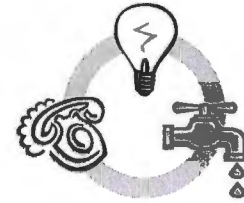


INDUSTRY PUBLIC UTILITIES COMMISSION CITY OF INDUSTRY

REGULAR MEETING AGENDA
FEBRUARY 16, 2017 9:00 A.M.



President Mark D. Radecki
Commissioner Abraham N. Cruz
Commissioner Roy Haber, III
Commissioner Cory C. Moss
Commissioner Newell W. Ruggles



Location: City Council Chamber, 15651 East Stafford Street, City of Industry, California

Addressing the Commission:

- ▶ **Agenda Items:** Members of the public may address the Commission on any matter listed on the Agenda. Anyone wishing to speak to the Commission is asked to complete a Speaker's Card which can be found at the back of the room and at the podium. The completed form should be submitted to the City Clerk prior to the Agenda item being called and prior to the individual being heard by the Commission.
- ▶ **Public Comments (Non-Agenda Items):** Anyone wishing to address the Commission on an item not on the Agenda may do so during the "Public Comments" period. In order to conduct a timely meeting, there will be a three-minute time limit per person for the Public Comments portion of the Agenda. State law prohibits the Commission from taking action on a specific item unless it appears on the posted Agenda. Anyone wishing to speak to the Commission is asked to complete a Speaker's Card which can be found at the back of the room and at the podium. The completed card should be submitted to the City Clerk prior to the Agenda item being called and prior to the individual being heard by the Commission.

Americans with Disabilities Act:

- ▶ In compliance with the ADA, if you need special assistance to participate in any City meeting (including assisted listening devices), please contact the City Clerk's Office (626) 333-2211. Notification of at least 48 hours prior to the meeting will assist staff in assuring that reasonable arrangements can be made to provide accessibility to the meeting.

Agendas and other writings:

- ▶ In compliance with SB 343, staff reports and other public records permissible for disclosure related to open session agenda items are available at City Hall, 15625 East Stafford Street, Suite 100, City of Industry, California, at the office of the City Clerk during regular business hours, Monday through Friday 9:00 a.m. to 5:00 p.m. Any person with a question concerning any agenda item may call the City Clerk's Office at (626) 333-2211.
-

1. Call to Order
2. Flag Salute
3. Roll Call
4. Public Comments

5. **BOARD MATTERS**

- 5.1 Consideration of the Register of Demands.

RECOMMENDED ACTION: Approve the Register of Demands and authorize the appropriate City Officials to pay the bills.

- 5.2 Consideration of the Statement of Investment Policy.

RECOMMENDED ACTION: Approve as submitted.

- 5.3 Consideration of Resolution No. IPUC 2017-01 – A JOINT RESOLUTION OF THE CITY COUNCIL OF THE CITY OF INDUSTRY, CALIFORNIA THE SUCCESSOR AGENCY TO THE INDUSTRY URBAN-DEVELOPMENT AGENCY, THE INDUSTRY PUBLIC FACILITIES AUTHORITY AND THE INDUSTRY PUBLIC UTILITIES COMMISSION ADOPTING A DEBT MANAGEMENT POLICY.

RECOMMENDED ACTION: Adopt Resolution No. IPUC 2017-01.

- 5.4 Consideration of the solicitation of public bids for authorization to advertise for solicitation of public bids for Contract No. CITY-1431, 2017 Industry Business Center East Side Street Light, Cabling, and Fiber Optic Substructure Plan, for an estimated cost of \$1,130,000.00.

RECOMMENDED ACTION: Approve the plans and specifications and the solicitation of public bids for Contract No. 1431.

- 5.5 Recommend that the City Council award the Grand Crossing Substation bid to Pacific Utilities Installation, Inc., and Approve the Agreement between the City of Industry and Pacific Utilities Installation, Inc., for the Grand Crossing Substation – Phases 1, 2, and 3 Substructure and Cabling Project for a cost not-to-exceed \$526,440,000tic Substructure Plan, for an estimated cost of \$1,130,000.00.

RECOMMENDED ACTION: Recommend that the City Council award the bid for the project and approve the Agreement with Pacific Utilities Installation, Inc.

- 5.6 Consideration of an Agreement for Lease of Annual Water Production Rights between the City of Whittier and the Industry Public Utilities Commission to lease 350-acre feet of Groundwater Production Rights and to minimize the impacts of the rising cost of replenishing water to the Industry Public Utilities Water System, for a cost of \$244,926.50.

RECOMMENDED ACTION: Approve the Agreement with the City of Whittier for the lease of annual water production rights.

- 5.7 Report from the General Manager for the La Puente Valley County Water District.

RECOMMENDED ACTION: Receive and file the report.

6. Adjournment. Next regular meeting: Thursday, March 16, 2017 at 9:00 a.m.

INDUSTRY PUBLIC UTILITIES COMMISSION

ITEM NO. 5.1

Industry Public Utilities Commission
Authorization For Payment of Bills
Meeting of February 16, 2017

<u>FUND</u>	<u>DESCRIPTION</u>	<u>DISBURSEMENTS</u>
560	Industry Public Utilities	33,741.44
	TOTAL ALL FUNDS	33,741.44

<u>BANK</u>	<u>NAME</u>	<u>DISBURSEMENTS</u>
BOFA	Bank of America	33,741.44
	TOTAL ALL BANKS	33,741.44

APPROVED PER CITY MANAGER

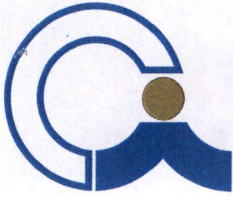
**Industry Public Utilities Commission
Board Meeting
February 16, 2017**

Check	Date		Payee Name	Check Amount
IPUC.CHK - IPUC Water BofA Checking				
40317	01/18/2017		SO CALIFORNIA EDISON COMPANY	\$13,983.72
	Invoice	Date	Description	Amount
	2017-00000819	01/06/2017	12/01-12/30/16 SVC - 1991 WORKMAN MILL U	\$13,983.72
40318	02/16/2017		INDUSTRY PUBLIC UTILITIES	\$1,400.00
	Invoice	Date	Description	Amount
	JAN-17	01/31/2017	REIMBURSE PAYROLL - JANUARY 2017	\$1,400.00
40319	02/16/2017		ROWLAND WATER DISTRICT	\$5,310.02
	Invoice	Date	Description	Amount
	I-12312016-A	01/09/2017	CONTRACT SVC - DECEMBER 2016	\$3,685.97
	I-12312016-B	01/09/2017	CONTRACT SVC - DECEMBER 2016	\$1,624.05
40320	02/16/2017		W.A. RASIC CONSTRUCTION, INC.	\$13,047.70
	Invoice	Date	Description	Amount
	#9CITY-1415	02/01/2017	ON-CALL WATER SYSTEM (CIWS) MAINT PROGRAM	\$13,047.70

Checks	Status	Count	Transaction Amount
	Total	4	\$33,741.44

INDUSTRY PUBLIC UTILITIES COMMISSION

ITEM NO. 5.2



INDUSTRY PUBLIC UTILITIES COMMISSION

P.O. BOX 3366 • CITY OF INDUSTRY • CALIFORNIA 91744
(626) 333-2211 • Fax (626) 961-6795 • www.cityofindustry.org

Mark D. Radecki, President
Abraham N. Cruz, Commissioner
Roy M. Haber, III, Commissioner
Cory C. Moss, Commissioner
Newell W. Ruggles, Commissioner

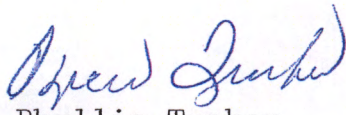
Paul J. Philips, Public Utilities Director
James M. Casso, General Counsel
Diane M. Schlichting, Assistant Secretary

January 1, 2017

TO: Paul J. Philips, Public Utilities Director
FROM: Phyllis Tucker, Treasurer
SUBJECT: Statement of Investment Policy

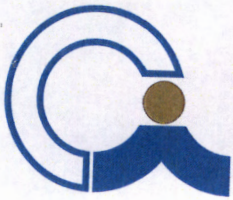
Attached is a copy of the Statement of Investment Policy for the Industry Public Utilities Commission dated January 1, 2017, for all future investments, pursuant to Section 53601 and Section 53635 of the California Government Code.

My recommendation is that the Commission board approve the Investment Policy.


Phyllis Tucker,
Treasurer

c: City Council

Encl.-1



INDUSTRY PUBLIC UTILITIES COMMISSION

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Mark D. Radecki, President
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Paul J. Philips, Public Utilities Director
James M. Casso, General Counsel
Diane M. Schlichting, Assistant Secretary

January 1, 2017

STATEMENT OF INVESTMENT POLICY

Effective this date, the following is the Investment Policy of the Treasurer of the Industry Public Utilities Commission for all future investments.

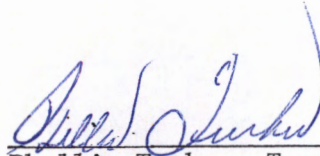
Monies in the treasury not required for the immediate necessities of the Industry Public Utilities Commission may be invested in the following investments as authorized and more fully described in Section 53601 and Section 53635 of the California Government Code:

- a. Securities of the U.S. Government, or its agencies
- b. Inactive public deposits: non-negotiable and/or non-transferable certificates of deposits
- c. Bankers acceptances
- d. Commercial Paper
- e. Local Agency Investment Fund (State pool) deposits (Govt. Code Section 16429.1)
- f. Passbook savings account demand deposits
- g. Repurchase agreements
- h. Los Angeles County Investment Pool (Calif, Gov. Code Section 53684)

January 1, 2017

STATEMENT OF INVESTMENT POLICY - contd

- i. It is the IPUC's policy not to utilize reverse repurchase agreements or shares of beneficial interest issued by diversified management companies (mutual funds), unless that fund is composed entirely of securities of the U.S. Government, or its agencies, and the use of such funds shall be restricted to sweep accounts. (Reverse repurchase agreements shall be permitted if they are assets of the Local Agency Investment Fund).



Phyllis Tucker, Treasurer
Industry Public Utility Commission

c: City Council

INDUSTRY PUBLIC UTILITIES COMMISSION

ITEM NO. 5.3



CITY OF INDUSTRY

P.O. Box 3366 • 15625 E. Stafford St • City of Industry, CA 91744-0366 • (626) 333-2211 • FAX (626) 961-6795

MEMORANDUM

TO: Honorable Mayor/Board Chair and Council Members/Board Members

FROM: Paul J. Philips, City Manager/Executive Director

STAFF: Susan Paragas, Director of Finance

DATE: February 16, 2017

SUBJECT: Consideration of a Joint Resolution of the City Council of the City of Industry, the Successor Agency to the Industry Urban-Development Agency, the Public Facilities Authority, and the Industry Public Utilities Commission, Adopting a Debt Management Policy

BACKGROUND

Government Code Section 8855(i) requires any issuer of public debt to provide to the California Debt and Investment Advisory Commission ("CDIAC"), no later than 30 days prior to the sale of any debt issue, a report of the proposed issuance. Effective January 1, 2017, issuers must certify on the Report of Proposed Debt Issuance that they have adopted local debt policies concerning the use of debt, and that the proposed debt issuance is consistent with those policies. The issuer's local debt management policies must include (A) through (E), below.

- A) The purposes for which the debt proceeds may be used.
- B) The types of debt that may be issued.
- C) The relationship of the debt to, and integration with, the issuer's capital improvement program or budget, if applicable.
- D) Policy goals related to the issuer's planning goals and objectives.
- E) The internal control procedures that the issuer has implements, or will implement, to ensure that the proceeds of the proposed debt issuance will be directed to the intended use.

In essence, a debt management policy guides the debt issuance practices of state or local governments, including the issuance process, management of a debt portfolio, and adherence to various laws and regulations. A debt management policy helps improve the quality of decisions, articulate policy goals, provide guidelines for the structure of debt issuance, and demonstrate a commitment to long-term capital and financial planning.

Additionally, adherence to a debt management policy indicates to rating agencies and the capital markets, that a government is well managed, and therefore is likely to meet its debt obligations in a timely manner.

DISCUSSION

The proposed Debt Management Policy (“Policy”) sets forth debt management objectives for the City of Industry, the Successor Agency to the Industry Urban-Development Agency, the Industry Public Facilities Authority, the Industry Public Utilities Commission, and any other entity for which the City Council acts as legislative body, and the term “City” shall refer to each such entities.

The Policy, referred to as Exhibit A, establishes general parameters for issuing and administering debt. The purpose of the Policy is to assist the City in pursuit of the following important objectives:

- Minimize debt service and issuance costs
- Maintain access to cost effective borrowing
- Achieve the highest practical credit rating
- Ensure full and timely repayment of debt
- Maintain full and complete financial disclosure and reporting and
- Ensure compliance with applicable state and federal laws

The Policy has been written to include all elements required by CDIAC as well as best management practices expected by the pertinent credit markets and municipal bond industry. This Policy will assist the City in pursuing and maintaining quality credit ratings in addition to providing guidance to decision makers.

FISCAL IMPACT

There is no fiscal impact with the approval of Resolution No. IPUC 2017-01.

RECOMMENDED ACTION

Staff recommends the City Council approve Resolution IPUC 2017-01, adopting the Debt Management Policy.

ATTACHMENT:

1. Resolution No. CC 2017-01: Industry Public Utilities Commission Adoption of Debt Management Policy
2. Exhibit A: City of Industry Debt Management Policy

RESOLUTION NO. IPUC 2017-02

A JOINT RESOLUTION OF THE CITY COUNCIL OF THE CITY OF INDUSTRY, CALIFORNIA, THE SUCCESSOR AGENCY TO THE INDUSTRY URBAN-DEVELOPMENT AGENCY, THE INDUSTRY PUBLIC FACILITIES AUTHORITY AND THE INDUSTRY PUBLIC UTILITIES COMMISSION ADOPTING A DEBT MANAGEMENT POLICY

WHEREAS, pursuant to the provisions of Government Code Section 8855(i), 30 days prior to the sale of any debt issue, a public agency must provide to the California Debt and Investment Advisory Commission (“CDIAC”), a report of the proposed issuance (“Report”); and

WHEREAS, effective January 1, 2017, issuers must certify on the Report that they have adopted local debt policies concerning the use of debt, and that the proposed debt issuance is consistent with those policies; and

WHEREAS, a written debt management policy sets forth debt management objectives that will govern the issuance and management of all debt funded for long term capital financing needs and not for general operating functions; and

WHEREAS, adherence to a debt management policy indicates to rating agencies and the capital markets that a government is well managed and therefore is likely to meet its debt obligations in a timely manner.

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF INDUSTRY, THE SUCCESSOR AGENCY TO THE INDUSTRY URBAN-DEVELOPMENT AGENCY, THE INDUSTRY PUBLIC FACILITIES AUTHORITY, AND THE INDUSTRY PUBLIC UTILITIES COMMISSION DO HEREBY FIND, DETERMINE AND RESOLVE AS FOLLOWS:

SECTION 1. Recitals. The recitals set forth herein are true and correct and are hereby incorporated by reference.

SECTION 2. Approval of the Debt Management Policy. The Debt Management Policy attached hereto as Exhibit A, and incorporated herein by reference, is hereby approved as the Debt Management Policy for the City of Industry, the Successor Agency to the Industry Urban-Development Agency, The Industry Public Facilities Authority, and the Industry Public Utilities Commission.

SECTION 3. New Debt. That the issuance of new debt functions is delegated to the Finance Department and the approved Debt Financing Team as set forth in the Debt Management Policy, with final authorization of such new debt by the City Council and Boards of Directors as applicable.

SECTION 4. Authorization to Manage Debt Issuance Functions. The Director of Finance, or a designee, is hereby authorized to manage debt issuance functions for the City of Industry in accordance with the Debt Management Policy.

SECTION 5. Effective Date. This Resolution shall take effect on the last date approved by any entity set forth herein.

SECTION 6. Severability. The provisions of this resolution are severable and if any provision, clause, sentence, word or part thereof is held illegal, invalid, unconstitutional, or inapplicable to any person or circumstances, such illegality, invalidity, unconstitutionality, or inapplicability shall not affect or impair any of the remaining provisions, clauses, sentences, sections, words or parts thereof of the Resolution or their applicability to other persons or circumstances.

SECTION 7. Certification. The City Clerk/Board Secretary shall certify to the passage and adoption of this Resolution and enter it into the book of original Resolutions.

PASSED, APPROVED and ADOPTED by the City Council of the City of Industry, the Successor Agency to the Industry Urban-Development Agency and the Industry Public Facilities Authority at a regular meeting held on February 16, 2017 by the following vote:

AYES: COUNCIL MEMBERS/BOARD MEMBERS:

NOES: COUNCIL MEMBERS/BOARD MEMBERS:

ABSTAIN: COUNCIL MEMBERS/BOARD MEMBERS:

ABSENT: COUNCIL MEMBERS/BOARD MEMBERS:

Mark D. Radecki, Mayor/Board Chair

ATTEST:

Diane M. Schlichting, Chief Deputy City Clerk/
Agency/Authority/Commission Secretary

EXHIBIT A

CITY OF INDUSTRY DEBT MANAGEMENT POLICY

CITY OF INDUSTRY

Debt Management Policy

FEBRUARY 16, 2017

CITY OF INDUSTRY, CA

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Section 1: Policy

This Debt Management Policy (“Policy”) sets forth debt management objectives for the City of Industry, the Successor Agency to the Industry Urban-Development (“Agency”), the Industry Public Facilities Authority (“Authority”), and the Industry Public Utilities Commission (“Commission”), and the term “City” shall refer to each of such entities.

This Policy establishes general parameters for issuing and administering debt. Recognizing that cost-effective access to the capital markets depends on prudent management of the Debt Program, the City Council, and Agency, Authority, or Commission Boards have adopted this Policy by resolution.

This Policy is intended to comply with California Government Code Section 8855(i).

Section 2: Scope

The guidelines established by this Policy will govern the issuance and management of all debt funded for long term capital financing needs and not for general operating functions. When used in this Policy, “debt” refers to all forms of indebtedness and financing lease obligations. The Finance Department recognizes that changes in the capital markets and other unforeseen circumstances may require action that deviates from this Policy. In cases that require exceptions to this Policy, approval from the City Council, Agency, Authority, or Commission Boards will be necessary for implementation.

Section 3: Objectives

The purpose of this Policy is to assist the City in pursuit of the following equally important objectives, while providing full and complete financial disclosure and ensuring compliance with applicable state and federal laws:

- Minimize debt service and issuance costs;
- Maintain access to cost effective borrowing
- Achieve the highest practical credit rating
- Ensure full and timely repayment of debt
- Maintain full and complete financial disclosure and reporting
- Ensure compliance with applicable state and federal laws

Budget Integration -- The decision to incur new indebtedness should be integrated with the policy decisions embedded in the City Council, Agency, Authority and Commission Boards-adopted annual Operating Budget and Capital Improvement Program Budget. The annual debt service payments shall be included in the Operating Budget.

The City will integrate its debt issuances with the goals of its Capital Improvement Program by timing the issuance of debt to ensure that projects are available when needed in furtherance of the City’s public purposes. The City will seek to issue debt in a timely manner to avoid having to make unplanned expenditures for capital improvements or equipment from its general fund.

Annual Review -- Recognizing that cost-effective access to the capital market depends on prudent management of the City’s debt program, an annual review of the Policy should be performed. Any substantive changes to the Policy shall be brought to the City Council, and Agency, Authority, and Commission Boards for consideration and approval.

Section 4: Delegation Authority

Pursuant to the provisions of Section 37209 and 40805.5 of the Government Code of the State of California, the Finance Director shall be responsible for all of the financial affairs of the City. This Policy grants the Finance

Director the authority to select the Financing Team, coordinate the administration and issuance of debt, communicate with the rating agencies, and fulfill all of the pre-issuance and post-issuance requirements imposed by or related to state law, federal tax law and federal securities law.

Financing Team Definitions and Roles – The Financing Team is the working group of City staff and outside consultants necessary to complete a debt issuance including but not limited to bond counsel, disclosure counsel, underwriter, municipal advisor, trustee, pricing consultant and/or arbitrage analyst.

Typically, the Finance Director, the City Attorney, the City Manager, and appropriate Department Head(s) form the City staff portion of the Financing Team. Other staff members or designees may be appointed to the Financing Team.

Consultant Selection – The City will consider the professional qualifications and experience of consultants as it relates to the specific bond issue or other financing under consideration. In certain instances, the City will conduct a request for proposal/qualification process to select such consultants. Consistent with the provisions of Section 3.04.055 of the City’s Code, the City may, however, decide to select such consultants without having to undertake a request for proposal/qualification process on an as-needed basis.

Section 5: Methods of Financing

The Finance Director will investigate all possible financing alternatives including, but not limited to bonds, loans, state bond pools, and grants.

Cash Funding – The City funds a significant portion of capital improvements from reserves accumulated from one-time revenues, which have been set aside for investment in the City’s infrastructure.

Inter-fund Borrowing – The City may borrow internally from other funds with surplus cash in lieu of issuing bonded debt. Purposes warranting the use of this type of borrowing could include short term cash flow imbalances, interim financing pending the issuance of bonds, or long term financing in lieu of bonds for principal amounts not to exceed \$50 million. The City funds from which the money is borrowed shall be repaid with interest at a rate based upon the length of term, credit characteristics and other factors as determined by Finance Director. The Finance Director shall also exercise due diligence to ensure that it is financially prudent for the Fund making the loan. Inter-fund loans will be evaluated on a case-by-case basis. Any borrowing between two City funds requires approval by City Council, or Agency, Authority, or Commission Board, by resolution. The purpose of inter-fund borrowing is to finance high priority needs and to reduce costs of interest, debt issuance and/or administration.

Bank Loans / Lines of Credit – Although the City does not typically utilize lines of credit for the financing of capital projects, financial institution credit is an option for municipal issuers and may be evaluated as a financing option.

Other Loans – The City will evaluate other loan programs, including but not limited to State “loans” such as the Water Resources Control Board’s revolving fund loans or federal “loans” through the United States Department of Agriculture for the construction of water infrastructure projects.

Bond Financing – The City may issue any bonds which are allowed under federal and state law including, but not limited to, general obligation bonds, certificates of participation, revenue bonds, land-secured (assessment and special tax) bonds, refunding bonds and other obligations (see below for detail).

General Obligation Bonds – General Obligation Bonds (GO Bonds) may only be issued with two-thirds approval of the City’s registered voters. The California State Constitution (Article XVI, Section 18) limits the

use of the proceeds from GO Bonds to “the acquisition or improvement of real property”. Parks and Public Safety facilities are examples of the type of facilities that could be financed with GO Bonds.

Lease Financings – Lease financings may take a variety of forms, including certificates of participation, lease revenue bonds and direct leases (typically for equipment). When the City finances acquisition or construction of capital improvements or equipment with a lease financing, the City agrees to lease either the financed asset or a different asset and, most commonly, the City’s lease payments are securitized in the form of certificates of participation or lease revenue bonds. This type of financing requires approval of City Council, or Agency, Authority, or Commission Board.

Revenue Bonds -- Revenue Bonds are generally issued by the City for enterprise funds that are financially self-sustaining without the use of taxes and therefore rely on the revenues collected by the enterprise fund to repay the debt. This type of financing requires approval of City Council, or Agency, Authority, or Commission Board.

Assessment Bonds -- The Improvement Bond Act of 1915 (Streets and Highways Code Section 8500 *et seq.*) and other state laws, subject to Article XIID of the California Constitution, allow the City to issue bonds to finance improvements that provide “specific benefit” to the assessed real property. Installments are collected on the secured property tax roll of the County. The City, as a charter city, may also adopt assessment laws that are applicable within its boundaries. This type of financing is secured by the lien upon and assessments paid by the real property owners and does not obligate the City’s general fund or other funds.

Special Tax Bonds -- Under the Mello-Roos Community Facilities Act of 1982, the City may issue bonds on behalf of a Community Facilities District (“CFD”) to finance capital facilities, most commonly in connection with new development. These bonds must be approved by a two-thirds vote of the qualified electors in the CFD, which the Mello-Roos Act defines to mean registered voters if there are 12 or more registered voters in the CFD and, if there are fewer than 12 registered voters, the landowners in the CFD. Bonds issued by the City under the Mello-Roos Act are secured by a special tax on the real property within the CFD. The financed facilities do not need to be physically located within the CFD. The City, as a charter city, may also adopt special tax financing laws that are applicable within its boundaries. As this type of financing is secured by the special tax lien upon the real property it does not obligate the City’s general fund or other funds.

Refunding Obligations -- Pursuant to the Government Code and various other financing statutes applicable in specific situations, the City Council, Agency, Authority, or Commission Boards are authorized to provide for the issuance of bonds for the purpose of refunding any long-term obligation of the City. Absent any significant non-economic factors, a refunding should produce a minimum net debt service savings (net of reserve fund earnings and other offsets, and taking transaction costs into account) of at least 3% of the par value of the refunded bonds on a net present value basis, using the refunding issue’s True Interest Cost (TIC) as the discount rate, unless the Finance Director determines that a lower savings percentage is acceptable for issues or maturities with short maturity dates. Additionally, the Finance Director may determine that there are other, compelling “non-economic” reasons (i.e. removal of onerous covenants, terms or conditions).

Other Obligations -- There may be special circumstances when other forms of debt are appropriate and may be evaluated on a case-by-case basis. Such other forms include, but are not limited to: bond anticipation notes, grant anticipation notes, tax allocation bonds, lease revenue bonds, pension obligation bonds, etc.

Section 6: Structure and Term

Term of Debt -- Debt will be structured for the shortest period possible, consistent with a fair allocation of costs to current and future users. The standard term of long-term debt borrowing is typically 15-30 years.

Consistent with its philosophy of keeping its capital facilities and infrastructure systems in good condition and maximizing a capital asset's useful life, the City will make every effort to set aside sufficient current revenues to finance ongoing maintenance needs and to provide reserves for periodic replacement and renewal. Generally, no debt will be issued for a period exceeding the useful life or average useful lives of projects to be financed.

Debt Repayment Structure – In structuring a bond issue, the City will manage the amortization of the debt and, to the extent possible, match its cash flow to the anticipated debt service payments. In addition, the City will seek to structure debt with aggregate level debt service payments over the life of the debt. Structures with unlevel debt service will be considered when one or more of the following exist:

- Natural disasters or extraordinary unanticipated external factors make payments on the debt in the early years prohibitive;
- Such structuring is beneficial to the City's aggregate overall debt payment schedule;
- Such structuring will allow debt service to more closely match project revenues during the early years of the project's operation.

Bond Maturity Options – For each issuance, the City will select serial bonds or term bonds, or both. On the occasions where circumstances warrant, capital appreciation bonds ("CABs") may be used. The decision to use term, serial or CABs is typically driven by market conditions.

Interest Rate Structure – The City currently issues securities on a fixed interest rate basis only. Fixed rate securities ensure budget certainty through the life of the issue and avoid the volatility of variable rates.

Credit Enhancement – Credit enhancement may be used to improve or establish a credit rating on a City debt obligation. Types of credit enhancement include letters of credit, bond insurance and surety policies. The Finance Director will recommend the use of a credit enhancement if it reduces the overall cost of the proposed financing or if the use of such credit enhancement furthers the City's overall financial objectives.

Debt Service Reserve Fund – Debt service reserve funds are typically held by a Trustee to make principal and interest payments to bondholders in the event the pledged revenues are insufficient to do so. The City will fund debt service reserve funds when it is in the City's overall best financial interest. The City may decide not to utilize a reserve fund if the Finance Director, in consultation with the underwriter and municipal advisor, determines there would be no adverse impact to the City's credit rating or interest rates.

Per Internal Revenue Service rules, the size of the reserve fund on tax-exempt bond issuance is the lesser of

- 10% of the initial principal amount of the debt;
- 125% of average annual debt service; or
- 100% of maximum annual debt service.

In lieu of holding a cash funded reserve, the City may substitute a surety bond or other credit instrument in its place. The decision to cash fund a reserve fund rather than to use a credit facility is dependent upon the cost of the credit instrument and the investment opportunities.

Call Options / Redemption Provisions – A call option or optional redemption provision gives the City the right to prepay or retire debt prior to its stated maturity date. This option may permit the City to achieve interest savings in the future through the refunding of the bonds. Often the City will pay a higher interest rate as compensation to the buyer for the risk of having the bond called in the future. In addition, if a bond is called, the holder may be entitled to a premium payment (call premium). Because the cost of call options can vary depending on market conditions, an evaluation of factors will be conducted in connection with each issuance. The Finance Director shall evaluate and recommend the use of a call option on a case by case basis.

Debt Limits – California Government Code Section 43605 provides that the City shall not incur bonded indebtedness for public improvements payable from the proceeds of property tax which exceeds 15 percent of the assessed value of all real and personal property of the City.

The cumulative annual debt service of all bond issues supported by the General Fund is restricted to no more than 15 percent of annual General Fund Revenue.

Bond issues supported by Enterprise Funds should maintain a minimum ratio of net operating income to annual debt service (“coverage ratio”) that the Finance Director concludes is financially prudent to the City. Typically, a higher coverage ratio produces a better the credit rating and lower interest rates, yet if too high, potentially may restrict efficient Enterprise operations or unduly induce unneeded user rate increases. Therefore, the City should balance the benefits of higher ratings with the operational impact of high coverage ratios.

Section 7: Method of Issuance and Sale; Disclosure

Debt issues are sold to a single underwriter or to an underwriting syndicate, either through a competitive sale or a negotiated sale. A negotiated sale may involve the sale of securities to investors through an underwriter or the private placement of the securities with a financial institution or other sophisticated investor. The selected method of sale will be that which is most beneficial to the City in terms of lowest net interest rate, most favorable terms in financial structure, and market conditions. The Finance Director will review conditions in conjunction with information and advice presented by the City’s Municipal Advisor.

Competitive Sales of Bonds – In a competitive sale, the terms of the debt will be defined by the City and the City’s finance team, and the price of the debt will be established through a bidding process amongst impartial underwriters and/or underwriting syndicates. The issue is awarded to the underwriter judged to have submitted the best bid that offers the lowest true interest cost taking into account underwriting spread, interest rates and any discounts or premiums.

Negotiated Sale of Bonds – A method for sale for bonds, notes, or other financing vehicles in which the City selects in advance, based upon proposals received or by other means, one or more underwriters to work with it in structuring, marketing and finally offering an issue to investors. The negotiated sale method is often used when the issue is: a first-time sale by an issuer (a new credit), a complex security structure, such as variable rate transaction, an unusually large issue, or in a highly volatile or congested market where flexibility as to bond sale timing is important.

Private Placement – A private placement is a variation of a negotiated sale in which the City, usually with the help of a municipal advisor and placement agent, will attempt to place the entire new issue directly with an investor. The investor will negotiate the specific terms and conditions of the financing before agreeing to purchase the issue. Private placements are generally undertaken because the transaction is complex or unique, requiring direct negotiations with the investor, or because the issue is small or of a shorter duration and a direct offering provides economies of scale, lower interest costs and reduced continuing disclosure.

Derivative products - Because of their complexity, unless otherwise amended, Derivative Products such as interest rate swaps, interest floaters, and other hybrid securities are prohibited by this Debt Management Policy.

Initial Disclosure Requirements - The City acknowledges its disclosure responsibilities. Under the guidance of Disclosure Counsel, the City will distribute or cause an underwriter to distribute its Preliminary Official Statement and final Official Statement (neither is typically required in a private placement, although in some cases a “private placement memorandum” may be required by the investor).

The Financing Team shall be responsible for soliciting “material” information (as defined in Securities and Exchange Commission Rule 10b-5) from City departments and identifying contributors who may have information necessary to prepare portions of the Official Statement or who should review portions of the Official Statement. In doing so, the City shall confirm to the Financing Team that the Official Statement accurately states all “material” information relating to the decision to buy or sell the subject bonds and that all information in the Official Statement has been critically reviewed by an appropriate person.

In connection with an initial offering of securities, the City and other members of the Financing Team will use best efforts to:

- Identify material information that should be disclosed in the Official Statement;
- Identify other persons that may have material information (contributors);
- Review and approve the Official Statement;
- Ensure the City’s compliance, and that of its related entities, with federal and state security laws, including notification to the California Debt and Investment Advisory Commission (“CDIAC”) of the proposed debt issue no later than 30 days prior to the sale of any debt issue, and submission of a final report of the issuance to the CDIAC by any method approved by the CDIAC.

The Financing Team shall critically evaluate the Official Statement for accuracy and compliance with federal and state securities laws. The approval of an Official Statement shall be placed on the City Council, Agency, Authority, or Commission Board agenda, and shall not be considered as a Consent Calendar item. The staff report will summarize the City Council’s, Agency, Authority, or Commission Boards’ responsibilities with respect to the Official Statement and provide the City Council, Agency, Authority, or Commission Boards the opportunity to review a substantially final Official Statement. The City Council, Agency, Authority, or Commission Boards shall undertake such review as deemed necessary by the City Council Agency, Authority, or Commission Boards to fulfill their respective securities law responsibilities.¹

For any privately placed debt with no Official Statement, the final staff report describing the issue and such other documents will be provided to the City Council, Agency, Authority, or Commission Boards for approval.

Section 8: Creditworthiness Objectives

Ratings are a reflection of the general fiscal soundness of the City and the capabilities of its management. Typically, the higher the credit ratings are, the lower the interest cost is on the City’s debt issues. To enhance creditworthiness, the City is committed to prudent financial management, systematic capital planning, and long-term financial planning, and to that end has an objective of maintaining a credit rating of at least AA- (Standard and Poor’s); however, the City also recognizes that external economic, natural, or other events may, from time to time, affect the creditworthiness of its debt.

¹ The Securities and Exchange Commission (the SEC), the agency with regulatory authority over the City’s compliance with the federal securities laws, has issued guidance as to the duties of the City Council, Agency, Authority, or Commission Boards with respect to its approval of the POS. In its “Report of Investigation in the Matter of County of Orange, California as it Relates to the Conduct of the Members of the Board of Supervisors” (Release No. 36761 / January 24, 1996) (the “Release”), the SEC stated that, if a member of the City Council has knowledge of any facts or circumstances that an investor would want to know about prior to investing in the bonds, whether relating to their repayment, tax-exempt status, undisclosed conflicts of interest with interested parties, or otherwise, he or she should endeavor to discover whether such factors are adequately disclosed in the Official Statement. In the Release, the SEC stated that the steps that a member of the City Council would take include becoming familiar with the POS and questioning staff and consultants about the disclosure of such facts.

The most familiar nationally recognized bond rating agencies are Standard and Poor's, Moody's Investors Service, and Fitch Ratings. When issuing a credit rating, rating agencies consider various factors including but not limited to:

- City's fiscal status
- City's general management capabilities;
- Economic conditions that may impact the stability and reliability of debt repayment sources;
- City's general reserve levels;
- City's debt history and current debt structure;
- Project being financed
- Covenants and conditions in the governing legal documents

Bond Ratings – The Financing Team will assess whether a credit rating should be obtained for an issuance. The City typically seeks a rating from at least one nationally recognized rating agency on new and refunded issues being sold in the public market. The Finance Director, working with the Financing Team, shall be responsible for determining which of the major rating agencies the City shall request provide a rating. When applying for a rating on an issue, the City and Financing Team shall prepare a presentation for the rating agency when the City determines that a presentation is in the best interests of the City.

Rating Agency Communications – The Finance Director is responsible for maintaining relationships with the rating agencies that assign ratings to the City's various debt obligations. This effort shall include providing the rating agencies with the City's financial statements, if applicable, as well as any additional information requested.

Section 9: Post Issuance Administration

Notification to the CDIAC – The City shall work with its bond counsel to submit a report of final sale to the CDIAC by any method approved by the CDIAC no later than 21 days after the sale of the debt. The report shall include the information required by CDIAC.

Investment of Proceeds – The Finance Director shall invest bond proceeds and reserve funds in accordance with each issue's indenture or trust agreement, utilizing competitive bidding when possible. All investments will be made in compliance with the City's investment policy objectives of safety liquidity and then yield. The investment of bond proceeds and reserve funds shall comply with federal tax law requirements specified in the indenture or trust agreement and the tax certificate.

Unexpended bond proceeds shall be held by the bank trustee. The trustee will be responsible for recording all investments and transactions relating to the proceeds and providing monthly statements regarding the investments and transactions.

Use of Bond Proceeds – The Finance Director is responsible for ensuring debt proceeds are spent for the intended purposes identified in the related legal documents and that the proceeds are spent in the time frames identified in the tax certificate prepared by the City's bond counsel. Whenever reasonably possible, proceeds of debt will be held by a third-party trustee and the City will submit written requisitions for such proceeds. The City will submit a requisition only after obtaining the signature of the City Manager/Executive Director. In those cases where it is not reasonably possible for the proceeds of debt to be held by a third-party trustee, the Finance Director shall retain records of all expenditures of proceeds through the final payment date for the debt.

Continuing Disclosure – The Finance Director or designee will ensure the annual financial statements of the City, Agency, Authority and Commission and associated reports are posted on the City's web site. The City will also contract with consultant(s) to comply with the Securities and Exchange Commission Rule 15c2 by filing its

annual financial statements, other financial and operating data and notices of enumerated events for the benefit of its bondholders on the Electronic Municipal Market Access (EMMA) website of the Municipal Securities Rulemaking Board (MSRB).

The City shall submit an annual report to the CDIAC for any issue of debt for which it has submitted a report of final sale on or after January 21, 2017. The annual report shall comply with the requirements of Government Code Section 8855 and related regulations.

Arbitrage Rebate Compliance and Reporting – The use and investment of bond proceeds must be monitored to ensure compliance with arbitrage restrictions. Existing regulations require that issuers calculate rebate liabilities related to any bond issues, with rebates paid to the Federal Government every five years and as otherwise required by applicable provisions of the Internal Revenue Code and regulations. The City shall contract with a specialist to ensure that proceeds and investments are tracked in a manner that facilitates accurate complete calculations, and if necessary timely rebate payments.

Compliance with Other Bond Covenants – In addition to financial disclosure and arbitrage, the City is also responsible for verifying compliance with all undertakings, covenants, and agreements of each bond issuance on an ongoing basis. This typically includes ensuring:

- Annual appropriation of revenues to meet debt service payments;
- Taxes/fees are levied and collected where applicable;
- Timely transfer of debt service payments to the trustee
- Compliance with insurance requirements
- Compliance with rate covenants
- Post-issuance procedures established in the tax certificate for any tax-exempt debt

Retention – A copy of all relevant documents and records will be maintained by the Finance Department for the term of the bonds (including refunding bonds, if any) plus 10 years. Relevant documents and records will include sufficient documentation to support the requirements relating to the tax-exempt status.

Investor Relations – While the City shall post its annual financial report as well as other financial reports on the City's website, this information is intended for the citizens of the City. Information that the City intends to reach the investing public, including bondholders, rating analysts, investment advisors, or any other members of the investment community shall be filed on the EMMA system.

Additional requirements for financial statements – It is the City's policy to hire an auditing firm that has the technical skills and resources to properly perform an annual audit of the City's financial statements. More specifically, the firm shall be a recognized expert in the accounting rules applicable to the City and shall have the resources necessary to review the City's financial statements on a timely basis.

Section 10: Training

The Finance Director shall ensure that the members of the City staff involved in the initial or continuing disclosure process and the City Council, Agency, Authority, and Commission Boards are properly trained to understand and perform their responsibilities.

The Finance Director shall arrange for disclosure training sessions conducted by the City's disclosure counsel. Such training sessions shall include education on the Initial Disclosure and Continuing Disclosure sections of this Debt Management Policy, the City's disclosure obligations under applicable federal and state securities laws and the disclosure responsibilities and potential liabilities of members of the City's staff and members of the City Council,

Agency, Authority, and Commission Boards. Such training sessions may be conducted using a recorded presentation.

Section 11: Glossary

Ad Valorem Tax: A tax calculated “according to the value” of property. Such a tax is based on the assessed valuation of real property and a valuation of tangible personal property.

Amortization: The gradual reduction in principal of an outstanding debt based upon a specific repayment schedule, which details specific dates and repayment amounts on those dates.

Arbitrage: The gain that may be obtained by borrowing funds at a lower (often tax-exempt) rate and investing the proceeds at higher (often taxable) rates. The ability to earn arbitrage by issuing tax-exempt securities has been severely curtailed by the Internal Revenue Code of 1986, as amended.

Assessed Valuation: The appraised worth of property as set by a taxing authority through assessments for purposes of ad valorem taxation

Bond: A security that represents an obligation to pay a specified amount of money on a specific date in the future, typically with periodic interest payments.

Bond Anticipation Notes: Short-term notes issued usually for capital projects and paid from the proceeds of the issuance of long-term bonds. Provide interim financing in anticipation of bond issuance.

Bond Counsel: A specialized, qualified attorney retained by the issuer to give a legal opinion concerning the validity of securities. The bond counsel’s opinion usually addresses the subject of tax exemption. Bond counsel typically prepares and/or advises the issuer regarding legal structure, authorizing resolutions, trust indentures and the like.

Bond Insurance: A type of credit enhancement whereby an insurance company indemnifies an investor against default by the issuer. In the event of failure by the issuer to pay principal and interest in full and on time, investors may call upon the insurance company to do so. Once issued, the municipal bond insurance policy is generally irrevocable. The insurance company receives its premium when the policy is issued and this premium is typically paid out of the bond issue.

Call Option: The right to redeem a bond prior to its stated maturity, either on a given date or continuously. The call option is also referred to as the optional redemption provision. Often a call premium is added to the call option as compensation to the holders of the earliest bonds called.

Capital Appreciation Bond: A municipal security on which the investment return on an initial principal amount is reinvested at a stated compounded rate until maturity, at which time the investor receives a single payment representing both the initial principal amount and the total investment return.

CDIAC: California Debt and Advisory Commission (“CDIAC”)

Certificates of Participation: A financial instrument representing a proportionate interest in payments such as lease payments by one party (such as a city acting as a lessee) to another party (often a JPA or non-profit).

Competitive Sale: A sale of bonds in which an underwriter or syndicate of underwriters submit sealed bids to purchase the bonds. Bids are awarded on a true interest cost basis (TIC), providing that other bidding requirements are satisfied. Competitive sales are recommended for simple financings with a strong underlying credit rating. This type of sale is in contrast to a Negotiated Sale

Continuing Disclosure: The requirement by the Securities and Exchange Commission for most issuers of municipal debt to post current financial information and notices of enumerated events on the MSRB's EMMA website for access by the general marketplace.

Credit Rating Agency: A company that rates the relative credit quality of a bond issue and assigns a letter rating. These rating agencies include Moody's Investors Service, Standard & Poor's, and Fitch Ratings.

Debt Limit: The maximum amount of debt that is legally permitted by applicable charter, constitution, or statutes.

Debt Service: The amount necessary to pay principal and interest requirements on outstanding bonds for a given year or series of years.

Default: The failure to pay principal or interest in full or on time and, in some cases, the failure to comply with non-payment obligations after notice and the opportunity to cure.

Derivative: A financial instrument which derives its own value from the value of another instrument, usually an underlying asset such as a stock, bond, or an underlying reference such as an interest rate index.

Disclosure Counsel: A specialized, qualified attorney retained to provide advice on issuer disclosure obligations, to prepare the official statement and to prepare the continuing disclosure undertaking.

Discount: The difference between a bond's par value and the price for which it is sold when the latter is less than par. Also known as "underwriter discount," this is the fee paid to the underwriter its banking and bond marketing services.

Enterprise Activity: revenue generating project or business. The project often provides funds necessary to pay debt service on securities issued to finance the facility. Common examples include water, wastewater and solid waste enterprises

Financing Team: The working group of City staff and outside consultants necessary to complete a debt issuance.

General Obligation (GO) Bond: A bond secured by an unlimited property tax pledge. Requires a two-thirds vote by the electorate. GO bonds usually achieve lower rates of interest than other financing instruments since they are considered to be a lower risk.

Indenture: A contract between the issuer and the trustee stipulating the characteristics of the financial instrument, the issuer's obligation to pay debt service, and the remedies available to the trustee in the event of default.

Issuance Costs: The costs incurred by the bond issuer during the planning and sale of securities. These costs include by are not limited to municipal advisory, bond counsel, disclosure counsel, printing, advertising costs, credit enhancement, rating agencies fees, and other expenses incurred in the marketing of an issue.

Lease: An obligation wherein a lessee agrees to make payments to a lessor in exchange for the use of certain property. The term may refer to a capital lease or to an operating lease.

Lease Revenue Bonds: Bonds that are secured by an obligation of one party to make annual lease payments to another.

Maturity Date: The date upon which a specified amount of debt principal or bonds matures, or becomes due and payable by the issuer of the debt.

Municipal Advisor: A consultant who provides the issuer with advice on the structure of the bond issue, timing, terms and related matters for a new bond issue.

Municipal Securities Rulemaking Board (MSRB): A self-regulating organization established on September 5, 1975 upon the appointment of a 15-member board by the Securities and Exchange Agreement. The MSRB, comprised of representatives from investment banking firms, dealer bank representatives, and public representatives, is entrusted with the responsibility of writing rules of conduct for the municipal securities market. The MSRB hosts the EMMA website, which hosts information posted by issuers under their continuing disclosure undertakings.

Negotiated Sale: A sale of securities in which the terms of the sale are determined through negotiation between the issuer and the purchaser, typically an underwriter, without competitive bidding. The negotiated sales process provides control over the financing structure and issuance timing. Negotiated sales are recommended for unusual financing terms, period of market volatility and weaker credit quality. A thorough evaluation, usually with the assistance of the City's Municipal Advisor, of the proposed bond's credit characteristics in conjunction with market conditions will be performed to ensure reasonable final pricing and underwriting spread.

Official Statement (Prospectus): A document published by the issuer in connection with a primary offering of securities that discloses material information on a new security issue including the purposes of the issue, how the securities will be repaid, and the financial, economic and social characteristics of the security for the bonds. Investors may use this information to evaluate the credit quality of the securities.

Par Value: The face value or principal amount of a security.

Pension Obligation Bonds: Financing instruments used to pay some or all of the unfunded pension liability of a pension plan. POBs are issued as taxable instruments over a 10-40 year term or by matching the term with the amortization period of the outstanding unfunded actuarial accrued liability.

Premium: The excess of the price at which a bond is sold over its face value.

Present Value: The value of a future amount or stream of revenues or expenditures.

Pricing Consultant: The Pricing Consultant provides a fairness letter to the City or its agent regarding the pricing of a new issue of municipal securities.

Private Placement: A bond issue that is structured specifically for one purchaser. Private placements are typically carried out when extraneous circumstances preclude public offerings. A private placement is considered to be a negotiated sale.

Redemption: Depending on an issue's call provisions, an issuer may on certain dates and at certain premiums, redeem or call specific outstanding maturities. When a bond or certificate is redeemed, the issuer is required to pay the maturities' par value, the accrued interest to the call date, plus any premium required by the issue's call provisions.

Refunding: A procedure whereby an issuer refinances an outstanding debt issue by issuing a new debt issue.

Rule 15c2-12: Rule adopted by the Securities and Exchange Commission setting forth certain obligations of (i) underwriters to receive, review and disseminate official statements prepared by issuers of most primary offering of municipal securities, (ii) underwriters to obtain continuing disclosure agreements from issuers and other obligated persons to provide ongoing annual financial information on a continuing basis, and (iii) broker-dealers to have access to such continuing disclosure in order to make recommendations of municipal securities in the secondary market.

