.	236	LB.
STR. RINGS		31	EA.
REBAR			EA.
	___ FT.		LB.
INSERTS			
1/2" W/BOLT		19	EA.
5/8"		57	EA.
3/4"			EA.
1/2" NYLON W/BOLT			EA.
5/8" NYLON W/BOLT			EA.
STEP BOLTS	___ IN.		EA.
LADDER CLIPS			EA.
LADDER LUGS			EA.
GND CLIPS	#SMALL	19	EA.
NAME PLATE		1	EA.
2 1/2" X 8 DOOR			EA.
4" X 8" DOOR			EA.
4" X 8" DOOR W/RUB.CVR.			EA.
2" X 4" BLOCKOUT			EA.
2 1/2" X 8" BLOCKOUT			EA.
4" X 8" BLOCKOUT			EA.
4" X 12" BLOCKOUT			EA.
6" X 12" BLOCKOUT			EA.
WIRE SUPPORT BAR			EA.
1" COUPLING			EA.
1-1/2" COUPLING			EA.
2" COUPLING			EA.
TANK GROUND		2	EA.
COPPER WIRE #			FT.
LIGHTNING ROD			EA.
LIGHTNING ROD ATT.			EA.
SAFETY CABLE			FT.
SAFETY CABLE HARDWARE			EA.
SAFETY BELT-TOTAL JOB			EA.
QUICK STOP-TOTAL JOB			EA.
SPECIAL HARDWARE:			

SEE ERECTION DWG FOR COMPLETE DETAILS REQD FOR THIS POLE

STEP INSERTS ARE REQUIRED

STAINLESS STEEL MARKER FOR GROUND LINE

USE PVC PIPES FOR BOLT HOLES



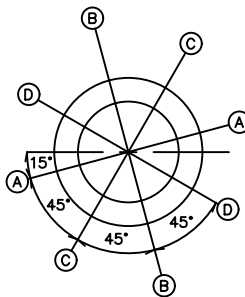
1. ALL HOLES ARE 1 1/4" DIA. UNLESS NOTED
2. GROUND CLIPS ON 5'-0" CENTERS TO 9'-0" B.G.L.
3. PROVIDE VENT HOLES APPROX 10' FROM TIP & 5' AGL



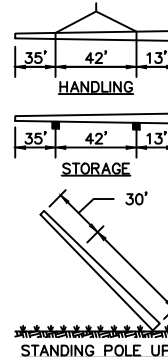
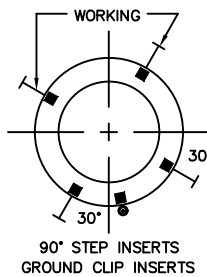
PROPERTY OF VALMONT INDUSTRIES, INC. THE DESIGN AND DETAILS SHOWN ON THIS DRAWING ARE PROPRIETARY AND CONFIDENTIAL. REPRODUCTION, PUBLICATION OR DISTRIBUTIONS OF THIS DRAWING REQUIRES THE WRITTEN CONSENT OF VALMONT. POSSESSION CONFERS NO LICENSE TO USE OR TO DISCLOSE TO OTHERS FOR ANY PURPOSE WHATSOEVER. IT IS SUBJECT TO RETURN ON DEMAND AND IS LOANED UPON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED DIRECTLY OR INDIRECTLY IN ANY WAY DETRIMENTAL TO THE INTEREST OF VALMONT.

POLE WEIGHT ESTIMATED ON DRAWING FOR ACTUAL WEIGHT SEE NAMEPLATE ON POLE

THRU HOLE ORIENTATION



INSERT ORIENTATION



LARGE NAME PLATE

STR. NO.	
TYPE	90DEG DE
LENGTH	90'-0"
WEIGHT	18856
CLASS	742
FABR. NO.	4L153-01-1...10
MFG. DATE	
CUSTOMER	BROWNSVILLE PUBLIC UTIL
REV	DATE BY REMARKS

UTILITY DIVISION, VALMONT INDUSTRIES, INC.

BROWNSVILLE PUBLIC UTILITIES BOARD WAREHOUSE STOCK INVENTORY			
DRAWN BY:	LL	DATE:	9-26-2012
CHECKED BY:		APPROVED BY:	
POLE LENGTH	90'-0"	EST. WEIGHT LBS.	18,856
O.D. TIP	11.07"	CUBIC YARDS	4.43
O.D. BUTT	30.51"	CONCRETE P.S.I.	12000
TIP THICKNESS	2.50"	ULT. MOMENT K-FT.	742
BUTT THICKNESS	3.58"	EMBEDMENT	11'-0"
STRAND	22 EA. 1/2"-270KSI	C.G. FROM BUTT	33
PRESTRESS LBS.	17840	TAPER IN./FT.	0.216"/FT
DEBOND	4 AT 9', 4 AT 18'	90FT 90DEG GUYED DEAD	
SPIRAL WIRE	DIA. = 3/16"	END POLE W/12KV DIST.	
TIP - 3'-0"	PITCH = 1.25	P.O. NO.	VERBAL
3'-0" - G.L.	PITCH = 3.00	QUANTITY	10
G.L. - BUTT	PITCH = 1.25	FABR. NO.	4L153-01-1...10