Reserve Fund: A fund established by the indenture of a bond issue into which money is deposited for payment of debt service in case of a shortfall in current revenues.

Revenue Bond: A bond which is payable from a specific source of revenue and to which the full faith and credit of an issuer is not pledged. Revenue bonds are payable from identified sources of revenue, and do not permit the bondholders to compel a jurisdiction to pay debt service from any other source. Pledged revenues often are derived from the operation of an enterprise.

Secondary Market: The market in which bonds are sold after their initial sale in the new issue market.

Serial Bonds: Bonds of an issue that mature in consecutive years or other intervals and are not subject to mandatory sinking fund provisions.

Special Tax Bonds: Bonds issued to fund eligible improvements and paid with special taxes levied in a community facilities district formed under the Mello-Roos Community Facilities Act of 1982, as amended, or other applicable law.

State Revolving Funds: The State Revolving Fund (SRF) loan is a low interest loan program for the construction of water infrastructure projects.

Tax Allocation Bonds: Historically, tax allocation bonds referred to bonds issued under the Community Redevelopment Law to fund eligible capital facilities located within a redevelopment project area. However, as a result of the passage of AB X1 26, the City of Industry's Industry Urban-Development Agency (redevelopment agency) has been dissolved and the successor agency's obligations are limited to performing certain enforceable obligations. The California Legislature has enacted a number of laws that establish alternative tax increment financing mechanisms, and tax allocation bonds may be issued under these laws in the future.

Tax and Revenue Anticipation Notes (TRANS): Short term notes issued in anticipation of receiving tax receipts and revenues within a fiscal year. TRANS allow the municipality to manage the period of cash shortfalls resulting from a mismatch between timing of revenues and timing of expenditures.

Term Bonds: Bonds that come due in a single maturity but where the issuer may agree to make periodic payments into a sinking fund for mandatory redemption of term bonds before maturity and for payment at maturity.

True Interest Cost (TIC): Under this method of computing the interest expense to the issuer of bonds, true interest cost is defined as the rate necessary to discount the amounts payable on the respective principal and interest payment dates to the purchase price received for the new issue of bonds. Interest is assumed to be compounded semi-annually. TIC computations produce a figure slightly different from the net interest cost (NIC) method because TIC considers the time value of money while NIC does not.

Trustee: A bank retained by the issuer as custodian of bond proceeds and official representative of bondholders. The trustee ensures compliance with the indenture. In many cases, the trustee also acts as paying agent and is responsible for transmitting payments of interest and principal to the bondholders.

Underwriter: A broker-dealer that purchases a new issue of municipal securities from the issuer for resale in a primary offering. The bonds may be purchased either through a negotiated sale with the issuer or through a competitive sale.

Yield: The net rate of return, as a percentage, received by an investor on an investment. Yield calculations on a fixed income investment, such as a bond issue, take purchase price and coupon into account when calculating yield to maturity.

INDUSTRY PUBLIC UTILITIES COMMISSION

ITEM NO. 5.4



INDUSTRY PUBLIC UTILITIES COMMISSION

P.O. BOX 3366 • CITY OF INDUSTRY • CALIFORNIA 91744
(626) 333-2211 • Fax (626) 961-6795 • www.cityofindustry.org

Mark D. Radecki, President
Abraham N. Cruz, Commissioner
Roy M. Haber, III, Commissioner
Cory C. Moss, Commissioner
Newell W. Ruggles, Commissioner

Paul J. Philips, Public Utilities Director
James M. Casso, General Counsel
Diane M. Schlichting, Assistant Secretary

MEMORANDUM

TO: Honorable Chairperson Radecki and Commission Board Members

FROM: Paul Philips, Public Utilities Director *Paul J. Philips*

STAFF: Tim Kolset, Project Manager *TK*

DATE: February 16, 2017

SUBJECT: **Consideration of the Solicitation of Public Bids for Contract No. CITY-1430, 2017 Industry Business Center East Side Street Light, Cabling, and Fiber Optic Substructure Plan, for an estimated cost of \$1,130,000.00**

At the direction of IPUC Staff, Butsko Engineering has prepared plans and specifications for the Industry Business Center East Side Streetlight, Cabling and Fiber Optic Substructure Plan. This project will be implemented as Contract No. CITY-1430, subject to the approval by the Industry Public Utilities Commission ("IPUC").

The proposed project will consist of constructing, procuring and installing a 12kV Distribution System, streetlights, fiber optic substructures and associated equipment for the IPUC Systems including, at a minimum; securing permits, placement of the electrical wire, street light foundations, pole erections, electrical wire pulling, the installation of light bulbs, fiber optic pull boxes and conduit, and the testing and commissioning of the IPUC System streetlights to ensure safe and reliable operation of the 12kV distribution system, streetlights and associated equipment. In addition to the 12kV distribution system, streetlight installation, fiber optic substructure and construction work, The Contractor will be required to submit to the City's IPUC, As-Built drawings and configuration records of the facilities. This project was previously put out to bid in December 2016, but all bids were rejected when City staff determined the need for additional work scope. The addition of fiber optic substructure to the work scope has been added to the bid package.

City Staff has reviewed the project, and determined that the project is not subject to CEQA review and that the work falls under an existing 15303 exemption.

The Engineer's Estimate for this project is \$1,130,000.00.

It is hereby recommended that the IPUC approve the plans and specifications and to authorize the solicitation of public bids.

Fiscal Impact

IPUC Staff is anticipating that the total contract cost for construction, procurement, and installation of the Industry Business Center East Side Streetlight, Cabling and Fiber Optic Substructure Plan will be \$1,130,000 with the project completion forecasted for July, 2017. IPUC Staff will present an Agreement for consideration and request an appropriation of funds at the time of award.

Recommendation

1. IPUC staff is recommending that the IPUC approve the Industry Business Center East Side Streetlight, Cabling and Fiber Optic Substructure Plan, and authorize the letting of bids for the project.

Exhibits:

- A. Notice Inviting Sealed Bids
- B. Cost Estimate Sheet/Engineer's Estimate
- C. Section A – Contract 1430
- D. CEQA: Notice of Exemption

PJP/TK

EXHIBIT A

Notice Inviting Sealed Bids

[Attached]

NOTICE INVITING SEALED BIDS FOR:

**INDUSTRY PUBLIC UTILITIES COMMISSION
PROJECT NO. 430**

Industry Business Center East Side Street Light, Cabling and Fiber Optic Substructure Plan

CONTRACT NO. 1430

The **INDUSTRY PUBLIC UTILITIES COMMISSION**, hereinafter referred to as the **IPUC**, will receive bids for the construction of the above project until **1:00PM** on **March 18, 2017**, via the City of Industry's PlanetBids™ vendor portal. Bids are to be submitted through <http://www.cityofindustry.org/?p=proposal-and-bid>.

Postmarks, mailed, emailed, or hard copy bids will not be accepted. Late bids will not be accepted.

It is the responsibility of the bidder to be sure the bid is submitted prior to the date and time indicated above. Digital versions of the plans and specifications are available on the vendor portal. Hard copies will no longer be available for purchase at CORDOBA CORPORATION.

It is the responsibility of the bidder to be sure the bid is submitted prior to the date and time indicated above. Digital versions of the plans and specifications are available on the vendor portal. Hard copies will no longer be available for purchase.

At the time of submission of the bid and thereafter, each bidder must have current and similar experience in working directly for at least three California electric utilities in the past three years and currently be in good standing with those utilities. The California utilities must be Investor Owned Utilities (IOU's) such as SDG&E, SCE, and PGE; or, Municipal Utilities such as City of Riverside, City of Anaheim, City of Rancho Cucamonga, City of Corona, City of Moreno Valley, or City of Victorville and be licensed as a **Class A-General Engineering, C-10 Electrical** contractor or subcontractor as defined in Sections 7055-7058 of the Business and Professions Code and qualified to bid on, be listed in a bid proposal, subject to the requirements of Section 4104 of the Public Contract Code, or engage in the performance of any contract for public work, as defined in this chapter, unless currently registered and qualified to perform public work pursuant to Section 1725.5 of the California Labor Code. Please note: It is not a violation of this section for an unregistered contractor to submit a bid that is authorized by Section 7029.1 of the Business and Professions Code or by Section 20103.5 of the Public Contract Code, provided the contractor is registered to perform public work pursuant to Section 1725.5 at the time the contract is awarded. Any bids submitted without proof that bidder and any listed subcontractor(s) are currently registered and qualified to perform public work, pursuant to Labor Code Section 1725.5, may not be accepted by the City. Each bidder shall set forth on the Bidder's Information Sheet and the Contractor's License Affidavit the classification and number of the requisite license which that bidder holds. This is a prevailing wage project.

The **IPUC** reserves the right to award the contract to the contractor with another license class if the **IPUC** determines that the license class is proper for the proposed work.

A contractor or subcontractor shall not be qualified to bid on, be listed in a bid proposal, subject to the requirements of Section 4104 of the Public Contract Code, or engage in the performance of any contract for public work, as defined in this chapter, unless currently registered and qualified to perform public work pursuant to Section 1725.5. **Please note:** *It is not a violation of this section for an unregistered contractor to submit a bid that is authorized by Section 7029.1 of the Business and Professions Code or by Section 10164 or 20103.5 of the Public Contract Code, provided the contractor is registered to perform public work pursuant to Section 1725.5 at the time the contract is awarded.* Any bids submitted without proof that bidder and any listed subcontractor(s) are currently registered and qualified to perform public work, pursuant to Labor Code Section 1725.5, may not be accepted by the City.

1. The Scope of Work is as follows:

The City of Industry's Industry Public Utilities Commission (IPUC) seeks a Contractor to construct, install and procure a 12kV Distribution System, streetlights, fiber optic substructures and associated equipment for the IPUC Systems including, at a minimum; securing permits, placement of the electrical wire, street light foundations, pole erections, electrical wire pulling, the installation of light bulbs, fiber optic pull boxes and conduit, and the testing and commissioning of the IPUC System streetlights to ensure safe and reliable operation of the 12kV distribution system, streetlights and associated equipment. In addition to the 12kV distribution system, streetlight installation, fiber optic substructure and construction work, The Contractor will be required to submit to the City's IPUC, As-Built drawings and configuration records of the facilities.

As part of the Scope of work the Contractor shall, at a minimum, provide the following:

- Prepare and maintain a safe work area
- Provide all equipment and labor needed to connect, tie or link the Industry Business Center East Side street lights and 12 kV distribution system into the IPUC system
- Provide all equipment and labor needed to install the IPUC Fiber Optic Substructure facilities
- Procure all equipment, streetlights poles, conduit, pull boxes and lamps
- Tie-in, link and connect the proposed Industry Business Center East Side streetlight system and 12kV distribution system into the IPUC's designated connection point(s) as detailed in the IPUC's streetlight, cabling, fiber optic substructure plan or as directed by the IPUC or designated representative. This work may include one (1) or more connection points.
- Contractor will work with the IPUC and/or IPUC designated representatives on the review and approval of the connection and tie-in work, and obtain IPUC approval prior to commencing with dependent work items.

- Contractor will restore or repair, public and private right of ways and property back to pre-installation conditions and to the standards set forth by city or state regulations.
- Coordinate with Local and State entities, and the IPUC to ensure that all conditions and standards of state and local construction are understood and met.
- Provide technical information for the installed equipment and material used in the installation and construction of the Industry Business Center_East Side Street Light , Cabling and Fiber Optic Substructure Plan, including, but not limited to cables, switches, connectors.

1.1 As-Built and Configuration Control

The Contractor, upon final installation and construction of the 12 kV distribution system, streetlights, fiber optic substructures and associated streetlight facilities and equipment, shall submit CAD As-Built Drawings to the City's IPUC. Prior to the submittal of the final As-Built drawings the Contractor will make the files available to IPUC and its contractors for review and approval. Final As-Built Drawings and records of configuration changes will be submitted to the IPUC upon approval and acceptance of the City and its contractors.

1.2 Forecasting, Performance Debrief and Reporting

Forecasting and Scheduling

Schedule forecast of construction and installation of the IPUC System streetlights in accordance with Section D "General Provisions".

Plans and Specifications are available for inspection at the City Administrative Offices and at the City's IPUC Offices located at 15625 E. Stafford Street, Suite 100, City of Industry, CA 91744.

(Continued)

**INDUSTRY PUBLIC UTILITIES COMMISSION
PROJECT NO. 430**

Industry Business Center East Side Street Light,Cabling, Fiber Optic Substructure Plan

CONTRACT NO. 1430

Each bid shall be accompanied by a bid guarantee in the form of a Certified or Cashier's Check or Bidder's Bond for not less than ten percent (10%) of the total amount of the bid, made payable to the **INDUSTRY PUBLIC UTILITIES COMMISSION**.

The contractor may, at his own expense, substitute securities for monies to be withheld to ensure performance under the contract.

By the order of the **INDUSTRY PUBLIC UTILITIES COMMISSION** dated **February 16, 2017**

Diane M. Schlichting Chief Deputy City Clerk

EXHIBIT B

Cost Estimate Sheet/Engineer's Estimate

[Attached]

ESTIMATE FOR:

INDUSTRY PUBLIC UTILITIES COMMISSION

PROJECT NO. 430

Industry Business Center East Side Street Light, Cabling and Fiber Optic
Substructure Plan

CONTRACT NO. 1430

ENGINEER'S ESTIMATE
\$ 1,130,000.00

EXHIBIT C

Section A – Contract 1430

[Attached]

SECTION A

**INDUSTRY PUBLIC UTILITIES COMMISSION
PROJECT NO. 430**

Industry Business Center East Side Street Light, Cabling, and Fiber Optic Substructure
Plan

CONTRACT NO. 1430

The **INDUSTRY PUBLIC UTILITIES COMMISSION**, hereinafter referred to as the **IPUC**, will receive bids for the construction of the above project until **1:00PM** on **March 18, 2017**, via the City of Industry's PlanetBids™ vendor portal. Bids are to be submitted through <http://www.cityofindustry.org/?p=proposal-and-bid>.

Postmarks, mailed, emailed, or hard copy bids will not be accepted. Late bids will not be accepted.

It is the responsibility of the bidder to be sure the bid is submitted prior to the date and time indicated above. Digital versions of the plans and specifications are available on the vendor portal. Hard copies will no longer be available for purchase.

At the time of submission of the bid and thereafter, each bidder must have current and similar experience in working directly for at least three California electric utilities in the past three years and currently be in good standing with those utilities. The California utilities must be Investor Owned Utilities (IOU's) such as SDG&E, SCE, and PGE; or, Municipal Utilities such as City of Riverside, City of Anaheim, City of Rancho Cucamonga, City of Corona, City of Moreno Valley, or City of Victorville and be licensed as a **Class A-General Engineering, C-10 Electrical** contractor or subcontractor as defined in Sections 7055-7058 of the Business and Professions Code and qualified to bid on, be listed in a bid proposal, subject to the requirements of Section 4104 of the Public Contract Code, or engage in the performance of any contract for public work, as defined in this chapter, unless currently registered and qualified to perform public work pursuant to Section 1725.5 of the California Labor Code. Please note: It is not a violation of this section for an unregistered contractor to submit a bid that is authorized by Section 7029.1 of the Business and Professions Code or by Section 20103.5 of the Public Contract Code, provided the contractor is registered to perform public work pursuant to Section 1725.5 at the time the contract is awarded. Any bids submitted without proof that bidder and any listed subcontractor(s) are currently registered and qualified to perform public work, pursuant to Labor Code Section 1725.5, may not be accepted by the City. Each bidder shall set forth on the Bidder's Information Sheet and the Contractor's License Affidavit the classification and number of the requisite license which that bidder holds. This is a prevailing wage project.

The **IPUC** reserves the right to award the contract to the contractor with another license class if the **IPUC** determines that the license class is proper for the proposed work.

A contractor or subcontractor shall not be qualified to bid on, be listed in a bid proposal, subject to the requirements of Section 4104 of the Public Contract Code, or engage in the performance of any contract for public work, as defined in this chapter, unless currently registered and qualified to perform public work pursuant to Section 1725.5.

Please note: *It is not a violation of this section for an unregistered contractor to submit a bid that is authorized by Section 7029.1 of the Business and Professions Code or by Section 10164 or 20103.5 of the Public Contract Code, provided the contractor is registered to perform public work pursuant to Section 1725.5 at the time the contract is awarded.* Any bids submitted without proof that bidder and any listed subcontractor(s) are currently registered and qualified to perform public work, pursuant to Labor Code Section 1725.5, may not be accepted by the City.

The Scope of Work is as follows:

The City of Industry's Industry Public Utilities Commission (IPUC) seeks a Contractor to construct, install and procure a 12kV Distribution System, streetlights, fiber optic substructures and associated equipment for the IPUC Systems including, at a minimum; securing permits, placement of the electrical wire, street light foundations, pole erections, electrical wire pulling, the installation of light bulbs, fiber optic pull boxes and conduit, and the testing and commissioning of the IPUC System streetlights to ensure safe and reliable operation of the 12kV distribution system, streetlights and associated equipment. In addition to the 12kV distribution system, streetlight installation, fiber optic substructure and construction work, The Contractor will be required to submit to the City's IPUC, As-Built drawings and configuration records of the facilities.

As part of the Scope of work the Contractor shall, at a minimum, provide the following:

- Prepare and maintain a safe work area
- Provide all equipment and labor needed to connect, tie or link the Industry Business Center East Side street lights and 12 kV distribution system into the IPUC system
- Provide all equipment and labor needed to install the IPUC Fiber Optic Substructure facilities
- Procure all equipment, streetlights poles, conduit, pull boxes and lamps
- Tie-in, link and connect the proposed Industry Business Center East Side streetlight system and 12kV distribution system into the IPUC's designated connection point(s) as detailed in the IPUC's streetlight, cabling, fiber optic substructure plan or as directed by the IPUC or designated representative. This work may include one (1) or more connection points.
- Contractor will work with the IPUC and/or IPUC designated representatives on the review and approval of the connection and tie-in work, and obtain IPUC approval prior to commencing with dependent work items.

- Contractor will restore or repair, public and private right of ways and property back to pre-installation conditions and to the standards set forth by city or state regulations.
- Coordinate with Local and State entities, and the IPUC to ensure that all conditions and standards of state and local construction are understood and met.
- Provide technical information for the installed equipment and material used in the installation and construction of the Industry Business Center_East Side Street Light , Cabling and Fiber Optic Substructure Plan, including, but not limited to cables, switches, connectors.

1.3 As-Builts and Configuration Control

The Contractor, upon final installation and construction of the 12 kV distribution system, streetlights, fiber optic substructures and associated streetlight facilities and equipment, shall submit CAD As-Built Drawings to the City's IPUC. Prior to the submittal of the final As-Built drawings the Contractor will make the files available to IPUC and its contractors for review and approval. Final As-Built Drawings and records of configuration changes will be submitted to the IPUC upon approval and acceptance of the City and its contractors.

1.4 Forecasting, Performance Debrief and Reporting

Forecasting and Scheduling

Schedule forecast of construction and installation of the IPUC System streetlights in accordance with Section D "General Provisions".

Plans and Specifications are available for inspection at the City Administrative Offices and at the City's IPUC Offices located at 15625 E. Stafford Street, Suite 100, City of Industry, CA 91744.

The bid shall be accompanied by a bid guarantee in the form of a Certified or Cashier's Check or Bidder's Bond for not less than ten percent (10%) of the total amount of the bid, payable to the **INDUSTRY PUBLIC UTILITIES COMMISSION**. The bid guarantee is to insure that the bidder, if awarded the work, will enter into a contract with the IPUC. Failure of a contractor to enter into a contract within ten (10) days following award will cause the bid guarantee to be forfeited.

The IPUC may, upon refusal or failure of a successful responsible bidder to accept the contract, award it to the next lowest bidder. If the IPUC awards the contract to the second lowest bidder, the amount of the lowest bidder's bid guarantee shall be applied by the IPUC to the difference between the low bid and the second lowest bid; the surplus, if any, shall be returned to the lowest bidder if cash is used, or to the surety company if a bond is used.

The successful bidder will be required to furnish a labor and materials bond in an amount equal to one hundred percent (100%) of the contract price and a faithful performance bond in an amount equal to one hundred percent (100%) of the contract

price. A maintenance bond equal to ten percent (10%) of the total bid price amount is to remain in force for one (1) year after the date of completion of work, shall be submitted prior to execution of contract. The above bonds shall be secured by a surety company satisfactory to the IPUC, and licensed as a Surety Insurer in the State of California and rated at least B+:V in the latest "Best's Insurance Guide." The attached bond forms shall be used without exception.

CONTRACTOR

Prior to the beginning of and throughout the duration of the project, Contractor and its subcontractors shall maintain insurance in conformance with the requirements set forth below. Contractor will use existing coverage to comply with these requirements. If that existing coverage does not meet the requirements set forth herein, Contractor agrees to amend, supplement or endorse the existing coverage to do so.

Contractor acknowledges that the insurance coverage and policy limits set forth in this section constitute the minimum amount of coverage required. Any insurance proceeds available to Contractor or its subcontractors in excess of the limits and coverage identified in this Agreement and which is applicable to a given loss, claim or demand, will be equally available to the IPUC.

Contractor shall provide the following types and amounts of insurance:

Without limiting Contractor's indemnification of IPUC, and prior to commencement of the project, Contractor shall obtain, provide and maintain at its own expense during the term of this Agreement, policies of insurance of the type and amounts described below and in a form satisfactory to the IPUC.

General liability insurance. Contractor shall maintain commercial general liability insurance with coverage at least as broad as Insurance Services Office form CG 00 01, in an amount not less than \$5,000,000 per occurrence, \$10,000,000 general aggregate, for bodily injury, personal injury, and property damage, and a \$5,000,000 completed operations aggregate. The policy must include contractual liability that has not been amended. Any endorsement restricting standard ISO "insured contract" language will not be accepted.

Automobile liability insurance. Contractor shall maintain automobile insurance at least as broad as Insurance Services Office form CA 00 01 covering bodily injury and property damage for all activities of the Contractor arising out of or in connection with work to be performed under this Agreement, including coverage for any owned, hired, non-owned or rented vehicles, in an amount not less than \$1,000,000 combined single limit for each accident.

Umbrella or excess liability insurance. Contractor shall obtain and maintain an umbrella or excess liability insurance that will provide bodily injury, personal injury and property damage liability coverage at least as broad as the primary coverages set forth above, including commercial general liability and employer's liability. Such policy or policies shall include the following terms and conditions:

- A drop down feature requiring the policy to respond in the event that any primary insurance that would otherwise have applied proves to be uncollectable in whole or in part for any reason;
- Pay on behalf of wording as opposed to reimbursement;
- Concurrence of effective dates with primary policies;
- Policies shall "follow form" to the underlying primary policies; and
- Insureds under primary policies shall also be insureds under the umbrella or excess policies.

Workers' compensation insurance. Contractor shall maintain Workers' Compensation Insurance (Statutory Limits) and Employer's Liability Insurance (with limits of at least \$1,000,000) for Contractor's employees in accordance with the laws of the State of California, Section 3700 of the Labor Code. In addition, Contractor shall require each subcontractor to similarly maintain Workers' Compensation Insurance and Employer's Liability Insurance in accordance with the laws of the State of California, Section 3700 for all of the subcontractor's employees.

Contractor shall submit to the IPUC, along with the certificate of insurance, a Waiver of Subrogation endorsement in favor of the IPUC, its officers, agents, employees and volunteers.

Pollution liability insurance. Environmental Impairment Liability Insurance shall be written on a Contractor's Pollution Liability form or other form acceptable to the IPUC providing coverage for liability arising out of sudden, accidental and gradual pollution and remediation. The policy limit shall be no less than \$1,000,000 dollars per claim and in the aggregate. All activities contemplated in this agreement shall be specifically scheduled on the policy as "covered operations." The policy shall provide coverage for the hauling of waste from the project site to the final disposal location, including non-owned disposal sites.

Products/completed operations coverage shall extend a minimum of three years after project completion. Coverage shall be included on behalf of the insured for covered claims arising out of the actions of independent contractors. If the insured is using subcontractors, the Policy must include work performed "by or on behalf" of the insured. Policy shall contain no language that would invalidate or remove the insurer's duty to defend or indemnify for claims or suits expressly excluded from coverage. Policy shall specifically provide for a duty to defend on the part of the insurer. The IPUC, its officials, officers, agents, and employees, shall be included as insureds under the policy.

Builder's risk insurance. Upon commencement of construction and with approval of the IPUC, Contractor shall obtain and maintain builder's risk insurance for the entire duration of the Project until only the IPUC has an insurable interest. The Builder's Risk coverage shall include the coverages as specified below.

The named insureds shall be Contractor and IPUC, including its officers, officials, employees, and agents. All Subcontractors (excluding those solely responsible for design work) of any tier and suppliers shall be included as additional insureds as their interests may appear. Contractor shall not be required to maintain property insurance for any portion of the project following transfer of control thereof to the IPUC. The policy shall contain a provision that all proceeds from the builder's risk policy shall be made payable to the IPUC. The IPUC will act as a fiduciary for all other interests in the project.

A Policy shall be provided for replacement value on an "all risk" basis for the completed value of the project. There shall be no coinsurance penalty or provisional limit provision in any such policy. The Policy must include: (1) coverage for any ensuing loss from faulty workmanship, nonconforming work, omission or deficiency in design or specifications; (2) coverage against machinery accidents and operational testing; (3) coverage for removal of debris, and insuring the buildings, structures, machinery, equipment, materials, facilities, fixtures and all other properties constituting a part of the Project; (4) ordinance or law coverage for contingent rebuilding, demolition, and increased costs of construction; (5) transit coverage (unless insured by the supplier or receiving contractor), with sub-limits sufficient to insure the full replacement value of any key equipment item; (6) ocean marine cargo coverage insuring any

EXHIBIT D

CEQA: Notice of Exemption

[Attached]

NOTICE OF EXEMPTION

To: County Clerk
County of Los Angeles
Environmental Filings
12400 East Imperial Highway #2001
Norwalk, CA 90650

From: City of Industry
15625 E. Stafford Street, Suite 100
City of Industry, CA 91744

Project Title: Industry Business Center East Side Streetlight and Cabling Plan

Project Location - Specific: Grand Ave between HWY 60 and Valley Blvd

Project Location-City: City of Industry **Project Location-County:** Los Angeles

Description of Project: The City of Industry's IPUC seeks a Contractor to construct and install a 12kV Distribution System, streetlights and associated equipment for the IPUC System including, at a minimum; securing permits, placement of the electrical wire, street light foundations, pole erections, electrical wire pulling, light bulb installation, and the testing and commissioning of the IPUC System streetlights to ensure safe and reliable operation of the 12kV distribution system, streetlights and associated equipment.

Name of Public Agency Approving Project: City Council, City of Industry

Name of Person or Agency Carrying Out Project: Industry Public Utilities Commission

Exempt Status: (check one)

- Ministerial (Sec. 21080(b)(1); 15268);
- Declared Emergency (Sec. 21080(b)(3); 15269(a));
- Emergency Project (Sec. 21080(b)(4); 15269(b)(c));
- Categorical Exemption. *State type and section number:* 15303 (d)
- Statutory Exemptions. *State code number:*

Reasons why project is exempt: Section 15303 (d), exempts water main, sewage, electrical, gas, and other utility extensions, including street improvements, of reasonable length to serve such construction. The Industry Business Center East Side Streetlight and Cabling Plan project will construct and tie the new IPUC streetlights into the existing IPUC electrical system.

Lead Agency

Contact Person: Troy Helling

Telephone: (626)333-2211

Signature: _____

Date: _____

Title: Senior Planner

INDUSTRY PUBLIC UTILITIES COMMISSION

ITEM NO. 5.5



INDUSTRY PUBLIC UTILITIES COMMISSION


P.O. BOX 3366 • CITY OF INDUSTRY • CALIFORNIA 91744
(626) 333-2211 • Fax (626) 961-6795 • www.cityofindustry.org



Mark D. Radecki, President
Abraham N. Cruz, Commissioner
Roy M. Haber, III, Commissioner
Cory C. Moss, Commissioner
Newell W. Ruggles, Commissioner

Paul J. Philips, Public Utilities Director
James M. Casso, General Counsel
Diane M. Schlichting, Assistant Secretary

MEMORANDUM

To: Honorable Chairperson and Commission Board Members

From: Paul J. Philips, Public Utilities Director 

Staff: Angel Alvarez, Project Engineer 
Tim Kolset, Project Manager 

Date: February 16, 2017

SUBJECT **Consideration to Recommend Awarding the Grand Crossing Substation Bid to Pacific Utilities Installation, Inc. and Recommend Approval of an Agreement between the City of Industry and Pacific Utilities Installation, Inc. for the Grand Crossing Substation – Phases 1, 2, 3 Substructure & Cabling Project with Appropriation Cost of \$526,440**

On November 16, 2016, the City of Industry (“City”) began solicitation of public bids for the Grand Crossing Substation – Phase 1, 2, 3 Structure and Cabling project, as approved by City Council on October 27, 2016. This project was bid to procure a construction contractor for the installation of substructures and cabling necessary to connect the existing Grand Crossing Substation to the Industry Public Utility Commission (“IPUC”) electrical grid.

The bid was posted in the City’s PlanetBids™ vendor portal and an email notification was sent to all registered vendors. The appropriate trade journals were notified and included Bid America, Southern California Builders Association, Construction Bidboard and Dodge Data & Analytics on November 16, 2016. The RFQ was advertised on Monday, November 21, 2016 and Monday, November 28, 2016 in the San Gabriel Valley Tribune. A job walk was held at the job site on November 30, 2016. Questions pertaining to the bid were received up until December 6, 2016 at 1:00 pm in the City’s PlanetBids vendor portal.

The bid process closed on December 30, 2016 at 1:00 P.M., and the submitted bids have been opened and reviewed for accuracy and qualifications. The review of bids has found that Pacific Utilities Installation, Inc. (“PUI”) has submitted the lowest responsive and responsible bid and has the relevant experience, qualifications, and licensing necessary to complete this project. Provided references were also checked by City staff and excellent recommendations were provided by past employers of PUI. The Agreement

included with this bid package has been approved by PUI and is ready for approval by the IPUC. Below is a table of all bids received, showing that Pacific Utility Installation, Inc. was the lowest bidder.

The following table represents a summary of the bids received:

Bidder	Bid Price
Pacific Utility Installation, Inc.	\$438,700.00
Henkels & McCoy, Inc.	\$467,096.53
Utilicon (Asplundh Construction Corporation)	\$623,847.32
Southern Contracting Company	\$666,080.00
Minako America Corporation	\$722,520.00
<i>Engineer's Estimate</i>	<i>\$605,000.00</i>

FISCAL IMPACT:

The Engineer's estimate for this project was \$605,000 for completion. The bid price of Pacific Utilities Installation, Inc. was \$438,700. A 10% contingency has been included with the bid price to account for potential and unforeseen project changes and 10% appropriation for contract administration and inspection to cover existing contracted professional services. Total cost of appropriation will be \$526,440.00.

The following table represents a project summary:

Professional Design Services (Butsko Utility)	\$40,000.00
Base Bid (Pacific Utility Installation, Inc.)	\$438,700.00
Contingency Allowance (10%)	\$ 43,870.00
Contract Administration/Inspection (10%)	\$ 43,870.00
Total Sources	\$566,440.00

RECOMMENDATIONS:

- 1.) Staff is recommending that the IPUC recommend to the City Council to consider the results of the Grand Crossing Substation – Phase 1, 2, 3 Substructure and Cabling bid;
- 2.) Appropriate \$526,440 from the Electric Utility Reserves Fund to Account 120.718.5205 (Construction Costs) for the project; and
- 3.) Approve and authorize the Agreement with Pacific Utilities Installation, Inc. for the construction of the Grand Crossing Substation – Phase 1, 2, 3 Structure and Cabling project

Exhibits

- A. Agreement between the City of Industry and Pacific Utility Installation, Inc.
- B. Cost Comparison Sheet for the Grand Crossing Substation – Phases 1, 2, 3 Substructure & Cabling Project

EXHIBIT A

**Full Bid Package, including Agreement between the City of Industry and Pacific
Utility Installation, Inc.**

[Attached]

BID DOCUMENTS # _____
Contract No. 1431

CITY OF INDUSTRY CALIFORNIA

*Contract Documents and Specifications
for the Construction of*

INDUSTRY PUBLIC UTILITIES COMMISSION PROJECT NO. 431

**Grand Crossing Substation- Phase 1,2,3
Substructure & Cabling
CONTRACT NO. 1431**

NOVEMBER 2016
Prepared By:

CORDOBA CORPORATION
Engineering, Program and Construction Management
1401 North Broadway
Los Angeles, CA 90012
(213) 895-0224

Project Engineer: Angel A. Alvarez

**INDUSTRY PUBLIC UTILITIES COMMISSION
CALIFORNIA**

SIGNATURES AND STAMPS

Specifications for Contract No. 1431 for the Grand Crossing Substation- Phase 1,2,3
Substructure & Cabling have been prepared under the direction of the following engineer:


Signature and Date

Nov. 15/2016



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B. Instructions to Bidders	B-1 to B-8
C. Agreement	C-1 to C-3
Bid Schedule	C-4 to C-6
Bidders Information Sheet, License Affidavit, Bidders List of Construction Trades, Non-Collusion Declaration, Subcontractors Listing, Subcontractor's List of Construction Trades, Contractor Reference Verification	C-7 to C-14
D. General Provisions	D-1 to D-25
E. Special Provisions	E-1 to E-6

ATTACHMENTS

EMOLD – 166LR-W5X
EMOLD – 168DRG
EMOLD – 655CA-X
EMOLD – 03700410
EMOLD – K650BIP
EMOLD – K655BLR
GENERAL CABLE -- 592-00105E – 10 FA 220T FN PE 17KV
GENERAL CABLE – 592-00139E – 1000 FA 220T RN PE
S&C PME Pad Mounted Gear
Signed Plan Drawings

SECTION A

**INDUSTRY PUBLIC UTILITIES COMMISSION
PROJECT NO. 431**

Grand Crossing Substation- Phase 1,2,3 Substructure & Cabling

CONTRACT NO. 1431

The **INDUSTRY PUBLIC UTILITIES COMMISSION**, hereinafter referred to as the **IPUC**, will receive bids for the construction of the above project until **1:00PM** on **December 30, 2016**, via the City of Industry's PlanetBids™ vendor portal. Bids are to be submitted through <http://www.cityofindustry.org/?p=proposal-and-bid>.

Postmarks, mailed, emailed, or hard copy bids will not be accepted. Late bids will not be accepted.

It is the responsibility of the bidder to be sure the bid is submitted prior to the date and time indicated above. Digital versions of the plans and specifications are available on the vendor portal. Hard copies will no longer be available for purchase.

At the time of submission of the bid and thereafter, each bidder must have current and similar experience in working directly for at least three California electric utilities in the past three years and currently be in good standing with those utilities. The California utilities must be Investor Owned Utilities (IOU's) such as SDG&E, SCE, and PGE: or, Municipal Utilities such as City of Riverside, City of Anaheim, City of Rancho Cucamonga, City of Corona, City of Moreno Valley, or City of Victorville and be licensed as a **Class A-General Engineering and C-10 Electrical** contractor or subcontractor as defined in Sections 7055-7058 of the Business and Professions Code and qualified to bid on, be listed in a bid proposal, subject to the requirements of Section 4104 of the Public Contract Code, or engage in the performance of any contract for public work, as defined in this chapter, unless currently registered and qualified to perform public work pursuant to Section 1725.5 of the California Labor Code. Please note: It is not a violation of this section for an unregistered contractor to submit a bid that is authorized by Section 7029.1 of the Business and Professions Code or by Section 20103.5 of the Public Contract Code, provided the contractor is registered to perform public work pursuant to Section 1725.5 at the time the contract is awarded. Any bids submitted without proof that bidder and any listed subcontractor(s) are currently registered and qualified to perform public work, pursuant to Labor Code Section 1725.5, may not be accepted by the City. Each bidder shall set forth on the Bidder's Information Sheet and the Contractor's License Affidavit the classification and number of the requisite license which that bidder holds. This is a prevailing wage project.

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Please note: *It is not a violation of this section for an unregistered contractor to submit a bid that is authorized by Section 7029.1 of the Business and Professions Code or by Section 10164 or 20103.5 of the Public Contract Code, provided the contractor is registered to perform public work pursuant to Section 1725.5 at the time the contract is awarded.* Any bids submitted without proof that bidder and any listed subcontractor(s) are currently registered and qualified to perform public work, pursuant to Labor Code Section 1725.5, may not be accepted by the City.

The Scope of Work is as follows:

2. The Scope of Work is as follows:

The City of Industry's Industry Public Utilities Commission (IPUC) seeks a Contractor to procure, connect, install and construct a complete underground 12 kV system including cabling, substructure, conduits and the intercept work needed to install to PME switches and associated equipment for the IPUC System including, at a minimum; securing permits, placement of the electrical wire, electrical wire pulling, testing, commissioning and energizing of the IPUC System to ensure safe and reliable operation of the 12kV distribution system and associated equipment. In addition to the underground 12kV distribution system, The Contractor will be required to submit to the City's IPUC, As-Built drawings and configuration records of the facilities.

As part of the Scope of work the Contractor shall, at a minimum, provide the following:

- Prepare and maintain a safe work area
- Provide all equipment and labor needed to construct, install, connect, tie or link the underground 12 kV distribution system into the IPUC's existing 12kV system
- Perform equipment testing, cable testing, commissioning and energizing of IPUC new and reconfigured distribution system
- Install and construct all work in accordance with IPUC plans and equipment/material specifications meeting the IPUC and Southern California Edison standards and specifications
- Procure all equipment and materials needed to construct, install and operate the IPUC's underground 12 kV system
- Provide traffic control meeting County and City requirements
- Coordinate, cooperate and work with other contractors working within the vicinity

- Work as directed by the IPUC or its designated representatives. This may include working in phases, weekends, evenings or other manner to minimize disruptions to the IPUC customers
- Contractor will restore or repair, public and private right of ways and property back to pre-installation conditions and to the standards set forth by city or state regulations.
- Coordinate with Local and State entities, and the IPUC to ensure that all conditions and standards of state and local construction are understood and met.
- Provide technical information for the installed equipment and material used in the installation and construction of the Industry Business Center_East Side Street Light and Cabling Plan, including, but not limited to cables, switches, connectors.

2.1 As-Builts and Configuration Control

The Contractor, upon final installation and construction of the 12 kV distribution system, and associated equipment, shall submit CAD As-Built Drawings to the City's IPUC. Prior to the submittal of the final As-Built drawings the Contractor will make the files available to IPUC and its contractors for review and approval. Final As-Built Drawings and records of configuration changes will be submitted to the IPUC upon approval and acceptance of the City and its contractors.

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Forecasting and Scheduling

Schedule forecast of construction and installation of the IPUC 12kV Distribution System in accordance with Section D "General Provisions".

Plans and Specifications are available for inspection at the City Administrative Offices and at the City's IPUC Offices located at 15625 E. Stafford Street, Suite 100, City of Industry, CA 91744.

The bid shall be accompanied by a bid guarantee in the form of a Certified or Cashier's Check or Bidder's Bond for not less than ten percent (10%) of the total amount of the bid, payable to the **INDUSTRY PUBLIC UTILITIES COMMISSION**. The bid guarantee is to insure that the bidder, if awarded the work, will enter into a contract with the IPUC. Failure of a contractor to enter into a contract within ten (10) days following award will cause the bid guarantee to be forfeited.

The IPUC may, upon refusal or failure of a successful responsible bidder to accept the contract, award it to the next lowest bidder. If the IPUC awards the contract to the second lowest bidder, the amount of the lowest bidder's bid guarantee shall be applied by the IPUC to the difference between the low bid and the second lowest bid; the surplus, if any, shall be returned to the lowest bidder if cash is used, or to the surety company if a bond is used.

The successful bidder will be required to furnish a labor and materials bond in an amount equal to one hundred percent (100%) of the contract price and a faithful performance bond in an amount equal to one hundred percent (100%) of the contract price. A maintenance bond equal to ten percent (10%) of the total bid price amount is to remain in force for one (1) year after the date of completion of work, shall be submitted prior to execution of contract. The above bonds shall be secured by a surety company satisfactory to the IPUC, and licensed as a Surety Insurer in the State of California and rated at least B+:V in the latest "Best's Insurance Guide." The attached bond forms shall be used without exception.

CONTRACTOR

LIABILITY INSURANCE

Contractor shall obtain and maintain at all times during the term of this agreement Comprehensive General Liability insurance protecting Contractor in amounts not less than \$1,000,000.00 and Automobile Liability Insurance protecting Contractor in amounts not less than \$1,000,000.00. If an umbrella or excess coverage is in effect, it must follow the form of the underlying coverage. Such insurance shall name CORDOBA CORPORATION; City of Industry; Successor Agency to the Industry Urban-Development Agency; Civic-Recreational-Industrial Authority DBA Industry Hills Recreation and Conference Center; Majestic Industry Hills, LLC; Parking Authority of the City of Industry; City of Industry Waterworks System; Industry Hills Recreation and Conference Center; and their Officers, Employees, Elected Officials and Members of Boards or Commissions as additional insured parties. Coverage shall be in accordance with the sample certificates and endorsements attached hereto and must include the coverage and provisions indicated.

Contractors using the new I.S.O. form of coverage shall include Endorsement #CG25031185, which provides limits for each separate project that is being undertaken by said contractor.

Contractor shall file and maintain the required certificate(s) of insurance with the Lessor to this agreement at all times during the term of this agreement. The certificate(s) is to be filed prior to the commencement of the work or event and should state clearly:

- (1) The additional insured requested.
- (2) A minimum of ten (10) days prior written notice of cancellation for non-payment of premium and a minimum of thirty (30) days' notice of cancellation for any other reason.
- (3) That the insurance is primary to that of the additional insured.
- (4) Included coverage.
- (5) Cross-Liability clause.

WORKER'S COMPENSATION INSURANCE

Contractor shall obtain and maintain at all times during the term of this agreement Worker's Compensation and Employer's Liability insurance and furnish the Additional Insured with a certificate showing proof of such coverage. Insurance company must waive subrogation rights against the above-named additional insureds. An endorsement to that effect must accompany the certificate of coverage.

INSURANCE COMPANIES

Insurance companies must be admitted in California and rated at least B+:XIII in *Best's Insurance Guide*. Non-admitted insurance companies will be considered if they are rated at least A:XIII or better and have a ratio of 3:1 for premium to policy holder surplus or lower in the latest *Best's Insurance Guide*.

Furnish additional insured with an endorsement waiving subrogation against them by the insurance carrier.

All liability insurance policies shall bear an endorsement or shall have attached a rider whereby it is provided that, in the event of expiration or proposed cancellation of such policies for any reason whatsoever, the IPUC shall be notified by registered mail, return receipt requested, giving a sufficient time before the date thereof to comply with any applicable law or statute, but in no event less than 10 days in advance of the effective date of cancellation due to non-payment of premium and not less than 30 days in advance of the effective date of cancellation for any other reason or for a policy change.

Notification for all above insurance items shall be submitted to: City of Industry Engineering Offices, 255 North Hacienda Blvd., Suite 222, City of Industry, CA 91744, Attention: Rachel Gonzalez. Failure to provide the IPUC with written notice of cancellation or any change in required insurance may constitute a material breach of the Contract, in the sole discretion of the IPUC, upon which the IPUC may suspend or terminate the Contract.

EXPERIENCE AND SAFETY

The successful bidder may be required to submit a statement attesting to its financial responsibility, technical ability, experience, and safety record.

PREVAILING WAGES

Pursuant to the provisions of Section 1773 of the Labor Code of the State of California, the contractor is required to pay not less than the general prevailing rate of wages for each craft, classification, or type of workman needed in the execution of the public work under the jurisdiction of the IPUC. The general prevailing wages shall be these determined by the Director of the Department of Industrial Relations of the State of California. Copies of the applicable determination by the IPUC are on file in the office of the IPUC and are hereby incorporated and made a part hereof the same as though fully

set forth herein. Copies of the applicable determination may be obtained at the office of the IPUC.

CONTRACTOR REGISTRATION PROGRAM

A contractor or subcontractor shall not be qualified to bid on, be listed in a bid proposal, subject to the requirements of Section 4104 of the Public Contract Code, or engage in the performance of any contract for public work, as defined in this chapter, unless currently registered and qualified to perform public work pursuant to Section 1725.5.

Please note: *It is not a violation of this section for an unregistered contractor to submit a bid that is authorized by Section 7029.1 of the Business and Professions Code or by Section 10164 or 20103.5 of the Public Contract Code, provided the contractor is registered to perform public work pursuant to Section 1725.5 at the time the contract is awarded.* Any bids submitted without proof that bidder and any listed subcontractor(s) are currently registered and qualified to perform public work, pursuant to Labor Code Section 1725.5, may not be accepted by the City.

LABOR COMPLIANCE MONITORING AND ENFORCEMENT

The project is subject to compliance monitoring and enforcement by the Department of Industrial Relations (California Labor Code Section 1771.4).

AGREEMENT

When the award of a contract is made to a corporation, the Agreement must be signed by the Secretary/Treasurer of the corporation in addition to the signature of the President/Vice President, or the public agency needs to receive a copy of a resolution adopted by the Board of Directors of the corporation indicating that the party executing the contract has the authority to bind the corporation.

SURETY BONDS

All surety bonds issued in connection with projects for public works must be accompanied by a power of attorney from the surety company authorizing the person executing the bond to sign on behalf of the company. The bonds must also be acknowledged by a Notary Public to the effect that the signature by the surety's representative is that of the person designated in the Power of Attorney.

By the order of the **INDUSTRY PUBLIC UTILITIES COMMISSION** dated **October 20th, 2016**.


Diane M. Schlichting Chief Deputy City Clerk

CERTIFICATE OF INSURANCE

CERTIFICATE HOLDER & ADDRESS		INSURANCE COMPANIES AFFORDING COVERAGE				
City of Industry; Successor Agency to the Industry Urban-Development Agency; Civic-Recreational-Industrial Authority; Civic-Recreational-Industrial Authority DBA Industry Hills Recreation and Conference Center; Majestic Industry Hills, LLC; Parking Authority of the City of Industry; City of Industry Waterworks System; Industry Public Service System Authority; CORDOBA CORPORATION; Industry Hills Recreation and Conference Center; and their Officers, Employees, Elected Officials and Members of Boards or Commissions		Company Letter A				
		Company Letter B				
		Company Letter C				
		Company Letter D				
		Company Letter E				
NAME OF INSURED:		DESIGNATED CONTRACT: Grand Crossing Substation- Phase 1,2,3 Substructure & Cabling CONTRACT NO. 1431				
ADDRESS:						
CITY, STATE, ZIP:						
This is to certify that policies of insurance listed below have been issued to the insured named above and are in force at this time, including attached endorsement(s).						
COMPANY LETTER	TYPE OF INSURANCE	POLICY NUMBER	POLICY EXP. DATE	LIMITS OF LIABILITY IN THOUSANDS (000) EACH OCCURRENCE AGGREGATE		
<input checked="" type="checkbox"/> GENERAL LIABILITY <input checked="" type="checkbox"/> Comprehensive Form <input checked="" type="checkbox"/> Premises-Operations <input checked="" type="checkbox"/> Explosion & Collapse Hazard <input checked="" type="checkbox"/> Underground Hazard <input checked="" type="checkbox"/> Products/Completed-Operations Hazard <input checked="" type="checkbox"/> Contractual Insurance <input checked="" type="checkbox"/> Broad Form Property Damage <input checked="" type="checkbox"/> Independent Contractors <input checked="" type="checkbox"/> Personal Injury				Bodily Injury Property Damage Bodily Injury & Property Damage Combined Personal Injury	\$ \$ \$ \$	\$ \$ \$ \$
<input checked="" type="checkbox"/> AUTOMOTIVE LIABILITY <input checked="" type="checkbox"/> Comprehensive Form <input checked="" type="checkbox"/> Owned <input checked="" type="checkbox"/> Hired <input checked="" type="checkbox"/> Non-Owned				Bodily Injury (Each Person) Bodily Injury (Each Occurrence) Property Damage Bodily Injury & Property Damage Combined	\$ \$ \$ \$	\$ \$ \$ \$
<input checked="" type="checkbox"/> EXCESS LIABILITY <input checked="" type="checkbox"/> Umbrella Form <input type="checkbox"/> Other than Umbrella Form				Bodily Injury & Property Damage	\$	\$
<input checked="" type="checkbox"/> WORKERS COMPENSATION & EMPLOYERS LIABILITY				Statutory		(Each Accident)
CANCELLATION: Should any of the above-described policies be cancelled or coverage reduced before the expiration date thereof, the Insurance Company affording coverage shall provide 10 days advance written notice of cancellation for non-payment of premium and 30 days' notice for all other reasons, to: CORDOBA CORPORATION 255 N. Hacienda Blvd., Ste. 222, City of Industry, CA 91744						
Agency: _____ By: _____ Date Issued: _____ Authorized Representative						
NOTICE: This certificate or verification of insurance is not an insurance policy and does not amend, extend, or alter the coverage afforded by the policies listed herein. Notwithstanding any requirement, term, or condition of any contract or other document with respect to which this certificate or verification of insurance may be issued or may pertain, the insurance afforded by the policies described herein is subject to all the terms, exclusions and condition of such policies, including attached endorsements.						

CONTRACTOR

COMPREHENSIVE GENERAL LIABILITY INSURANCE ENDORSEMENT

It is agreed that:

1. With respect to such insurance as is afforded by the policy for Comprehensive General Liability, City of Industry; Successor Agency to the Industry Urban-Development Agency; Civic-Recreational-Industrial Authority; Civic-Recreational-Industrial Authority DBA Industry Hills Recreation and Conference Center; Majestic Industry Hills, LLC; Parking Authority of the City of Industry; City of Industry Waterworks System; Industry Public Service System Authority; CORDOBA CORPORATION; Industry Hills Recreation and Conference Center; and their Officers, Employees, Elected Officials and Members of Boards or Commissions are additional insureds but only with respect to Liability arising out of the operations performed by or on behalf of the named insured in connection with the contract designated below. The insurance afforded said additional insured shall apply as primary insurance and no other insurance maintained by the additional insureds will be called upon to contribute with insurance provided by this policy.
2. The policy includes the following provisions:
 - a) "The insurance afforded by the policy applies separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the Insurance Company's liability."
 - b) Cross Liability Endorsement.

It is agreed that claims for Personal Injury, Property Damage or Advertising Liability made by an Insured hereunder against another Insured hereunder shall be covered in the same manner as if separate policies had been issued to each Insured. Nothing contained herein shall operate to increase the Company's limit of liability as provided under this policy.
3. The insurance afforded by the policy for Contractual Liability Insurance (subject to the terms, conditions and exclusions applicable to such insurance) includes liability assumed by the named insured under the indemnification or hold harmless provision contained in the written contract, designated below, between the named insured and additional insureds.

4. The limits of liability under this endorsement for the additional insured named in paragraph 1 of this endorsement shall be the limits indicated below for either Multiple Limits or Single Limit, whichever is indicated by an "X" in the appropriate box.

- () MULTIPLE LIMITS
Bodily Injury Liability \$_____ each occurrence
Property Damage Liability \$_____ each occurrence
- () SINGLE LIMIT
Bodily Injury Liability \$_____ each occurrence
and
Property Damage Liability
Combined

The limits of liability as stated in this endorsement shall not increase the total liability of the Insurance Company for all damages as the result of any one occurrence in excess of the limits of liability stated in the policy as applicable to Comprehensive General Liability Insurance.

5. Should the policy be canceled before the expiration date thereof, the Insurance Company shall provide advance notice per the "NOTICE OF CANCELLATION" endorsement, page A-11. The notification shall be sent to:

CORDOBA CORPORATION
1401 North Broadway
City of Industry, CA 91744

6. Designated Contract:
Grand Crossing Substation- Phase 1,2,3 Substructure & Cabling

CONTRACT NO. 1431

This endorsement is effective _____ at 12:01 A.M. and forms a part of

Policy Number: _____

Named Insured: _____

Endorsement Number: _____

Name of Insurance Company: _____

By _____
Authorized Representative

CONTRACTOR

AUTOMOBILE LIABILITY INSURANCE ENDORSEMENT

It is agreed that:

1. With respect to such insurance as is afforded by the policy for Automobile, Bodily Injury and Property Damage Liability, City of Industry; Successor Agency to the Industry Urban-Development Agency; Civic-Recreational-Industrial Authority; Civic-Recreational-Industrial Authority DBA Industry Hills Recreation and Conference Center; Majestic Industry Hills, LLC; Parking Authority of the City of Industry; City of Industry Waterworks System; Industry Public Service System Authority; CORDOBA CORPORATION; Industry Hills Recreation and Conference Center; and their Officers, Employees, Elected Officials and Members of Boards or Commissions are additional insureds but only with respect to Liability arising out of the operations performed by or on behalf of the named insured in connection with the contract designated below. The insurance afforded said additional insured shall apply as primary insurance and no other insurance maintained by the additional insureds will be called upon to contribute with insurance provided by this policy.
2. The policy includes the following provisions:
 - a) "The insurance afforded by the policy applies separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the Insurance Company's liability."
 - b) Cross Liability Endorsement.

It is agreed that claims for Automobile Bodily Injury and Property Damage made by an Insured hereunder against another Insured hereunder shall be covered in the same manner as if separate policies had been issued to each Insured. Nothing contained herein shall operate to increase the Company's limit of liability as provided under this policy.
3. The insurance afforded by the policy for Automobile Liability Insurance includes liability assumed by the named insured under the indemnification or hold harmless provision contained in the written contract, designated below, between the named insured and additional insureds.

4. The limits of liability under this endorsement for the additional insured named in paragraph 1 of this endorsement shall be the limits indicated below for either Multiple Limits or Single Limit, whichever is indicated by the letter "X" in the appropriate box.

- () MULTIPLE LIMITS
Bodily Injury Liability \$ _____ each occurrence
Property Damage Liability \$ _____ each occurrence
- () SINGLE LIMIT
Bodily Injury Liability \$ _____ each occurrence
and
Property Damage Liability
Combined

The limits of liability as stated in this endorsement shall not increase the total liability of the Insurance Company for all damages as the result of any one occurrence in excess of the limits of liability stated in the policy as applicable to Automobile Liability Insurance.

5. Should the policy be canceled before the expiration date thereof, the Insurance Company shall provide advance notice per the "NOTICE OF CANCELLATION" endorsement, page A-11. The notification shall be sent to:

CORDOBA CORPORATION
1401 North Broadway
City of Industry, CA 91744

6. Designated Contract:
Grand Crossing Substation- Phase 1,2,3 Substructure & Cabling

CONTRACT NO. 1431

This endorsement is effective _____ at 12:01 A.M. and forms a part of

Policy Number: _____

Named Insured: _____

Endorsement Number: _____

Name of Insurance Company: _____

By: _____
Authorized Representative

EXCESS OR UMBRELLA LIABILITY ENDORSEMENT: ADDITIONAL INSURED

In consideration of the premium paid, it is hereby understood and agreed that the City of Industry; Successor Agency to the Industry Urban-Development Agency; Civic-Recreational-Industrial Authority; Civic-Recreational-Industrial Authority DBA Industry Hills Recreation and Conference Center; Majestic Industry Hills, LLC; Parking Authority of the City of Industry; City of Industry Waterworks System; Industry Public Service System Authority; CORDOBA CORPORATION; Industry Hills Recreation and Conference Center; and their Officers, Employees, Elected Officials and Members of Boards or Commissions, are hereby added as additional insureds but only with respect to Liability arising out of the operations performed by or on behalf of the named insured in connection with the contract designated below.

Should the policy be canceled before the expiration date thereof, the Insurance Company shall provide advance notice per the "NOTICE OF CANCELLATION" endorsement, page A-11. The notification shall be sent to:

CORDOBA CORPORATION
1401 North Broadway
City of Industry, CA 91744

Designated contract:

INDUSTRY PUBLIC UTILITIES COMMISSION
PROJECT NO. 431

Grand Crossing Substation- Phase 1,2,3 Substructure & Cabling

CONTRACT NO. 1431

This endorsement is effective _____ at 12:01 a.m. and forms a part of

Policy Number: _____

Named Insured: _____

Endorsement Number: _____

Name of Insurance Company: _____

By _____
Authorized Representative

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

NOTICE OF CANCELLATION

POLICY NUMBER: _____

ISSUE DATE: _____

This endorsement modifies insurance provided under the following:

ALL COVERAGE PARTS INCLUDED IN THIS POLICY

CANCELLATION:

Number of Days' Notice of Cancellation
For Non-payment of Premium: 10

Number of Days' Notice of Cancellation
For All Other Reasons: 30

PERSON OR ORGANIZATION:

City of Industry; Successor Agency to the Industry Urban-Development Agency; Civic-Recreational-Industrial Authority; Civic-Recreational-Industrial Authority DBA Industry Hills Recreation and Conference Center; Majestic Industry Hills, LLC; Parking Authority of the City of Industry; City of Industry Waterworks System; Industry Public Service System Authority; CORDOBA CORPORATION; Industry Hills Recreation and Conference Center; and their Officers, Employees, Elected Officials and Members of Board or Commissions

RE:

INDUSTRY PUBLIC UTILITIES COMMISSION
PROJECT NO. 431

Grand Crossing Substation- Phase 1,2,3 Substructure & Cabling

CONTRACT NO. 1431

PROVISIONS:

- A. In the event of expiration or proposed cancellation of this policy for any reason whatsoever, the INDUSTRY PUBLIC UTILITIES COMMISSION shall be notified by registered mail, return receipt requested, giving a sufficient time before the date thereof to comply with any applicable law or statute, but in no event less than 10 days in advance of the effective date of cancellation due to non-payment of premium and not less than 30 days in advance of the effective date of cancellation for any other reason. The notification shall be sent to:

City of Industry
c/o CORDOBA CORPORATION
1401 North Broadway
City of Industry, CA 91744

B. Signature of Insurer or Authorized Representative of the Insurer

I (print name) _____, warrant that I have authority to bind
(Insurance Company) _____ and by my original signature
hereon do so bind this company.

SIGNATURE OF AUTHORIZED REPRESENTATIVE

DATE

ORGANIZATION: _____

ADDRESS: _____

TELEPHONE: (_____) _____ FAX NO. (_____) _____

WAIVER OF SUBROGATION CLAUSE

INDUSTRY PUBLIC UTILITIES COMMISSION
PROJECT NO. 431

Grand Crossing Substation- Phase 1,2,3 Substructure & Cabling

CONTRACT NO. 1431

IT IS HEREBY UNDERSTOOD AND AGREED THAT ALL RIGHTS OF SUBROGATION ARE WAIVED AGAINST THE CITY OF INDUSTRY, INCLUDING ALL MEMBERS OF THEIR BOARDS, CITY COUNCIL, COMMISSIONS, ELECTED OFFICIALS, ALL EMPLOYEES OR VOLUNTEER WORKERS DULY AUTHORIZED BY THEM, WHILE ACTING WITHIN THE SCOPE OF THEIR DUTIES AS SUCH.

CONTRACTOR

SIGNATURE

Bond No. _____

Date: _____

PERFORMANCE BOND

KNOW ALL PERSONS BY THESE PRESENTS:

THAT WHEREAS, the INDUSTRY PUBLIC UTILITIES COMMISSION has awarded to _____ as principal, hereinafter designated as the "CONTRACTOR", a contract for the work described as:

PROJECT NO. 431

Grand Crossing Substation- Phase 1,2,3 Substructure & Cabling

CONTRACT NO. 1431

AND WHEREAS, the Contractor is required to furnish a bond in connection with said contract guaranteeing the faithful performance thereof;

NOW, THEREFORE, we, the undersigned Contractor and Surety, are held firmly bound unto the INDUSTRY PUBLIC UTILITIES COMMISSION in the sum of _____ (\$ _____), to be paid to the INDUSTRY PUBLIC UTILITIES COMMISSION, its successors and assigns, for which payment will and truly to be made we bind ourselves, our heirs, executors and administrators, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH:

NOW, THEREFORE, if said Contractor its officers, agents, employees, subcontractors, heirs, executors, administrators, successors, or assigns shall well and truly do and perform all of the covenants and obligations of said contract on his part to be done and performed at the times and in the manner specified herein, then this obligation shall be null and void, otherwise it shall be and remain in full force and effect;

IN WITNESS WHEREOF, we have hereunto set our hands and seals on this day of _____, 201__.

CONTRACTOR By: _____
Authorized Signature

SURETY COMPANY By: _____
Authorized Signature

SURETY COMPANY ADDRESS

Bond No. _____

Date: _____

PAYMENT BOND

WHEREAS, the INDUSTRY PUBLIC UTILITIES COMMISSION has awarded to _____, a Contractor, a contract for the work described as:

PROJECT NO. 431

Grand Crossing Substation- Phase 1,2,3 Substructure & Cabling

CONTRACT NO. 1431

AND WHEREAS, said Contractor is required to furnish a bond in connection with said contract to secure the payment of claims of laborers, mechanics, materials, persons, and other persons as provided by law;

NOW, THEREFORE, we, the undersigned Contractor and Surety, are held firmly bound unto the INDUSTRY PUBLIC UTILITIES COMMISSION in the sum of _____

_____ (\$ _____), for which payment will and truly to be made we bind ourselves, our heirs, executors and administrators, successors and assigns, jointly and severally, firmly by presents.

THE CONDITION OF THIS OBLIGATION IS SUCH:

That if said Contractor, its heirs, executors, administrators, successors or assigns, or subcontractors shall fail to pay any of the persons named in Civil Code Section 3181, or amounts due under the Unemployment Insurance Code with respect to work or labor performed by any such claimant, or any amounts required to be deducted, withheld, and paid over to the Employment Development Department from the wages of employees of the Contractor and its subcontractors pursuant to Section 13020 of the Unemployment Insurance Code, with respect to such work and labor, that the Surety or Sureties herein will pay for the same in an amount not exceeding the sum specified in this bond; otherwise the above obligation shall be void. In case suit is brought upon this bond, the Surety will pay a reasonable attorney's fees to the plaintiff(s) and INDUSTRY PUBLIC UTILITIES COMMISSION in an amount to be fixed by the court. This bond shall insure to the Benefit of any of the persons named in Civil Code Section 3181 as to give a right of action to such persons or their assigns in any suit brought upon this bond.

IN WITNESS WHEREOF, we have hereunto set our hands and seals on this day of _____, 201__.

CONTRACTOR BY: _____
Authorized Signature

SURETY COMPANY BY: _____
Authorized Signature

SURETY COMPANY ADDRESS

Bond No. _____

Date: _____

MAINTENANCE BOND

KNOW ALL PERSONS BY THESE PRESENTS:

THAT WHEREAS, the INDUSTRY PUBLIC UTILITIES COMMISSION has awarded to _____, as principal, hereinafter designated as the "CONTRACTOR", a contract for the work described as:

PROJECT NO. 431

Grand Crossing Substation- Phase 1,2,3 Substructure & Cabling

CONTRACT NO. 1431

AND WHEREAS, said Contractor is required to furnish a bond in connection with said contract guaranteeing the maintenance thereof.

NOW, THEREFORE, we, the undersigned Contractor and Surety, are held firmly bound unto the INDUSTRY PUBLIC UTILITIES COMMISSION in the sum of _____ (\$ _____), to be paid to the INDUSTRY PUBLIC UTILITIES COMMISSION its successors and assigns, for which payment will and truly to be made we bind ourselves, our heirs, executors and administrators, successors and assigns, jointly and severally, firmly by presents.

THE CONDITION OF THIS OBLIGATION IS SUCH:

That if the Contractor fails to make at its expense, in order to restore the work to full compliance with the requirements of the above-mentioned contract or any modifications or amendments thereto, any and all repairs and replacements made necessary by defects in materials or poor workmanship that become evident within one (1) year after the date of final payment to the Contractor, or if the Contractor fails to hold the INDUSTRY PUBLIC UTILITIES COMMISSION harmless from claims of any kind arising from damage due to said defects in materials or poor workmanship, then the Surety or sureties shall pay to the INDUSTRY PUBLIC UTILITIES COMMISSION and the INDUSTRY PUBLIC UTILITIES COMMISSION shall be entitled to retain and use the full amount of the Maintenance Bond set forth above, or any portion thereof sufficient to permit INDUSTRY PUBLIC UTILITIES COMMISSION or any contractors or subcontractors selected by the INDUSTRY PUBLIC UTILITIES COMMISSION to do the work in order to restore it to full compliance with the requirements of the contract or any modifications or amendments thereto, and sufficient to hold the INDUSTRY PUBLIC UTILITIES COMMISSION harmless from claims arising from defects in materials or poor workmanship; otherwise, the above obligations shall be void. If suit is brought to enforce the terms of this Maintenance Bond, the prevailing party shall be entitled to receive from the other party costs of suit, including reasonable attorneys' fees.

IN WITNESS WHEREOF, the said Contractor and Surety have duly executed this bond as of this ____ day of _____, 201__.

CONTRACTOR By: _____
Authorized Signature

SURETY COMPANY By: _____
Authorized Signature

SURETY COMPANY ADDRESS

SECTION B

INSTRUCTIONS TO BIDDERS

1. SEALED BID

The unattached copy of the bid schedule form furnished with the Specifications shall be used in submitting bids. A bid guarantee consisting of a Certified Check, Cashier's Check or Bidder's Bond for not less than 10% of the bid amount shall accompany the sealed bid. These documents shall be sealed in an envelope, endorsed as follows: Grand Crossing Substation- Phase 1,2,3 Substructure & Cabling - 1431 City Administrative Offices, 15625 East Stafford Street, City of Industry, California 91744.

The bid will be publicly opened and read at the time and place stated in the Notice Inviting Sealed Bids. Bidders, or their authorized agents, are invited to be present at the opening. Unauthorized provisions attached to a bid will render it informal and may cause its rejection. Entries in the bid shall be typewritten or in ink. The completed bid shall be without interlineations, alterations, or erasures. Alternative bids will not be considered unless requested by the IPUC. No oral, telegraphic or telephonic bid or modification will be considered. The bid may be withdrawn upon request, in writing, by the bidder without prejudice prior to the time fixed for opening of bids.

2. TIME LIMIT AND NOTICE TO PROCEED

The Contractor will not be allowed to start work prior to the date of the Notice to Proceed and until he has returned the executed contract and has submitted contract bonds and liability insurance acceptable to the IPUC. The counting of working days shall start on the date the Contractor elects to start work or the last day of the move-in period, whichever occurs first. The Contractor shall utilize the move-in period to ensure that all materials required for the project will be available for the scheduled work. No additional working days will be allowed for material delay once the Contractor commences work. The Contractor shall notify the IPUC at least 5 working days prior to the start of work.

Nothing in this section will relieve the Contractor of its obligation relative to starting work as required elsewhere in these specifications.

3. CONTRACT DRAWINGS

The location of the work, its general nature and extent, and the form and detail of the various features are shown on the drawings entitled:

INDUSTRY PUBLIC UTILITIES COMMISSION
PROJECT NO. 431

Grand Crossing Substation- Phase 1,2,3 Substructure & Cabling

CONTRACT NO. 1431

4. SIGNATURE OF SEALED BID

A bid submitted by an individual shall be signed by that person and shall state the full name and address of the proprietor.

A bid submitted by a partnership shall be signed by one of the partners and shall give the full names of all the partners.

A bid submitted by a corporation shall indicate the name of the corporation, be signed by an authorized officer and attested to by the corporate seal, and shall state the names and titles of all the officers.

5. BIDDER'S EXAMINATION OF SITE

Each bidder shall examine carefully the site of the proposed work and the contract documents. It will be assumed that the bidder has investigated and is satisfied with the conditions to be encountered as to the character, quality and quantity of work to be performed; as to the quality and quantity of materials to be furnished; and as to the requirements of the contract, specifications and drawings. The name of the individual who examined the site of the work and the date of such examination shall be stated in the bid in the space provided therefore.

6. DISQUALIFICATION OF BIDDERS

More than one (1) bid from an individual, firm, partnership, corporation or association under the same or different names, will not be considered. Reasonable grounds for believing that any bidder is interested in more than one (1) bid for the work contemplated will cause the rejection of all bids in which such bidder is interested. If there is reason for believing that collusion exists among the bidders, all bids will be rejected and none of the participants in such collusion will be considered for future bids.

7. RETURN OF BID GUARANTEES

Within ten (10) days after the award of contract, the bid guarantees accompanying the bids as are not considered in making the award will become null and void. All other bid guarantees will be held until the contract has been finally executed. Any checks submitted as bid guarantees will be returned to the unsuccessful bidders.

8. AWARD OF CONTRACT

The Award of Contract will be on the basis of the lowest possible cost and will be awarded to a responsible bidder whose bid complies with all the requirements prescribed. The award will be made within forty-five (45) calendar days after the opening of the bids. The IPUC reserves the right to reject any or all bids, to waive any irregularities in a bid, and to make awards as the interests of the IPUC may require.

9. EXECUTION OF CONTRACT

The bidder to whom the award is made shall execute a written contract with the IPUC on the form of agreement and shall secure all insurance and bonds required by the specifications within ten (10) days from the date of the award. Refusal to enter into a contract shall be just cause for the annulment of the award and the forfeiture of the bid guarantee. If the successful bidder refuses or fails to execute the contract, the IPUC may award the contract to the second lowest responsible bidder. If the second lowest responsible bidder fails to execute the contract, the IPUC may award the contract to the third lowest responsible bidder. On the failure or refusal of such second or third lowest bidder to execute the contract, such bidder's guarantees shall likewise be forfeited to the IPUC. The work may then be re-advertised.

10. COMPLETENESS OF BID

In case of discrepancies, conflicts or any misunderstandings as to the intent of any portion of the plans or specifications, the matter shall be referred to the IPUC who shall decide the true intent and meaning and, if necessary, issue an addendum prior to receiving bids.

All addenda shall become a part of the Bid.

The IPUC reserves the right to increase or decrease the quantities listed in the bid or to omit certain portions of the work.

Unbalancing of a bid or taking advantage of an obvious error in the bid schedule shall be cause for rejecting the bid.

No bid shall be considered in which any bid item has been omitted or altered. Bids shall be for the entire work.

The City reserves the right to correct apparent clerical or mathematical errors of a bid, to ascertain an accurate final total bid amount. By doing such, the bid that may have been identified as the low bid at bid opening may no longer be the low bid.

11. BID CORRECTION RULES

In the case of a mathematical discrepancy or discrepancies in the bid submitted, then the CITY shall apply the following Rules to correct the bid amount:

- (1) Unit prices shall govern over extended item prices.
- (2) The total of the extended items prices, corrected if necessary by Rule # 1, will govern over the Total Amount of the Bid.

12. CONSTRUCTION TRADES

The bidder shall provide a list of those construction trades that will be involved in this project. All subcontractors shall provide their list of related trades prior to the execution of the contract documents.

13. NON-COLLUSION PROVISION

The City requires, as a condition precedent to approval by the Agency of the contract for this work, that the bidder file sworn statement executed by or on behalf of the person, firm, association or corporation to whom such contract is awarded certifying that such person, firm, association or corporation has not, either directly or indirectly, entered into any agreement, participated in any collusion or otherwise any action in restraint of free competitive bidding in connection with such contract. Said statement shall be sworn to by the bidder and submitted with the bid (form attached in Section C).

14. SUBCONTRACTOR'S LISTING

In accordance with the Government Code of the State of California Division 5, Chapter 2, Section 4104, the Bidder shall set forth:

- (a) The name and the location of the place of business of each subcontractor who will perform work or labor or render service to the prime contractor in or about the construction of the work or improvement, or a subcontractor licensed by the State of California who, under subcontract to the prime contractor, specially fabricates and installs a portion of the work or improvement according to detailed drawings contained in the plans and specifications, in an amount in excess of one-half of one percent of the Bidder's total bid.
- (b) The portion of the work which will be done by each such subcontractor under this act. The Bidder shall list only one subcontractor for each such portion as is defined by the Bidder in its bid.

15. PRECONSTRUCTION DOCUMENTS - CHECKLIST

The following documents are required to be completed and submitted by the Contractor at the times specified by a "Y" opposite each title. If no column is marked, documents will not be required.

WITH SEALED BID (ALL BIDDERS)			
WITH AGREEMENTS (AWARDEE)			
PRIOR TO STARTING CONSTRUCTION (AWARDEE)			
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Bid Schedule Pages C-4 to C-6.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Bidder's Bond or Certified or Cashier's Check for not less than 10% of the Total Amount Bid Payable to: INDUSTRY PUBLIC UTILITIES COMMISSION
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Bidder's Information Sheet - Page C-7.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Contractor License Affidavit Page C-8.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Bidder's List of Construction Trades - Page C-9.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Non-Collusion Declaration - Page C-10.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Subcontractors' Listing - Pages C-11 & C-12.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Contractor Reference Verification – Page C-14
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Subcontractor's List of Construction Trades - Page C-13.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Contract Agreement - Agreement Pages C-1 to C-3.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Bond for Faithful Performance (100% of Bid) Page A-13.

WITH SEALED BID (ALL BIDDERS)

WITH AGREEMENTS (AWARDEE)

PRIOR TO STARTING CONSTRUCTION (AWARDEE)

	Y	
--	---	--

Payment Bond for Labor and Material (100% of Bid) Page A-14.

	Y	
--	---	--

Maintenance Bond (10% of Bid) Page A-15.

	Y	
--	---	--

Contractor Certificate of Insurance Page A-5.

	Y	
--	---	--

Contractor Comprehensive General Liability Insurance
Endorsement Pages A-6 to A-7, and Cancellation Endorsement
Page A-11.

	Y	
--	---	--

Contractor Automotive Liability Insurance Endorsement Pages A-8
to A-9, and Cancellation Endorsement Page A-11.

	Y	
--	---	--

Excess or Umbrella Liability Endorsement, Additional Insured
Page A-10, and Cancellation Endorsement Page A-11.

	Y	
--	---	--

Waiver of Subrogation Clause Page A-12.

		Y
--	--	---

Construction and Cash Flow Schedule.

		Y
--	--	---

Materials List & Manufacturer's Brochures (as required).

		Y
--	--	---

Shop Drawings, Shoring Plans, Falsework Plans, etc. (as required).

		Y
--	--	---

Permits, Railroads Agreements, Railroad Insurance Agreements,
etc. (as required).

16. CONTRACTOR REGISTRATION PROGRAM

- A. A contractor or subcontractor shall not be qualified to bid on, be listed in a bid proposal, subject to the requirements of Section 4104 of the Public Contract Code, or engage in the performance of any contract for public work, as defined in this chapter, unless currently registered and qualified to perform public work pursuant to Section 1725.5. **Please note:** *It is not a violation of this section for an unregistered contractor to submit a bid that is authorized by Section 7029.1 of the Business and Professions Code or by Section 10164 or 20103.5 of the Public Contract Code, provided the contractor is registered to perform public work pursuant to Section 1725.5 at the time the contract is awarded.* Any bids submitted without proof that bidder and any listed subcontractor(s) are currently registered and qualified to perform public work, pursuant to Labor Code Section 1725.5, may not be accepted by the City.

17. LABOR COMPLIANCE MONITORING AND ENFORCEMENT

- A. The project is subject to compliance monitoring and enforcement by the Department of Industrial Relations (California Labor Code Section 1771.4).

18. BID PROTEST

Any bid protest must be in writing and received by the City in the City Administrative Office, located at 15625 East Stafford Street in the Los Angeles, CA 90012, before 5:00 p.m. no later than two (2) working days following bid opening (the "Bid Protest Deadline") and must comply with the following requirements:

- A. Only a bidder who has actually submitted a Bid Proposal is eligible to submit a bid protest against another bidder. Subcontractors are not eligible to submit bid protests. A bidder may not rely on the bid protest submitted by another bidder, but must timely pursue its own protest.
- B. The bid protest must contain a complete statement of the basis for the protest and all supporting documentation. Material submitted after the Bid Protest Deadline will not be considered. The protest must refer to the specific portion or portions of the Contract Documents upon which the protest is based. The protest must include the name, address, and telephone number of the person representing the protesting bidder if different from the protesting bidder.
- C. The protesting bidder must also transmit by fax or by e-mail a copy of the protest and all supporting documents by or before the Bid Protest Deadline, to the protested bidder and any other bidder who has a reasonable prospect of receiving an award depending upon the outcome of the protest.
- D. The protested bidder may submit a written response to the protest, provided the response is received by the City before 5:00 p.m., within two (2) working days after the Bid Protest Deadline or after receipt of the bid protest, whichever is sooner (the "Response Deadline"). The response must include all supporting

documentation. Material submitted after the Response Deadline will not be considered. The response must include the name, address, and telephone number of the person representing the protested bidder if different from the protested bidder.

- E. The procedure and time limits set forth in this section are mandatory and are the bidder's sole and exclusive remedy in the event of bid protest. The bidder's failure to comply with these procedures shall constitute a waiver of any right to further pursue a bid protest, including filing a Government Code Claim or initiation of legal proceedings.

SECTION C
AGREEMENT

THIS AGREEMENT, made and entered into this 26th day of January, 2017, by and between the **INDUSTRY PUBLIC UTILITIES COMMISSION** hereinafter designated as "IPUC", and Pacific Utilities Installation, Inc., hereinafter designated as "Contractor".

WITNESSETH: That the parties hereto mutually agree as follows:

ARTICLE I

For and in consideration of the payments and agreements hereinafter mentioned to be made and performed by the IPUC, the Contractor agrees with the IPUC in the matter of:

INDUSTRY PUBLIC UTILITIES COMMISSION
PROJECT NO. 1431

Grand Crossing Substation- Phase 1,2,3 Substructure & Cabling

CONTRACT NO. 1431

and agrees to perform and complete in a good and workmanlike manner all the work pertaining thereto shown on the drawings and described in the specifications therefore, except such materials as in said specifications are stipulated to be furnished by the , and to do everything required by this Agreement and said Specifications and Drawings.

ARTICLE II

For furnishing all said materials and labor, furnishing and removing all plant, temporary works and structures, tools and equipment; and doing all the work contemplated and embraced in this Agreement; also for loss and damage arising out of the nature of the work aforesaid, or from the action of the elements or from any unforeseen difficulties which may arise or be encountered in the prosecution of the work until its acceptance by the IPUC and for all risks of every description connected with the work; also for all expenses incurred by or in consequence of, the suspension or discontinuance of work, except such as in said Specifications are expressly stipulated to be borne by the IPUC and for well and faithfully completing the work and whole thereof in the manner shown and described in said drawings and specifications and in accordance with the requirements of the IPUC, the IPUC will pay and the Contractor shall receive in full compensation therefore the prices for the several items named in the Bid Schedule sheet(s).

ARTICLE III

The IPUC hereby promises and agrees with said Contractor to employ and does hereby employ said Contractor to provide the materials and do the work according to the terms and conditions herein contained and referred to for the price aforesaid and hereby contracts to pay the same at the time, in the manner and upon the conditions set forth in the specifications; and the said parties for themselves, their heirs, executors, administrators, successors and assigns, do hereby agree to the full performance of the covenants herein contained.

ARTICLE IV

Any special conditions, covenants, specifications, drawings, documents or other exhibits not hereinbefore provided and which are deemed to be necessary in order to effectuate the purposes of this Agreement, are attached hereto and by reference incorporated herein as though set forth in full, and the parties hereto consent and agree to be bound thereby.

ARTICLE V

The Specifications, including the following parts thereof, and all addenda issued by the INDUSTRY PUBLIC UTILITIES COMMISSION with respect to the foregoing before the time of opening of bids, are hereby incorporated in and made a part of this Agreement:

1. *Standard Specifications for Public Works Construction, Latest Edition*, and all supplements
2. General Provisions of the INDUSTRY PUBLIC UTILITIES COMMISSION (Section D)
3. Special Provisions
4. Instructions to Bidders
5. Notice Inviting Bids
6. Bid Schedule
7. Addenda
8. City of Industry Standard Drawings
9. Project Drawings
10. Permits with Attachments

ARTICLE VI

In the event either party institutes suit to enforce any of the provisions of this Agreement, the prevailing party shall be entitled to recover, in addition to any other sum to which he may be entitled, reasonable attorney's fees and costs of suit.

IN WITNESS WHEREOF:

The parties hereto have caused this Agreement to be executed the day and year first above written.

INDUSTRY PUBLIC UTILITIES COMMISSION
OWNER

BY: Paul J. Philips

TITLE: Public Utilities Director

SIGNATURE: _____

DATE: _____

PACIFIC UTILITIES INSTALLATION, INC
CONTRACTOR

BY: Bill Pfeifer

TITLE: PRESIDENT, CEO

SIGNATURE: _____

DATE: 1-10-17

SECTION C
BID SCHEDULE

FOR

INDUSTRY PUBLIC UTILITIES COMMISSION
PROJECT NO. 431

Grand Crossing Substation- Phase 1,2,3 Substructure & Cabling

CONTRACT NO. 1431

BIDDER: Pacific Utility Installation, Inc.

Hereby proposes to construct the above-named project in accordance with the plans and specifications for the following prices:

SCHEDULE OF WORK ITEMS

NO.	DESCRIPTION	APPROX. QTY.	UNIT MEAS.	UNIT PRICE	TOTAL
1	3/C 1,000 MCM, XLP-JCN, 220MIL, 15KV	1100	LF	34.00	37,400.00
2	Potheads, Non-Porcelan, 1,000 MCM, 15KV (at substation switchgear)	3	EA	300.00	900.00
3	600A Elbows, 1,000 MCM, 15KV	12	EA	500.00	6,000.00
4	Ground Assembly, Hooks, & Racking (at each new structure)	1	EA	500.00	500.00
5	Trenching and Backfill	140	LF	130.00	18,200.00
6	4-6" Conduit w/ Full Encasement	90	LF	85.00	7,650.00
7	2-6" Conduit w/ Full Encasement	50	LF	55.00	2,750.00
8	1-2" Conduit w/ Full Encasement	130	LF	20.00	2,600.00
9	Concrete Saw Cut, Removal, & Surface Restoration (per square foot)	50	SF	50.00	2,500.00
10	PME Tub Style Enclosure (5'x10.5'x7')	2	EA	17,850.00	35,700.00

11	S&C PME -- 10	2	EA	25,000.00	50,000.00
12	3/C 1,000 MCM, XLP-JCN, 220MIL, 15KV	4700	LF	34.00	159,800.00
13	3/C 350 MCM, XLP-JCN, 220MIL, 15KV	1100	LF	25.00	27,500.00
14	Potheads, Non-Porcelan, 1,000 MCM, 15KV (at substation switchgear)	6	EA	500.00	3,000.00
15	600A Elbows, 1,000 MCM, 15KV	87	EA	500.00	43,500.00
16	600A Elbows, 350 MCM, 15KV	6	EA	500.00	3,000.00
17	600A Dead Ends, 1,000 MCM, 15KV, with Test Points	6	EA	300.00	1,800.00
18	Ground Assembly, Hooks, & Racking (at each new structure)	3	EA	400.00	1,200.00
19	Remove Existing 4 Way Gas Switch	1	EA	500.00	500.00
20	Remove Existing 3/C 1,000 MCM, XLP-JCN, 220MIL, 15KV	627	LF	3.00	1,881.00
21	Trenching (Intercept 6' Wide & 10' deep with shoring)	40	LF	160.00	6,400.00
22	Full Encasement of Existing Conduits (include shoring & forming of encasement area)	40	LF	45.00	1,800.00
23	2-6" Conduit	40	LF	40.00	1,600.00
24	Asphalt Cut & Surface Restoration (per linear foot of trench)	40	LF	200.00	8,000.00
25	Remove Existing Vault (5'x8.5'x5') and backfill	1	EA	1,000.00	1,000.00
26	Remove Existing Transformer Pad	1	EA	100.00	100.00
27	Remove Pad mounted Transformer	1	EA	100.00	100.00
28	Remove 3/C 1/0, XLP-JCN, 220MIL, 15KV.	240	EA	3.00	720.00
29	Remove 3/C 1,000 MCM, XLP-JCN, 220MIL, 15KV	240	LF	5.00	1,200.00
30	Remove 200 AMP Load Break Elbows (1/0), 15KV.	6	EA	2.00	12.00
31	Remove Potheads, Non-Porcelan, 1,000 MCM, 15KV (at 12kv switchgear)	6	EA	2.00	12.00

32	600A Elbows, 1,000 MCM, 15KV	12	EA	2.00	24.00
33	Crew Hourly Overtime Rate (Assume Double Time for Saturday/Sunday evenings)	8	HR	374.00	2,992.00
34	Phase 1 Mandrel Conduit	900	LF	1.00	900.00
35	Phase 2 Mandrel Conduit	4900	LF	1.00	4,900.00
36	Landscaping Removal and Replacement	1	EA	2,559.00	2,559.00
	Contingency for unforeseen conditions	1	LS		
GRAND TOTAL					\$438,700.00

I hereby certify that on 11/30, 2016, Jon Sudduth/Pacific Utility Installation
(Print Name)
 examined the site of the proposed work, and the undersigned, fully understands the scope of work and has checked carefully all words and figures inserted in this Bid Schedule.

By:

Pacific Utility Installation, Inc.

CONTRACTOR NAME

susan@pacficutility.com

EMAIL ADDRESS

1000000170

DIR #

DANIEL HOLE

PRINT NAME

SIGNATURE

PREMIUM: NIL
Bond No. 2522279

GREAT AMERICAN INSURANCE COMPANY

KNOW ALL MEN BY THESE PRESENTS, that we,
Pacific Utility Installation, Inc.
as principal, and the GREAT AMERICAN INSURANCE COMPANY, a corporation existing under the laws
of the State of Ohio, having its Administrative Office at 580 Walnut Street, Cincinnati, Ohio 45202, as
surety, are held and firmly bound unto, Industry Public Utilities Commission
as obligee, in the penal sum of Ten Percent of Amount Bid
DOLLARS (\$ 10%), lawful money of the United States of America, for the payment of which,
well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors and assigns,
Jointly and severally, firmly by these presents.

SIGNED, sealed, and dated this 30th day of December 2016

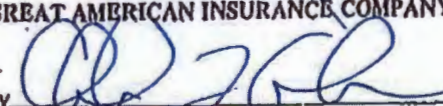
WHEREAS, the said principal is herewith submitting a proposal for
Grand Crossing Substation Phase 1,2,3 Substructure & Cabling
Project No. 431

NOW, THEREFORE, the condition of this obligation is such that, if the said principal shall be
awarded the said contract, and shall within sixty (60) days after receiving notice of
such award enter into a contract and give bond for the faithful performance of the contract, then this
obligation shall be null and void otherwise the principal and surety will pay unto the obligee the difference
in money between the amount of the principal's bid and the amount for which the obligee may legally
contract with another party to perform the work, if the latter amount be in excess of the former; but in no
event shall the liability hereunder exceed the penal sum hereof.

Pacific Utility Installation, Inc.

BY: 
Principal

GREAT AMERICAN INSURANCE COMPANY

By: 
Charles L. Flake Attorney-in-Fact

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA

County of Orange }

On 12/30/16 before me, Erin A. Sherwood, Notary Public,
Date Insert Name of Notary exactly as it appears on the official seal

personally appeared Charles L. Flake

Name(s) of Signer(s)



Place Notary Seal Above

who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

Witness my hand and official seal

Signature

Erin Sherwood
Signature of Notary Public

OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of the form to another document.

Description of Attached Document

Title or Type of Document: _____

Document Date: _____ Number of Pages: _____

Signer(s) Other Than Named Above: _____

Capacity(ies) Claimed by Signer(s)

Signer's Name: _____

- Individual
- Corporate Officer — Title(s): _____
- Partner Limited General
- Attorney in Fact
- Trustee
- Guardian or Conservator
- Other: _____

RIGHT THUMBPRINT
OF SIGNER

Top of thumb here

Signer is Representing:

Signer's Name: _____

- Individual
- Corporate Officer — Title(s): _____
- Partner Limited General
- Attorney in Fact
- Trustee
- Guardian or Conservator
- Other: _____

RIGHT THUMBPRINT
OF SIGNER

Top of thumb here

Signer is Representing:

GREAT AMERICAN INSURANCE COMPANY®

Administrative Office: 301 E 4TH STREET • CINCINNATI, OHIO 45202 • 513-369-5000 • FAX 513-723-2740

The number of persons authorized by this power of attorney is not more than FIVE

No. 0 14901

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS: That the GREAT AMERICAN INSURANCE COMPANY, a corporation organized and existing under and by virtue of the laws of the State of Ohio, does hereby nominate, constitute and appoint the person or persons named below, each individually if more than one is named, its true and lawful attorney-in-fact, for it and in its name, place and stead to execute on behalf of the said Company, as surety, any and all bonds, undertakings and contracts of suretyship, or other written obligations in the nature thereof; provided that the liability of the said Company on any such bond, undertaking or contract of suretyship executed under this authority shall not exceed the limit stated below.

Name	Address	Limit of Power
DAVID L. CULBERTSON	RICHARD A. COON	ALL
CHARLES L. FLAKE	LEXIE SHERWOOD	\$100,000,000.00
SPENCER FLAKE	ANAHEIM, CALIFORNIA	

This Power of Attorney revokes all previous powers issued on behalf of the attorney(s)-in-fact named above.

IN WITNESS WHEREOF the GREAT AMERICAN INSURANCE COMPANY has caused these presents to be signed and attested by its appropriate officers and its corporate seal hereunto affixed this 8TH day of DECEMBER 2016



My L C B
Assistant Secretary

David C. Kitchin
Divisional Senior Vice President

STATE OF OHIO, COUNTY OF HAMILTON - ss:

DAVID C. KITCHIN (877-377-2405)

On this 8TH day of DECEMBER, 2016, before me personally appeared DAVID C. KITCHIN, to me known, being duly sworn, deposes and says that he resides in Cincinnati, Ohio, that he is a Divisional Senior Vice President of the Bond Division of Great American Insurance Company, the Company described in and which executed the above instrument; that he knows the seal of the said Company; that the seal affixed to the said instrument is such corporate seal; that it was so affixed by authority of his office under the By-Laws of said Company, and that he signed his name thereto by like authority.



Susan A. Kohorst
Notary Public, State of Ohio
My Commission Expires 05-18-2020

Susan A. Kohorst

This Power of Attorney is granted by authority of the following resolutions adopted by the Board of Directors of Great American Insurance Company by unanimous written consent dated June 9, 2008.

RESOLVED: That the Divisional President, the several Divisional Senior Vice Presidents, Divisional Vice Presidents and Divisional Assistant Vice Presidents, or any one of them, be and hereby is authorized, from time to time, to appoint one or more Attorneys-In-Fact to execute on behalf of the Company, as surety, any and all bonds, undertakings and contracts of suretyship, or other written obligations in the nature thereof; to prescribe their respective duties and the respective limits of their authority; and to revoke any such appointment at any time.

RESOLVED FURTHER: That the Company seal and the signature of any of the aforesaid officers and any Secretary or Assistant Secretary of the Company may be affixed by facsimile to any power of attorney or certificate of either given for the execution of any bond, undertaking, contract of suretyship, or other written obligation in the nature thereof, such signature and seal when so used being hereby adopted by the Company as the original signature of such officer and the original seal of the Company, to be valid and binding upon the Company with the same force and effect as though manually affixed.

CERTIFICATION

I, STEPHEN C. BERAHA, Assistant Secretary of Great American Insurance Company, do hereby certify that the foregoing Power of Attorney and the Resolutions of the Board of Directors of June 9, 2008 have not been revoked and are now in full force and effect.

Signed and sealed this 30TH day of DECEMBER, 2016



My L C B
Assistant Secretary

CALIFORNIA ALL- PURPOSE CERTIFICATE OF ACKNOWLEDGMENT

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California)

County of ORANGE)

On 12-30-16 before me, SUSAN M KNOX, Notary Public
(Here insert name and title of the officer)

personally appeared DANIEL MOLE,
who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Susan M. Knox
Notary Public Signature



(Notary Public Seal)

ADDITIONAL OPTIONAL INFORMATION

DESCRIPTION OF THE ATTACHED DOCUMENT

(Title or description of attached document)

(Title or description of attached document continued)

Number of Pages _____ Document Date _____

CAPACITY CLAIMED BY THE SIGNER

Individual (s)

Corporate Officer

_____ (Title)

Partner(s)

Attorney-in-Fact

Trustee(s)

Other _____

INSTRUCTIONS FOR COMPLETING THIS FORM

This form complies with current California statutes regarding notary wording and, if needed, should be completed and attached to the document. Acknowledgments from other states may be completed for documents being sent to that state so long as the wording does not require the California notary to violate California notary law.

- State and County information must be the State and County where the document signer(s) personally appeared before the notary public for acknowledgment.
- Date of notarization must be the date that the signer(s) personally appeared which must also be the same date the acknowledgment is completed.
- The notary public must print his or her name as it appears within his or her commission followed by a comma and then your title (notary public).
- Print the name(s) of document signer(s) who personally appear at the time of notarization.
- Indicate the correct singular or plural forms by crossing off incorrect forms (i.e. he/she/they-, is/are) or circling the correct forms. Failure to correctly indicate this information may lead to rejection of document recording.
- The notary seal impression must be clear and photographically reproducible. Impression must not cover text or lines. If seal impression smudges, re-seal if a sufficient area permits, otherwise complete a different acknowledgment form.
- Signature of the notary public must match the signature on file with the office of the county clerk.
 - ✦ Additional information is not required but could help to ensure this acknowledgment is not misused or attached to a different document.
 - ✦ Indicate title or type of attached document, number of pages and date.
 - ✦ Indicate the capacity claimed by the signer. If the claimed capacity is a corporate officer, indicate the title (i.e. CEO, CFO, Secretary).
- Securely attach this document to the signed document with a staple.

RETENTION MONEY OPTION: Please initial one of the following options.

DM 1. I will provide securities in lieu of monies to be withheld to ensure performance under the contract as per Paragraph 65, General Provisions.
(Initials)

_____ 2. I will not provide securities in lieu of monies to ensure performance under the contract.
(Initials)

Pacific Utility Installations
Bidder INC
1585 HARMONY CIRCLE
Mailing Address
ANAHUIM, CA 92807
City/State/Zip
(714) 970-6430
Telephone
(714) 970-1163
Fax

[Signature]
Signature
DANIEL MOLE
Print Name
OWNER
Title
733207 / A, B, C-10
License No./Class
3-31-17
Expiration Date

Underline one of the following: The Bidder is a (Partnership)/(Corporation)/(Individual).

The names of all persons, firms or corporations interested in this sealed bid are: (See Section B, Page B-2, Item 4 - Signature of Sealed Bid).

AFFIX CORPORATE SEAL

WILLIAM PRATER, PRESIDENT
DANIEL MOLE, VICE PRESIDENT

CONTRACTORS LICENSE AFFIDAVIT

STATE OF CALIFORNIA)
) ORANGE
COUNTY OF LOS ANGELES)

INDUSTRY PUBLIC UTILITIES COMMISSION
PROJECT NO. 431

Grand Crossing Substation- Phase 1,2,3 Substructure & Cabling

CONTRACT NO. 1431

DANIEL MOLE, being first duly sworn, deposes and says that
Name

he or she is OWNER of PACIFIC UTILITY INSTALLATION INC
Title Name of Firm

733207
License Number


A, B, C-10
Classification

3-31-17
Expiration Date

The party making the foregoing bid, is a licensed contractor and understands the information shown above shall be included with the bid, and understands that any bid not containing this information, or if this information is subsequently proven to be false, shall be considered non-responsive and shall be rejected by the INDUSTRY PUBLIC UTILITIES COMMISSION.

I certify under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

12-30-16
DATE


SIGNATURE

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached and not the truthfulness, accuracy or validity of that document.

State of California, County of ORANGE
Subscribed and sworn to (or affirmed) before me on this 30 day
of DECEMBER ²⁰¹⁶ by DANIEL MOLE
proved to me on the basis of satisfactory evidence to be the
person(s) who appeared before me.
Signature Doreen M. King (Seal)

BIDDER'S LIST OF CONSTRUCTION TRADES

In submitting this bid for the following project:

**INDUSTRY PUBLIC UTILITIES COMMISSION
PROJECT NO. 431**

Grand Crossing Substation- Phase 1,2,3 Substructure & Cabling

CONTRACT NO. 1431

PACIFIC UTILITY INSTALLATION, INC. certifies that:
Bidder

The following listed construction trades will be used in the work.

UNDERGROUND UTILITIES + HIGH VOLTAGE ELECTRICAL



Signature of Authorized
Representative of Bidder

NON-COLLUSION DECLARATION

INDUSTRY PUBLIC UTILITIES COMMISSION
PROJECT NO. 431

Grand Crossing Substation- Phase 1,2,3 Substructure & Cabling

CONTRACT NO. 1431

CONTRACTOR:

PACIFIC UTILITY INSTALLATION INC

BUSINESS ADDRESS:

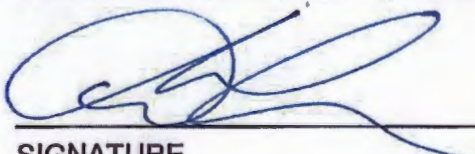
1585 HARMONY CIRCLE
ANAHEIM CA 92807

In submitting this bid for the project:

I, DANIEL MOCE, state that I have not directly or indirectly,
(Name)
entered into any agreement, participated in any collusion or otherwise taken any action in
restraint of free competitive bidding in connection with the project.

I do hereby certify under penalty of perjury under the laws of the State of California that the
foregoing is true and correct. Executed at ANAHEIM

California, this 30th day of DECEMBER, 2016.



SIGNATURE

A notary public or other officer completing this certificate verifies only the
identity of the individual who signed the document to which this certificate is attached,
and not the truthfulness, accuracy or validity of that document.

State of California, County of ORANGE
Subscribed and sworn to (or affirmed) before me on this 30 day
of DECEMBER 2016 by DANIEL MOCE
proved to me on the basis of satisfactory evidence to be the
person(s) who appeared before me

Signature Alexandra Kuy (not)

SUBCONTRACTORS LISTING - PAGE 1

INDUSTRY PUBLIC UTILITIES COMMISSION
PROJECT NO. 431

Grand Crossing Substation- Phase 1,2,3 Substructure & Cabling

CONTRACT NO. 1431

(See Paragraph 13 - Instructions to Bidders)

1. Name: Allied Paving Company
Address: 1234 N. Blue Gum, Anaheim, CA 92806
Email: ogcat@alliedpavingco.com
Telephone #: 714-632-7484 Fax #: 714-632-8599
License #: 780394 DIR #: 1000008370
Portion of Work: Surface Restoration

2. Name: _____
Address: _____
Email: _____
Telephone #: _____ Fax #: _____
License #: _____ DIR #: _____
Portion of Work: _____

3. Name: _____
Address: _____
Email: _____
Telephone #: _____ Fax #: _____
License #: _____ DIR #: _____
Portion of Work: _____

SUBCONTRACTORS LISTING - PAGE 2

**INDUSTRY PUBLIC UTILITIES COMMISSION
PROJECT NO. 431**

Grand Crossing Substation- Phase 1,2,3 Substructure & Cabling

CONTRACT NO. 1431

(See Paragraph 13 - Instructions to Bidders)

4. Name: _____
Address: _____
Email: _____
Telephone #: _____ Fax #: _____
License #: _____ DIR #: _____
Portion of Work: _____
5. Name: _____
Address: _____
Email: _____
Telephone #: _____ Fax #: _____
License #: _____ DIR #: _____
Portion of Work: _____
6. Name: _____
Address: _____
Email: _____
Telephone #: _____ Fax #: _____
License #: _____ DIR #: _____
Portion of Work: _____

CONTRACTOR REFERENCE VERIFICATION

DATE: 12-28-16

CONTRACT NO: 1431

CONTRACT NAME: Grand Crossing Substation - Phase 1, 2, 3 Structure and Cabling

CONTRACTOR: PACIFIC UTILITY INSTALLATION INC

Company Name: _____ Contact Name: _____
Title: _____
Phone Number: _____

Project Description:

Date of Completion:

PLEASE SEE ATTACHED REFERENCES

Company Name: _____ Contact Name: _____
Title: _____
Phone Number: _____

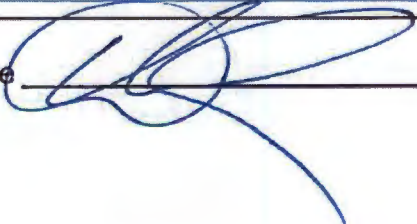
Project Description:

Date of Completion:

Company Name: _____ Contact Name: _____
Title: _____
Phone Number: _____

Project Description:

Date of Completion:

By: DANIEL MOLE _____ Signature 

**PACIFIC UTILITY INSTALLATION, INC.
PUBLIC WORKS REFERENCES**

Fred Lyn
Utilities Division Manager
Rancho Cucamonga Municipal Utility
10500 Civic Center Drive
Rancho Cucamonga, CA 91730
Tel: 909-477-2740 ext. 4035
Fax: 909-477-2741
fred.lyn@cityofrc.us

Ed Lockhart
Maintenance Manager
Corona Department of Water and Power
755 Public Safety Way
Corona, CA 92880
951-736-2443 Office
951-232-2510 Cell
951-735-3786 Fax
Ed.Lockhart@ci.corona.ca.us

George Sanchez
Construction Foreman
Moreno Valley Utility
14331 Frederick St
Suite 2
Moreno Valley, CA 92553
714-936-7562
sanchez@encous.com

Joe Castro
Electric Utilities Inspector
Transmission and Distribution
City of Anaheim Public Utilities
201 S Anaheim Blvd
Anaheim, CA 92805
714-240-3299
jcastro@anaheim.net

Pacific Utility Installation, Inc.					
Completed Dry Utility Projects Within Last 5 years					
Customer		Project	City	Contact	Total Contract
Avalon Bay	Water, Sewer, Storm Drain	Glendora	Glendora		\$ 2,416,380.00
Millie Severson		Amazon Logistics Ctr			\$ 1,596,552.00
City of Moreno Valley		MOVAL Sub Station	Moreno Valley	George Sanchez	\$ 1,117,348.00
DR Horton	Dry Utilities	Copper Sky	Eastvale	Keith Alex	\$ 913,338.00
Lennar	Dry Utilities	Harvest Village	Eastvale	Mike Ward	\$ 808,722.00
Current Dry Utility Projects					
DR Horton	Dry Utilities/High Voltage Elec	Wheelock	Jurupa Valley	Oscar Alfaro	\$ 1,906,748.00
Toll Brothers	Dry Utilities/High Voltage Elec	Baker Ranch	Lake Forest	Tommy Eckes	\$ 1,600,725.00

CORPORATE HISTORY

In 1997, founders Daniel Mole and Bill Pfeifer merged 20 years of expertise in utility planning, electrical contracting, business management and utility consulting and design to form Pacific Utility Installation, Inc. (PUI).

PUI offers a complete general engineering construction package including grading, paving, wet utilities, dry utilities and concrete for both the private and public sectors.

Over the years, PUI has completed both large and small projects for such notable home builders as D. R.Horton, Centex Homes, K Hovnanian and Lennar Homes, to name a few. PUI's commercial projects include site development for Wal Mart, Lowes, Fed Ex, Loma Linda Medical Center and Best Buy, amongst others.

More recently, PUI's expanded services have partnered them in public projects in the cities of Corona, Moreno Valley and the County of Orange.

Combined, Mole and Pfeifer hold three licenses in General Contracting, A, B and C-10.

PUI's business model has always been to offer the highest quality services necessary to complete a project on time and on budget. Their belief in hands-on, efficient customer service has given them the reputation as the contractor to call on for consultation.

RECENT PROJECT HISTORY

Project Name: Villa Venetia
Location: Costa Mesa, CA
Project Owner: UDR Texas Properties, LLC
Project Engineer: Carlos Pedroza
Firm and Contact: RD Olson (949) 474-2001
Description of Project: Water, Sewer and Storm Drain
Total Contract: \$319,782

Project Name: Amazon
Location: Moreno Valley, CA
Project Owner: I-215 Logistics, LLC
Project Engineer: Bob Gregory
Firm and Contact: Millie & Severson (562) 493-3611
Description of Project: Dry Utilities and Electrical
Total Contract: \$1,586,522

Project Name: Mesa Verde Senior Housing
Location: Mesa Verde, CA
Project Owner: MV Partners
Project Engineer: Joe Francis
Firm and Contact: Lucas General Contracting (949) 474-0221
Description of Project: Water, Sewer and Storm Drain
Total Contract: \$1,393,142

Project Name: Riverglenn
Location: Eastvale, CA
Project Owner: DR Horton
Project Engineer: Gina White
Firm and Contact: DR Horton (951) 272-9000
Description of Project: Dry Utilities and Electrical
Total Contract: \$969,429

Project Name: Loma Bonita
Location: San Dimas, CA
Project Owner: Avalon Bay Communities
Project Engineer: John Lonero, Sr.
Firm and Contact: Avalon Bay Communities (949) 955-6220
Description of Project: Water, Sewer and Storm Drain
Total Contract: \$1,057,767

Project Name: Avalon Glendora
Location: Glendora, CA
Project Owner: Avalon Bay Communities
Project Engineer: Sean Harper
Firm and Contact: Avalon Bay Communities (949) 955-6220
Description of Project: Water, Sewer and Storm Drain
Total Contract: \$913,738

Project Name: MOVAL Substation
Location: Moreno Valley, CA
Project Owner: City of Moreno Valley
Project Engineer: John Goatcher
Firm and Contact: City of Moreno Valley
Description of Project: Water, Sewer and Storm Drain
Total Contract: \$1,146,349

Project Name: Haven Avenue Line Extension
Location: Rancho Cucamonga, CA
Project Owner: City of Rancho Cucamonga
Project Engineer: Fred Lyn
Firm and Contact: City of Rancho Cucamonga
Description of Project: High Voltage Electrical
Total Contract: \$275,155

Project Name: Hidden Canyon
Location: Irvine, CA
Project Owner: Toll Brothers
Project Engineer: Chris Bleber
Firm and Contact: Toll Brothers
Description of Project: Dry Utilities and High Voltage Electrical Line Extensions
Total Contract: \$284,530

Project Name: Baker Ranch
Location: Irvine, CA
Project Owner: Toll Brothers
Project Engineer: Tommy Eckes
Firm and Contact: Toll Brothers
Description of Project: Dry Utilities and High Voltage Electrical Line Extensions
Total Contract: \$1,146,450

Project Name: Bella Strada
Location: Fontana, CA
Project Owner: DR Horton
Project Engineer: Keith Alex
Firm and Contact: DR Horton
Description of Project: Dry Utilities and High Voltage Electrical Line Extensions
Total Contract: \$2,039,600

Project Name: Wheelock
Location: Jurupa Valley, CA
Project Owner: DR Horton
Project Engineer: Keith Alex
Firm and Contact: DR Horton
Description of Project: Dry Utilities and High Voltage Electrical Line Extensions
Total Contract: \$1,895,965

PARTIAL CLIENT LIST

DR Horton
Avalon Bay Communities
Continental East
K. Hovnanian Homes
Taylor Woodrow
Portrait Construction
Beazer
Western National
Hyundai
City of Corona
City of Murrieta

Lucas General Contracting
RD Olson
Frontier Communities
Pulte Homes
Ryland
California Pacific Homes
Mortenson
Fullmer
Shopoff Group
City of Moreno Valley
City of San Jacinto

Millie & Severson
Standard Pacific
Lennar Homes
Pardee
Lewis
Brookfield
Lyle Parks
Snyder Langston
ICDC
City of Rancho Cucamonga
Toll Brothers

November 22, 2016

City of Industry
15625 E. Stafford Street, Suite 100
City of Industry, CA 91744

Request for Bids Addendum No. 1

CITY OF INDUSTRY

REQUEST FOR BIDS FOR GRAND CROSSING SUBSTATION, PHASE 1, 2, 3

CONTRACT NO. 1431

NOTE: The following attachments are hereby made a part of the project and supersede or amend the corresponding information included in the original Request for Bid.

All other terms and conditions remain unchanged.

REQUEST FOR BIDS

Pre-Bid Meeting,

1. Pre-Bid meeting for the Grand Crossing Substation, Phase 1, 2, 3 project will be held on Wednesday November 30, 2016 from 1:00 pm to 3:00 pm. Bidders wishing to attend, should meet with the City of Industry's staff and consultants at 208 Waddingham Way, City of Industry, CA 91789 just outside the fence of the 66kV substation entrance.

END OF ADDENDUM

November 22, 2016

City of Industry
15625 E. Stafford Street, Suite 100
City of Industry, CA 91744

Request for Bids Addendum No. 2

CITY OF INDUSTRY

**REQUEST FOR BIDS FOR GRAND CROSSING SUBSTATION – PHASE 1, 2, 3
STRUCTURE AND CABLING PLAN**

CONTRACT NO. 1431

NOTE: The following attachments are hereby made a part of the project and supersede or amend the corresponding information included in the original Request for Bid

All other terms and conditions remain unchanged.

REQUEST FOR BIDS

Line Items: Additions,

1. Item #5 – Add "Trenching and Backfill" with a UOM of LF and a QTY of 140
2. Item #6 – Add "4-6" Conduit w/ Full Encasement" with a UOM of LF and a QTY of 90
3. Item #7 – Add "2-6" Conduit w/ Full Encasement" with a UOM of LF and a QTY of 50
4. Item #8 – Add "1-2" Conduit w/ Full Encasement" with a UOM of LF and a QTY of 130
5. Item #9 – Add "Concrete Saw Cut, Removal, & Surface Restoration (per square foot)" with a UOM of SF and a QTY of 50
6. Item #10 – Add "PME Tub Style Enclosure (5'x10.5'x7)" with a UOM of EA and a QTY of 2
7. Item #11 – Add "S&C PME - 10" with a UOM of EA and a QTY of 2

8. Item #12 – Add "3/C 1,000 MCM, XLP-JCN, 220MIL, 15KV" with a UOM of LF and a QTY of 4,700
9. Item #13 – Add "3/C 350 MCM, XLP-JCN, 220MIL, 15KV" with a UOM of LF and a QTY of 1,100
10. Item #14 – Add "Potheads, Non-Porcelain, 1,000 MCM, 15KV (at substation switchgear)" with a UOM of EA and a QTY of 6
11. Item #15 – Add "600A Elbows, 1,000 MCM, 15KV" with a UOM of EA and a QTY of 87
12. Item #16 – Add "600A Elbows, 350 MCM, 15KV" with a UOM of EA and a QTY of 6
13. Item #17 – Add "600A Dead Ends, 1,000 MCM, 15KV, with Test Points" with a UOM of EA and a QTY of 6
14. Item #18 – Add "Ground Assembly, Hooks, & Racking (at each new structure)" with a UOM of EA and a QTY of 3
15. Item #19 – Add "Remove Existing 4 Way Gas Switch" with a UOM of LF and a QTY of 1
16. Item #20 – Add "Remove Existing 3/C 1,000 MCM, XLP-JCN, 220MIL, 15KV" with a UOM of LF and a QTY of 627
17. Item #21 – Add "Trenching (Intercept 6' Wide & 10' deep with shoring)" with a UOM of LF and a QTY of 40
18. Item #22 – Add "Full Encasement of Existing Conduits (include shoring & forming of encasement area) " with a UOM of LF and a QTY of 40
19. Item #23 – Add "2-6" Conduit" with a UOM of LF and a QTY of 40
20. Item #24 – Add "Asphalt Cut & Surface Restoration (per linear foot of trench)" with a UOM of LF and a QTY of 40
21. Item #25 – Add "Remove Existing Vault (5'x8.5'x5') and backfill" with a UOM of EA and a QTY of 1
22. Item #26 – Add "Remove Existing Transformer Pad" with a UOM of EA and a QTY of 1
23. Item #27 – Add "Remove Pad mounted Transformer" with a UOM of EA and a QTY of 1
24. Item #28 – Add "Remove 3/C 1/0, XLP-JCN, 220MIL, 15KV." with a UOM of EA and a QTY of 240
25. Item #29 – Add "Remove 3/C 1,000 MCM, XLP-JCN, 220MIL, 15KV" with a UOM of LF and a QTY of 240
26. Item #30 – Add "Remove 200 AMP Load Break Elbows (1/0), 15KV." with a UOM of EA and a QTY of 6

27. Item #31 – Add "Remove Potheads, Non-Porcelan, 1,000 MCM, 15KV (at 12kV switchgear)" with a UOM of EA and a QTY of 6

28. Item #32 – Add "600A Elbows, 1,000 MCM, 15KV" with a UOM of EA and a QTY of 12

Documents/Attachments

1. Updates to Section C – Bid Schedule, please see pages C-4, C-5, and C-6 of the Bid Package, Plans, & Specifications document for additions to list of items.

END OF ADDENDUM

December 2, 2016

City of Industry
15625 E. Stafford Street, Suite 100
City of Industry, CA 91744

Request for Bids Addendum No. 3

CITY OF INDUSTRY

**REQUEST FOR BIDS FOR GRAND CROSSING SUBSTATION – PHASE 1, 2, 3
STRUCTURE AND CABLING PLAN**

CONTRACT NO. 1430

NOTE: The following attachments are hereby made a part of the project and supersede or amend the corresponding information included in the original Request for Bid

All other terms and conditions remain unchanged.

REQUEST FOR BIDS

Line Items: Additions,

1. Item #33 – Add "Crew Hourly Overtime Rate (Assume Double Time for Saturday/Sunday evenings)" with a UOM of HR and a QTY of 8
2. Item #34 – Add "Phase 1 Mandrel Conduit " with a UOM of LF and a QTY of 900
3. Item #35 - Add "Phase 2 Mandrel Conduit " with a UOM of LF and a QTY of 4,900
4. Item #36 – Add "Landscaping Removal and Replacement" with a UOM of EA and a QTY of 1

Documents/Attachments

1. Update to Bid Package – "Bid Submittal". All prospective bidders must submit their bids digitally through the PlanetBids portal. No hard copies of bids shall be submitted to the City.

CITY-431 – Request for Bids Addendum No. 3 – K.Weger.doc

REQUEST FOR BIDS ADDENDUM NO. 3
PAGE 1 OF 2

END OF ADDENDUM

December 12, 2016

City of Industry
15625 E. Stafford Street, Suite 100
City of Industry, CA 91744

Request for Bids Addendum No. 4

CITY OF INDUSTRY

**REQUEST FOR BIDS FOR GRAND CROSSING SUBSTATION – PHASE 1, 2, 3
STRUCTURE AND CABLING PLAN**

CONTRACT NO. 1431

NOTE: The following attachments are hereby made a part of the project and supersede or amend the corresponding information included in the original Request for Bid

All other terms and conditions remain unchanged.

REQUEST FOR BIDS

Question & Answer

The answer to Question 3.2 has been updated. The question has been resubmitted and given the correct answer in Question 4.1. The answer now reads "All conduit must be encased with a 2.02 Concrete Mix". Please take this into consideration when preparing your bids and do not follow the previous answer to Question 3.2.

END OF ADDENDUM

December 16, 2016

City of Industry
15625 E. Stafford Street, Suite 100
City of Industry, CA 91744

Request for Bids Addendum No. 5

CITY OF INDUSTRY

REQUEST FOR BIDS FOR GRAND CROSSING SUBSTATION – PHASE 1, 2, 3
STRUCTURE AND CABLING PLAN

CONTRACT NO. 1431

NOTE: The following attachments are hereby made a part of the project and supersede or amend the corresponding information included in the original Request for Bid

All other terms and conditions remain unchanged.

REQUEST FOR BIDS

Documents & Attachments

The uploaded document "Bid Package, Plans & Specifications" has been revised. Pages C-4, C-5, and C-6, known as "Bid Schedule", have been updated to match the Line Items shown on PlanetBids. The updated Bid Schedule, Schedule of Work Items should be used in preparation of your bids.

Bid Due Date Extension

Due to the above modification, the bid due date has been extended from December 19, 2016 at 1:00 PM to December 21, 2016 at 1:00 PM. Any bids that have already been submitted must be resubmitted after acknowledgment of Addendum No. 5.

END OF ADDENDUM

December 20, 2016

City of Industry
15625 E. Stafford Street, Suite 100
City of Industry, CA 91744

Request for Bids Addendum No. 6

CITY OF INDUSTRY

**REQUEST FOR BIDS FOR GRAND CROSSING SUBSTATION – PHASE 1, 2, 3
STRUCTURE AND CABLING PLAN**

CONTRACT NO. 1431

NOTE: The following attachments are hereby made a part of the project and supersede or amend the corresponding information included in the original Request for Bid

All other terms and conditions remain unchanged.

REQUEST FOR BIDS

Bid Due Date Extension

Due to the above modification, the bid due date has been extended from December 21, 2016 at 1:00 PM to December 30, 2016 at 1:00 PM. Any bids that have already been submitted must be resubmitted after acknowledgment of Addendum No. 6.

Documents & Attachments

The uploaded document "Bid Package, Plans & Specifications" has been revised. Page A-1, which lists required licenses required by the contractor or their subcontractors, has been updated. Licenses C-12 Earthwork & Paving and C-31 Construction Zone Traffic Control are no longer required for bid submission. License Classes A-General Engineering and C-10 Electrical are required.

Bid submission documents have also been updated. Reference Sheet has been included as page C-14 and is included in the checklist of required documents on page B-5. The Reference Sheet must be completed and submitted with your bid to ensure acceptance.

END OF ADDENDUM

CITY-1431 – Request for Bids Addendum No. 6 – K.Weger.doc

REQUEST FOR BIDS ADDENDUM NO. 6
PAGE 1 OF 1

SECTION D

GENERAL PROVISIONS

1. DEFINITIONS

- A. Whenever the words defined in this article or pronouns used instead occur in these Specifications, or in any of the other contract documents, they shall have the meanings here given.
- B. The word "City" shall mean the City of Industry.
- C. The term "City Engineer" shall mean the person who is duly authorized by the Industry Urban-Development City to serve in the capacity of City Engineer.
- D. The word "City Engineer" shall mean the duly authorized City Engineer acting either directly or through his properly authorized agents, such agents acting severally within the scope of the particular duties entrusted to them.
- E. The word "Contractor" shall mean the party of the second part entering into the contract with the City for the performance of work required by these Specifications and legal representatives of said party, or the agent is referred to throughout the contract documents as if of the singular number and the masculine gender.
- F. The term "Subcontractor" shall mean one who, as a subcontractor performs at the site of the work some part of the Contractor's obligations under the contract.

2. CONTRACT DOCUMENTS

- A. The Notice Inviting Sealed Bids, the Bid Schedule, the Specifications and the drawings, together with the Agreement, constitute the CONTRACT. These contract documents are complimentary, and what is called for in any one shall be binding as if called for in all. The intention of the documents is to require a complete and finished piece of work. The Contractor at his sole cost and expense shall perform all labor and services and shall furnish all materials, tools, equipment of such items as are definitely stipulated in the Specifications or the drawings to be furnished by the City of Industry. Anything shown in the drawings and not in the Specifications, or in the Specifications and not in the drawings, shall be performed by the Contractor as though shown in both the drawings and the Specifications.

3. AUTHORITY OF THE ENGINEER

- A. The City Engineer shall give all orders and directions contemplated under the contract shall determine the adequacy of the Contractor's methods, plant and appurtenances, shall determine in all cases the amount, quality, quantity and fitness of the several kinds of work and materials which are to be paid for; shall determine all questions in relation to said work and the construction thereof; and shall determine in all cases every question which may arise relative to the fulfillment of this contract on the part of the Contractor. Should any discrepancy appear or any misunderstanding arise as to the importance of anything contained in the Specifications or drawings, the matter shall be referred to the City Engineer who shall decide same in accordance with the true intent and meaning construed by him, and his decision shall be binding upon the Contractor. Any differences or conflicts which may arise between the Contractor and other Contractors of the City of Industry in regard to the work shall be adjusted and determined by the City Engineer.

4. ACCESS TO WORK

- A. The City Engineer, his assistants, inspectors, agents and other employees shall at all times and for any purpose have access to the work and the premises used by the Contractor; and the Contractor shall provide safe and proper facilities thereof.

5. LINES, GRADES AND MEASUREMENTS

- A. The Contractor shall furnish and provide necessary survey, including all construction stakes and reference points necessary for the proper and satisfactory construction and completion of the integrated work, and will provide the City Engineer with all necessary information relative thereto; and the work shall, during its progress and upon completion, conformation, to the grade, alignment and dimensions so indicated. A licensed Surveyor approved by the City Engineer must be used. All grade sheets will be submitted to the City Engineer for approval 48 hours in advance of the construction.
- B. Due precaution shall be exercised by the Contractor to preserve all such stakes and reference points in their original positions; and he will bear any expense incurred in replacing any that have been moved or destroyed as a consequence of negligence or any willful act on his part or by any of his subordinates or employees.
- C. Measurements required to determine quantities for purposes of payments under unit price items will be taken by the Contractor and checked by the City Engineer. All survey notes and calculations pertaining to the computation of quantities under unit price items will be made available to the City Engineer for checking.

- D. The Contractor shall preserve all benchmarks, monuments, survey marks and stakes and, in case of their removal or destruction by employees, he shall be liable for the cost of their replacement.

6. LEGAL ADDRESS OF CONTRACTOR

- A. The address given in the Contractor's bid on which the contract is founded is hereby designated as the place to which all notices, letters and other communication to the Contractor shall be mailed or delivered. The mailing to or delivering at the above-named place of any notice, letter or other communications to the Contractor shall be deemed sufficient service thereof upon the Contractor. The date of said service shall be the date of such mailings or delivery. Such address may be changed at any time by a written notice signed by the Contractor and delivered to the City Engineer.

7. CONTRACTOR'S RESPONSIBILITIES

- A. The Contractor shall be responsible for safe and efficient methods and equipment used during the progress of the work; and to secure the safety of all workmen, maintain the quality of work required and conformance to approved construction schedules.
- B. The Contractor shall bear all losses resulting to him on account of the amount or character of the work or from any unforeseen obstructions or difficulties which may be encountered. Section 20.B "CHANGED CONDITIONS" of these General Provisions shall take precedence over this Section 7B.
- C. The Contractor shall assume the defense of and indemnify and save harmless the City, City of Industry, Property Owners and their officers, agents and employees from all claims of any kind arising from his own negligence or that of his agents in the performance of the contract.
- D. The Contractor shall be responsible for any materials furnished him and for the care of all work until its completion and final acceptance and he shall, at his own expense, replace damaged or lost material and repair damaged parts of the work, or same may be done at his expense by the City.
- E. During the progress of the work the Contractor shall keep the premises occupied by him in a neat and clean condition and free from unsightly accumulation of rubbish. He shall remove from the vicinity of the completed work all plant, building, rubbish, unused material, concrete forms and other equipment and materials belonging to him under his direction during construction and in the event of his failure to do so, same may be removed by the City at the expense of the Contractor. The City of Industry Disposal Company has an exclusive contract for trash pickup.

- F. During the progress of the work adequate provisions shall be made by the Contractor to so accommodate the normal traffic flow over any road or street being used to minimize any inconvenience to the general public. Satisfactory means of ingress and egress for occupants of property adjacent to the work with convenient access to driveways, houses and buildings shall be provided at all times. The Contractor shall be required to provide and maintain barriers, guards, lights and temporary bridges and to post watchmen and flagmen when and where it may be necessary to do so in order to effectively guard the public from danger as a result of work being done. The Contractor shall take any and all measures that may be necessary and reasonable to prevent injury to person and property during the progress of the work; shall comply with all Federal, State, and local laws that may be applicable in connection with the public convenience, health and safety; and shall comply with all provisions specified in the Agreement hereto.
- G. The Contractor shall furnish to the City Engineer and to such other departments of the City as the City Engineer may designate, the name, address and telephone number of at least one (1) person who may be contacted by said City of Industry at any time when the Contractor or his authorized representatives are not present at the location of the Contractor in the event any emergency should arise which would affect or be affected by the then conditions of the work in progress.

8. CONTRACTOR'S COOPERATION

- A. The Contractor shall cooperate with any and all persons or entities which may be operating in the same location at approximately the same time. Any arbitration necessary between this Contractor and any other force in the area shall be accomplished by the City Engineer and his decision shall be binding.

9. CONTRACTOR TO FURNISH INFORMATION

- A. Before proceeding with the erection of construction plant and other temporary structures, the Contractor shall furnish the City Engineer with information and drawings of all such structures as may be required by the City Engineer.
- B. Drawings and prints in such detail as may be required of articles, machinery or fabricated materials entering into permanent construction which are by these Specifications required to be furnished by the Contractor and of which detailed drawings are not furnished by the City, shall be submitted by the Contractor for approval and shall become the property of the Agent. Such approval shall not, however, operate to waive or modify any provision or requirement contained in these Specifications.

10. SPECIFICATIONS AND DRAWINGS

- A. The Contractor shall check all dimensions and quantities on the drawings or bidding items herein contained or given to him by the City Engineer and shall notify the City Engineer of all errors therein which may be discovered by examining and checking the drawings. He shall not take advantage of any error or omission in these Specifications, or in the drawings or bidding sheet as full instructions as if originally specified.

11. PERSONAL ATTENTION

- A. The Contractor shall give his personal attention constantly to the faithful prosecution of the work, and shall be present, either in person or by a duly-authorized and competent representative on the site of the work continually during its progress to receive directions or instructions from the City Engineer. Whenever the Contractor is not present on any part of the work where it may be desired to give directions, orders may be given by the City Engineer, and shall be received and obeyed by the superintendent or foreman who may have charge of the particular part of the work in reference to which orders are given.

12. PROTESTS

- A. If the Contractor considers any work demanded of him to be outside the requirements of the contract, or if he considers any order or ruling of the City Engineer or of any inspector to be unfair, he shall immediately upon such work being demanded, or such order or ruling being made, ask for written instructions or decisions, whereupon he shall proceed without delay to perform the work or conform to the order or ruling; but unless the Contractor finds such instructions or decisions satisfactory, he shall within ten (10) days after receipt of same, file a written protest with the City Engineer stating clearly and in detail his objections and the reasons therefore. Except in the manner specified and within the time stated herein, the Contractor hereby waives all grounds for protests or obligations to the orders, rulings, instructions, or decisions of the City Engineer and hereby agrees that as to all matters not included in such protests, the orders, instructions and decisions of the City Engineer shall be final and conclusive.

13. RIGHT OF WAY

- A. The Right of Way for the work to be constructed under these Specifications will be provided by the City. Nothing herein contained, however, and nothing marked on the drawings shall be interpreted as giving the Contractor exclusive occupancy of the Right of Way provided.

- B. Lands to be furnished by the City for construction operation and other purposes will be specifically shown on the drawings or provided for in the Special Provisions. Should the Contractor find it necessary to use any additional land during the construction of the work, he shall provide for the use of such lands at his own expense.

14. TIME AND ORDER OF WORK

- A. The Contractor shall at all times employ such force, plant, materials and tools as will be sufficient in the opinion of the City Engineer, to complete the work or any separable portions thereof, in accordance with the coordinating and detour plans and made part of the Special Provisions, and within the time limit fixed by the contract. If the Contractor should fail to employ such sufficient force, plant, materials and tools or to maintain adequate progress he may, after such failure, be required to increase his progress at any point or points or to modify the coordinating and detour plans and procedures in such a manner to the satisfaction of the Engineer. No extension of time shall be made for ordinary delays and accidents and the occurrence of such shall not relieve the Contractor from the necessity of maintaining the required progress. In case of an extension by the City Engineer of the time for the completion of the contract as hereinafter provided, a revised schedule of progress may be prescribed in accordance with such extension of time.
- B. The time in which the various portions and the whole of the contracts are to be performed and the work is to be completed is of the essence of the contract.

15. ASSIGNMENT FORBIDDEN

- A. The Contractor shall not assign, transfer, convey or otherwise dispose of this contract or of his right, title or interest in or to the same or any part thereof, without the written consent of the City Engineer; and he shall not assign by Power of Attorney or otherwise any of the monies to become due and payable under the contract, unless by and with the like consent signified in like manner. If the Contractor shall, without such previous written consent, assign, transfer, convey or otherwise dispose of the contract or of his right, title or interest therein, of or any of the monies to become due under the contract, to any other person, company or other corporation, the contract may, at the option of the City, be terminated and revoked and the City shall thereupon be relieved and discharged from any and all liability and obligations growing out of same to the Contractor and to his assignee or transferee. No right under the contract, nor any right to any money to become due hereunder, shall be asserted against the City in law or equity by reason of the so-called assignment of the contract, or any part thereof, or by reason of the assignment of any monies to become due hereunder, unless authorized as aforesaid by the written consent of the City Engineer.

16. SUBCONTRACT

- A. At the discretion of the City Engineer, subcontracts may be permitted to such extent as shall be shown to be necessary or definitely advantageous to the principal Contractor in the prosecution of the work and without injury to the interests of the City. The resubletting of work by a subcontractor shall be subject to the same limitations as an original subletting. No subcontract will be permitted which has the effect of avoiding wage requirements or any provisions of the main contract. Individual subcontractors or members of subcontracting organizations, personally engaged upon the work, shall be subject to all the requirements of all conditions of these Specifications applicable to employees working for wages.
- B. Reference is hereby made to the provisions of Chapter 2 of Division 5, Title 1, of the Government Code of the State of California. As required by the provisions of said Chapter 2, the Contractor shall state in his bid, the name and location of the place of business of each subcontractor who will perform work or labor or render service to the prime Contractor in or about the construction of the work or improvement, or a subcontractor licensed by the State of California who, under subcontract to the prime Contractor, specially fabricates and installs a portion of the work or improvement according to detailed drawings contained in the place and specifications, in an amount in excess of one-half of 1 percent of the prime Contractor's total bid.

The attention of the bidder is directed to the other provisions of said Chapter 2. Notwithstanding the provisions of said Chapter 2 and the Contractor's compliance therewith, the City's acceptance of his bid shall not constitute authority to the Contractor to sublet or subcontract any of the work to any subcontractor so named in the bid but permission to subcontract any portion of the work to any subcontractor so named in the bid shall be within the discretion of the City Engineer, as provided in subdivision (a) of this section.

- C. A copy of each subcontract, if in writing, or if not in writing then a written statement signed by the Contractor giving the name of the subcontractor and the terms and conditions of each subcontract, shall be filed with the City Engineer before the subcontractor begins work.

Each subcontract shall contain a reference to the agreement between the City and the Contractor, and the terms of that agreement, and all parts thereof, shall be within a part of such subcontract insofar as applicable to the work covered hereby. Each subcontract shall provide for its annulment by the Contractor at the order of the City Engineer, if in the City Engineer's opinion the subcontractor fails to comply with the requirements of the principal contract insofar as the same be applicable to his work. Nothing herein contained shall create any contractual relations between any subcontractor and the City or relieve the Contractor of any liability or obligation hereunder.

17. SUSPENSION OF CONTRACT

- A. If the work to be done under the Contract shall be abandoned by the Contractor, or if the Contractor shall make a general assignment for the benefit of his creditors or be adjudicated or bankrupt, or if a receiver of his property or business be appointed by a Court of competent jurisdiction, or if this contract shall be assigned by him otherwise than hereinbefore specified, or if at any time the City Engineer is of the opinion that the performance of the Contract is unnecessarily or unreasonably delayed, or that the Contractor is willingly violating any of the conditions or covenants of the contract, or of the Specifications, or is executing the same in bad faith or not in accordance with the terms thereof, or if the work is not fully completed within the time span identified in the contract for its completion, or within the time to which the completion of the contract may have been extended as hereinbefore provided, the City Engineer, acting on behalf of the City, may by written notice, instruct the Contractor to discontinue all work, or any part thereof, under this contract.
- B. When such written notice is served upon the Contractor as provided in Section 17 (a) hereof, he shall immediately discontinue the work or such part thereof as is covered by the notice and shall not resume same except by written instructions from the City Engineer. In any case, the City may take charge of the work and complete it via a new contract or by force account. In so doing, the City may take possession of and use any of the materials, plant, tools, equipment supplies and property of every kind provided by the Contractor for the purpose of his work. The City may procure other materials and provide labor for the completion of same, or contract therefore, and charge the expense of completion by either method to the Contractor.

These charges shall be deducted from such monies as may be due or may at any time hereafter become due the Contractor under and by virtue of this contract, or any part thereof. In case such expense shall exceed the amount which would have been due the Contractor under the contract if same had been completed by him, he shall pay the amount of such excess to the City; and, in case such expense shall be less than the amount which would have been payable under this contract, he shall have no claim to the difference, except to such extent as may be necessary, in the opinion of the City Engineer, to reimburse the Contractor or the Contractor's sureties for any expense properly incurred for plant, equipment, materials, supplies, and labor devoted to the prosecution of the work, of which the City shall have received the benefit and which shall not have been otherwise paid for by the City. In computing such expense, as it relates to plant and equipment taken over by the City, the salvage value of such plant and equipment, at completion of the work shall be deducted from the depreciated value thereof at the time taken over by the City, and the difference shall be considered as an expense. Evidence of such expense, satisfactory to the City Engineer, shall be required and all necessary estimates.

When any particular part of the work is being carried on for the City by contract or otherwise under the provisions of this section, the Contractor shall continue the remainder of the work in conformity with the terms of this contract and in such manner as in no way to hinder or interfere with the persons or workmen employed as above provided by the City.

18. SUSPENSION OF WORK - EXTENSION OF TIME - NO EXTRA COMPENSATION

- A. The City reserves the right of suspending the whole or any part of the work herein contracted to be done, if the City Engineer shall deem it for the interests of the City to do so. If said work shall be delayed in consequence of such suspensions, or of failure on the part of the City to provide right of way or any other act of omission by the City or by strikes, acts of GOD, or other unforeseeable causes beyond the control and without the fault or negligence of the Contractor, or his subcontractors, the Contractor shall be entitled to so much additional time wherein to perform and complete the contract on his part as the City Engineer shall certify in writing to be just.
- B. When delay is caused by an order to suspend work given on account of climatic conditions that could have been reasonably foreseen, the Contractor shall not be entitled to any extension of time on account of such order.
- C. Applications for extensions of time must be made promptly in writing stating reasons thereof. No delay shall be made the basis in any application for extension of time, unless such delay and the cause thereof shall have been called to the attention of the City Engineer in writing within the ten (10) days immediately following the end of such delay. Application for extension of time shall be addressed to the City Engineer.
- D. Permitting the Contractor to continue and finish the work, or any part of it, after the date to which the time fixed for its completion may have been extended, shall in no way operate as a waiver on the part of the City of Industry its rights under this contract.
- E. The Contractor shall receive no compensation on account of any delay or hindrance herein mentioned, except as provided in the Special Provisions.

19. CHANGES

- A. If either the City Engineer or the Contractor on account of conditions which develop during the progress of the work finds it impracticable to comply strictly with these Specifications, the City Engineer may prescribe a modification of requirements or of method of work.

- B. For such purposes the City Engineer may, at any time during the life of the contract, by written order, make such changes as he shall find necessary in the design, line, grade, form, location, dimensions, plan or material of any part of the work to be done, these changes shall not constitute the basis for a claim for damages or anticipated profits on the work that may be dispensed with, PROVIDED, that if such changes or alterations render useless any work already done or materials already furnished or used in the work, the City Engineer shall make reasonable allowance therefore, which action shall be binding upon both parties.
- C. In the event of increasing or decreasing of work, payment shall be per Section 3-2.2 Contract Unit Prices, of the Standard Specifications for Public Works construction. In the event no prices are named in the contract to cover such changes or alterations, the cost of such changes shall be covered as hereafter provided for extra work, per Sections 3-3 of the Standard Specifications for Public Works Construction.

20. EXTRA WORK AND CHANGED CONDITIONS -

- A. EXTRA WORK - The provisions of Sub-section 3-3 EXTRA WORK are modified as follows:

- 1) In Subsection 3-3.1 GENERAL - add "The Contractor shall notify the City Engineer, in writing, of new or unforeseen work immediately (within 24 hours) upon their discovery and before they are disturbed. No extra work shall proceed until authorized, in writing, by the City.
- 2) In Sub-section 3-3.2.2.3 TOOL AND EQUIPMENT RENTAL - delete the second paragraph and insert "The equipment rental rates shall be those rates established by the Contractor as its direct costs. Authorized standby costs of equipment shall be that portion of the rental rate established as ownership costs. Prior to start of construction, the Contractor shall submit a list of all equipment anticipated to be used on the project showing the rental rate, less labor, to include a separate column for ownership costs. These rates are subject to audit by the City and are adjustable according to the findings of the auditor." Subsections are referenced to Standard Specifications for Public Works Construction. In Subsection 3-3.2.3.1 WORK BY SUBCONTRACTOR - add "Work by second tier subcontractors shall have no additional markup added."

- B. CHANGED CONDITIONS

- 1) The provisions of Sub-section 3-4 CHANGED CONDITIONS are modified as follows:

- a. In the second paragraph, after the sentence ending with the phrase "in accordance with Subsection 3-2 or 3-3." add "The Contractor shall not proceed with work on the changed condition until a change order has been issued."
- b. In the fifth paragraph, delete the word "promptly" and insert "within twenty-four hours."

21. MONTHLY COSTS STATEMENTS

- A. The Contractor shall, unless otherwise set forth in the Special Provisions, furnish the City Engineer promptly, at the end of each calendar month, all information necessary to determine the costs of the work done up to that date, including an itemized statement in a form satisfactory to the City Engineer of the actual cost of all acceptable materials delivered by the Contractor to the site. The Contractor shall permit the City Engineer to have access to original payrolls, vouchers and other records to the extent required to verify the figures given in each such statement and the Contractor shall not be entitled to receive payment on account of any invoice herein provided for unless and until he shall furnish the City Engineer a satisfactory statement of the cost of the work up to the end of the month, or of the entire period, if completed.

22. INVOICES AND APPLICATION FOR PAYMENT REQUEST

- A. The City Engineer shall, upon receipt of information as provided in Section 21, hereof, authorize the Contractor to submit an invoice and application for payment request, such as in the City Engineer's opinion shall be just and fair, covering the amount and value of all the work done by the Contractor and of the amount and value of all acceptable materials furnished and delivered by the Contractor to the site and not used up to that time in the performance of the contract. To the figure thus arrived at shall be added any amounts due to the Contractor for extra work and the amount of any approved claims for extra cost to the date of the invoice. If securities are not provided in lieu of retention monies (see Paragraph 65), then a deduction of five percent (5%) shall be made from the total thus combined. From the remainder there shall further be deducted any amount due the City from the Contractor for supplies or materials furnished or service rendered and any other amounts that may be due to the City under the terms of the payments and the remainder shall constitute the progress payment for that month. Such invoice shall be in a form provided by the City Engineer and shall be submitted in triplicate to the City Engineer by the first Thursday of each month.

23. PROGRESS PAYMENT MAY BE WITHHELD

- A. The progress payment provided for in Section 24, hereof, may at any time be withheld or reduced if, in the opinion of the City Engineer, the Contractor is not diligently and efficiently endeavoring to comply with the intent of the contract, or, if the Contractor shall fail to pay his labor and materials as they become due.

24. PROGRESS PAYMENTS

- A. Upon receipt by the City Engineer of the invoice and application for payment request as specified in Section 22, hereof, the City Engineer shall, within fifteen (15) days after the date of such receipt, except as stipulated in subsection (b) hereof, pay to the Contractor the amount stated on such invoice and application for payment request; provided, however, that the City may at all times reserve and retain from such progress payment, any sum or sums which by the terms hereof, or of any law of the State of California, is or may be authorized or required to reserve or retain; and provided further, that no such progress payment shall constitute acceptance of the work or of any portion, thereof. The percentage deducted as above set forth shall become due and payable with and as part of the final payment to be made as hereinafter provided.
- B. In the event the contract, or any part thereof, shall be suspended as provided in Section 17, hereof, the retained percentage as provided in Section 23, hereof, shall become the sole and absolute property of the City to the extent necessary to repay to the City as excess in the cost of the work above the contract price. After issuance of notice to discontinue work, no payment upon invoices or otherwise shall thereafter be made the Contractor for the work covered by said notice until completion of the work and final settlement.

25. FINAL INVOICE, APPLICATION FOR PAYMENT AND PAYMENT

- A. With reference to the Standard Specifications for Public Works Constructions, the applicable provisions of Subsection 6-8 (Completion, Acceptance, and Warranty) and 9-3 (Payment) are modified as follows:

After the acceptance of the work by the City, the City Engineer will file a Notice of Acceptance with the County Recorder. Retained money, less any authorized deductions, will be released to the Contractor thirty-five (35) days after the filing of the Notice of Acceptance. The Contractor shall execute a lien release for all work included in the final payment.

26. RECOVERY OF DAMAGES

- A. The making of an estimate and payment in accordance therewith shall not preclude the City from demanding and recovering from the Contractor such damages as it may sustain by reason of his failure to comply with the Specifications.

27. FINAL PAYMENT TERMINATES LIABILITY

- A. The acceptance by the Contractor of the final payment aforesaid shall be a release to the City and its agents, from all claim and liability to the Contractor for anything done or furnished for, or relating to, the work or for any act or neglect of the City or any person relating to or affecting the work, except the claim against the City for the remainder, if any, of the amounts kept or retained as provided in Section 25, hereof.

28. NO PERSONAL LIABILITY

- A. No agent of the City shall be personally responsible for any liability arising under the contract. No claim shall be made or filed and neither the City nor any of its agents, shall be liable for, or held to pay money, except as specifically provided in the contract.

29. MONIES MAY BE RETAINED

- A. The City may keep monies which would otherwise be payable at the time hereunder and apply same, or so much as may be necessary thereof, to the payment of any expense, losses or damages as determined by the City Engineer, incurred by the City for which the Contractor is liable under the contract.

30. UNPAID CLAIMS

- A. The City, City of Industry or Property Owner, and its officers may, at its option and at any time, retain out of any amounts due the Contractor, sums sufficient to cover claims, liens, etc., filed pursuant to Section 3179, et. seq., of the Civil Code.

31. ADDITIONAL SURETY

- A. If during the continuance of the Contract, any of the sureties upon the faithful performance bond, in the opinion of the City Engineer, are or become insufficient, he may require additional sufficient sureties which the Contractor shall furnish to the satisfaction of the City Engineer within Fifteen (15) days after notice, and in default thereof, the contract may be suspended and the work completed as provided in Section 17, hereof.

32. PAYMENT OF WAGES

- A. The issuance of a check as payment for wages of evidence and indebtedness is prohibited unless same is negotiable and payable on demand without discount. Wages must be paid at least weekly on a regular pay day established in advance, and shall include all amounts for labor or services performed by employees of every description required under the provisions of the California Labor Code.

- B. The project is subject to compliance monitoring and enforcement by the Department of Industrial Relations (California Labor Code Section 1771.4).

33. PAYROLL RECORDS

- A. Contractor, and each subcontractor shall, pursuant to Labor Code Section 1776, keep an accurate payroll record showing the name, address, social security number, work classification, straight time and overtime hours worked each day and week, and the actual per diem wages paid to each journeyman, apprentice, worker or other employee employed by him or her in connection with the public work. The Contractor shall be responsible for providing certified copies of all such payroll records in compliance with Labor Code Section 1776.
- B. Pursuant to California Labor Code Section 1771.4, the contractor and its subcontractor(s) shall furnish the records specified in Section 1776 directly to the Labor Commissioner, in the following manner:
 - 1) At least monthly or more frequently if specified in the contract with the awarding body.
 - 2) In a format prescribed by the Labor Commissioner.

34. EIGHT-HOUR LAW

- A. The maximum hours of work for adults and minors and requirements for overtime pay are governed by the California Labor Code. The Contractor, its agents and employees shall be bound by and comply with the applicable provisions of the California Labor Code.

35. CHARACTER OF WORKMEN

- A. None but skilled workmen shall be employed on work requiring special qualifications. When required in writing by the City Engineer, the Contractor, or any subcontractor shall discharge any person who is, in the opinion of the City Engineer, incompetent, disorderly, unfaithful or otherwise unsatisfactory and shall not employ such discharged person on the work, except with the consent of the City Engineer.

36. MATERIALS, WORKMANSHIP AND TESTS

- A. The Contractor shall submit samples or test pieces of such materials to be furnished or used in the work as the City Engineer shall require. All materials must be of the specified quality and equal to approved sample, if samples have been submitted. The City shall pay for, without cost to the Contractor, all tests and test data required for quality of construction materials and soil samples as may be required for test purposes, and shall place at the City Engineer's disposal all available facilities for and cooperate with him in the sampling and testing of all materials and

workmanship. All work must be completed in a thorough and workmanlike manner, notwithstanding any omission from these specifications and/or drawings. All soils tests, if required, will be certified by a Geotechnical Engineer and shall be made available without cost to the Contractor.

37. INSPECTION

- A. The Contractor shall furnish the City Engineer every reasonable facility for ascertaining whether the work is in accordance with the requirements and intention of these specifications and applicable plans.
- B. All materials furnished and all work done under these specifications shall be subject to rigid inspection. Work done in the absence of prescribed inspection may be required to be torn out and replaced under the proper inspection and the entire cost of tearing out and replacement, including the cost of all materials which may be furnished by the City and used in the work torn out, shall be borne by the Contractor, irrespective of whether the work torn out is found to be defective or not.
- C. Work covered up without the authority of the City Engineer shall, upon order of the City Engineer, be uncovered as required, and the Contractor shall similarly bear the entire cost of performing all the work and furnishing all the materials necessary for the removal of the covering and its subsequent replacement, as directed and approved by the City Engineer. The Contractor shall provide the City Engineer access into the work area.

38. DEFECTIVE WORK OR MATERIALS

- A. The inspection of the work shall not relieve the Contractor of any of his obligations to fulfill his contract as herein prescribed and defective work shall be made good and unsuitable materials may be rejected notwithstanding that such work and materials have been previously inspected by the City Engineer and accepted or estimated for payment. If the work, or any part thereof, shall be found defective at any time before the final acceptance of the whole work, the Contractor shall forthwith make good such defect without compensation in a manner satisfactory to the City Engineer and shall be charged as provided in the preceding section for any excess material furnished by the City.
- B. If any materials furnished and brought on-site by the Contractor for use in the work or selected for same by him, shall be condemned by the City Engineer as unsuitable or not in conformity with the Specifications, the Contractor shall forthwith discard such materials and remove them to a satisfactory distance from the vicinity of the work.

- C. If the Contractor shall fail or neglect to make ordered repairs of defective work or to remove condemned materials from the work within ten (10) days after the service by the City Engineer of an order to do such repair or remove such materials, the City Engineer, acting on behalf of the City, may make the ordered repairs or remove the condemned materials and deduct the cost thereof from the monies due the Contractor.

39. PROPERTY RIGHTS IN MATERIALS

- A. Nothing in this contract shall be construed as vesting in the Contractor any right or property in the materials used after they have been attached or affixed to the soil, or after payment has been made for the value of unused material delivered to the site of the work as provided for in Section 23, hereof. All such materials attached or affixed or unused shall become the property of the City.

40. TITLE TO MATERIALS FOUND ON THE WORK

- A. The right to the use of all soil, stone, gravel, sand and all other material and equipment developed or obtained in the excavation or other operations by the Contractor or any subcontractor or any of their employees, and the right of use and/or disposal of same, are hereby expressly reserved in the City and neither the Contractor, nor any subcontractor or any of their employees shall have any right, title or interest in or to any part thereof, nor shall they, nor any of them, assert or make any claim thereto. The Contractor shall be permitted to use in the work without charge any such materials which meet the requirements of these specifications.

41. ENFORCEMENT OF ORDER

- A. The Contractor shall be responsible for maintaining good order at the site where work is performed under this contract and to that end shall employ such watchmen or other persons as may be required. The Contractor shall not sell, nor shall he permit or suffer the introduction or use of, intoxicating liquors upon the works embraced in these Specifications or upon any of the grounds occupied or controlled by him in connection with such works.

42. PATENTS AND COPYRIGHTS

- A. The Contractor shall hold and save the City, its officers, agents and employees, harmless from liability of any nature, any kind, including costs and expenses for on account of, any copyrighted or uncopyrighted composition, secret process, patented or unpatented invention, article or appliance manufactured, furnished or used by him in the performance of this contract, including their use by the City, unless otherwise specifically stipulated in this contract.

43. LAWS AND REGULATIONS

- A. The Contractor shall keep himself fully informed of all laws, ordinances and regulations in any manner affecting those engaged or employed on the work, or the materials used in the work, or in any way affecting the conduct of the work. If any discrepancy or inconsistency should be discovered in this contract or in the drawings or specifications herein referred to, in relation to any such law, ordinance or regulation, he shall forthwith report same in writing to the City Engineer. He shall cause all his agents and employees to observe and comply with all such laws, ordinances and regulations in effect or which may become effective before completion of this contract.

He shall protect and indemnify the City and its officers and agents against all claims or liability arising from or based on, the violation of any such law, ordinance or regulation, whether by himself or by his employees.

- B. Except as otherwise explicitly provided elsewhere in these Specifications; all permits and licenses necessary to the prosecution of the work shall be secured by the Contractor at his own expense, and he shall pay all taxes properly assessed against his equipment or property used or required in connection with the work.
- C. All Federal Laws and regulations now imposed by competent authority and relating to any materials required to be furnished under these Specifications and work required to be done hereunder shall be deemed to be and hereby are made controlling and part of these Specifications.

44. SALES AND/OR USE TAXES

- A. Except as may be otherwise specifically provided herein, all sales and/or use taxes assessed by Federal, State or local authorities on material used or furnished by the Contractor in performing the work hereunder shall be paid by the Contractor.

45. PUBLIC SAFETY

- A. During the performance of the work the Contractor shall erect and maintain temporary fences, bridges, railings and barriers and take all other necessary precautions and place proper guards for the prevention of accidents; shall put up and keep suitable and sufficient lights and other signals and shall indemnify and save harmless the City, City of Industry, Property Owner, its offices and agents and employees from all dangers and costs to which they may be put by reason of injury to person or property resulting from the Contractor's negligence or carelessness in the performance of the work, or in guarding same or from any improper materials, implements or appliances used in its construction, or by account of any act or omission of the Contractor or his agents.

46. TRESPASS

- A. The Contractor shall be responsible for all damages or injury which may be caused on any property by trespass of the Contractor's agents/employees in the course of their employment, whether said trespass was committed with or without the consent or knowledge of the Contractor.

47. SAFETY, SANITARY AND MEDICAL REQUIREMENTS

- A. The Contractor and his subcontractors, if any, and employees shall promptly and fully carry out the existing safety, sanitary and medical requirements as may from time to time be prescribed by the City to the end that proper work shall be done, and the safety and health of the employees and of the community may be conserved and safeguarded. In case such regulations and orders are not observed by the Contractor, they may be enforced by the City Engineer at the Contractor's expense.

48. WATER AND POWER

- A. Unless otherwise provided in the Special Provisions, the Contractor shall make all necessary arrangements and provide, at his own expense, all necessary water and power required for his operations under the contract.

49. EXAMINATION OF GROUND

- A. Bidders must examine and judge for themselves as to the location of the proposed work, the nature of the excavation to be made and the work to be done.

50. REMOVING OBSTRUCTIONS

- A. The Contractor shall remove all trash, stones, debris and other obstructions that may be encountered in making improvements. The Contractor shall remove trees where required by the plans or where the proper completion of the work requires their removal. Any trees and landscaping removed shall be replaced as required by owner.

51. PUBLIC UTILITIES

- A. In case it should be necessary to move the property of any owner of a public utility or franchise, such owner will, upon completion of related scope be notified by the City Engineer to move such property within a specified reasonable time, and the Contractor shall not interfere with said property until after the expiration date of the time specified.
- B. The right is reserved to the City and to the owners of public utilities and franchises to enter upon the work site for the purpose of making necessary repairs or for making changes in their property that may be

required due to the nature of the work. The Contractor shall notify the City Engineer in writing when the rough grading has been completed.

- C. During the thirty (30) days after the filing of this notice with the City Engineer, the City or any owner of the public utility shall have the right to enter upon the premises for the purposes of laying or relaying pipes, conduits and appurtenances.

52. LOSS OR DAMAGE

- A. Any damage caused by the Contractor to any utilities shown or not shown on the plans for this project shall be paid for by the Contractor. All loss or damage arising from any unforeseen obstruction or difficulties, either natural or artificial, which may be encountered in the prosecution of the work or from any action of the elements prior to the final acceptance of the work, or from any act or omission not authorized by these Specifications, on the part of the Contractor or any agent or person employed by him, shall be paid for by utility companies within the project area. Any delays as a result of utility company work will be at no cost to the City.

53. PROTECTION OF WORK AND CLEANING UP

- A. The Contractor shall care for all work until final completion and acceptance. The Contractor shall provide and maintain a water plan to properly drain standing water from the work area at no extra cost to the City. He shall remove all surplus materials and rubbish from the work after its completion and before he makes application for the acceptance of the work. All damages done to existing improvements by the Contractor shall be repaid by him.

54. FINAL INSPECTION

- A. The Contractor shall notify the City Engineer when he desires a final inspection of the work. The latter will, as soon thereafter as possible, make the necessary examinations and, if the work is found to be in compliance with the contract, the City Engineer will furnish the Contractor with a certificate to that effect.

55. ALLOWABLE VARIATIONS

- A. When, in these Specifications, a maximum or minimum either in size, percentage or thickness or relating to quality, character or other matter is allowed or prescribed, the work shall be accepted as in compliance therewith if within such maximum or minimum so allowed thereby.

56. DUST CONTROL

- A. The Contractor shall provide such dust allaying equipment and methods as may be required to protect adjacent property from annoyance or damage from dust caused by his operations, and failure to control such

dust shall be cause for the City Engineer to stop the work until said dust shall be controlled; and the Contractor shall have no recourse to collect from the City for any loss of time or expense sustained by him due to such suspension of work.

57. DRAWINGS REQUIRED BY CONTRACTOR

- A. Within ten (10) days after a Notice to Proceed has been issued the Contractor shall submit to the City Engineer for approval drawings, specifications, lists and graphs as required under these Specifications. In the event that the City Engineer shall find the drawings, Specifications lists and graphs, as submitted by the Contractor, are in accord with acceptable practice and meet the requirements of these Specifications, the City Engineer will return one (1) set of drawings and lists with his approval within ten (10) days after their receipt at the City Engineer's office. Otherwise, said drawings will be returned to the Contractor within said ten (10) day period with a statement of the points wherein they have been found unsatisfactory, in which case the Contractor, at his own expense, shall proceed at once to revise said drawings and lists until they shall be found satisfactory by the City Engineer and are approved by him. No fabrication shall be done prior to approval of said drawings and lists. The Contractor shall have no claim for damages or extension of time on account of any delay due to the revision of drawings as found necessary by the City Engineer in order to fulfill the requirements of these Specifications but, regardless of such delays, the Contractor shall be liable to the City, as provided in Section 16, Special Provisions hereof, for any failure to complete the work as required by the terms of the contract. Revisions shown on the shop drawings shall be considered as changes necessary to meet the requirements of the Specifications and shall not be taken as the basis of claims for extra work.
- B. The approval of all drawings by the City Engineer shall apply to general design only, and shall in no way relieve the Contractor from responsibility for errors or omissions contained therein.

58. MAINTENANCE AND GUARANTEE

- A. The Contractor hereby guarantees that the entire work constructed by him under the contract will meet fully all requirements thereof as to quality of workmanship and of materials furnished by him. The Contractor hereby agrees to make at his own expense any repairs or replacements made necessary by defects in materials of workmanship supplied to him that become evident within one (1) year after the date of the filing of the Notice of Acceptance and to restore to full compliance with the requirements of these specifications, including test requirements set forth herein for any part of the work constructed hereunder, which during said one (1) year period, is found to be deficient with respect to any provisions of the Specifications. The Contractor also agrees to hold the City harmless from claims of any kind arising from damage due to said defects. The Contractor shall make all repairs and replacements promptly upon receipt

of written orders for same from City Engineer. If the Contractor fails to make the repairs and replacements promptly, the City of Industry may do the work and the Contractor and his surety shall be liable to the City for the cost thereof.

- B. The guarantees and agreements set forth above shall be secured by a surety bond which shall be delivered to the City at the time of execution of the contract. Said bond shall be on the City furnished form and executed by a surety company or companies satisfactory to the City in the amount of not less than ten percent (10%) of the total bid amount. Said bond shall remain in force for a period of one (1) year after the filing date of notice of acceptance. Instead of providing such a bond as described above, the Contractor may, at his option, provide for the Faithful Performance Bond furnished under the contract to remain in force and effect for said amount until the expiration of said one (1) year period, provided that such bond by its terms, secures the guarantees and agreements set forth in subsection (a) hereof.

59. USE OF ELECTRIC POWER AND WATER

- A. Unless specifically provided for the Contractor shall make all arrangements for and pay all costs connected with the furnishing and use of such electric power and an adequate supply of water for his construction and domestic consumption as may be required for the work.

The Contractor shall indemnify and save harmless the City of Industry and the City of Industry against all claims or suits for damages arising from acquisitions and use of electric power and water.

60. ACCESS TO WORK AND INSPECTION

- A. The Contractor shall furnish to the City's Engineer or any of his agents access at all times to the work and to the premises used by the Contractor and shall provide them every reasonable facility for the purpose of inspection.
- B. In cases where these Specifications call for definite tests or definite approval by the City of work likely to be covered up by subsequent operations, timely notice shall be given to the City Engineer as to the readiness of said work for such tests and approvals. Any work covered up without the giving of adequate notice shall be uncovered where required by the City Engineer by the Contractor at his own expense.

61. MATERIALS

- A. All materials which are to become a part of the completed project shall be new and shall conform to the requirements prescribed therefore.
- B. All references in these Specifications to other Specifications for material and testing requirements such as to the American Society for Testing

Materials Standards (ASTM Designations) and the American Association of State Highway Official Standard Specifications (AASHO Designations) shall be interpreted to mean current specifications as of the date of advertisement for bids.

62. CLEANUP

- A. Throughout all phases of construction the Contractor shall keep the construction areas in a clean condition free from rubbish and debris. All materials and equipment in connection with the construction of any portion of the work shall be removed from the site as soon as the use of said materials and equipment is no longer necessary and the area involved shall be thoroughly cleaned by sweeping with power and/or hand brooms or by other means which will produce the same result.
- B. Care shall be taken to prevent spillage on streets over which hauling is done and any such spillage or debris deposited on streets due to the Contractor's operations shall be immediately removed and the streets cleaned.
- C. Earth dams at catch basin openings, local depressions, or elsewhere except in time of emergency, will not be permitted. Temporary dams constructed of sand bags, asphaltic concrete or other acceptable material may be permitted whenever necessary to protect the work, provided that their use does not create a hazard or nuisance to the public. These dams, if permitted, shall be removed and disposed of away from the site as soon as their use is no longer necessary.
- D. During all phases of construction work, the Contractor shall take precautions to abate dust nuisance by cleaning up, sweeping, sprinkling with water or other means as necessary to accomplish results satisfactory to the City Engineer, but whatever means are used, dust shall not be discharged into the atmosphere. The use of water which produces mud on public streets will not be permitted as a substitute for sweeping or other methods of control.
- E. Upon completion of the work and prior to final inspection, the entire site of operations shall be cleared of equipment, unused materials and rubbish so as to present a clean and neat appearance satisfactory to the City Engineer.
- F. All costs of "Cleanup" shall be absorbed in the prices bid for the various bid items.
- G. Failure on the part of the Contractor to comply with the orders of the City Engineer regarding cleanup may result in a written directive from the City Engineer to cease progress on any and all parts of the work under contract until the unsatisfactory condition is corrected. No additional compensation will be allowed as a result of such suspension.

63. EMERGENCIES

- A. Unusual conditions may arise on the work which will require that immediate and unusual provisions be made to protect the public from damage or loss or damage to life or property, due directly or indirectly to the execution of the work and/or it is part of the service required of the Contractor to make such provisions and to furnish such protection.
- B. The Contractor shall at all times when rainfall is occurring on the project, have supervisory personnel and workmen on duty. During such times the Contractor shall have readily available sufficient material and equipment to protect the public from danger and to protect the project works, as well as private property from damage.
- C. Whenever, in the opinion of the City Engineer, an emergency exists against which the Contractor has not taken sufficient precaution for the safety of the public or the protection of utilities or of adjacent structures or property which may be injured by negligence on the part of the Contractor; and whenever, in the opinion of the City Engineer, immediate action shall be considered necessary in order to protect public or private personal property interests or prevent likely loss of human life or damage on account of the operations under the contract, then and in that event, the City Engineer may, after notification (if practical) to the Contractor, provide suitable protection of said interests by causing such work to be done and material to be furnished as, in the opinion of the City Engineer, may seem reasonable and necessary.
- D. The cost and expense of said labor and material, together with the cost and expense of such repairs as may be deemed necessary, shall be borne by the Contractor and, if he shall not pay said cost and expense upon presentation of the bills therefore, duly certified by the City Engineer, then said cost and expense will be paid by the City and shall thereafter be deducted from any amounts due or which may become due said Contractor. Failure on the part of the City Engineer, however, to take such precautionary measures, shall not relieve the Contractor from his responsibility for public safety.
- E. The Contractor shall indemnify and save harmless the City of Industry and the City Engineer from any and all claims for damages arising from loss of life, injury to person, or damage to property due to operations under this contract of the Contractor and his duly authorized subcontractors. All costs involved in the indemnification of the City as herein provided shall be absorbed in the prices bid for the various bid items.

64. APPRENTICESHIP REQUIREMENTS

- A. Contractor hereby represents and warrants that he is familiar with the provisions of Section 1777.5 of the California Labor Code and unless otherwise exempted by Section 1777.5, he shall comply with all the requirements of the Section and shall be responsible for assuring that all subcontractors comply with the requirements of that Section.

65. WITHHELD CONTRACT FUNDS

- A. The Contractor, at its own expense, may deposit securities with a state or federally-chartered bank as the escrow agent, selected by the City, in lieu of having funds withheld by the City to ensure performance under the contract.
- B. The securities which will be allowed to be substituted are those listed in California Government Code Section 16430, or bank or savings and loan certificates of deposit.
- C. The amount of securities to be deposited shall be equivalent to the maximum amount permitted to be withheld as specified in Subsection 9-3.2 of the Standard Specifications as modified by Paragraphs 22, 24 and 25 of these General Provisions. The City may claim and receive all or a portion of these funds to be used for the same purposes and expenditures as if the funds had been withheld under Subsection 9-3.2 of the Standard Specifications as modified by Paragraphs 22, 23, 24, 25, 29, and 30 of these General Provisions.
- D. The Contractor shall deposit the securities in lieu of moneys to be withheld to ensure performance under the contract an amount equivalent to the minimum amount permitted to be withheld as specified in Subsection 9-3.2 of the Standard Specifications as modified by Paragraphs 22, 24, and 25 of these General Provisions, prior to release of the first progress payment under the contract.

66. LIQUIDATED DAMAGES

- A. Liquidated damages shall be in the amount of \$300.00 per calendar day for each consecutive calendar day in excess of the time allowed under this contract for the completion of the work, as adjusted by Change Orders.
- B. The Contractor will not be assessed liquidated damages for delay in completion of the project, when such delay was caused by the failure of the City or the Owner of a utility to provide for removal or relocation of an existing unknown utility facility.

67. CONTRACTOR REGISTRATION PROGRAM

- A. A contractor or subcontractor shall not be qualified to bid on, be listed in a bid proposal, subject to the requirements of Section 4104 of the Public Contract Code, or engage in the performance of any contract for public work, as defined in this chapter, unless currently registered and qualified to perform public work pursuant to Section 1725.5. *It is not a violation of this section for an unregistered contractor to submit a bid that is authorized by Section 7029.1 of the Business and Professions Code or by Section 10164 or 20103.5 of the Public Contract Code, provided the contractor is registered to perform public work pursuant to Section 1725.5 at the time the contract is awarded.* Any bids submitted without proof that bidder and any listed subcontractor(s) are currently registered and qualified to perform public work, pursuant to Labor Code Section 1725.5, may not be accepted by the City.

68. JOB SITE NOTICES

- A. The contractor shall post job site notices, as prescribed by regulation (California Labor Code Section 1771.4).

SECTION E

SPECIAL PROVISIONS

1. **GENERAL**

A. All work shall be performed in accordance with the "Standard Specifications for Public Works Construction", (SSPWC), Latest Edition, and all supplements, the notes and details on the drawings, City of Industry Standard Drawings, Los Angeles County Department of Public Works Standard Plans, American Public Works Association Standard Plans, the General Provisions and these Special Provisions.

B. Access to businesses, residences and driveways must be maintained at all times. In addition, the Contractor shall conduct the work so as to minimize inconvenience to the various businesses and residents along the limits of work.

C. **National Pollutant Discharge Elimination System (NPDES) -**

The Contractor shall take all precautionary actions to prevent or reduce the discharge of pollutants from activities such as paving operations, concrete waste washouts, cold milling, vehicle and equipment fueling from entering storm drain systems. These precautionary actions are required as dictated by the Stormwater Management Program for the City of Industry. Methods for the control and prevention of such pollutants are listed in the California Stormwater Best Management Practices Handbook for Construction Activities. Copies of relative sections of the handbook are available to the Contractor upon request.

D. **Geotechnical Services -**

The City/Agency will **not** provide geotechnical services for this project. The Contractor shall obtain certification from an approved geotechnical laboratory for all material, including concrete, and compaction testing at its expense. The Contractor shall be responsible for submitting a complete report to the City/Agency. The report shall be signed and sealed by a Civil Engineer or Geotechnical Engineer registered in the State of California and shall state that the results of all work in place meets the requirements of the plans, specifications and these Special Provisions.

E. **Survey** - The Contractor shall furnish and provide survey staking, cut-sheets and other necessary information required to complete his work. The Contractor shall comply with further requirements as outlined in Section D, Subsection 5, "Lines, Grades and Measurements", on page D-2. The Contractor shall be

responsible for resetting all centerline ties, monuments and bench marks or other permanent survey control points which are affected by this project, and will provide the City of Industry or its representative with sketches of reset centerline monuments, centerline ties and/or bench marks. Ties shall be set @ 45 degree angles from street centerline to L & T on adjoining curb lines 90 degrees on both sides of street.

In compliance with Assembly Bill 1414, which amended Section 8771 of the Business and Professions Code (Land Surveyors Act), the Contractor's, Licensed Surveyor, shall be responsible for filing pre-construction and post-construction corner records of monumentation within the project area, with the Los Angeles County Department of Public Works, Survey Division and with the City of Industry. Filing of this documentation shall be performed prior to the start of construction and again after completion of the project. **The Contractor is advised that the Notice of Final Completion for the project will not be filed until corner records are filed.**

Payment for survey shall be included in the unit price bid for the various items of work which require survey.

- F. The Contractor shall utilize the City of Industry Disposal Company should the use of trash dumpsters be required. The disposal company's telephone number is (626) 961-6291. The Contractor shall be responsible for all costs.
- G. Subsection 2-5.2, "Precedence of Contract Documents", (SSPWC), revise the order of precedence as follows:
 - 1. Permits from other agencies as may be required by law.
 - 2. Plans
 - 3. Special Provisions
 - 4. City of Industry General Provisions
 - 5. Standard Plans
 - 6. Standard Specifications
 - 7. Reference Specifications

Substitute 7) for 6) in the first sentence of the second paragraph.

- H. Subsection 3-3.2.3, "Markup", (SSPWC), revise as follows:
 - (a) **Work by Contractor.** The following percentages shall be added to the Contractor's costs and shall constitute the markup for all overhead and profits:
 - 1) Labor20%

- 2) Materials.....15%
- 3) Equipment Rental.....15%
- 4) Other Items and Expenditures.....15%

To the sum of the costs and markups provided for in this subsection, 1 percent shall be added as compensation for bonding.

(b) **Work by Subcontractor.** When all or any part of the extra work is performed by a Subcontractor, the markup established in 3-3.2.3 (a) shall be applied to the Subcontractor's actual cost of such work. A markup of 10 percent on the first \$5,000 of the subcontracted portion of the extra work and a markup of 5 percent of work added in excess of \$5,000 of the subcontracted portion of the extra work may be added by the Contractor.

- I. Facilities for City/Agency personnel are not required for this project.
- J. The Contractor shall give reasonable notice to occupants or owners of adjacent property to permit them to salvage or relocate plants, trees, fences, sprinklers and other improvements within the right of way which are designated for removal and would be destroyed because of the work.
- K. The Contractor is reminded that it is responsible for the control of water through the construction area, **at all times**.
- L. All cost for complying with the requirements of this section shall be included in the various items of the bidding schedule.

2. **PERMITS**

- A. The City/Agency shall obtain a construction permit from the Los Angeles County Department of Public Works. The Contractor shall comply with all the requirements of that permit.
- B. The Contractor shall obtain and submit a copy of a CAL-OSHA trench excavation permit prior to the start of construction. The Contractor shall maintain a copy of this permit at the jobsite.
- C. The City/Agency has (applied for) a CALTRANS Encroachment Permit and the Contractor will be required to obtain a "rider" to this permit. The Contractor shall be responsible for all fees, insurance, documents, and all requirements requested by CALTRANS.

3. **SCHEDULING AND WORKING HOURS**

- A. Scheduling, performance and completion of the work for this project shall conform to the requirements of Section 6, "Prosecution, Progress and Acceptance of the Work," (SSPWC), and these Special Provisions.
- B. The Contractor shall submit a detailed schedule of work to the IPUC Engineer for review prior to commencing construction of any portion of the project. The Engineer shall have the right to revise or alter the Contractor's work schedule. The submission and review of the schedule is done for the benefit of the Contractor. Submission of a construction schedule shall in no way modify the contract between the parties, nor shall the schedule, under any circumstances, be considered a reasonable time within which the Contractor can complete its work.
- C. The Contractor shall not commence work until a Notice -to -Proceed has been issued by the IPUC Engineer.

4. **UTILITIES**

- A. Before starting work, the Contractor shall verify the locations and elevations of all existing utilities by contacting Underground Service Alert at (800) 422-4133, at least 48 hours in advance. Existing utilities have been carefully located and shown on the plans from input provided by the utility companies and office records. The Contractor shall notify the utility companies and agencies listed below before beginning excavation and shall coordinate his work with them.
- B. If the Contractor wishes to have any utility located, he should contact the Owner at least 48 hours prior to construction in the immediate vicinity of the utility. Potholing to locate existing underground utilities shall be the responsibility of the Contractor, and no further compensation shall be allowed.
- C. The Contractor shall protect existing utilities in accordance with Section 5-2, "Protection", (SSPWC).

6. **CLEARING AND GRUBBING**

- A. Clearing and grubbing shall conform to the requirements of Section 300-1 "Clearing and Grubbing", (SSPWC).
- B. The Contractor shall incorporate the following exceptions, additions, or deletions to the above-noted Section:
 - 1. Subsection 300-1.3.1, "General", (SSPWC), add the following:

All materials removed and any excess dirt shall become the property of the Contractor and shall be disposed of offsite in a legal manner approved by the IPUC Engineer.

7. **UNCLASSIFIED EXCAVATION**

- A. Unclassified excavation shall conform to the requirements of Section 300-2, "Unclassified Excavation" (SSPWC).

8. **GEOTEXTILES FOR SEPARATION**

- A. The Contractor shall furnish and install a geotextile fabric at localized areas where soft and wet sandy silt or sandy clay is exposed at the finish subgrade and at all other locations as determined by the geotechnical engineer.
- B. The geotextile fabric shall be Supac 8NP or approved equal, meeting the requirements of Section 213-2, "Geotextiles", (SSPWC).
- C. Installation shall conform to the requirements of Section 300-10, "Geotextiles for Separation", (SSPWC) and the geotechnical report for this project.
- D. Payment for furnishing and installing the geotextile fabric shall be made at the unit bid price per square yard.

9. **SUBGRADE AND CRUSHED AGGREGATE BASE**

- A. Preparation of the subgrade shall conform to the requirements of Section 301-1, "Subgrade Preparation", (SSPWC).

Add the following to Section 301-1;

"The Contractor shall pay special attention and take necessary actions around existing utility lines that may be affected by this work. The Contractor shall utilize small mechanical compaction equipment in locations where utilities have shallow cover. Normal depth of cover for utilities is approximately 36" from existing grade."

- B. Subsection 301-1.3, "Relative Compaction", (SSPWC), modify as follows:

"The subgrade soils shall be moisture-conditioned as necessary and recompacted to a minimum of 90 percent of the maximum density as determined by ASTM Test Method D1557-78. Compaction shall be done using non-vibratory mechanical compaction equipment."

- C. Placement of crushed aggregate base shall conform to the requirements of Section 301-2, "Untreated Base", (SSPWC). Crushed aggregate base shall conform to Section 200-2.2., (SSPWC). The thickness of the crushed aggregate base section shall be as shown on the plans.
- D. The Contractor shall not be allowed to use slag nor reuse the existing roadway base in the new pavement and base section.

ATTACHMENT

EMOLD – 166LR – W5X

15kV	200A Loadbreak Elbow	w/ Test Point	166LR-W5X
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Features:

- 15kV, 200 Amp Loadbreak Elbow
- Fully shielded, fully submersible molded rubber housing
- 100% peroxide-cured construction includes insulation and conductive EPDM materials
- Provision for hot stick operation
- Provision for ground wire connection
- Wide cable range with minimum number of sizes
- Non-corrosive capacitive test point

166LR Loadbreak Elbow Connector

Applications:

The Elastimold® 166LR Elbow Connector is a fully rated 15kV, 200 Amp Class loadbreak connector. It includes provisions for energized operation using standard hotstick tools allowing loadmake/loadbreak operation and a visible disconnect. It has a standard interface for connecting to 15kV, 200 Amp bushing inserts, junctions, and operating accessories. The 166LR is designed for connecting to and operating 15kV Class, 200 Amp distribution apparatus. It provides a convenient method to connect/disconnect cable and equipment on power distribution systems. The 166LR allows connection of cables with insulation diameters from .575" (14,6mm) to 1.220" (31,0mm) with only four elbow sizes. (#4 solid, 175 mil to 4/0 stranded, 260 mil)

Ratings:

Meets ANSI/IEEE Standard 386, Latest Revision

For 15kV Voltage Class:

8.3kV Max Phase-to-Ground – Operating Voltage
 14.4kV Max Phase-to-Phase
 95kV BIL – Impulse Withstand (1.2 x 50 microsecond wave)
 34kV AC – One minute withstand
 53kV DC – 15 minutes withstand
 11kV AC – Corona Extinction @ 3pC sensitivity
 200 Amp – Continuous and Loadbreak
 10kA Sym – 10 Cycles Momentary & Fault Close

15kV	200A Loadbreak Elbow	w/ Test Point	166LR-W5X
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CATALOG NUMBER SELECTION

Step 1 (W)

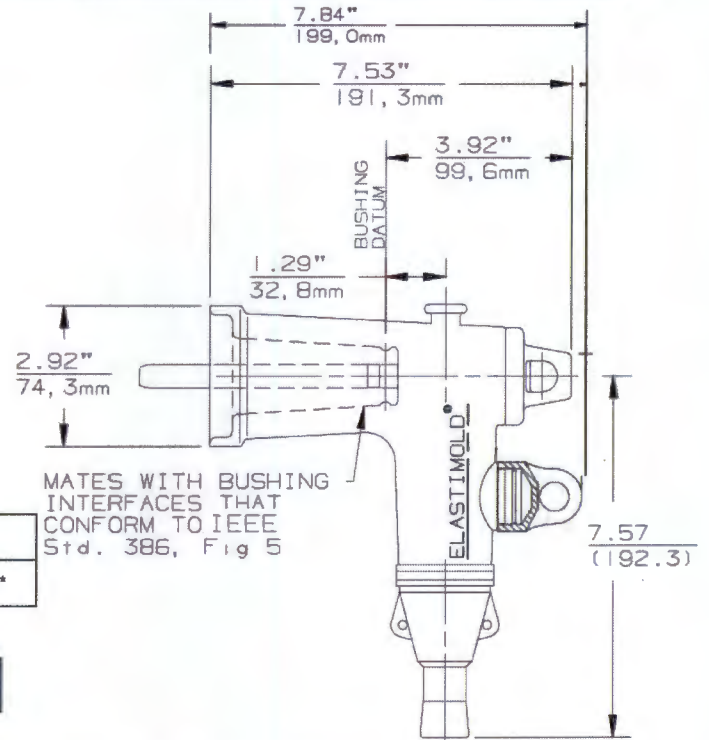
Determine the insulation diameter of the cable.
Select the insulation letter code that best straddles the insulation diameter from W table below. Insert code into catalog number.

Step 2

Insert conductor material code from the Material Code table.
Code 5 is standard.

Step 3 (X)

Choose the proper compression lug code according to the conductor size from the Conductor Code Table. Insert code into catalog number.



166LR - W Code

Material Code	
2	Copper*
5	Bi-metal**

XXX Code

Cable Insulation Diameter in Inches		Cable Insulation Diameter in mm		Symbol for W
MIN.	MAX.	MIN.	MAX.	
0.575	0.740	14.61	18.80	A
0.635	0.905	16.13	22.99	B
0.805	1.060	20.45	26.92	C
0.890	1.220	22.61	30.99	D

XXX Code	Conductor Size AWG or kcmil			Connector only	
	Strand./ Compr.	Solid/ Comp.	mm ²	Bi-Metal	Copper
190	-	#4	16.76	02500190	027002190
200	#4	#3	21.14	02500200	02702200
210	#3	#2	26.67	02500210	02702210
220	#2	#1	33.62	02500220	02702220
230	#1	1/0	42.41	02500230	02702230
240	1/0	2/0	53.49	02500240	02702240
250	2/0	3/0	67.43	02500250	02702250
260	3/0	4/0	85.01	02500260	02702260
270	4/0	250	26.67	02500270	02702270

Example:

The ordering number for an Elbow Connector for a 1/0 compressed/stranded, 220 mil wall cable with an insulation diameter of .805" to .895" and capacitive test point is 166LR-CC5240.

Each kit contains the following:

1	Elbow connector housing	166BLR-W
1	Bi-metal compression lug	02500XXX
1	Probe	166LRF
1	Probe wrench	271-94
1	Tube, lubricant	82-08
1	Installation instruction	IS-0164
1	Crimp chart	CC-0020

Notes:

- * Copper compression lug suitable for all copper conductor only.
- ** Bi-metal compression lug with universal aluminum barrel suitable for copper or aluminum conductors.

ATTACHMENT

EMOLD – 168DRG

Issue Date: 10/11/2012

Page: 1 of 2

File: PSS-168DRG

IV

Loadbreak Insulated Cap

Ground Lead and
Cuff

30003



168DRG Loadbreak Insulated Cap (with Ground Lead and Insulated Cuff and Test Point)

Applications:

Elastimold® 168DRG insulated caps w/ ground lead and insulated cuff are fully shielded, fully submersible, hot stick operable, separable connectors designed for energized operation. They are suitable for use on 15kV class loadbreak systems. The 168DRG has an integral ground lead as part of the assembly, it is used to "dead-end" the following Elastimold® mating products:

- 1601A4 bushing insert
- 164FT feed thru
- 1602A3R feed-thru insert
- 164 series junctions

Ratings:

Meets ANSI/IEEE Standard 386, Latest Revision

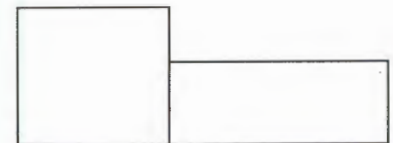
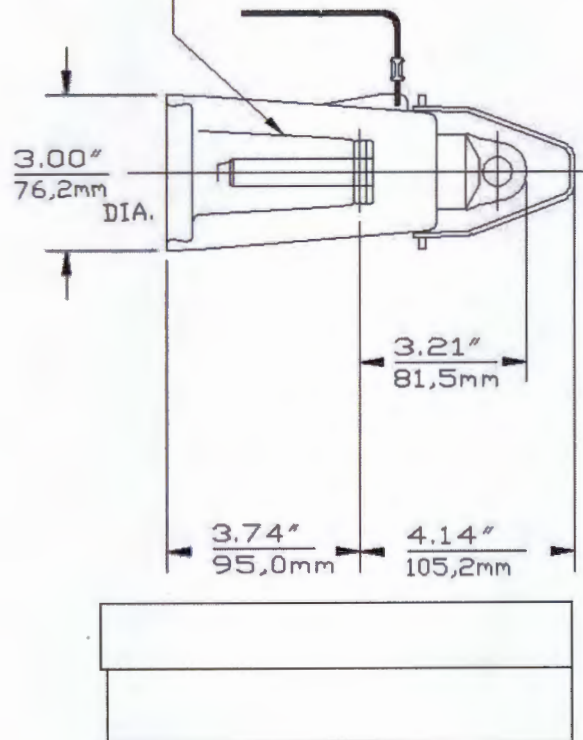
For 15kV Voltage Class:

8.3kV Max Phase-to-Ground – Operating Voltage
 14.4kV Max Phase-to-Phase
 95kV BIL – Impulse Withstand (1.2 x 50
 microsecond wave)
 34kV AC – One minute withstand
 53kV DC – 15 minutes withstand
 11kV AC – Corona Extinction @ 3pC sensitivity
 200 Amp – Continuous and Loadbreak
 10kA Sym – 10 Cycles Momentary & Fault Close

RV

Loadbreak Insulated Cap

MATES WITH BUSHING
INTERFACES THAT
CONFORM TO ANSI
Std 386, Fig 5



ATTACHMENT

EMOLD – 655CA-X

15/25kV

600A Deadbreak Cable Size Adapter

655CA-W



Features:

- Fully rated 15/25kV, 600 Amp Deadbreak Cable Size Adapter
- Fully shielded, fully submersible molded rubber housing
- 100% peroxide-cured construction includes insulation and conductive EPDM materials

655CA Cable Size Adapter

Applications:

The 655CA cable size adapters are used to create an Interface between cable and Elastimold® accessories and provide Electrical stress relief. 655CA cable size adapters mate with the following Elastimold® products:

- K655BLR
- K655SR
- K655YSR
- K655BVS

Ratings*:

Meets ANSI/IEEE Standard 386, Latest Revision

For 15kV Voltage Class:

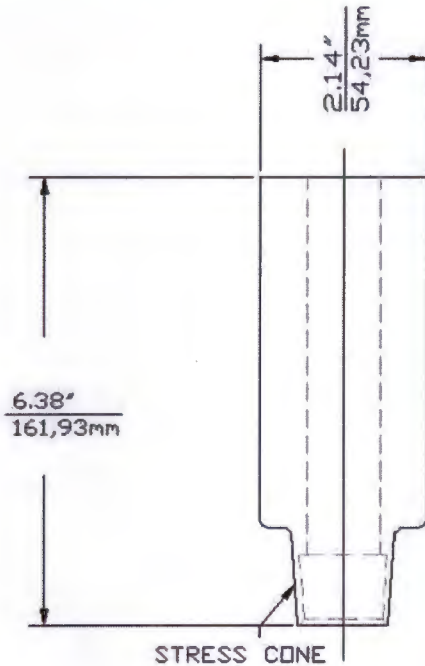
8.3kV Max Phase-to-Ground – Operating Voltage
 14.4kV Max Phase-to-Phase
 95kV BIL – Impulse Withstand (1.2 x 50 microsecond wave)
 34kV AC – One minute withstand
 53kV DC – 15 minutes withstand
 11kV AC – Corona Extinction @ 3pC sensitivity
 600 Amp – Continuous
 25kA Sym – 10 Cycles Momentary

For 25kV Voltage Class:

16.2kV Max Phase-to-Ground – Operating Voltage
 28kV Max Phase-to-Phase
 140kV BIL – Impulse Withstand (1.2 x 50 microsecond wave)
 45kV AC – One minute withstand
 84kV DC – 15 minutes withstand
 21.5kV AC – Corona Extinction @ 3pC sensitivity
 600 Amp – Continuous
 25kA Sym – 10 Cycles Momentary

***When assembled with proper device**

15/25kV	600A Deadbreak Cable Size Adapter	655CA-W
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Catalog Number Selection:

Step 1 (W)

Determine the insulation diameter of the cable. Select the insulation letter code that best straddles the insulation diameter from W table. Insert code into catalog number.

655CA - W Code

Cable Insulation Diameter in Inches		Cable Insulation Diameter in millimeters		Symbol for W
MIN.	MAX.	MIN.	MAX.	
0.640	0.820	16.256	20.828	F
0.760	0.950	19.304	24.130	G
0.850	1.050	21.590	26.670	H
0.980	1.180	24.892	29.972	J
1.090	1.310	27.686	33.274	K
1.180	1.465	29.972	37.211	L
1.280	1.430	32.512	36.322	LM
1.370	1.630	34.798	41.402	M
1.515	1.780	38.481	45.212	N
1.725	1.935	43.815	49.149	P

Each kit contains the following:

- 1 Cable Adapter 655CA-W

Example:

The ordering number for a 600 series cable adapter with insulation diameter of .830" is 655CA-G.

ATTACHMENT

EMOLD – 03700410



**600 Series Deadbreak
T&B Catalog Number:**

03700410

UPC Number:

78378664438

Status:

Active

Description:

15/25kV 600 Series Deadbreak Compression Lug (Aluminum). Conductor Size AWG or kcmil, Compressed Stranded 1000.

600 Series deadbreak elbows, straight receptacles, junctions, vault stretchers and accessories are used to connect equipment and cable on primary feeder and network circuits.

Temperature Range	-40°C to 65°C
Stranded or Compressed	1000
Component Type	Lug
Voltage Class (kV)	All

Test Point	No
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Temperature Rating	-40°C to 65°C
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Package in Units	1
T&B Sold in UOM	Each
T&B Weight Per UOM	98.31 lbs. per 100

X Table	Available on Website
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Aluminum lug for use on aluminum or copper conductors. DO NOT substitute threaded 03600X lug.

RoHS Compliance	No
-----------------	----

For further technical assistance, please contact us...

Thomas & Betts - USA
8155 T&B Blvd.
Memphis, TN 38125
www.tnb.com

T&B Technical Support
MS 3B-50
8155 T&B Blvd.
Memphis, TN 38125

Hours: 7AM - 6PM CDT
Monday-Friday
Phone: (888) 862-3289
Fax: (901) 252-1321
Email: techsupport@tnb.com

ATTACHMENT

EMOLD – K650BIP

15/25kV	600A Deadbreak Insulating Plug	w/Test Point	K650BIP
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Features:

- Fully rated 15/25kV, 600 Amp Deadbreak Insulating Plug
- Can be easily connected or disconnected using standard hand tools and equipment in a de-energized state
- Hex Nut serves as a Capacitive Test Point

K650BIP Insulating Plug

Applications:

The K650BIP, 15/25kV basic insulating plug attaches and insulated Elastimold® K655/6BLR, K655BE and K655BVS 600 A connectors. It is equipped with a capacitive test point and a molded rubber sealing cap as standard.

Ratings:

Meets ANSI/IEEE Standard 386, Latest Revision

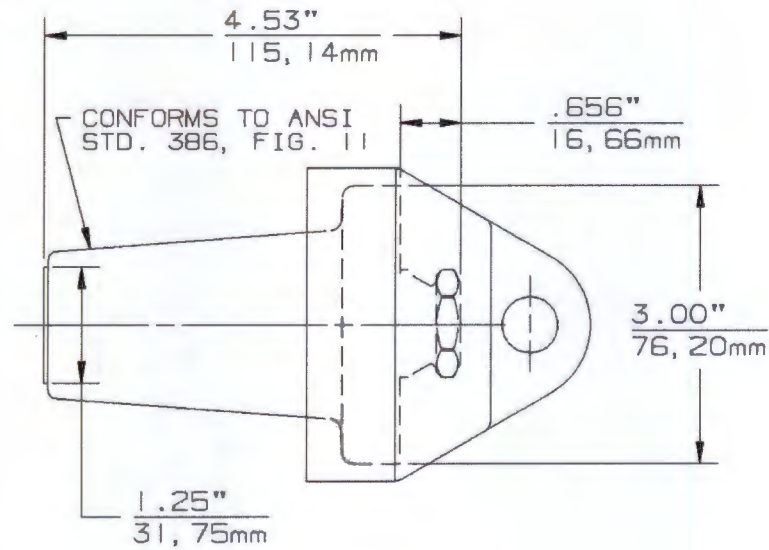
For 15kV Voltage Class:

8.3kV Max Phase-to-Ground – Operating Voltage
 14.4kV Max Phase-to-Phase
 95kV BIL – Impulse Withstand (1.2 x 50 microsecond wave)
 34kV AC – One minute withstand
 53kV DC – 15 minutes withstand
 11kV AC – Corona Extinction @ 3pC sensitivity
 600 Amp – Continuous
 25kA Sym – 10 Cycles Momentary

For 28kV Voltage Class:

16.2kV Max Phase-to-Ground – Operating Voltage
 28kV Max Phase-to-Phase
 140kV BIL – Impulse Withstand (1.2 x 50 microsecond wave)
 45kV AC – One minute withstand
 84kV DC – 15 minutes withstand
 21.5kV AC – Corona Extinction @ 3pC sensitivity
 600 Amp – Continuous
 25kA Sym – 10 Cycles Momentary

15/25kV	600A Deadbreak Insulating Plug	w/Test Point	K650BIP
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Ordering Instructions:

To order 15/25kV, 600A insulating plug, specify **K650BIP**.

Each kit contains the following:

- | | | |
|---|--------------------------|---------|
| 1 | Insulating Plug w/ Cap | K650BIP |
| 1 | Tube, lubricant | 82-08 |
| 1 | Installation Instruction | IS-0230 |

Example:

The ordering number for a 600 Amp insulating plug is K650BIP.

ATTACHMENT

EMOLD – K655BLR

15/25kV	600A Deadbreak Elbow Housing	w/o Test Point	K655BLR
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Features:

- Fully rated 15/25kV, 600 Amp Deadbreak Elbow
- Fully shielded, fully submersible molded rubber housing
- 100% peroxide-cured construction includes insulation and conductive EPDM materials
- Can be easily connected or disconnected using standard hand tools and equipment in a de-energized state
- Optional accessories allow visible external separation, by-pass, isolation, dead-ending, grounding, and testing as well as adding taps, surge arrestors, and fault current indicators

K655BLR Elbow Connector Housing (without Test Point)

Applications:

The Elastimold® K655BLR deadbreak elbow housings are a component of the Elastimold® 600 A elbow product line. The K655BLR can be mated with the other Elastimold® products including the following:

- K651CP
- K650BIP
- K650RTP
- K650RTW
- K650S1
- K650J2, K650J3, or K650J4

Ratings:

Meets ANSI/IEEE Standard 386, Latest Revision

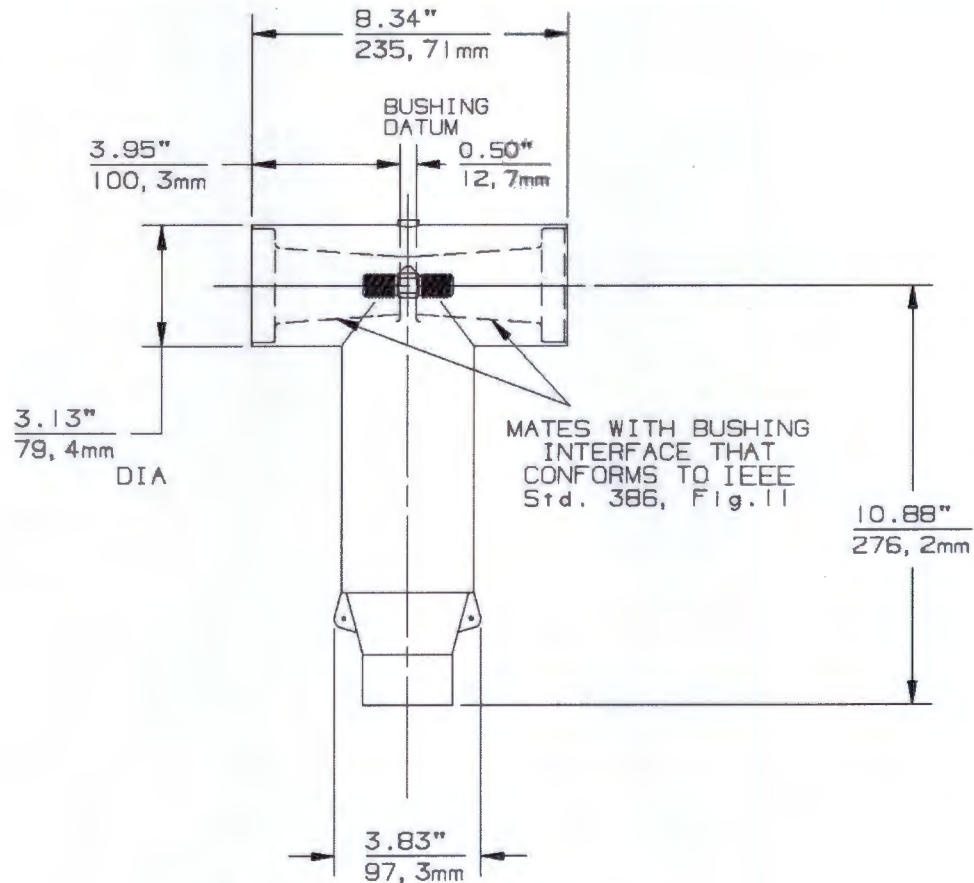
For 15kV Voltage Class:

8.3kV Max Phase-to-Ground – Operating Voltage
 14.4kV Max Phase-to-Phase
 95kV BIL – Impulse Withstand (1.2 x 50 microsecond wave)
 34kV AC – One minute withstand
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 11kV AC – Corona Extinction @ 3pC sensitivity
 600 Amp – Continuous
 25kA Sym – 10 Cycles Momentary

For 28kV Voltage Class:

16.2kV Max Phase-to-Ground – Operating Voltage
 28kV Max Phase-to-Phase
 140kV BIL – Impulse Withstand (1.2 x 50 microsecond wave)
 45kV AC – One minute withstand
 84kV DC – 15 minutes withstand
 21.5kV AC – Corona Extinction @ 3pC sensitivity
 600 Amp – Continuous
 25kA Sym – 10 Cycles Momentary

15/25kV	600A Deadbreak Elbow Housing	w/o Test Point	K655BLR
---------	------------------------------	----------------	---------



Ordering Instruction:

To order 15/25kV 600A elbow housing without test point, please specify **K655BLR**.

Each kit contains the following:

- | | | |
|---|--------------------------|---------|
| 1 | Elbow connector housing | K655BLR |
| 1 | Tube, lubricant | 82-08 |
| 1 | Stud | 650SA |
| 1 | Installation Instruction | IS-0249 |

Example:

The ordering number for a 600 Amp Elbow Connector Housing is **K655BLR**.

ATTACHMENT

GENERAL CABLE – 592-00105E – 10 FA 220T FN PE 17KV



Electrical Characteristics

Single Conductor EmPowr® Link STRANDFILL® Concentric Neutral (Round Wire) Power Cable 17kV

Cable Description:	1/0 AWG Al, 0.220" TRXLPE, 16 x #14 AWG Cu, LLDPE																																						
Input Parameters:	Electrical Characteristics Based on Normal Operating Temperature: 90 °C IR Constant @ 60°F: 20000 Dielectric Constant: 2.35 Earth Resistivity: 100 Ω-m	Dissipation Factor: 0.01 % Voltage (line to ground): 9.81 kV Conductor Center to Center Spacing (S): 7.5 in	<p>Flat Arrangement</p>																																				
Conductor Resistance:		Rdc @ 25°C: 0.1670 Ω/kft 0.5479 Ω/km Rac @ 25°C: 0.1671 Ω/kft 0.5481 Ω/km Rac @ 90°C: 0.2101 Ω/kft 0.6894 Ω/km																																					
Shield Resistance:		Rac @ 25°C: 0.170 Ω/kft 0.559 Ω/km Rac @ 85°C: 0.210 Ω/kft 0.689 Ω/km																																					
Capacitance:		0.053 μF/kft		0.175 μF/km																																			
Shunt Capacitive Reactance/Susceptance:		Shunt Capacitive Reactance: 49592 Ω-kft Shunt Capacitive Susceptance: 20.16 μS/kft		15115 Ω-km 66.16 μS/km																																			
Charging Current:		197.8 mA/kft		649.0 mA/km																																			
Single Phase Reactance/Impedance:		Inductive Reactance: 0.029 Ω/kft 0.095 Ω/km <table border="1"> <thead> <tr> <th></th> <th>Real</th> <th>Imag.</th> <th>Impedance</th> <th>Real</th> <th>Imag.</th> <th>Impedance</th> </tr> </thead> <tbody> <tr> <td>Pos. & Neg. Seq. Impedance (Met. Shield):</td> <td>0.210</td> <td>0.029</td> <td>0.212 Ω/kft</td> <td>0.689</td> <td>0.095</td> <td>0.696 Ω/km</td> </tr> <tr> <td>Zero Seq. Impedance (Earth & Met. Shield):</td> <td>0.583</td> <td>0.317</td> <td>0.664 Ω/kft</td> <td>1.914</td> <td>1.038</td> <td>2.177 Ω/km</td> </tr> </tbody> </table>		Real	Imag.	Impedance	Real	Imag.	Impedance	Pos. & Neg. Seq. Impedance (Met. Shield):	0.210	0.029	0.212 Ω/kft	0.689	0.095	0.696 Ω/km	Zero Seq. Impedance (Earth & Met. Shield):	0.583	0.317	0.664 Ω/kft	1.914	1.038	2.177 Ω/km																
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3-Phase Reactance/Impedance:		Inductive Reactance: 0.097 Ω/kft 0.319 Ω/km <table border="1"> <thead> <tr> <th></th> <th>Real</th> <th>Imag.</th> <th>Impedance</th> <th>Real</th> <th>Imag.</th> <th>Impedance</th> </tr> </thead> <tbody> <tr> <td>Pos. & Neg. Seq. Impedance (Met. Shield):</td> <td>0.230</td> <td>0.091</td> <td>0.247 Ω/kft</td> <td>0.755</td> <td>0.298</td> <td>0.812 Ω/km</td> </tr> <tr> <td>Zero Seq. Impedance (Earth & Met. Shield):</td> <td>0.395</td> <td>0.088</td> <td>0.405 Ω/kft</td> <td>1.297</td> <td>0.290</td> <td>1.329 Ω/km</td> </tr> <tr> <td>Zero Seq. Impedance (Earth Only):</td> <td>0.264</td> <td>0.661</td> <td>0.712 Ω/kft</td> <td>0.867</td> <td>2.169</td> <td>2.336 Ω/km</td> </tr> <tr> <td>Zero Seq. Impedance (Met. Shield Only):</td> <td>0.420</td> <td>0.029</td> <td>0.421 Ω/kft</td> <td>1.378</td> <td>0.095</td> <td>1.381 Ω/km</td> </tr> </tbody> </table>		Real	Imag.	Impedance	Real	Imag.	Impedance	Pos. & Neg. Seq. Impedance (Met. Shield):	0.230	0.091	0.247 Ω/kft	0.755	0.298	0.812 Ω/km	Zero Seq. Impedance (Earth & Met. Shield):	0.395	0.088	0.405 Ω/kft	1.297	0.290	1.329 Ω/km	Zero Seq. Impedance (Earth Only):	0.264	0.661	0.712 Ω/kft	0.867	2.169	2.336 Ω/km	Zero Seq. Impedance (Met. Shield Only):	0.420	0.029	0.421 Ω/kft	1.378	0.095	1.381 Ω/km		
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Dielectric Losses: (Per Phase)		0.19 W/kft		0.63 W/km																																			
Electrical Stress:		Insulation Average: 44.59 V/mil 1.76 kV/mm Conductor Shield - Insulation Interface Maximum: 66.16 V/mil 2.60 kV/mm Insulation - Insulation Shield Interface Minimum: 31.42 V/mil 1.24 kV/mm																																					
Insulation Resistance:		6467.22 MΩ-kft		1971.11 MΩ-km																																			
Velocity of Propagation		492.39 ft/μs		150.08 m/μs																																			

Customer:	SOUTHERN CALIFORNIA EDISON	Customer P/N:	592-00105	EA/PC Number:	159405.2500 Rev. 2
Specification / Standard:	MS 477 Date: 9/23/2008 AEIC CS8-13, ICEA S-94-649	Prepared by:	HQUHQB	Date:	3/9/2016

Dimensions and weights not designated minimum or maximum are nominal and subject to manufacturing tolerances.

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Electrical Characteristics

Single Conductor EmPowr® Link STRANDFILL® Concentric Neutral (Round Wire) Power Cable 17kV

Cable Description:	1/0 AWG Al, 0.220" TRXLPE, 16 x #14 AWG Cu, LLDPE					
Input Parameters:	Electrical Characteristics Based on Normal Operating Temperature: 90 °C IR Constant @ 60°F: 20000 Dielectric Constant: 2.35 Earth Resistivity: 100 Ω-m			Dissipation Factor: 0.01 % Voltage (line to ground): 9.81 kV Conductor Center to Center Spacing (S): 1.1342 in		<p>Flat Adjacent Arrangement</p>
Conductor Resistance:			Rdc @ 25°C: 0.1670 Ω/kft Rac @ 25°C: 0.1671 Ω/kft Rac @ 90°C: 0.2101 Ω/kft			0.5479 Ω/km 0.5481 Ω/km 0.6894 Ω/km
Shield Resistance:			Rac @ 25°C: 0.170 Ω/kft Rac @ 85°C: 0.210 Ω/kft			0.559 Ω/km 0.689 Ω/km
Capacitance:						0.053 μF/kft 0.175 μF/km
Shunt Capacitive Reactance/Susceptance:			Shunt Capacitive Reactance: 49592 Ω-kft Shunt Capacitive Susceptance: 20.16 μS/kft			15115 Ω-km 66.16 μS/km
Charging Current:						197.8 mA/kft 649.0 mA/km
Single Phase Reactance/Impedance:			Inductive Reactance: 0.029 Ω/kft Pos. & Neg. Seq. Impedance (Met. Shield): 0.210 Zero Seq. Impedance (Earth & Met. Shield): 0.583	Inductive Reactance: 0.029 Imag. 0.317	Impedance 0.212 Ω/kft 0.664 Ω/kft	0.095 Ω/km Real 0.689 Imag. 0.095 Impedance 0.696 Ω/km 2.177 Ω/km
3-Phase Reactance/Impedance:			Inductive Reactance: 0.054 Ω/kft Pos. & Neg. Seq. Impedance (Met. Shield): 0.213 Zero Seq. Impedance (Earth & Met. Shield): 0.400 Zero Seq. Impedance (Earth Only): 0.264 Zero Seq. Impedance (Met. Shield Only): 0.420	Inductive Reactance: 0.054 Imag. 0.083 0.748 0.029	Impedance 0.220 Ω/kft 0.409 Ω/kft 0.793 Ω/kft 0.421 Ω/kft	0.177 Ω/km Real 0.699 Imag. 0.272 Impedance 1.341 Ω/km 2.602 Ω/km 1.381 Ω/km
Dielectric Losses (Per Phase):						0.19 W/kft 0.63 W/km
Electrical Stress:			Insulation Average: 44.59 V/mil Conductor Shield - Insulation Interface Maximum: 66.16 V/mil Insulation - Insulation Shield Interface Minimum: 31.42 V/mil			1.76 kV/mm 2.60 kV/mm 1.24 kV/mm
Insulation Resistance:						6467.22 MΩ-kft 1971.11 MΩ-km
Velocity of Propagation:						492.39 ft/μs 150.08 m/μs

Customer:	SOUTHERN CALIFORNIA EDISON	Customer P/N:	592-00105	EA/PC Number:	159405.2500 Rev. 2
Specification / Standard:	MS 477 Date: 9/23/2008 AEIC CS8-13, ICEA S-94-649	Prepared by:	HQQUHZB	Date:	3/9/2016

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Electrical Characteristics

Single Conductor EmPowr® Link STRANDFILL® Concentric Neutral (Round Wire) Power Cable 17kV

Cable Description:	1/0 AWG Al, 0.220" TRXLPE, 16 x #14 AWG Cu, LLDPE																																								
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Shield Resistance:			Rac @ 25°C: 0.170 Ω/kft Rac @ 85°C: 0.210 Ω/kft			0.559 Ω/km 0.689 Ω/km																																			
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Single Phase Reactance/Impedance:			Inductive Reactance: 0.029 Ω/kft			0.095 Ω/km																																			
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Dielectric Losses (Per Phase):						0.19 W/kft 0.63 W/km																																			
Electrical Stress:			Insulation Average: 44.59 V/mil Conductor Shield - Insulation Interface Maximum: 66.16 V/mil Insulation - Insulation Shield Interface Minimum: 31.42 V/mil			1.76 kV/mm 2.60 kV/mm 1.24 kV/mm																																			
Insulation Resistance:						6467.22 MΩ-kft 1971.11 MΩ-km																																			
Velocity of Propagation:						492.39 ft/μs 150.08 m/μs																																			

Customer:	SOUTHERN CALIFORNIA EDISON	Customer P/N:	592-00105	EA/PC Number:	159405.2500 Rev. 2
Specification / Standards:	MS 477 Date: 9/23/2008 AEIC CS8-13, ICEA S-94-649	Prepared by:	HQQUHZB	Date:	3/9/2016

Dimensions and weights not designated minimum or maximum are nominal and subject to manufacturing tolerances.

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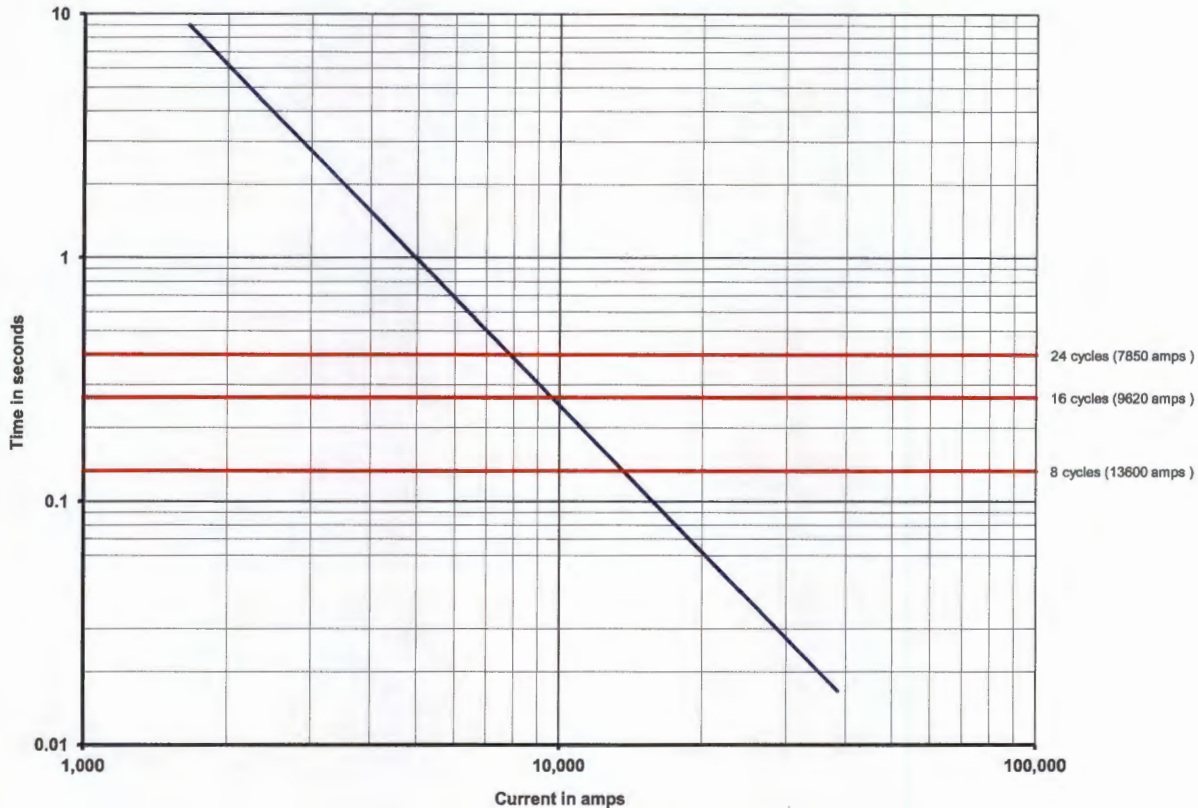
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Conductor Fault Current

1/0 AWG Al, 0.220" TRXLPE, 16 x #14 AWG Cu, LLDPE

**MAXIMUM FAULT CURRENT OPERATING LIMITS
FOR AN 1/0 INSULATED ALUMINUM CONDUCTOR AT 60 Hz**



1/0 Insulated Aluminum Conductor

Number of Cycles	Time (s)	Current (amps)
8	0.13	13600
16	0.27	9620
24	0.40	7850

Notes -

The calculations are as per ICEA P-32-382. The calculations assume that all heat generated remains in the metal. The duration of a short circuit is considered to be up to approximately 2 seconds. The indicated short circuit value shown on this graph for durations longer than 2 seconds should be used with caution. The time shown is calculated for a given RMS fault current to bring the conductor to a temperature that will not cause damage to the conductor shield or the insulation. The calculations are based on a cross-sectional area of 105600 cmil of Aluminum starting at an initial temperature of 90 C, and a final temperature of 250 C. The calculations utilize an absolute temperature of resistivity of 228 and an ICEA calculation factor of 0.0125. The system frequency is 60 Hz.

Customer:	SOUTHERN CALIFORNIA EDISON	Customer P/N:	EA/PC Number:
		592-00105	159405.2500 Rev. 2
Specification / Standard:	MS 477 Date: 9/23/2008 AEIC CS8-13, ICEA S-94-649	Prepared by:	Date:
		HQQUHZB	3/9/2016

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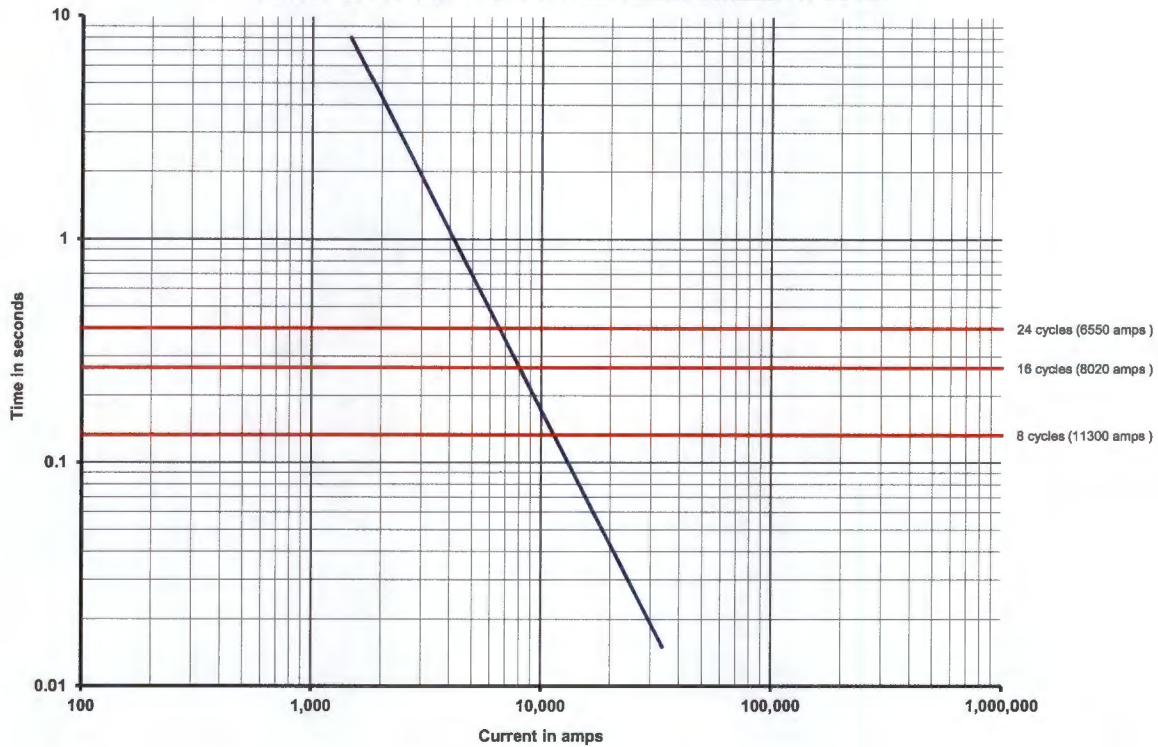
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Shield Fault Current

1/0 AWG AI, 0.220" TRXLPE, 16 x #14 AWG Cu, LLDPE

MAXIMUM FAULT CURRENT OPERATING LIMITS
FOR A 65760 cmil COPPER METALLIC SHIELD AT 60 Hz



16 x #14AWG Copper Concentric Neutral

Number of Cycles	Time (s)	Current (amps)
8	0.13	11300
16	0.27	8020
24	0.40	6550

Notes -

The curves assume that all heat generated remains in the metal.
The time shown is that calculated for a given RMS fault current to bring the metallic shield to a temperature that will not cause damage to the insulation shield or cable jacket.
The calculations are as per ICEA P-45-482 using an "M factor" of 0.063 corresponding to a 5-15 kV rated cable, with a conductor temperature of 90 and a metallic shield starting temperature of 85 C and a metallic shield ending temperature of 200

Customer:	SOUTHERN CALIFORNIA EDISON	Customer P/N:	592-00105	EA/PC Number:	159405.2500 Rev. 2
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Cable Installation

Single Conductor EmPowr® Link STRANDFILL® Concentric Neutral (Round Wire) Power Cable 17kV

Cable Description:	1/0 AWG Al, 0.220" TRXLPE, 16 x #14 AWG Cu, LLDPE																																																																												
Maximum Pulling Tension:	<table style="width: 100%; border: none;"> <tr> <td></td> <th colspan="2" style="text-align: center;">Single Conductor</th> <th colspan="2" style="text-align: center;">3x1/C Parallel</th> </tr> <tr> <td>Conductor Pulling Eye / Bolt:</td> <td style="text-align: center;">840 lb</td> <td style="text-align: center;">3.7 kN</td> <td style="text-align: center;">1680 lb</td> <td style="text-align: center;">7.5 kN</td> </tr> <tr> <td>Cable Basket Grip:</td> <td style="text-align: center;">1160 lb</td> <td style="text-align: center;">5.2 kN</td> <td style="text-align: center;">2320 lb</td> <td style="text-align: center;">10.3 kN 3 grips, 1 per cable</td> </tr> </table> <p style="font-size: small; color: red; text-align: center;">NOTE: When exceeding 100 lb pulling force, proceed with caution. Pulling grips must be sized in accordance with grip manufacturer's recommendations and be installed in accordance with AEIC CG5-05</p>		Single Conductor		3x1/C Parallel		Conductor Pulling Eye / Bolt:	840 lb	3.7 kN	1680 lb	7.5 kN	Cable Basket Grip:	1160 lb	5.2 kN	2320 lb	10.3 kN 3 grips, 1 per cable																																																													
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Maximum Sidewall Bearing Pressure:	<table style="width: 100%; border: none;"> <tr> <td style="text-align: center;">2000 lb/foot of bend radius</td> <td style="text-align: center;">29 kN/meter of bend radius</td> </tr> </table> <p style="font-size: small; color: red; text-align: center;">NOTE: When exceeding 1000 lb/SWBP, proceed with caution</p>	2000 lb/foot of bend radius	29 kN/meter of bend radius																																																																										
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Minimum Bending Radius for Permanent Training Purposes:	<table style="width: 100%; border: none;"> <tr> <td style="text-align: center;">NEC Applications: 12 x O.D.</td> <td style="text-align: center;">14 inches</td> <td style="text-align: center;">356 mm</td> </tr> <tr> <td style="text-align: center;">Non-NEC Applications: 8 x O.D.</td> <td style="text-align: center;">9 inches</td> <td style="text-align: center;">229 mm</td> </tr> </table>	NEC Applications: 12 x O.D.	14 inches	356 mm	Non-NEC Applications: 8 x O.D.	9 inches	229 mm																																																																						
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		Prepared by:	HQQUHZB
		Date:	3/9/2016

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ATTACHMENT

GENERAL CABLE – 592-00139E- 1000 FA 220T RN PE



Electrical Characteristics

Single Conductor EmPowr® Link STRANDFILL® Concentric Neutral (Round Wire) Power Cable 17kV

Cable Description:	1000 kcmil Al, 0.220" TRXLPE, 15 x #12 AWG Cu, LLDPE																																								
Input Parameters:	Electrical Characteristics Based on Normal Operating Temperature: 90 °C IR Constant @ 60°F: 20000 Dielectric Constant: 2.35 Earth Resistivity: 100 Ω-m		Dissipation Factor: 0.01 % Voltage (line to ground): 9.81 kV Conductor Center to Center Spacing (S): 7.5 in		<p>Flat Arrangement</p>																																				
Conductor Resistance:			Rdc @ 25°C: 0.0176 Ω/kft Rac @ 25°C: 0.0183 Ω/kft Rac @ 90°C: 0.0235 Ω/kft			0.0579 Ω/km 0.0600 Ω/km 0.0770 Ω/km																																			
Shield Resistance:			Rac @ 25°C: 0.114 Ω/kft Rac @ 85°C: 0.141 Ω/kft			0.375 Ω/km 0.462 Ω/km																																			
Capacitance:						0.122 μF/kft 0.402 μF/km																																			
Shunt Capacitive Reactance/Susceptance:			Shunt Capacitive Reactance: 21659 Ω-kft Shunt Capacitive Susceptance: 46.17 μS/kft			6601 Ω-km 151.48 μS/km																																			
Charging Current:						452.9 mA/kft 1486.1 mA/km																																			
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Electrical Stress:			Insulation Average: 43.60 V/mil Conductor Shield - Insulation Interface Maximum: 51.49 V/mil Insulation - Insulation Shield Interface Minimum: 37.20 V/mil			1.72 kV/mm 2.03 kV/mm 1.46 kV/mm																																			
Insulation Resistance:						2824.52 MΩ-kft 860.87 MΩ-km																																			
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Customer:	SOUTHERN CALIFORNIA EDISON	Customer P/N:	592-00139	EA/PC Number:	922113 Rev. 3
Specification / Standard:	MS-477 Date: 9/23/2008 AEIC CS8-13, ICEA S-94-649	Prepared by:	HQQUHZB	Date:	3/9/2016

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Electrical Characteristics

Single Conductor EmPowr[®] Link STRANDFILL[®] Concentric Neutral (Round Wire) Power Cable 17kV

Cable Description:	1000 kcmil Al, 0.220" TRXLPE, 15 x #12 AWG Cu, LLDPE																																								
Input Parameters:	Electrical Characteristics Based on Normal Operating Temperature: 90 °C IR Constant @ 60°F: 20000 Dielectric Constant: 2.35 Earth Resistivity: 100 Ω-m			Dissipation Factor: 0.01 % Voltage (line to ground): 9.81 kV Conductor Center to Center Spacing (S): 2.0506 in		<p>Trifoil Arrangement</p>																																			
Conductor Resistance:			Rdc @ 25°C: 0.0176 Ω/kft Rac @ 25°C: 0.0183 Ω/kft Rac @ 90°C: 0.0235 Ω/kft			0.0579 Ω/km 0.0600 Ω/km 0.0770 Ω/km																																			
Shield Resistance:			Rac @ 25°C: 0.114 Ω/kft Rac @ 85°C: 0.141 Ω/kft			0.375 Ω/km 0.462 Ω/km																																			
Capacitance:						0.122 μF/kft 0.402 μF/km																																			
Shunt Capacitive Reactance/Susceptance:			Shunt Capacitive Reactance: 21659 Ω-kft Shunt Capacitive Susceptance: 46.17 μS/kft			6601 Ω-km 151.48 μS/km																																			
Charging Current:						452.9 mA/kft 1486.1 mA/km																																			
Single Phase Reactance/Impedance:			Inductive Reactance: 0.017 Ω/kft <table border="1"> <thead> <tr> <th></th> <th>Real</th> <th>Imag.</th> <th>Impedance</th> <th>Real</th> <th>Imag.</th> <th>Impedance</th> </tr> </thead> <tbody> <tr> <td>Pos. & Neg. Seq. Impedance (Met. Shield):</td> <td>0.023</td> <td>0.017</td> <td>0.029 Ω/kft</td> <td>0.077</td> <td>0.056</td> <td>0.095 Ω/km</td> </tr> <tr> <td>Zero Seq. Impedance (Earth & Met. Shield):</td> <td>0.331</td> <td>0.190</td> <td>0.382 Ω/kft</td> <td>1.087</td> <td>0.623</td> <td>1.253 Ω/km</td> </tr> </tbody> </table>		Real	Imag.	Impedance	Real	Imag.	Impedance	Pos. & Neg. Seq. Impedance (Met. Shield):	0.023	0.017	0.029 Ω/kft	0.077	0.056	0.095 Ω/km	Zero Seq. Impedance (Earth & Met. Shield):	0.331	0.190	0.382 Ω/kft	1.087	0.623	1.253 Ω/km			0.056 Ω/km														
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3-Phase Reactance/Impedance:			Inductive Reactance: 0.036 Ω/kft <table border="1"> <thead> <tr> <th></th> <th>Real</th> <th>Imag.</th> <th>Impedance</th> <th>Real</th> <th>Imag.</th> <th>Impedance</th> </tr> </thead> <tbody> <tr> <td>Pos. & Neg. Seq. Impedance (Met. Shield):</td> <td>0.026</td> <td>0.036</td> <td>0.044 Ω/kft</td> <td>0.085</td> <td>0.117</td> <td>0.144 Ω/km</td> </tr> <tr> <td>Zero Seq. Impedance (Earth & Met. Shield):</td> <td>0.157</td> <td>0.044</td> <td>0.163 Ω/kft</td> <td>0.514</td> <td>0.144</td> <td>0.534 Ω/km</td> </tr> <tr> <td>Zero Seq. Impedance (Earth Only):</td> <td>0.078</td> <td>0.705</td> <td>0.709 Ω/kft</td> <td>0.255</td> <td>2.313</td> <td>2.327 Ω/km</td> </tr> <tr> <td>Zero Seq. Impedance (Met. Shield Only):</td> <td>0.164</td> <td>0.017</td> <td>0.165 Ω/kft</td> <td>0.539</td> <td>0.056</td> <td>0.542 Ω/km</td> </tr> </tbody> </table>		Real	Imag.	Impedance	Real	Imag.	Impedance	Pos. & Neg. Seq. Impedance (Met. Shield):	0.026	0.036	0.044 Ω/kft	0.085	0.117	0.144 Ω/km	Zero Seq. Impedance (Earth & Met. Shield):	0.157	0.044	0.163 Ω/kft	0.514	0.144	0.534 Ω/km	Zero Seq. Impedance (Earth Only):	0.078	0.705	0.709 Ω/kft	0.255	2.313	2.327 Ω/km	Zero Seq. Impedance (Met. Shield Only):	0.164	0.017	0.165 Ω/kft	0.539	0.056	0.542 Ω/km			0.118 Ω/km
	Real	Imag.	Impedance	Real	Imag.	Impedance																																			
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Dielectric Losses: (Per Phase)						0.44 W/kft 1.45 W/km																																			
Electrical Stress:			Insulation Average: 43.60 V/mil Conductor Shield - Insulation Interface Maximum: 51.49 V/mil Insulation - Insulation Shield Interface Minimum: 37.20 V/mil			1.72 kV/mm 2.03 kV/mm 1.46 kV/mm																																			
Insulation Resistance:						2824.52 MΩ-kft 860.87 MΩ-km																																			
Velocity of Propagation						423.17 ft/μs 128.98 m/μs																																			

Customer:	SOUTHERN CALIFORNIA EDISON	Customer P/N:	592-00139	EA/PC Number:	922113 Rev. 3
Specification / Standards:	MS-477 Date: 9/23/2008 AEIC CS8-13, ICEA S-94-649	Prepared by:	HQQUHZB	Date:	3/9/2016

Dimensions and weights not designated minimum or maximum are nominal and subject to manufacturing tolerances.

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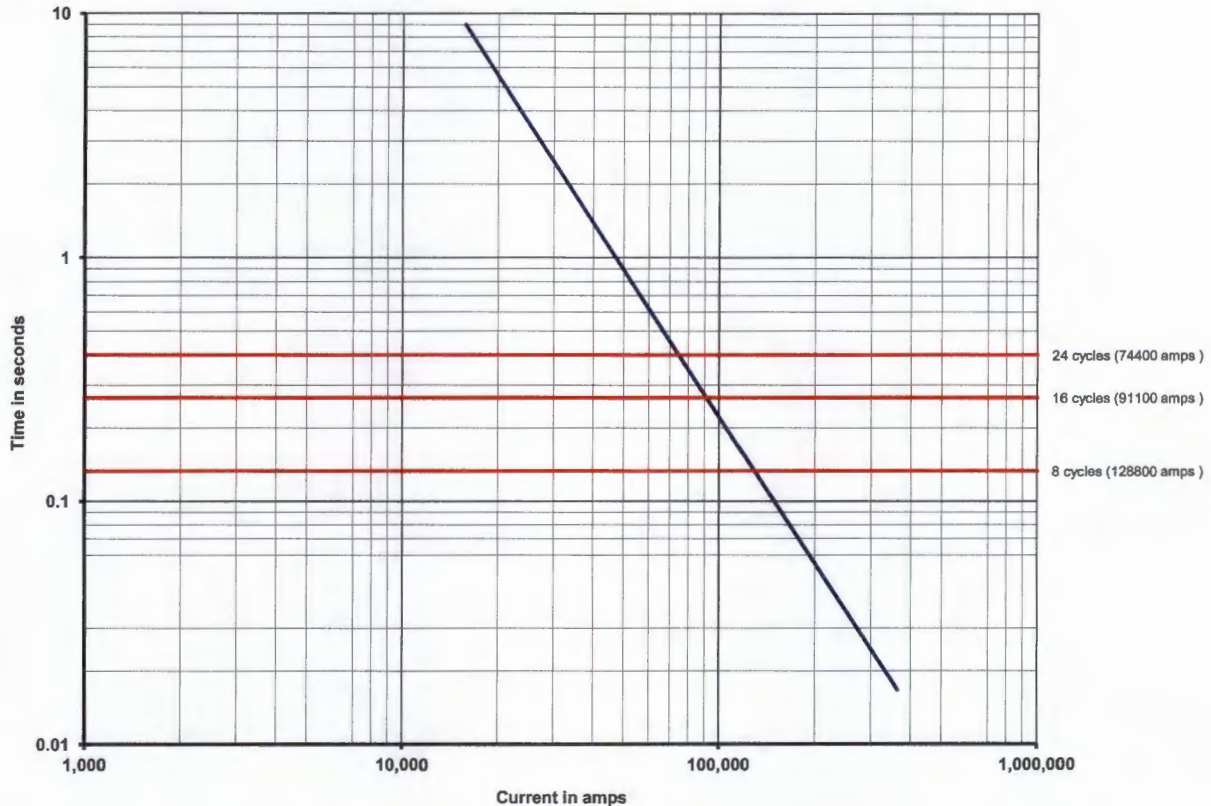
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Conductor Fault Current

1000 kcmil Al, 0.220" TRXLPE, 15 x #12 AWG Cu, LLDPE

**MAXIMUM FAULT CURRENT OPERATING LIMITS
FOR AN 1000 INSULATED ALUMINUM CONDUCTOR AT 60 Hz**



1000 Insulated Aluminum Conductor

Number of Cycles	Time (s)	Current (amps)
8	0.13	128800
16	0.27	91100
24	0.40	74400

Notes -

The calculations are as per ICEA P-32-382. The calculations assume that all heat generated remains in the metal. The duration of a short circuit is considered to be up to approximately 2 seconds. The indicated short circuit value shown on this graph for durations longer than 2 seconds should be used with caution. The time shown is calculated for a given RMS fault current to bring the conductor to a temperature that will not cause damage to the conductor shield or the insulation. The calculations are based on a cross-sectional area of 1000000 cmil of Aluminum starting at an initial temperature of 90 C, and a final temperature of 250 C. The calculations utilize an absolute temperature of resistivity of 228 and an ICEA calculation factor of 0.0125. The system frequency is 60 Hz.

Customer:	SOUTHERN CALIFORNIA EDISON	Customer P/N:	EA/PC Number:
		592-00139	922113 Rev. 3
Specification / Standard:	MS-477 Date: 9/23/2008 AEIC CS8-13, ICEA S-94-649	Prepared by:	Date:
		HQQUHZB	3/9/2016

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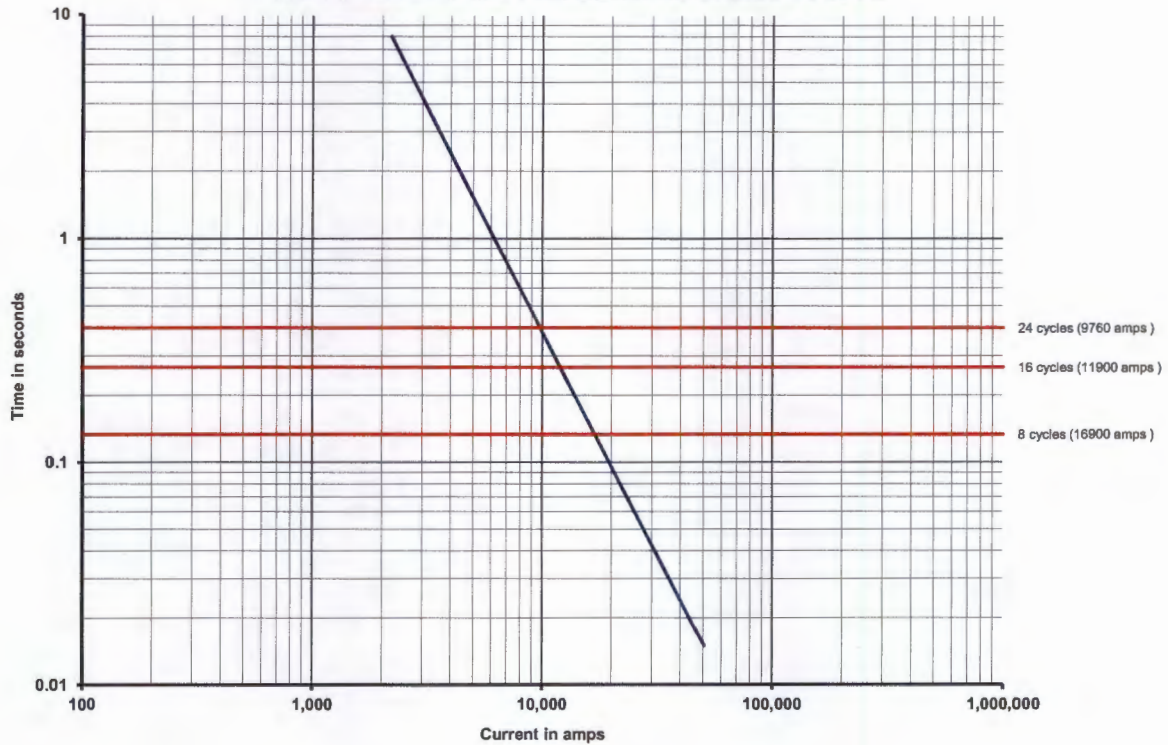
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Shield Fault Current

1000 kcmil Al, 0.220" TRXLPE, 15 x #12 AWG Cu, LLDPE

**MAXIMUM FAULT CURRENT OPERATING LIMITS
FOR A 97950 cmil COPPER METALLIC SHIELD AT 60 Hz**



15 x #12AWG Copper Concentric Neutral

Number of Cycles	Time (s)	Current (amps)
8	0.13	16900
16	0.27	11900
24	0.40	9760

Notes -

The curves assume that all heat generated remains in the metal.
The time shown is that calculated for a given RMS fault current to bring the metallic shield to a temperature that will not cause damage to the insulation shield or cable jacket.
The calculations are as per ICEA P-45-482 using an "M factor" of 0.063 corresponding to a 5-15 kV rated cable, with a conductor temperature of 90 and a metallic shield starting temperature of 85 C and a metallic shield ending temperature of 200

Customer:	SOUTHERN CALIFORNIA EDISON	Customer P/N:	592-00139	EA/PC Number:	922113 Rev. 3
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Cable Installation

Single Conductor EmPowr® Link STRANDFILL® Concentric Neutral (Round Wire) Power Cable 17kV

Cable Description:	1000 kcmil Al, 0.220" TRXLPE, 15 x #12 AWG Cu, LLDPE							
Maximum Pulling Tension:	Single Conductor				3x1/C Parallel			
	Conductor Pulling Eye / Bolt:	8000 lb	35.6 kN		16000 lb	71.2 kN		
	Cable Basket Grip:	10000 lb	44.5 kN		20000 lb	89.0 kN	3 grips, 1 per cable	
NOTE: When exceeding 100 lb pulling force, proceed with caution. Pulling grips must be sized in accordance with grip manufacturer's recommendations and be installed in accordance with AEIC CG5-05								
Maximum Sidewall Bearing Pressure:	2000 lb/foot of bend radius				29 kN/meter of bend radius			
	NOTE: When exceeding 1000 lb/SWBP, proceed with caution							
Minimum Bending Radius for Permanent Training Purposes:	NEC Applications: 12 x O.D.		25 inches			635 mm		
	Non-NEC Applications: 8 x O.D.		16 inches			406 mm		
Conduit (Schedule 40) Information:	Single Conductor							
	Conduit Dimensions							
	Metric Size (mm)	Imperial Size (in.)	ID		% Fill	Jam Ratio	Clearance	
			(in.)	(mm)			(in.)	(mm)
	78	3	3.068	77.93	45	N/A	1.017	25.84
	63	2½	2.469	62.71	69	N/A	0.418	10.63
	3x1/C Parallel							
	Conduit Dimensions							
	Metric Size (mm)	Imperial Size (in.)	ID		% Fill	Jam Ratio	Clearance	
			(in.)	(mm)			(in.)	(mm)
155	6	6.065	154.05	34	3.11	2.967	75.36	
129	5	5.047	128.19	50	2.58	0.815	20.70	
*Jam Ratio between 2.8 and 3.2; Jamming Probable								
**Jam Ratio between 2.5 and 2.8; Jamming Possible								

Customer:	SOUTHERN CALIFORNIA EDISON	Customer P/N:	592-00139	EA/PC Number:	922113 Rev. 3
Specification / Standard:	MS-477 Date: 9/23/2008 AEIC CS8-13, ICEA S-94-649	Prepared by:	HQUHZB	Date:	3/9/2016

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ATTACHMENT

SCE PME Pad Mounted Gear

Specifications

Conditions of Sale

STANDARD: Seller's standard conditions of sale set forth in Price Sheet 150 apply, except as modified under "WARRANTY QUALIFICATIONS" on page 3.

SPECIAL TO THIS PRODUCT:

NOTE: S&C Manual PME Pad-Mounted Gear accommodates separable insulated connectors and accessories. This gear must be operated by qualified persons who are thoroughly trained in, and who understand any hazards that may be involved with, the operation of separable insulated connectors and related accessories.

INCLUSIONS: S&C Manual PME Pad-Mounted Gear features elbow-connected encased components. Manual PME models are of free-standing, self-supporting construction—not for bolting directly to transformers—with provisions for cable entrance and exit through the bottom. Enclosures meet the requirements of ANSI C57.12.28 (enclosure integrity). Access to termination compartments is controlled by the S&C Penta-Latch® Mechanism which provides automatic door latching and permits padlocking only when the door is securely latched. The door can be opened only with a pentahead socket wrench or tool.

The enclosure roof is undercoated with an insulating "no-drip" compound. A resilient closed-cell gasket on the enclosure bottom flange protects the finish from being scratched during installation and isolates it from the alkalinity of a concrete foundation. Enclosures are protected from corrosion by S&C's olive green Ultradur® Finishing System.

Switch terminals are equipped with 600-ampere-rated bushings and fuse terminals are equipped with 200-ampere-rated bushing wells. Bushing and bushing-well interfaces are in accordance with ANSI/IEEE Standard 386 to accept all standard separable insulated connectors and inserts. Parking stands are provided adjacent to each bushing and

bushing well. Grounding provisions suitable for use with separable insulated connectors and related accessories are located in each termination compartment. Full-length steel barriers separate adjoining termination compartments (where applicable). PME models are provided with an instruction manual holder and storage racks on each fuse termination-compartment door for spare S&C Fuse Units, Refill Units, or Interrupting Modules.

All medium-voltage switch and fuse components are completely encased in an inner grounded steel compartment. The component compartment floor of 22-gauge galvanized steel sheet excludes foliage and animals. Fiberglass-reinforced polyester barriers are provided where required to achieve published BIL ratings.

Roof sections over the cable compartments are hinged to allow easy cable pulling during installation.

600-ampere external handle-operated S&C Mini-Rupter® Switches provide three-pole live switching of three-phase source circuits. A folding switch-operating handle, secured inside the switch-operating-hub pocket, is provided with each Mini-Rupter Switch.

These PME models offer a choice of S&C Power Fuses—Types SME-20 and SME-4Z, or S&C Fault Fiter® Electronic Power Fuses. SME-20 Power Fuses use the S&C SMU-20® Fuse Unit, and SME-4Z Power Fuses use the S&C SM-4® Refill Unit. Fault Fiter Electronic Power Fuse Mountings also accommodate a variety of single-barrel current-limiting fuses as listed on page 13. Fuses provide fault protection of the tap circuits; and loadbreak inserts and separable insulated connectors supplied by the user permit single-pole switching of the taps. These units feature S&C TransFuser™ Mountings—fuse-handling mechanisms with a mechanical interlock that guards against gaining access to the fuse before opening the loadbreak separable insulated connector at the fuse terminal. The fuse is accessible only when de-energized and isolated—for full-view non-loadbreak disconnection and removal with a shotgun stick.



Conditions of Sale—Continued

Individual ground rings are provided for each fuse mounting to allow convenient grounding of cable concentric neutrals and elbow accessories. These ground rings are also equipped with cable guides to assist in cable training and to prevent cables from interfering with movement of the fuse-access panel.

EXCLUSIONS: Three-phase units listed on pages 4 and 5 do not include the items listed in the table of optional features on page 6, nor do they include the connector, fuse components, switch blades, or accessories listed in the tables on pages 3, and 7 through 14.

SPECIFICATION DEVIATIONS: Features or modifications other than those listed in the table of optional features cannot be accommodated. Specifically, the following modifications are not available:

- Relocation of components (switches and fuses).
- Inclusion of bracket- or base-mounted surge arresters or any type of cable-terminating device other than separable insulated connectors.
- Mechanical cable interlocks.

APPLICATION NOTES: For application information as well as a guide to the selection of appropriate ampere ratings and speeds of S&C SME Power Fuses, and types and TCC curve parameters of control modules for S&C Fault Filter Electronic Power Fuses, contact the nearest S&C Sales Office.

Switching with Mini-Rupter

S&C Manual PME Pad-Mounted Gear features S&C Mini-Rupter Switches for three-pole live switching of three-phase circuits.

Complete ratings for Mini-Rupters as applied in S&C Manual PME Pad-Mounted Gear are shown in the table below. In addition to the load-dropping ratings shown, Mini-Rupter is capable of interrupting transformer magnetizing currents associated with the applicable loads, as well as line-charging and cable-charging currents typical for distribution systems of these voltage ratings. For applications on systems rated higher than 7.2 kV and involving load current with high harmonic content (such as rectifier load currents), refer to the nearest S&C Sales Office. The three-time duty-cycle fault-closing ratings shown for Mini-Rupters define the ability to close the Mini-Rupter three times against a three-phase fault with asymmetrical current in at least one phase equal to the rated value, with the switch remaining operable and able to carry and interrupt rated current.

A Note on Single-Pole Switching

In using separable insulated connectors (elbows) for single-pole switching of three-phase transformers or transformer banks (or single-phase transformers connected line-to-line) where maximum system operating voltage exceeds 22 kV, circuit connections or parameters may, in some cases, produce overvoltages that exceed the switching capability of the elbow. Therefore, follow the elbow manufacturer's recommendations and the user's operating and safety procedures for switching such transformers from other than at the transformer location when they are unloaded or lightly loaded.

Recommended Voltage Ratings of Current-Limiting Fuses for Use in S&C Pad-Mounted Gear

In general, current-limiting fuses should have a maximum voltage rating equal to, but not greater than 140% of, the system line-to-line voltage since, for most applications,

RATINGS FOR S&C MINI-RUPTER SWITCHES									
Voltage, kV			Current, Amperes						
Nom.	Max	BIL	Cont.	Live Switching		Three-Time Duty-Cycle Fault-Closing		Short-Circuit	
				Load-Splitting (Parallel or Loop Switching)	Load Dropping	Peak	RMS, Sym.	Peak Withstand, Peak	One-Second Short Time Withstand, RMS, Sym.
14.4	17.5	95	600	600	600	65 000	25 000	65 000	25 000
25	29	125	600	600	600	32 500	12 500	32 500	12 500

the fuses can be exposed to full system line-to-line voltage in clearing faults. Although there may be economic or space-saving incentives for using current-limiting fuses with voltage ratings "appropriate for system line-to-ground voltage" (i.e., fuses with a voltage rating lower than line-to-line voltage but *greater than or equal to* maximum system line-to-ground voltage), S&C can recommend such use only in the following applications:

- Protection of single-phase transformers serving single-phase loads,
- Protection of three-phase lateral circuits fed by single-conductor shielded cable (provided each transformer on that lateral is individually fused so that the current-limiting fuse serving the lateral will not be required to clear secondary faults), or
- Protection of single-phase lateral circuits fed by single-conductor shielded cable where the load is line-to-ground connected.

Achieving 25-kA Short-Circuit Rating in 14.4-kV Models

As indicated in the tables on pages 4 and 5, specific 14.4-kV models have a short-circuit rating of 25,000 amperes, RMS, symmetrical and 620 MVA. They include:

- PME-4, PME-5, PME-6, PME-9, PME-11, and PME-12, furnished with Fault Fiter mountings, when certain non-S&C-manufactured current-limiting fuses are used, having a rated maximum interrupting current of at least 25,000 amperes, RMS, symmetrical and limiting the instantaneous peak let-through current to less than 36,000 amperes. Refer to the current-limiting fuse table on page 13.
- PME-10.

In each instance, separable connectors and cables installed in the switch compartments must be rated 25,000 amperes, RMS, symmetrical. In addition, the gear *cannot* be furnished with optional 200-ampere bushing wells in lieu of 600-ampere bushings at the switch terminals, Catalog Number Suffix "-M4."

WARRANTY QUALIFICATIONS: The standard warranty contained in seller's standard conditions of sale (as set forth in Price Sheet 150) does not apply to S&C Manual PME Pad-Mounted Gear where fuse units, fuse-unit end fittings, holders, refill units, or switch blades of other than S&C manufacture are used in conjunction with S&C

SME Mountings. Nor does it apply to S&C Manual PME Pad-Mounted Gear where other than Fault Fiter Electronic Power Fuses, S&C Switch Blades, or the current-limiting fuses listed on page 13 are used in conjunction with Fault Fiter Electronic Power Fuse Mountings and S&C Holders designed therefor, or when current-limiting fuses are applied other than as set forth under "Recommended Voltage Ratings of Current-Limiting Fuses for Use in S&C Pad-Mounted Gear" on page 2.

How to Order

1. Pad-Mounted Gear and Options

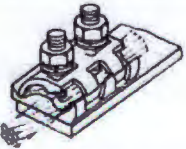
- Obtain the catalog number of the desired unit from the table on pages 4 and 5.
- Add suffix designations (to the catalog number above) to indicate the optional features desired, selected from the table on page 6.
- Connectors: Obtain the catalog number of the connectors from the table below.
- Obtain the catalog numbers of accessories and touch-up kit components from the tables on page 14.

2. Fuse Components and Switch Blades


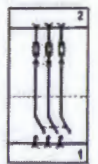
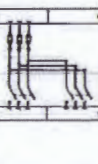
- For SME-20 Power Fuses: Obtain the catalog number of the end fittings and fuse units from the tables on pages 7 through 9, taking care to match the voltage rating of the end fittings to the fuse units.
- For SME-4Z Power Fuses: Obtain the catalog number of the holder and refill units from the tables on pages 7 and 10, taking care to match the voltage rating of the holder to the refill units.
- For Fault Fiter Electronic Power Fuses: Obtain the catalog number for the holders, the interrupting modules, and the control modules from the tables on pages 7, 11, and 12, taking care to match the voltage rating of the holders, interrupting modules, and the control modules.

3. Example

The catalog number of a 14.4-kV manual Model PME-9 with SME-20 Mountings; optional fuse storage feature for three spare fuse holders or fuse units with end fittings in Compartment 1 is 65152R1-E1.

CONNECTOR			
Illustration	Description	Accommodating Conductor	Catalog Number
	Bronze Body, Tin Plated, Two Galvanized Steel Bolts, Two Belleville Washers	No. 2 solid (33.6 mm ²) through 500 kc mil (335 mm ²) stranded copper or aluminum	4745

S&C Manual PME Pad-Mounted Gear

THREE-PHASE UNITS (Including mountings, less fuse components ^①)														
Model ^② and Connection Diagram ^③	Fuse Type	Ratings									MVA 3-Phase Sym. at Rated Voltage	Catalog Number	Net Wt., Lbs.	Page Reference for Dimensional Information
		kV			Current, Amperes, RMS			Short-Circuit						
		Nom.	Max	BIL	Fuse, Max	Mini-Rupter		Current, Amperes, RMS, Sym. ^④						
						Cont.	Load Dropping	Mini-Rupter	Main Bus	Pad-Mounted Gear ^⑤				
	SME-20	14.4	17.0	95	200E■	—	—	—	14 000	14 000	350	65102R1	650	15
		25	27	125	200E■	—	—	—	12 500	12 500	540	65103R1	750	
	SME-4Z	14.4	17.0	95	200E	—	—	—	14 000	12 500	310	65302R1	650	
		25	27	125	200E	—	—	—	12 500	12 500◆	540◆	65303R1	750	
	Fault-Fiter ^⑥	14.4	17.0	95	200	—	—	—	14 000	14 000●	350●	65502R1	650	
25		29	125	200	—	—	—	12 500	12 500	540	65503R1	750		
	SME-20	14.4	17.0	95	200E■	600	600	25 000	14 000	14 000	350	65112R1	950	16
		25	27	125	200E■	600	600	12 500	12 500	12 500	540	65113R1	1250	
	SME-4Z	14.4	17.0	95	200E	600	600	25 000	14 000	12 500	310	65312R1	950	
		25	27	125	200E	600	600	12 500	12 500	12 500◆	540◆	65313R1	1250	
	Fault-Fiter ^⑥	14.4	17.0	95	200	600	600	25 000	14 000	14 000●	350●	65512R1	950	
25		29	125	200	600	600	12 500	12 500	12 500	540	65513R1	1250		
	SME-20	14.4	17.0	95	200E■	600	600	25 000	25 000	14 000	350	65122R1	1700	17
		25	27	125	200E■	600	600	12 500	12 500	12 500	540	65123R1	2125	
	SME-4Z	14.4	17.0	95	200E	600	600	25 000	25 000	12 500	310	65322R1	1700	
		25	27	125	200E	600	600	12 500	12 500	12 500◆	540◆	65323R1	2125	
	Fault-Fiter ^⑥	14.4	17.0	95	200	600	600	25 000	25 000	14 000●	350●	65522R1	1700	
25		29	125	200	600	600	12 500	12 500	12 500	540	65523R1	2125		

① Fuse components must be ordered separately.

② Vertical-type portable feed thru inserts cannot be accommodated in fuse termination compartments of models furnished with SME-20 Power Fuses or Fault Fiter Electronic Power Fuses. Also, "piggybacked" Blackburn 600-ampere T-bodies cannot be accommodated in switch termination compartments.

③ Compartment numbers appear in corners of each connection diagram.

④ Asymmetrical current rating is 1.6 times symmetrical current rating.

⑤ Short-circuit rating of complete pad-mounted gear unit may be limited by ratings of bushing inserts, elbows, T-bodies, fuses, and cables used. Fault-closing and/or short-circuit ratings of switches and bus, and interrupting ratings of fuses meet or exceed short-circuit rating of the gear. For complete switch ratings, refer to "Application Notes" on page 2.

⑥ Fault Fiter mountings accommodate certain non-S&C-manufactured current-limiting fuses. Refer to table on page 13. The maximum voltage and current ratings indicated in that table apply. Consult fuse manufacturer for complete fuse ratings.

★ Available only when end user is an electric utility.

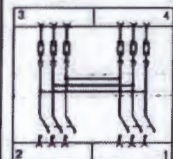
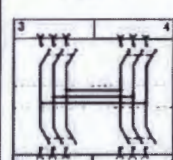
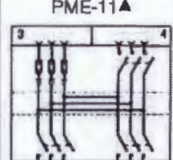
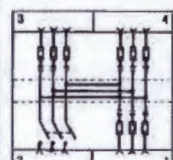
▲ Optional key interlocks, Catalog Number Suffix "-C3" or "-C4," must be furnished if end user is not an electric utility.

■ SMU-20 Fuse Units are available in ratings through 200K amperes as well as 200E amperes.

◆ Applicable to solidly grounded-neutral systems only, with fuses connected by single-conductor, concentric-neutral-type cable to a transformer(s). Rating is 9,400 amperes, RMS, symmetrical (405 MVA) for all other applications.

● 25,000 amperes, RMS, symmetrical and 620 MVA when certain non-S&C-manufactured current-limiting fuses are used, having a rated maximum interrupting current of at least 25,000 amperes, RMS, symmetrical and limiting the instantaneous peak let-through current to less than 36,000 amperes. Refer to current-limiting fuse table on page 13. Separable connectors and cables installed in switch compartments must be rated 25,000 amperes, RMS, symmetrical; gear cannot be furnished with optional 200-ampere bushing wells in lieu of 600-ampere bushings at switch terminals, Catalog Number Suffix "-M4."

TABLE CONTINUED ►

THREE-PHASE UNITS (Including mountings, less fuse components ^①)—Continued															
Model ^② Connection Diagram ^③	Fuse Type	Ratings										MVA 3-Phase Sym. at Rated Voltage	Catalog Number	Net Wt., Lbs.	Page Reference for Dimensional Information
		Voltage, kV			Current, Amperes, RMS			Short-Circuit							
		Nom.	Max	BIL	Fuse, Max	Mini-Rupter		Current, Amperes, RMS, Sym. ^④							
						Cont.	Load Dropping	Mini- Rupter	Main Bus	Pad- Mounted Gear ^⑤					
	SME-20	14.4	17.0	95	200E■	600	600	25 000	25 000	14 000	350	65152R1	1800	18	
		25	27	125	200E■	600	600	12 500	12 500	12 500	540	65153R1	2225		
	SME-4Z	14.4	17.0	95	200E	600	600	25 000	25 000	12 500	310	65352R1	1800		
		25	27	125	200E	600	600	12 500	12 500	12 500◆	540◆	65353R1	2225		
	Fault- Filter ^⑥	14.4	17.0	95	200	600	600	25 000	25 000	14 000●	350●	65552R1	1800		
		25	29	125	200	600	600	12 500	12 500	12 500	540	65553R1	2225		
	—	14.4	17.5	95	—	600	600	25 000	25 000	25 000▼	620▼	65242R1	1975	19	
	—	25	29	125	—	600	600	12 500	12 500	12 500	540	65243R1	2450		
	SME-20	14.4	17.0	95	200E■	600	600	25 000	25 000	14 000	350	65162R1	1900	20	
		25	27	125	200E■	600	600	12 500	12 500	12 500	540	65163R1	2375		
	SME-4Z	14.4	17.0	95	200E	600	600	25 000	25 000	12 500	310	65362R1	1900		
		25	27	125	200E	600	600	12 500	12 500	12 500◆	540◆	65363R1	2375		
	Fault- Filter ^⑥	14.4	17.0	95	200	600	600	25 000	25 000	14 000●	350●	65562R1	1900		
		25	29	125	200	600	600	12 500	12 500	12 500	540	65563R1	2375		
	SME-20	14.4	17.0	95	200E■	600	600	25 000	14 000	14 000	350	65172R1	1725	21	
		25	27	125	200E■	600	600	12 500	12 500	12 500	540	65173R1	2150		
	SME-4Z	14.4	17.0	95	200E	600	600	25 000	14 000	12 500	310	65372R1	1725		
		25	27	125	200E	600	600	12 500	12 500	12 500◆	540◆	65373R1	2150		
	Fault- Filter ^⑥	14.4	17.0	95	200	600	600	25 000	14 000	14 000●	350●	65572R1	1725		
		25	29	125	200	600	600	12 500	12 500	12 500	540	65573R1	2150		

① Fuse components are to be ordered separately.
 ② Vertical-type portable feed thru inserts cannot be accommodated in fuse termination compartments of models furnished with SME-20 Power Fuses or Fault Filter Electronic Power Fuses. Also, "piggybacked" Blackburn 600-ampere T-bodies cannot be accommodated in switch termination compartments.
 ③ Compartment numbers appear in corners of each connection diagram.
 ④ Asymmetrical current rating is 1.6 times symmetrical current rating.
 ⑤ Short-circuit rating of complete pad-mounted gear unit may be limited by ratings of bushing inserts, elbows, T-bodies, fuses, and cables used. Fault-closing and/or short-circuit ratings of switches and bus, and interrupting ratings of fuses meet or exceed short-circuit rating of the gear. For complete switch ratings, refer to "Application Notes" on page 2.
 ⑥ Fault Filter mountings accommodate certain non-S&C-manufactured current-limiting fuses. Refer to table on page 13. The maximum voltage and current ratings indicated in that table apply. Consult fuse manufacturer for complete fuse ratings.
 ▲ Optional key interlocks, Catalog Number Suffix "-C3" or "-C4," must be furnished if end user is not an electric utility.
 ■ SMU-20 Fuse Units are available in ratings through 200K amperes as well as 200E amperes.

◆ Applicable to solidly grounded-neutral systems only, with fuses connected by single-conductor, concentric-neutral-type cable to a transformer(s). Rating is 9,400 amperes, RMS, symmetrical (405 MVA) for all other applications.
 ● 25,000 amperes, RMS, symmetrical and 620 MVA when certain non-S&C-manufactured current-limiting fuses are used, having a rated maximum interrupting current of at least 25,000 amperes, RMS, symmetrical and limiting the instantaneous peak let-through current to less than 36,000 amperes. Refer to current-limiting fuse table on page 13. Separable connectors and cables installed in switch compartments must be rated 25,000 amperes, RMS, symmetrical; gear *cannot* be furnished with optional 200-ampere bushing wells in lieu of 600-ampere bushings at switch terminals, Catalog Number Suffix "-M4."
 ▼ To achieve this rating, separable connectors and cables installed in switch compartments must be rated 25,000 amperes, RMS, symmetrical; gear *cannot* be furnished with optional 200-ampere bushing wells in lieu of 600-ampere bushings at switch terminals, Catalog Number Suffix "-M4." Otherwise, gear is rated 14,000 amperes, RMS, symmetrical, and 350 MVA.

S&C Manual PME Pad-Mounted Gear

OPTIONAL FEATURES			
Item		Suffix to be Added to Pad-Mounted Gear Catalog No.	Applicable to Models
Light Gray Outdoor Ultradur Finish instead of Olive Green		-A2	All models
Equipment Green Outdoor Finish (Toronto Standard) instead of Olive Green		-A3	All models
Seafoam Green Outdoor Finish instead of Olive Green		-A4	All models
Special Color Outdoor Ultradur Finish instead of Olive Green		-A5	All models
Stainless-Steel Enclosure ^①	With Olive Green Outdoor Ultradur Finish	-A10	All models
	With Light Gray Outdoor Ultradur Finish	-A12	All models
	With Special Color Outdoor Ultradur Finish	-A15	All models
Hexhead Actuator for use in lieu of pentahead actuator on all Penta-Latch Mechanisms	For use <i>except</i> when option suffix "-F2" is specified	-B1▼ ^①	All models
	For use when option suffix "-F2" is also specified	-B2▼ ^①	All models except PME-4
Key Interlocks to prevent paralleling of switches in Compartments 1 and 2 ^②		-C1	PME-6, -9, -10, -11
Key Interlocks to prevent opening fuse termination-compartment doors unless all switches are locked open ^②		-C3	PME-5, -6, -8, -11, -12
Key Interlocks. Combines functions of options "-C1" and "-C3" above ^②		-C4	PME-6, -9, -11
Fuse-Storage Feature for three spare fuse assemblies per compartment ^③	Located in Compartment 1	-E1	PME-4, -5, -6, -9, -11
	Located in Compartment 2	-E2	PME-6, -9, -11, -12
	Located in Compartments 1 and 2	-E3	PME-6, -9, -11
Mounting Provisions for a Fault Indicator in each switch compartment Note: Accommodates three-phase indicator with single-phase sensors	Without viewing window in door	-F1	PME-5, -6, -9, -10, -11, -12
	With viewing window in door	-F2▼	PME-5, -6, -9, -10, -11, -12
Base Adapter, to permit a PME model to be installed on a mounting pad having anchor bolts located to suit the comparable PMH model. This adapter increases the height of the unit 6 inches	Carbon Steel	-K	All models
	Stainless Steel	-K10	All models
Base Spacer 6"	Carbon Steel	-K7	All models
	Stainless Steel	-K17	All models
Base Spacer 12"	Carbon Steel	-K8	All models
	Stainless Steel	-K18	All models
International Crating ^④		-L71	All models
600-Ampere Bushings Without Studs, at switch terminals		-M1	PME-5, -6, -9, -10, -11, -12
200-Ampere Bushings Wells in Lieu of 600-Ampere Bushings, at switch terminals ^⑤		-M4	PME-5, -6, -9, -10, -11, -12
UL Listing. Includes "UL Listed" symbol on ratings label and nameplate		-X▶	All 14.4-kV models

① When this optional feature is specified, the entire exterior of the enclosure will be fabricated from 11-gauge Type 304 stainless steel. When ordering optional hexhead actuators, provisions for fault indicators with viewing windows in doors, or base adapter, specify the correct suffix for use with a stainless-steel enclosure.

② When ordering, please furnish name of ultimate user, station, and location of gear.

③ Fuse assemblies (fuse holders or fuse units with end fittings) are not included. For units equipped with Fault Fiter Electronic Power Fuse Mountings, only two spare Fault Fiter Electronic Power Fuse Holders or two spare current-limiting fuse holders can be accommodated in each compartment.

④ Choosing this option signifies that wood products to be used in the packaging of any items on International orders must either be hard wood or certified by the wood supplier as having "been heat treated (kiln dried) to a core temperature of 56° Celsius for a minimum of 30 minutes."

⑤ When Catalog Number Suffix "-M4" is specified, the continuous current and short-circuit ratings are limited to the ratings of the bushing wells, bushing inserts, and elbows used.

▼ When ordering Catalog Number Suffix "-B1," "-B2," or "-F2" for use with a stainless-steel enclosure, specify Catalog Number Suffix "-B11" instead of "-B1," "-B12" instead of "-B2," or "-F12" instead of "-F2."

① Not available if UL listing (Catalog Number Suffix "-X") is specified.

▶ Not available if hexhead actuator for use in lieu of pentahead actuator on all Penta-Latch Mechanisms (Catalog Number Suffix "-B1," "-B2," "-B11," or "-B12") is specified.

SME-20 POWER FUSE COMPONENTS	
Fuse-Unit End Fittings	
Item	Catalog Number
End Fittings (including Silencer), for use with SMU-20 Fuse Units	3093
SMU-20[®] Fuse Units^①	
14.4 kV Nominal, 17.0 kV Max	25 kV Nominal, 27 kV Max
For a complete listing of available ampere ratings, speeds, and catalog numbers, refer to pages 8 and 9.	

① These fuse units are usable in SM-20, SMD-20, SML-20, and SME-20 Mountings.

SME-4Z POWER FUSE COMPONENTS				
Holders				
Item	Rating			Catalog Number
	kV		Amperes, Max	
	Nom.	Max		
Holder (including Silencer), for use with SM-4 Refill Units	14.4	17.0	200E	90362
	25	27	200E	90363
SM-4[®] Refill Units^①				
14.4 kV Nominal, 17.0 kV Max			25 kV Nominal, 27 kV Max	
For a complete listing of available ampere ratings, speeds, and catalog numbers, refer to page 10.				

① These refill units are usable in SM-4, SM-4Z, SML-4Z, and SME-4Z Holders.

FAULT FITER ELECTRONIC POWER FUSE COMPONENTS				
Holders				
Item	Rating			Catalog
	kV		Amperes, Cont.	
	Nom.	Max		
Holder, for use with Fault Fiter Electronic Power Fuses	13.8	17.0	200	3132
	25	29	200	3133
Interrupting Modules^①				
Item	Rating			Catalog Number
	kV		Amperes, Cont.	
	Nom.	Max		
Interrupting Module, for use with Fault Fiter Electronic Power Fuses	13.8	17.0	600	802600R2
	25	29	600	803600R2
Control Modules^①				
For a complete listing of available types, TCC curve parameters, and catalog numbers, refer to pages 11 and 12.				

① Interrupting modules and control modules rated 600 amperes continuous are also applicable for use in mountings rated 200 amperes continuous.

S&C Manual PME Pad-Mounted Gear

SMU-20 [®] FUSE UNITS (For use in SM-20, SME-20, or SML-20 Mountings) [Ⓞ]					
14.4 kV Nominal, 17.0 kV Max					
"K" Ratings		"E" Ratings			
Rating, Amperes ↓	Catalog Number	Rating, Amperes ↓	Catalog Number		
Speed →	S&C "K" TCC 165-2	Speed →	S&C Std. TCC 115-2		
		1	702001		
		Speed →	S&C Std. TCC 153-2	S&C Slow TCC 119-2	S&C Very Slow TCC 176-2
3K	702003				
6K	702006	5E	612005		
8K	702008	7E	612007		
10K	702010	10E	612010		
12K	702012	13E	612013		
15K	702015	15E	612015	712015	
20K	702020	20E	612020	712020	
25K	702025	25E	612025	712025	
30K	702030	30E	612030	712030	
40K	702040	40E	612040	712040	
50K	702050	50E	612050	712050	602050
65K	702065	65E	612065	712065	602065
80K	702080	80E	612080	712080	602080
100K	702100	100E	612100	712100	602100
140K	702140	125E	612125	712125	602125
200K	702200	150E	612150	712150	602150
		175E	612175	712175	602175
		200E	612200	712200	602200

Ⓞ These fuse units are equally suitable for use in SMD-20 Outdoor Distribution Mountings.

SMU-20 [®] FUSE UNITS (For use in SM-20, SME-20, or SML-20 Mountings) ^①					
25 kV Nominal, 27 kV Max ^②					
"K" Ratings		"E" Ratings			
Ratings, Amperes ↓	Catalog Number	Rating, Amperes ↓	Catalog Number		
Speed →	S&C "K" TCC 165-2	Speed →	S&C Std. TCC 115-2		
		1	703001		
		Speed →	S&C Std. TCC 153-2	S&C Slow TCC 119-2	S&C Very Slow TCC 176-2
3K	703003				
6K	703006	5E	613005		
8K	703008	7E	613007		
10K	703010	10E	613010		
12K	703012	13E	613013		
15K	703015	15E	613015	713015	
20K	703020	20E	613020	713020	
25K	703025	25E	613025	713025	
30K	703030	30E	613030	713030	
40K	703040	40E	613040	713040	
50K	703050	50E	613050	713050	603050
65K	703065	65E	613065	713065	603065
80K	703080	80E	613080	713080	603080
100K	703100	100E	613100	713100	603100
140K	703140	125E	613125	713125	603125
200K	703200	150E	613150	713150	603150
		175E	613175	713175	603175
		200E	613200	713200	603200

① These fuse units are equally suitable for use in SMD-20 Outdoor Distribution Mountings.

② Also suitable for protection of single-phase-to-neutral circuits (lines or transformers) on 20/34.5 GrY-kV systems.

S&C Manual PME Pad-Mounted Gear

SM-4 [®] REFILL UNITS (For use in SM-4, SME-4, or SML-4 Holders)					
Rating, Amperes ↓	14.4 kV Nominal, 17.0 kV Max ^①			25 kV Nominal, 27 kV Max	
	Catalog Number			Catalog Number	
Speed →	S&C Std. TCC 115-4			S&C Std. TCC 115-4	
1	122001R4			123001R4	
2	122002R4			123002R4	
Speed →	S&C Std. TCC 153-4	S&C Slow TCC 119-4	S&C Coord. TCC 179-4	S&C Std. TCC 153-4	S&C Slow TCC 119-4
3E	122005R4			123005R4	
5E	122007R4			123007R4	
7E	122010R4			123010R4	
10E	122015R4			123015R4	
13E	122020R4			123020R4	
15E	122025R4	252025R4		123025R4	253025R4
20E	122030R4	252030R4		123030R4	253030R4
25E	122040R4	252040R4		123040R4	253040R4
30E	122050R4	252050R4		123050R4	253050R4
40E	122060R4	252060R4		123060R4	253060R4
50E	122075R4	252075R4		123075R4	253075R4
65E	122100R4	252100R4		123100R4	253100R4
80E	122125R4	252125R4		123125R4	253125R4
100E	122150R4	252150R4		123150R4	253150R4
125E	122200R4	252200R4		123200R4	253200R4
150E	122250R4	252250R4		123250R4	253250R4
175E	122275R4	252275R4		123275R4	253275R4
200E	122300R4	252300R4		123300R4	253300R4
210			382210R4 [■]		

① Rated 14.4 kV nominal, for use in SM-4 Holders rated 14.4 kV when applied in listed mountings rated 13.8 kV or in discontinued mountings rated 14.4 kV.

■ This S&C Coordinating Speed refill unit should be applied where the maximum continuous load current does not exceed 200 amperes and where all fault currents below 1000 amperes will be cleared by another fuse.

FAULT FITER CONTROL MODULES—Underground Subloop [Ⓢ] Type (TCC No. 422-7)					
Continuous Current, Amperes, Max [Ⓢ]	TCC Curve Parameters				Catalog Number
	Minimum Pickup, Amperes, RMS	Short-Time Pickup, Amperes, RMS	Short-Time Delay Band	Instantaneous Pickup, Amperes, RMS	
600	400	1300	2	3000	7020-C40P130S2T3
	500	1300	1	3000	7020-C50P130S1T3

Ⓢ This control module is applicable for protection of 15-kV and 25-kV class underground distribution subloops having the following parameters: maximum available fault current—14,000 amperes, RMS symmetrical at 15 kV, 12,500 amperes, RMS symmetrical at 25 kV; maximum rated transformer kVA connected for residential circuits—1200 kVA single-phase, 3600 kVA three-phase at 15 kV, 2400 kVA single-phase, 7200 kVA three-phase at 25 kV; with no capacitor banks or current-limiting fuses on the

load side of Fault Fiter. If the maximum rated transformer kVA connected is greater than the values listed above, or if the application involves protection of circuits serving industrial, commercial, or institutional loads, contact your nearest S&C Sales Office.

Ⓢ Control modules rated 600 amperes continuous are also applicable for use in mountings rated 200 amperes or 400 amperes continuous.

FAULT FITER CONTROL MODULES—Inverse Curve Type (TCC No. 410-7)		
Continuous Current, Amperes, Max [Ⓢ]	Minimum Pickup, Amperes, RMS	Catalog Number
600	400	814040
	500	814050
	600	814060
	700	814070
	800	814080
	1000	814100
	1250	814125
	1500	814150

Ⓢ Control modules rated 600 amperes continuous are also applicable for use in mountings rated 200 amperes or 400 amperes continuous.

S&C Manual PME Pad-Mounted Gear

FAULT FITER CONTROL MODULES—Time-Delayed Compound-Curve Type (TCC No. 421-7)					
Continuous Current, Amperes, Max ^①	TCC Curve Parameters				Catalog Number
	Minimum Pickup, Amperes, RMS	Short-Time Delay Band	High-Current Pickup, Amperes, RMS	High-Current, Delay Band Time Delay, ms	
600	400	1	3000	8	7010-C40S1T3D8
			6000	8	7010-C40S1T6D8
		2	3000	8	7010-C40S2T3D8
			6000	8	7010-C40S2T6D8
		3	3000	8	7010-C40S3T3D8
			6000	8	7010-C40S3T6D8
		4	3000	8	7010-C40S4T3D8
			6000	8	7010-C40S4T6D8
	600	1	3000	8	7010-C60S1T3D8
			6000	8	7010-C60S1T6D8
		2	3000	8	7010-C60S2T3D8
			6000	8	7010-C60S2T6D8
		3	3000	8	7010-C60S3T3D8
			6000	8	7010-C60S3T6D8
		4	3000	8	7010-C60S4T3D8
			6000	8	7010-C60S4T6D8
	800	1	3000	8	7010-C80S1T3D8
			6000	8	7010-C80S1T6D8
		2	3000	8	7010-C80S2T3D8
			6000	8	7010-C80S2T6D8
		3	3000	8	7010-C80S3T3D8
			6000	8	7010-C80S3T6D8
		4	3000	8	7010-C80S4T3D8
			6000	8	7010-C80S4T6D8
	1100	1	3000	8	7010-C110S1T3D8
			6000	8	7010-C110S1T6D8
		2	3000	8	7010-C110S2T3D8
			6000	8	7010-C110S2T6D8
		3	3000	8	7010-C110S3T3D8
			6000	8	7010-C110S3T6D8
		4	3000	8	7010-C110S4T3D8
			6000	8	7010-C110S4T6D8

^① Control modules rated 600 amperes continuous are also applicable for use in mountings rated 200 amperes or 400 amperes continuous.

CURRENT-LIMITING FUSES ACCOMMODATED IN FAULT FILTER MOUNTINGS					
For Use in PME Models With Nominal Voltage Rating, kV	Current-Limiting Fuse ^①				Requires S&C Holder ^② Catalog Number ^④
	Manufacturer	Type	Rating ^②		
			Max Voltage, kV	Max Current Amperes, RMS	
14.4	Cooper ^③	Kearney B	8.3	30—112	3122-A1
		Kearney Q	8.3 15.5	6—100 6—100	3122-A1 3122-A1
		McGraw-Edison NX [®]	8.3 15.5	1.5C—100C 1.5C—100C	3122-A1 3122-A1
		RTE [®] ELX	8.3 15.5	3—50 3—50	3122-A1 3122-A1
		Combined Technologies, Inc. X Limiter [™]	8.3 15.5	12—140 12—140	3122-A1 3122-A1
	Eaton [®]	Cutler Hammer CX	8.3 15.5	3.5C—40C 4C—40C	3122-A1 3122-A1
		Cutler Hammer CXN	8.3 15.5	60C—200C 45C—100C	3122 3122
	25	Cooper	Kearney B	15.5 22	30—100 25—65
Kearney Q			15.5	6—100	3123-A1
McGraw-Edison NX [®]			15.5 23	1.5C—100C 6C—40C	3123-A1 3123-A1
RTE [®] ELX			15.5 23	3—50 3—40	3123-A1 3123-A1
Combined Technologies, Inc. X Limiter [™]			15.5 23	12—100 12—40	3123-A1 3123-A1
Eaton		Cutler Hammer CX	15.5	4C—40C	3123-A1
		Cutler Hammer CXN	15.5	45C—100C	3123

① Fuses must be furnished by others.

② Maximum voltage and current ratings listed apply to the complete pad-mounted gear unit. Consult fuse manufacturer for complete fuse ratings.

③ Holders for 14.4-kV PME models are rated 14.4 kV nominal, 17.0 kV maximum, 200 amperes maximum. Holders for 25-kV PME models are rated 25 kV nominal, 29 kV maximum, 200 amperes maximum.

④ Includes adapter when required.

⑤ All 15.5-kV fuse types listed—*except RTE ELX Current-Limiting Fuses*—when used in 14.4-kV Model PME-4, PME-5, PME-6, PME-9, PME-11, or PME-12 Pad-Mounted Gear furnished with Fault Filter mountings, permit the gear to achieve a 25-kA short-circuit rating. Separable connectors and cables installed in the switch compartments must be rated 25,000 amperes, RMS, symmetrical. In addition, the gear *cannot* be furnished with optional 200-ampere bushing wells in lieu of 600-ampere bushings at the switch terminals, Catalog Number Suffix “-M4.”

SWITCH BLADES ^①				
Item	Rating			Catalog Number
	kV		Amps, Cont.	
	Nom.	Max		
Switch Blade, for use in lieu of SMU-20 Fuse Unit in SME-20 Mounting	14.4	17.0	200	5452
	25	27	200	5453
Switch Blade, for use in lieu of SME-4Z Fuse Unit in SME-4 Mounting	14.4	17.0	200	5462
	25	27	200	5463
Switch Blade, for use in lieu of Fault Filter Holder in Fault Filter Mounting	14.4	17.0	200	5472
	25	29	200	5473

① When switch blades are used in lieu of fuses, the short-circuit rating of the pad-mounted gear is 14,000 amperes, RMS symmetrical at 14.4 kV or 12,500 amperes, RMS symmetrical at 25 kV. Actual short-circuit capabilities

may be limited to lower values by the capabilities of bushing inserts, elbows, and cables used on the gear.

S&C Manual PME Pad-Mounted Gear

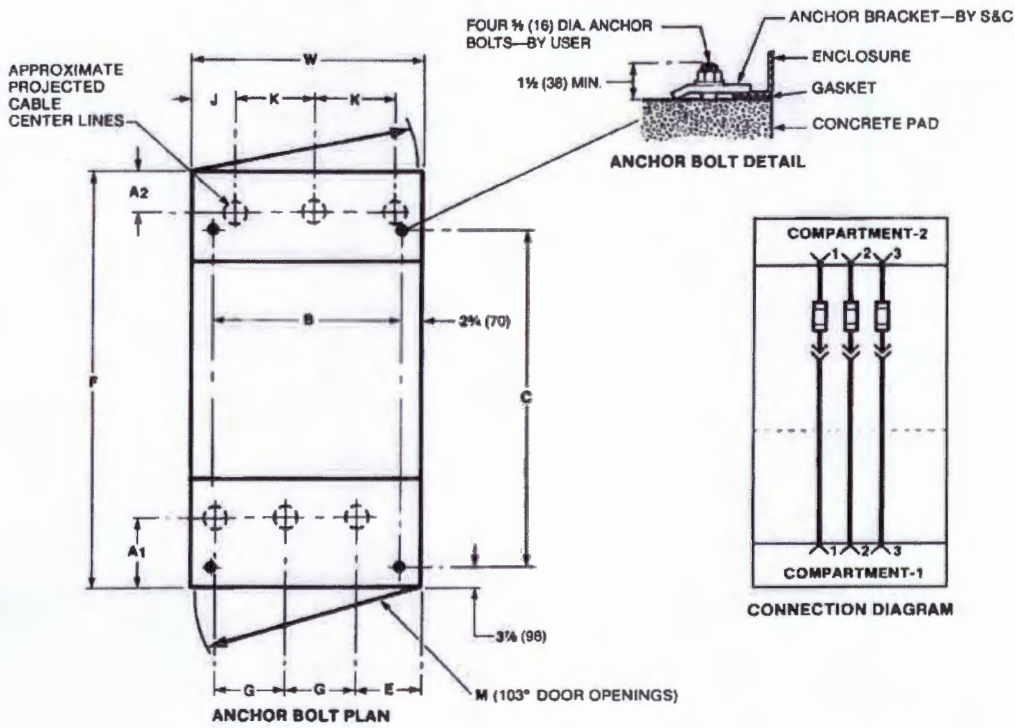
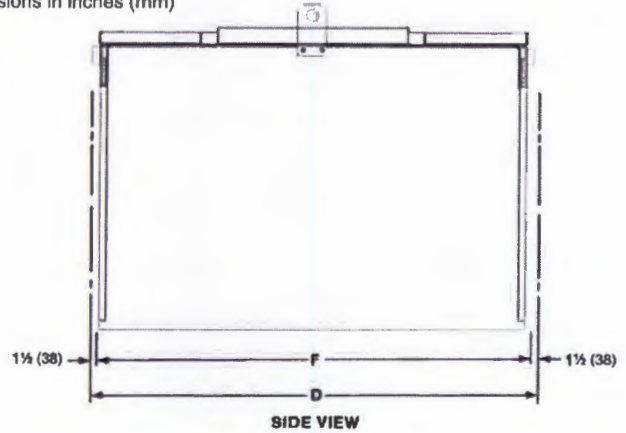
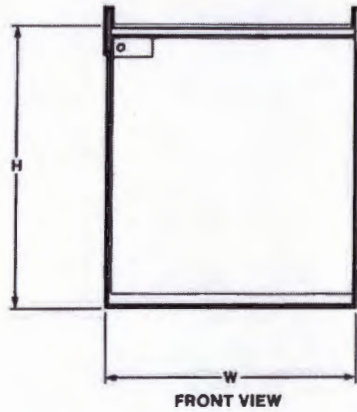
ACCESSORIES			
Item		Catalog Number	
Shotgun Clamp Sticks for use with separable connectors and voltage testers	6'-5½" length	9933-150	
	8'-5½" length	9933-151	
Storage Bag, heavy canvas	For shotgun clamp stick	6'-6" length	9933-152
		8'-6" length	9933-153
Voltage Tester with audio and visual signals, includes voltage tester, batteries, adapter for shotgun clampsticks, and storage case ^①		9931-072	
Pentahead Socket, for ½-inch drive		9931-074	

① For ultimate users other than electric utilities, also specify a shotgun clamp stick of the appropriate length.

TOUCH-UP KIT COMPONENTS—Aerosol Coatings in 12-ounce cans	
Item	Catalog Number
S&C Light Gray Outdoor Finish	9999-080
S&C Olive Green (Munsell 7GY3.29/1.5) Outdoor Finish	9999-058
S&C Red-Oxide Primer	9999-061

Model PME-4

Dimensions in inches (mm)

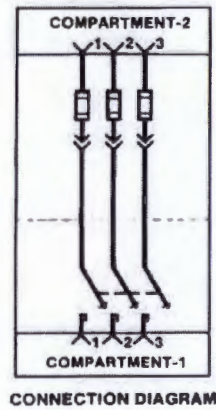
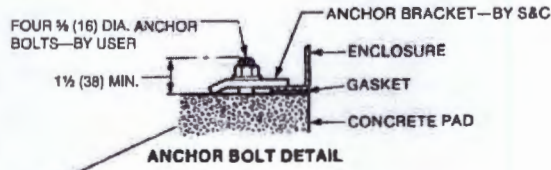
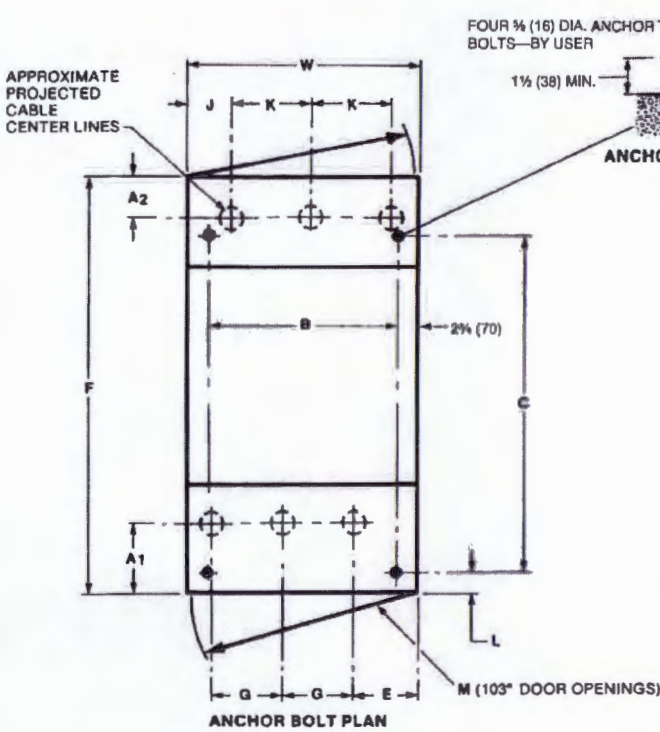
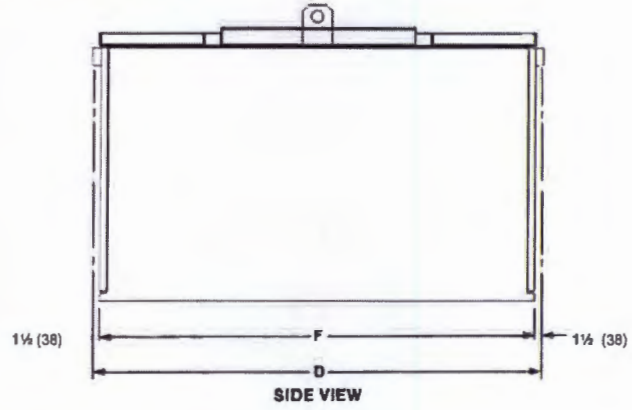
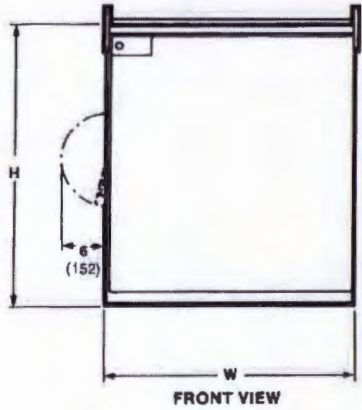


kV, Nominal	A ₁ ◆	A ₂ ◆	B	C	D	E	F	G	H	J	K	M	W
14.4	9 1/8 (232)	7 (178)	35 1/2 (902)	40 1/4 (1022)	55 3/4 (1416)	10 1/2 (267)	52 3/4 (1340)	9 3/4 (248)	45.5 (1156)	5 3/8 (137)	10 3/4 (273)	40 3/8 (1019)	41 (1041)
25	9 1/8 (232)	8 1/8 (206)	40 1/2 (1029)	43 (1092)	65 1/4 (1657)	11 3/4 (298)	62 1/4 (1581)	12 (305)	51.5 (1308)	6 (152)	12 (305)	45 1/4 (1146)	46 (1168)

◆ Projected cable center lines are applicable for PME models with cable installed in a cable pit. For cable installed in conduit refer to pages 22 and 24.

Model PME-5

Dimensions in inches (mm)

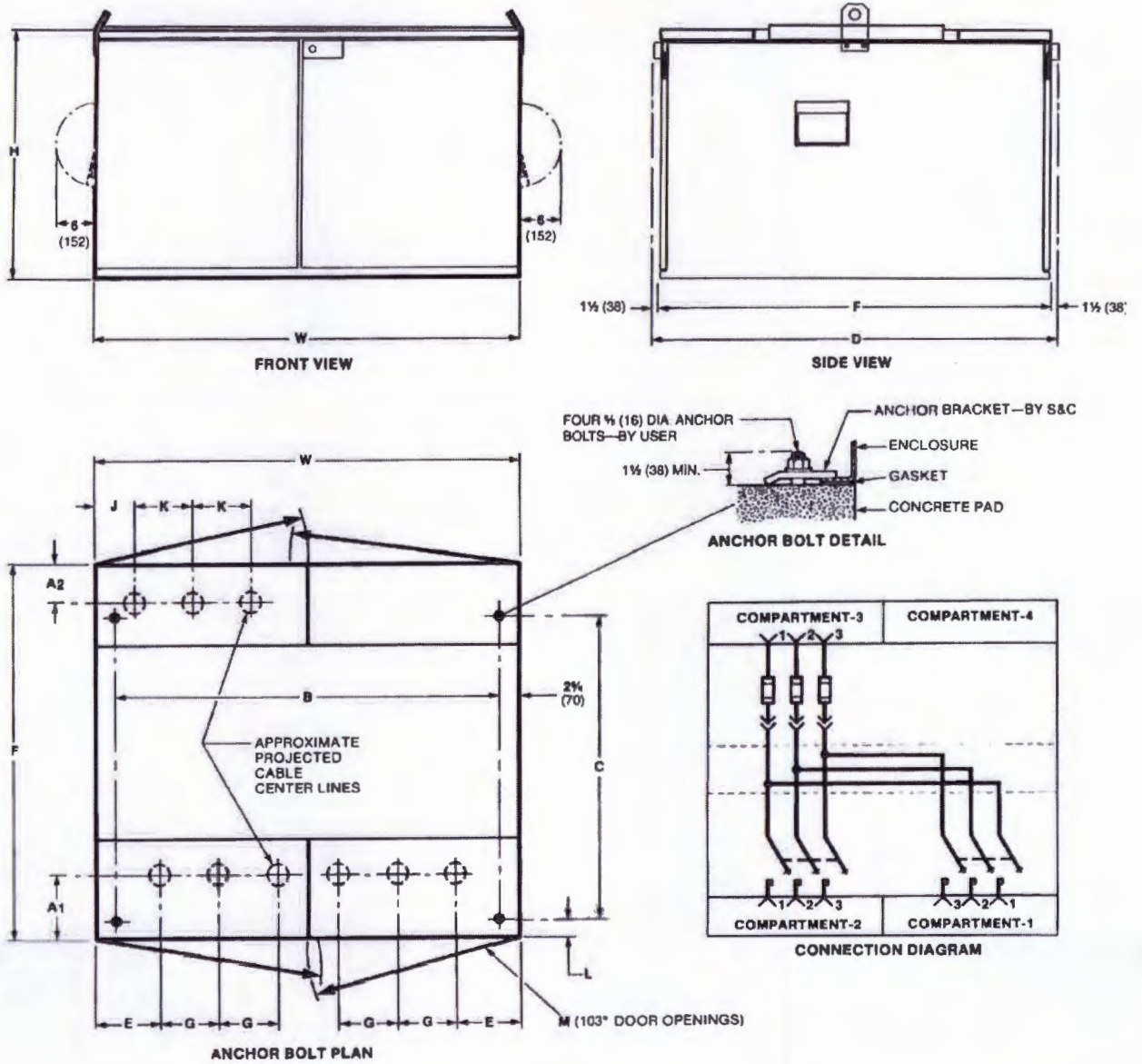


kV, Nominal	A ₁ ◆	A ₂ ◆	B	C	D	E	F	G	H	J	K	L	M	W
14.4	14 1/2 (368)	7 (178)	35 1/2 (902)	49 1/2 (1257)	69 3/4 (1772)	12 1/4 (308)	66 3/4 (1695)	8 1/4 (210)	45.5 (1156)	5 1/2 (137)	10 3/4 (273)	8 3/8 (219)	40 1/2 (1019)	41 (1041)
25	19 (483)	8 1/8 (206)	40 1/2 (1029)	52 (1321)	84 3/4 (2153)	16 3/8 (422)	81 3/4 (2076)	8 1/4 (210)	51.5 (1308)	6 (152)	12 (305)	14 3/8 (378)	45 1/2 (1146)	46 (1168)

◆ Projected cable center lines are applicable for PME models with cable installed in a cable pit. For cable installed in conduit, refer to pages 22 and 24.

Model PME-6

Dimensions in inches (mm)

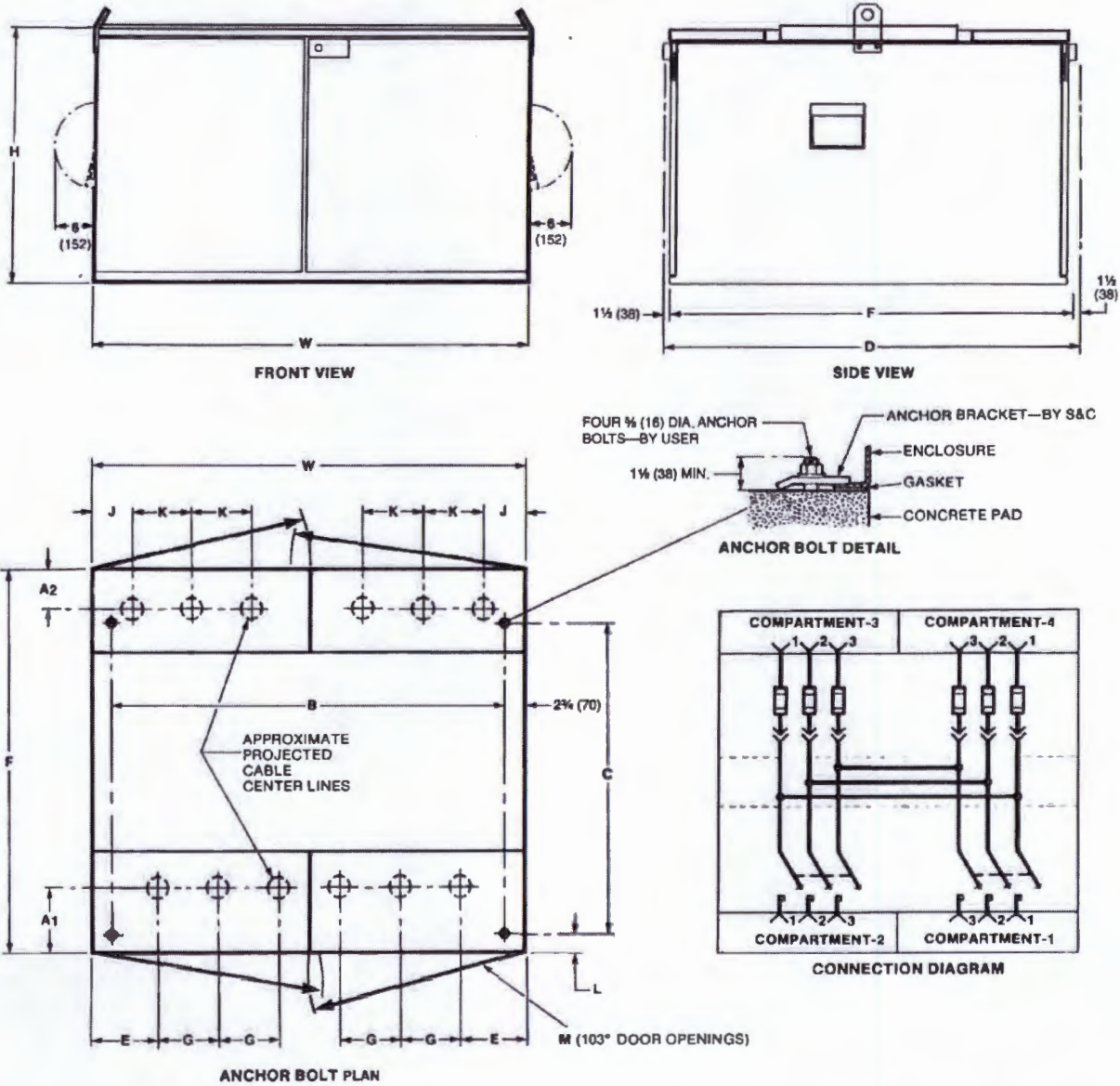


kV, Nominal	A ₁ ♦	A ₂ ♦	B	C	D	E	F	G	H	J	K	L	M	W
14.4	14 1/2 (368)	7 (178)	69 1/2 (1765)	49 1/2 (1257)	69 3/4 (1772)	12 3/4 (314)	66 3/4 (1695)	8 1/4 (210)	45.5 (1158)	5 3/4 (137)	10 3/4 (273)	8 3/4 (219)	38 (965)	75 (1905)
25	18 1/2 (470)	8 1/4 (206)	78 1/2 (1994)	52 (1321)	84 3/4 (2153)	12 7/8 (327)	81 3/4 (2076)	8 1/4 (210)	51.5 (1308)	6 (152)	12 (305)	14 7/8 (378)	42 1/2 (1080)	84 (2134)

♦ Projected cable center lines are applicable for PME models with cable installed in a cable pit. For cable installed in conduit, refer to pages 22 and 23.

Model PME-9

Dimensions in inches (mm)

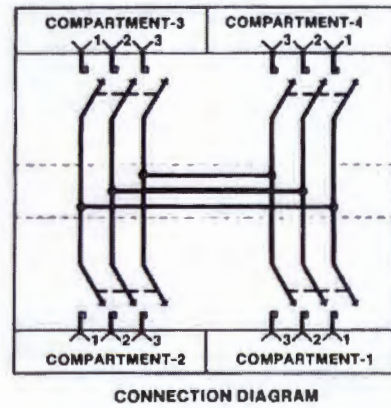
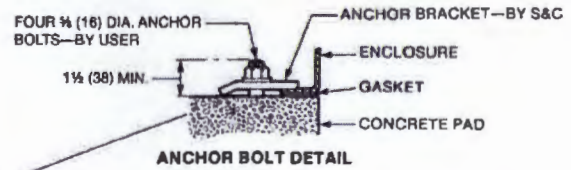
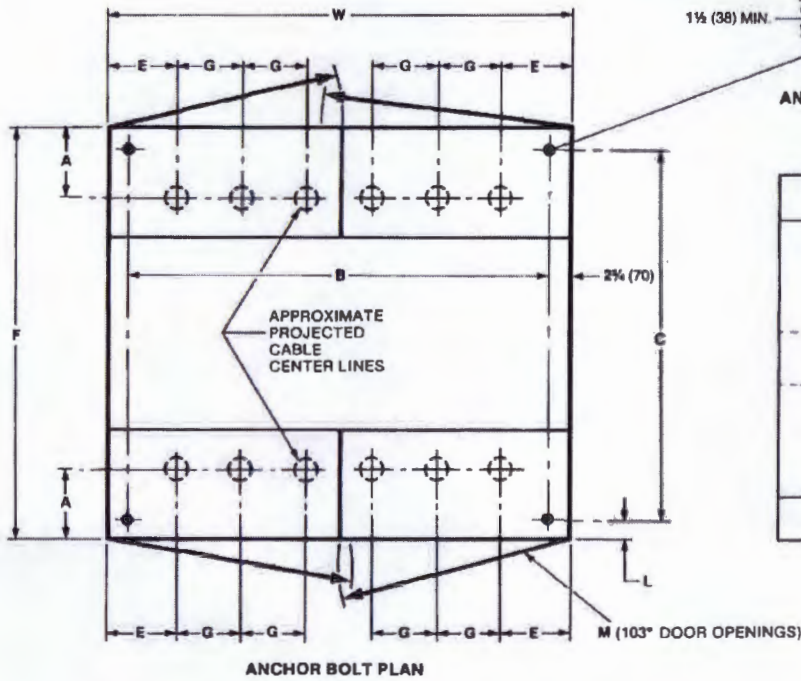
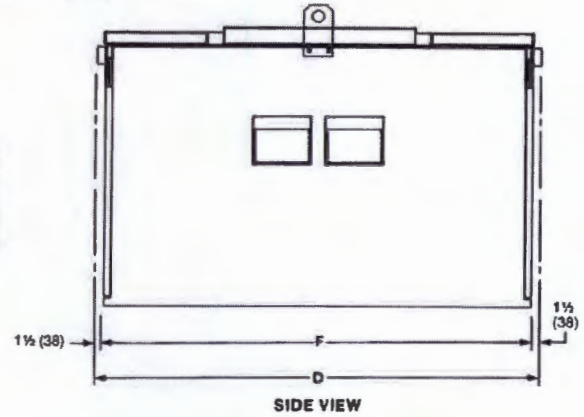
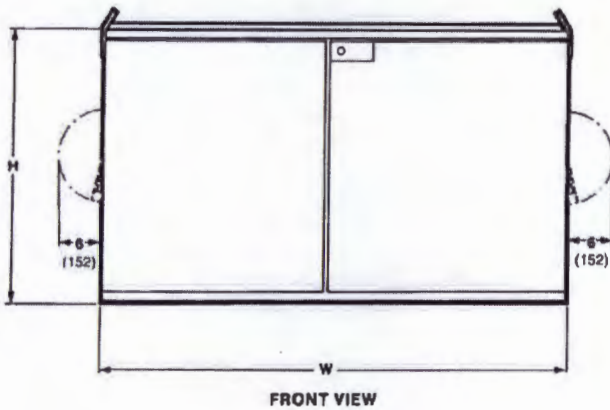


kV, Nominal	A ₁ ◆	A ₂ ◆	B	C	D	E	F	G	H	J	K	L	M	W
14.4	14 1/2 (368)	7 (178)	69 1/2 (1765)	49 1/2 (1257)	69 3/4 (1772)	12 3/4 (314)	66 3/4 (1695)	8 1/4 (210)	45.5 (1156)	5 3/4 (137)	10 3/4 (273)	8 3/4 (219)	38 (965)	75 (1905)
25	18 1/2 (470)	8 1/4 (206)	78 1/2 (1994)	52 (1321)	84 3/4 (2153)	12 3/4 (327)	81 3/4 (2076)	8 1/4 (210)	51.5 (1308)	6 (152)	12 (305)	14 3/4 (378)	42 1/2 (1080)	84 (2134)

◆ Projected cable center lines are applicable for PME models with cable installed in a cable pit. For cable installed in conduit, refer to pages 22 and 23.

Model PME-10

Dimensions in inches (mm)

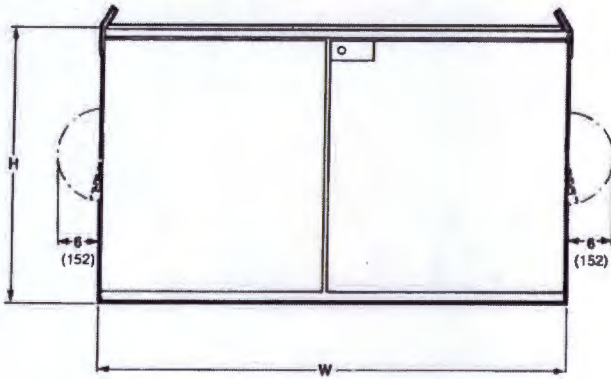


kV, Nominal	A◆	B	C	D	E	F	G	H	L	M	W
14.4	14½ (368)	69½ (1765)	55½ (1257)	75¾ (1924)	12¾ (314)	72¾ (1848)	8¼ (210)	45.5 (1156)	8¾ (219)	38 (965)	75 (1905)
25	14½ (368)	78½ (1994)	58½ (1468)	91¼ (2318)	12¾ (327)	88¼ (2242)	8¼ (210)	51.5 (1308)	14¾ (378)	42½ (1080)	84 (2134)

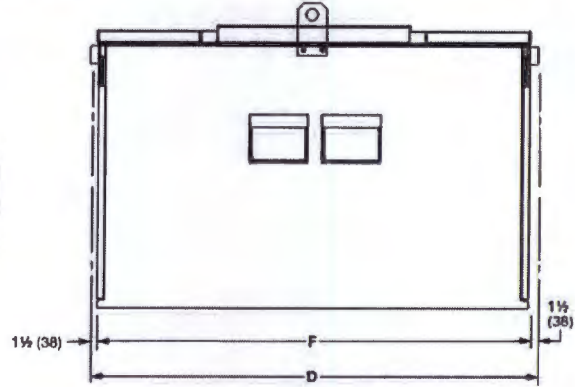
◆ Projected cable center lines are applicable for PME models with cable installed in a cable pit. For cable installed in conduit, refer to page 23.

Model PME-11

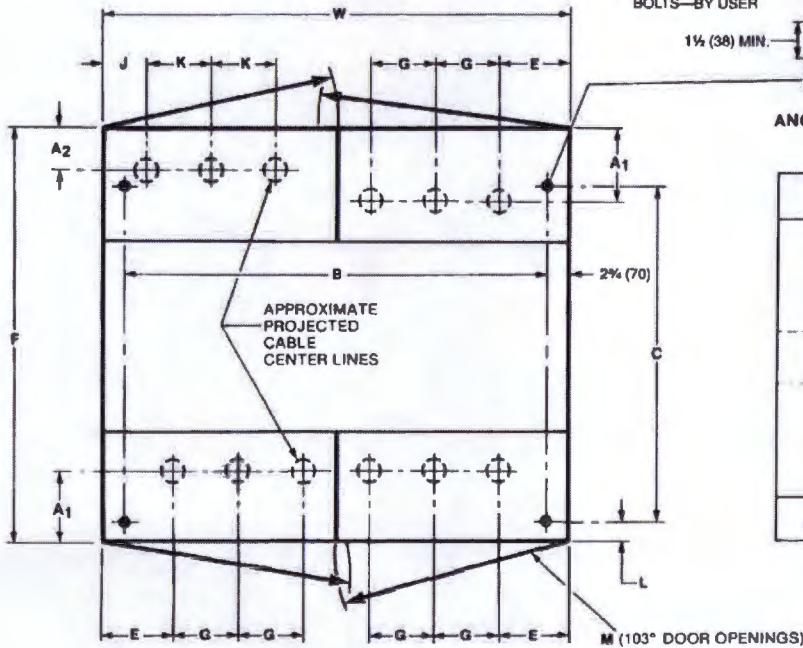
Dimensions in inches (mm)



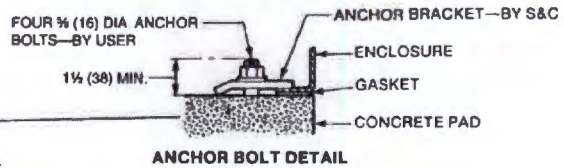
FRONT VIEW



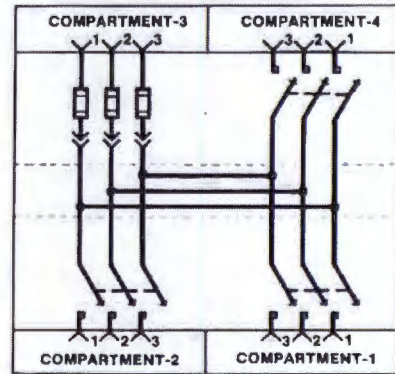
SIDE VIEW



ANCHOR BOLT PLAN



ANCHOR BOLT DETAIL



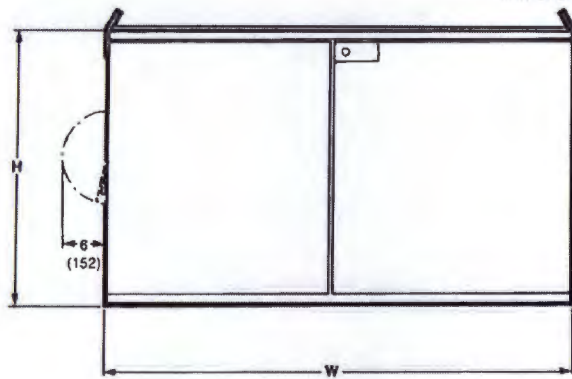
CONNECTION DIAGRAM

kV, Nominal	A ₁ ◆	A ₂ ◆	B	C	D	E	F	G	H	J	K	L	M	W
14.4	14½ (368)	7 (178)	69½ (1765)	55½ (1413)	75¾ (1924)	12¾ (324)	72¾ (1848)	8¼ (210)	45.5 (1156)	5¾ (143)	10¼ (263)	8¾ (219)	38 (965)	75 (1905)
25	18½ (470)	8¼ (206)	78½ (1994)	58½ (1468)	91¼ (2318)	12¾ (327)	88¼ (2242)	8¼ (210)	51.5 (1308)	6 (152)	12 (305)	14¾ (378)	42½ (1080)	84 (2134)

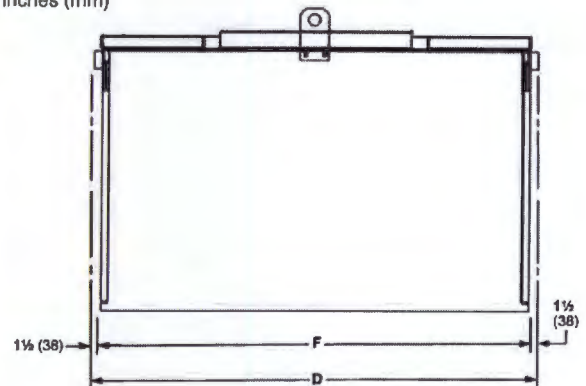
◆ Projected cable center lines are applicable for PME models with cable installed in a cable pit. For cable installed in conduit, refer to pages 22 and 23.

Model PME-12

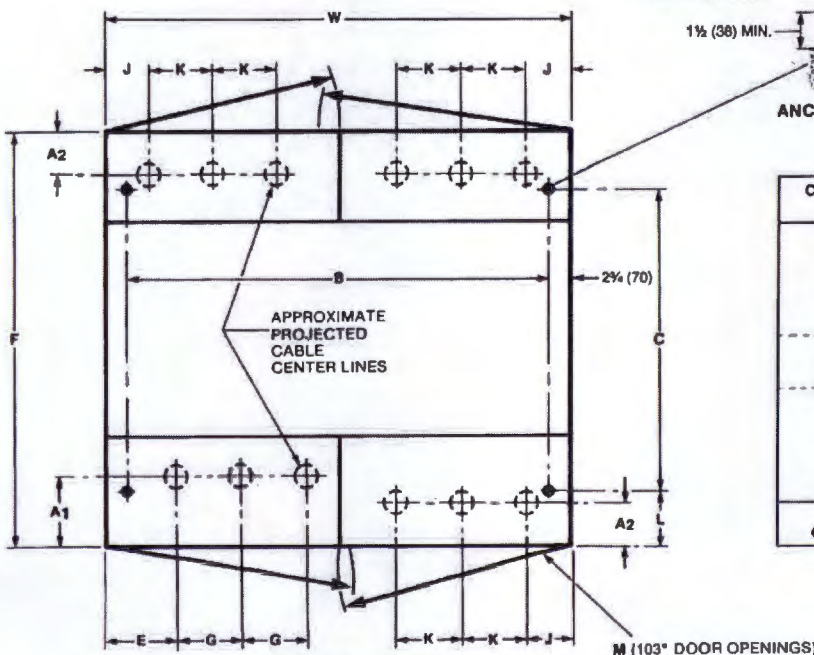
Dimensions in inches (mm)



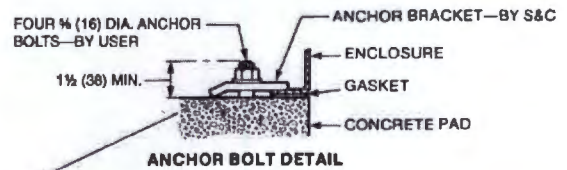
FRONT VIEW



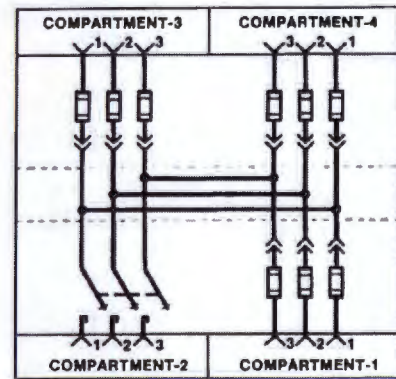
SIDE VIEW



ANCHOR BOLT PLAN



ANCHOR BOLT DETAIL

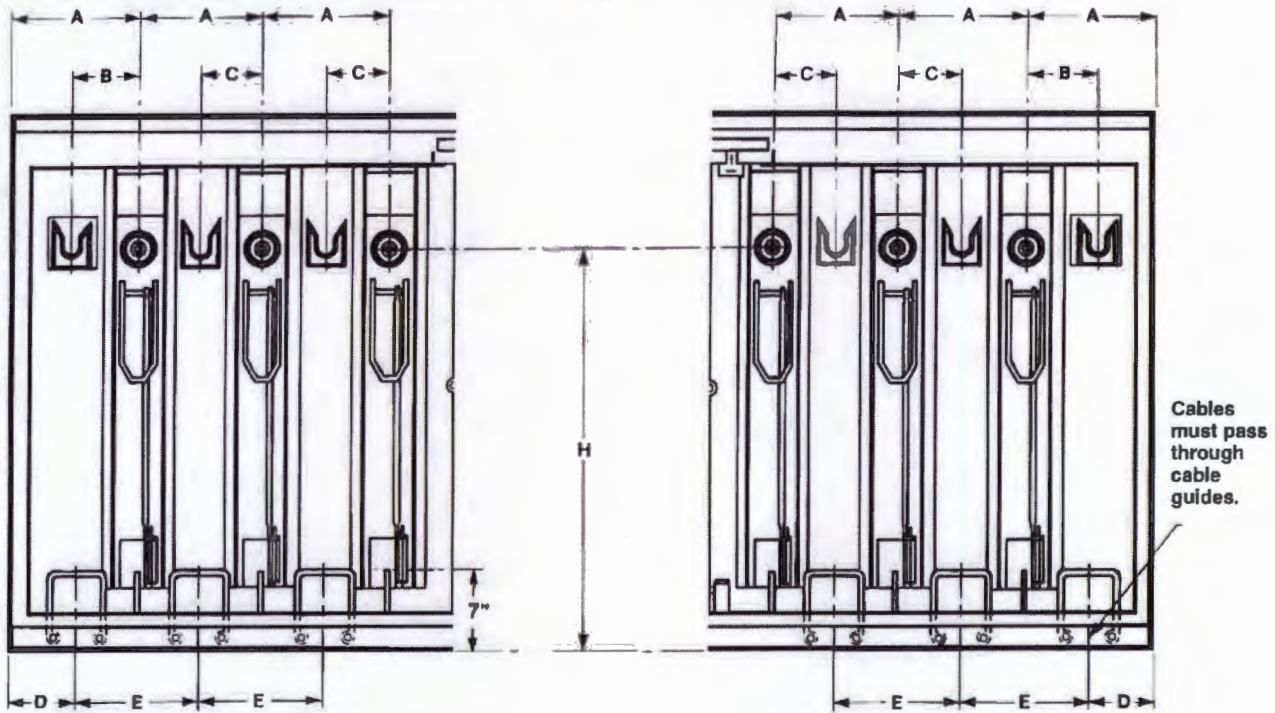


CONNECTION DIAGRAM

kV, Nominal	A ₁ ◆	A ₂ ◆	B	C	D	E	F	G	H	J	K	L	M	W
14.4	14½ (368)	7 (178)	69½ (1765)	49½ (1257)	69¾ (1772)	12¾ (314)	66¾ (1695)	8¼ (210)	45.5 (1156)	5¾ (137)	10¾ (273)	8¾ (219)	38 (965)	75 (1905)
25	18½ (470)	8¼ (206)	78½ (1994)	52 (1321)	84¾ (2153)	12¾ (327)	81¾ (2076)	8¼ (210)	51.5 (1308)	6 (152)	12 (305)	14¾ (378)	42½ (1080)	84 (2134)

◆ Projected cable center lines are applicable for PME models with cable installed in a cable pit. For cable installed in conduit, refer to pages 22 and 23.

Typical Cable Compartments for Fuses



Compartment 4: Models PME-9 and PME-12

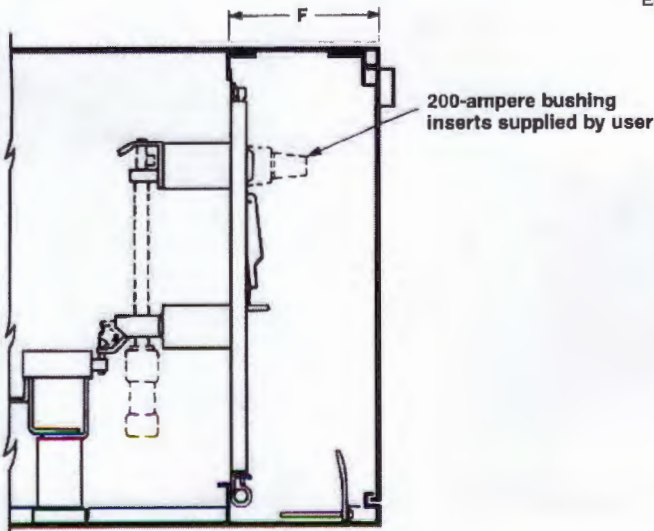
Compartment 1: Model PME-12
 Compartment 2: Models PME-4 and PME-5
 Compartment 3: Models PME-6, PME-9, PME-11, and PME-12

Voltage, kV			Dimensions in Inches (to nearest 1/8")						
Nom.	Max [▲]	BIL	A	B	C	D	E	F	H*
14.4	17.0	95	10 3/4	7 1/2	5 1/2	5 1/2	10 1/4	14	33
25	27 [◆]	125	12	8 1/2	6	6	12	17	38 3/4

▲ Maximum rating may be lower when current-limiting fuses are used. Consult appropriate current-limiting fuse manufacturer for complete fuse ratings.

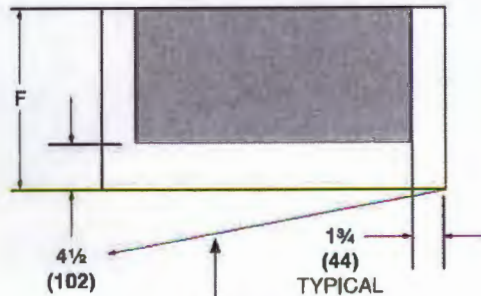
★ For models equipped with optional base-adaptor Catalog Number Suffix "-K," increase dimension H by 6 inches.

◆ Maximum voltage is 29 kV for models equipped with S&C Fault Fiter[®] Electronic Power Fuse Mountings.



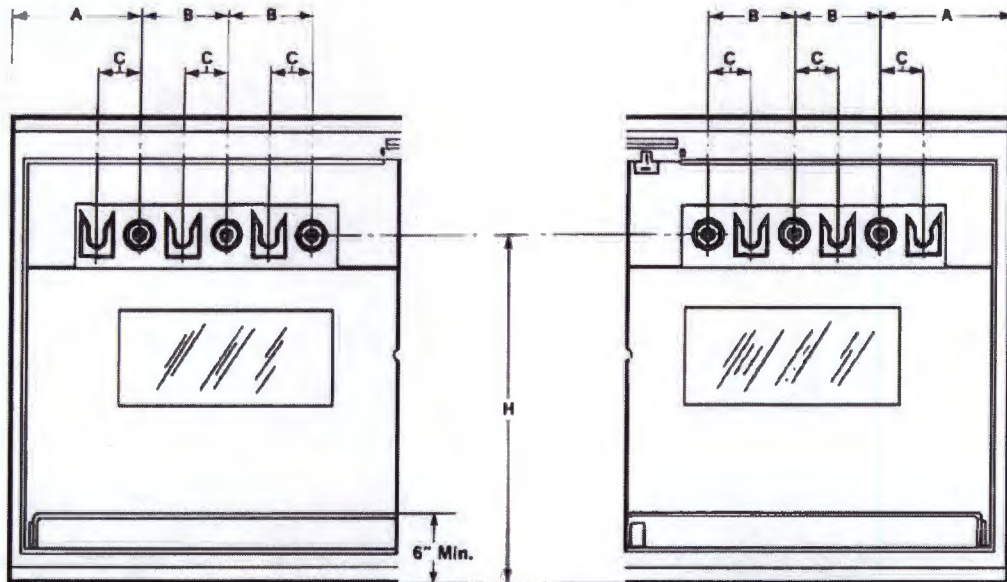
CONDUIT ENTRANCE

Shaded area indicates available area for conduit entrance. See applicable pages 15 through 18 or 20 through 21 for approximate projected cable center lines for the cables to pass through the cable guides.



Door opening (typical)

Typical Cable Compartments for Switches



Compartment 2: Models PME-6, PME-9, PME-10, PME-11, and PME-12

Compartment 1: Models PME-5, PME-6, PME-9, PME-10, and PME-11

Compartment 4: Models PME-10 and PME-11

Compartment 3: Model PME-10

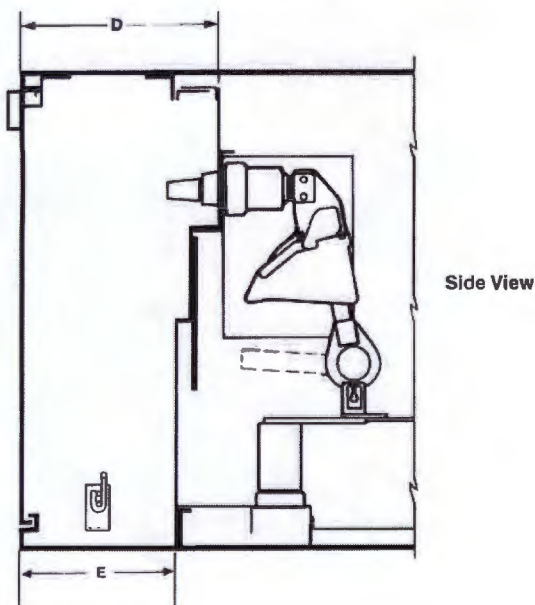
Voltage, kV			Dimensions in Inches (to nearest 1/4")					
Nom.	Max▲	BIL	A	B	C	D	E	H*
14.4	17.0■	95	12 3/4	8 1/4	4 1/4	20	15 1/2	33
25	27◆	125	12 3/4	8 1/4	4 1/4	24	19 1/2	34 1/4

▲ Maximum rating may be lower when current-limiting fuses are used. Consult appropriate current-limiting fuse manufacturer for complete fuse ratings.

★ For models equipped with optional base-adaptor Catalog Number Suffix "K," increase dimension H by 6 inches.

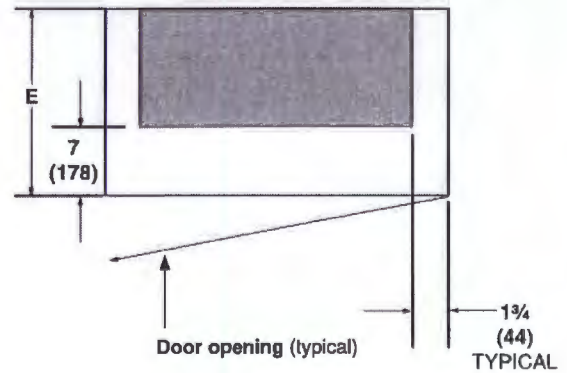
◆ Maximum voltage is 29 kV for models equipped with S&C Fault Filter® Electronic Power Fuse Mountings.

■ Maximum voltage rating is 17.5 kV for Model PME-10.

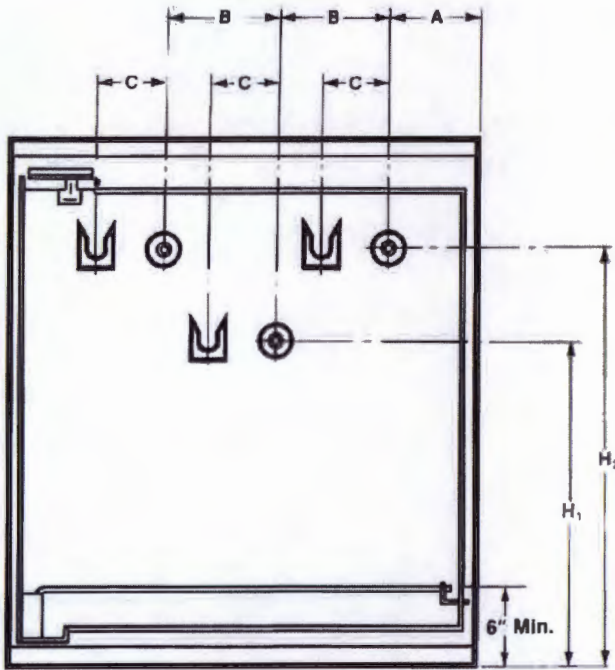


CONDUIT ENTRANCE

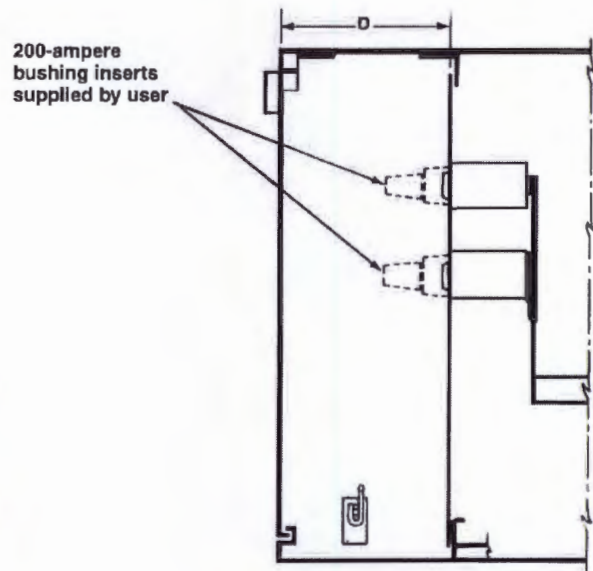
Shaded area indicates available area for conduit entrance.



Typical Cable Compartments for Bus



Compartment 1: Model PME-4



Side View

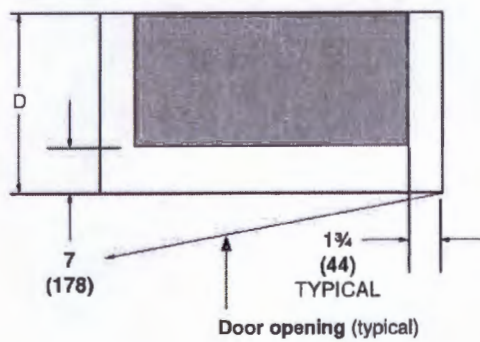
Voltage, kV			Dimensions in Inches (to nearest 1/8")					
Nom.	Max [▲]	BIL	A	B	C	D	H ₁ ★	H ₂ ★
14.4	17.0	95	7½	9¾	6	16	25	33
25	27	125	7¾	12	8	17	30¾	38¾

▲ Maximum rating may be lower when current-limiting fuses are used. Consult appropriate current-limiting fuse manufacturer for complete fuse ratings.

★ For models equipped with optional base-adapter Catalog Number Suffix "-K," increase dimension H by 6 inches.

CONDUIT ENTRANCE

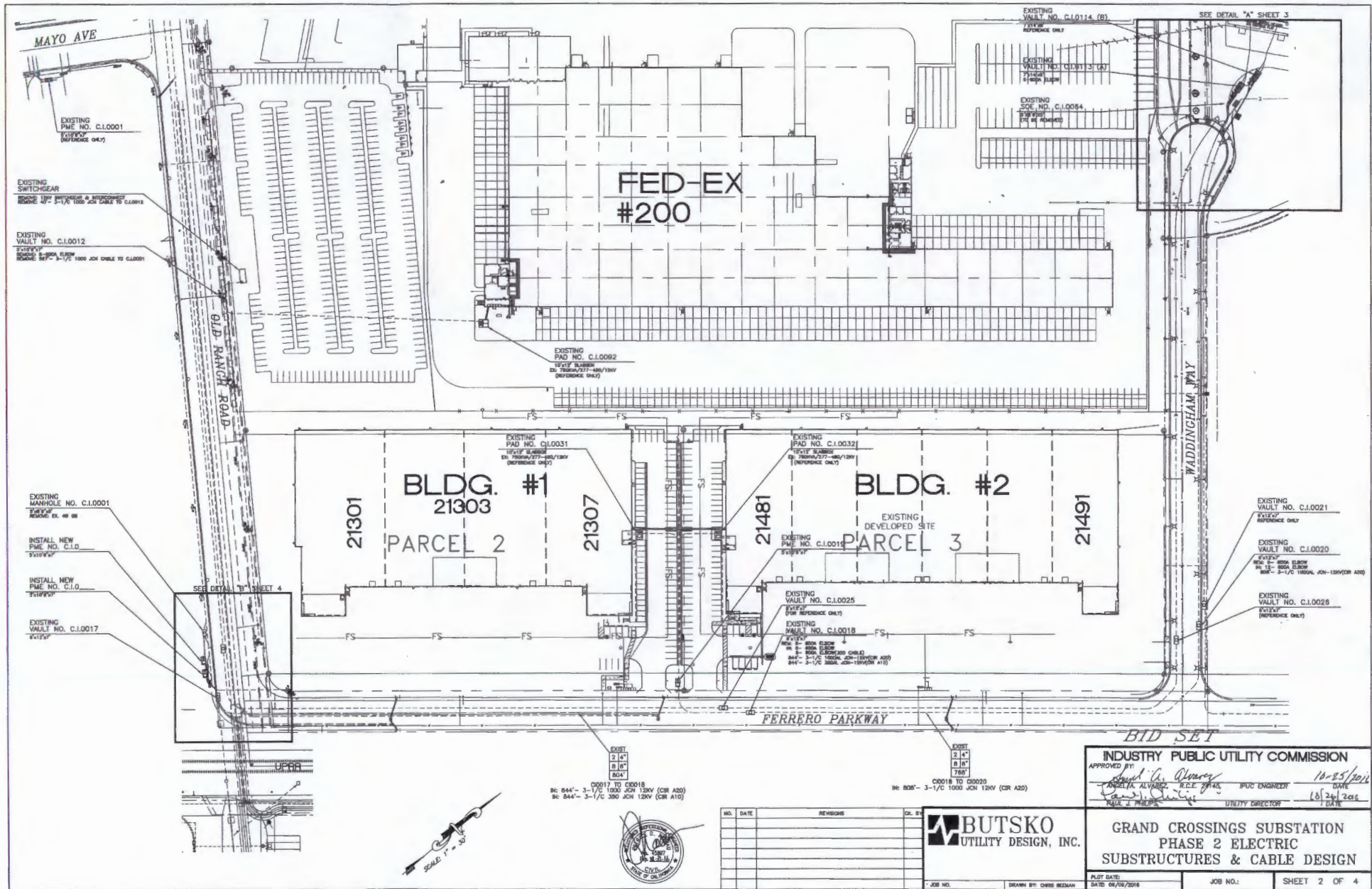
Shaded area indicates available area for conduit entrance.



Printed in U.S.A.

ATTACHMENT

Signed Plan Drawings



INDUSTRY PUBLIC UTILITY COMMISSION

APPROVED BY: *[Signature]* DATE: 10/25/2011
[Signature] R.E.E. DATE: 10/25/2011
[Signature] DATE: 10/25/2011

UTILITY DIRECTOR

**GRAND CROSSINGS SUBSTATION
 PHASE 2 ELECTRIC
 SUBSTRUCTURES & CABLE DESIGN**

PLUT DATE: DATE: 06/06/2014 JOB NO.: SHEET 2 OF 4

BUTSKO
 UTILITY DESIGN, INC.

DESIGNER: CHRIS BEZMAN

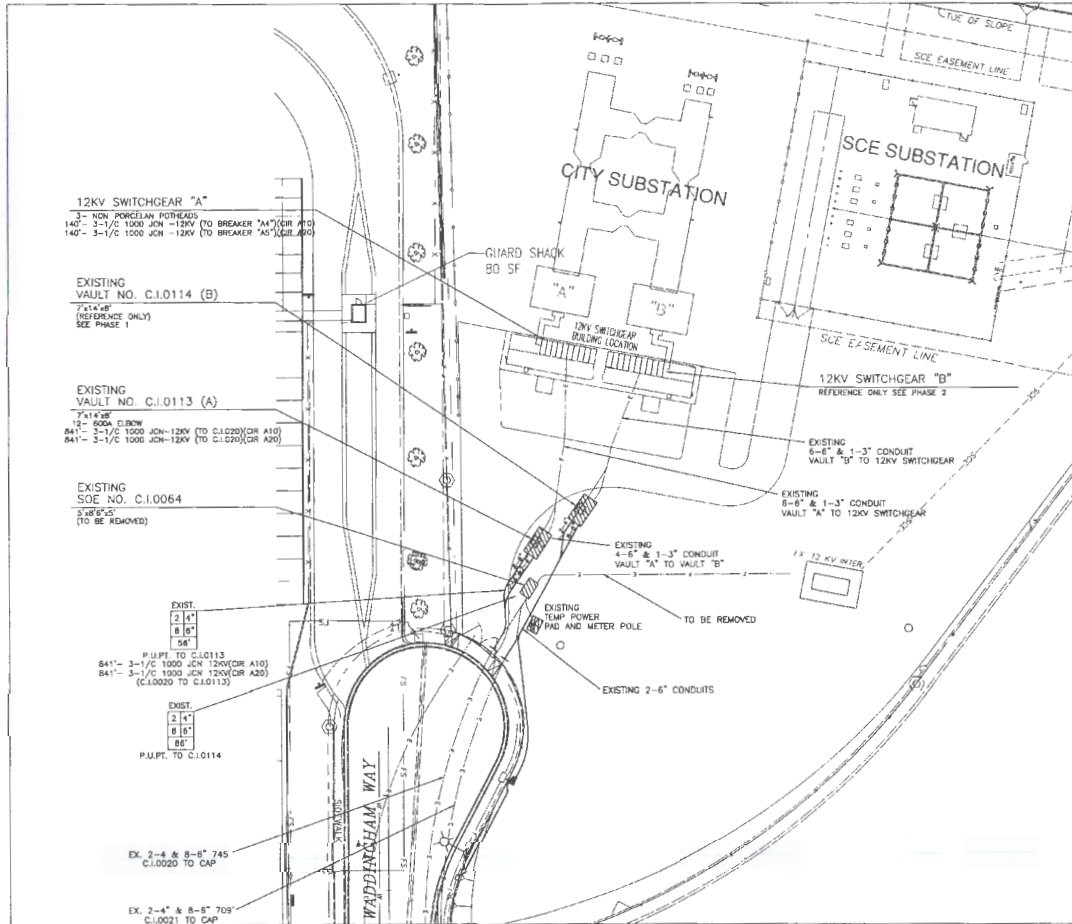
NO.	DATE	REVISIONS	BY



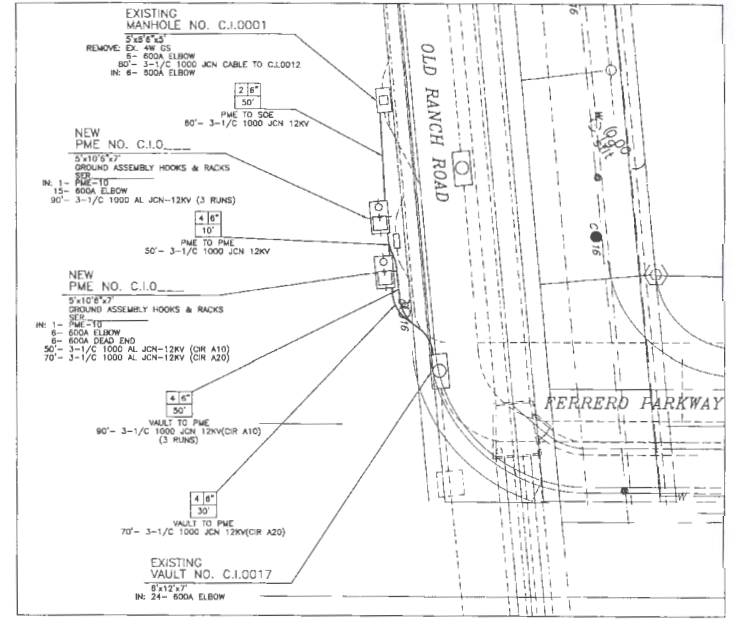
00017 TO 00018
 BY: 844'- 3-1/2" 1000 JCN 120V (CR A20)
 BY: 844'- 3-1/2" 300 JCN 120V (CR A10)

00019 TO 00020
 BY: 808'- 3-1/2" 1000 JCN 120V (CR A20)

DETAIL "A"



DETAIL "B"



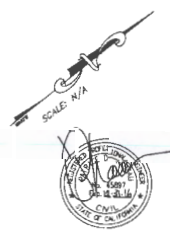
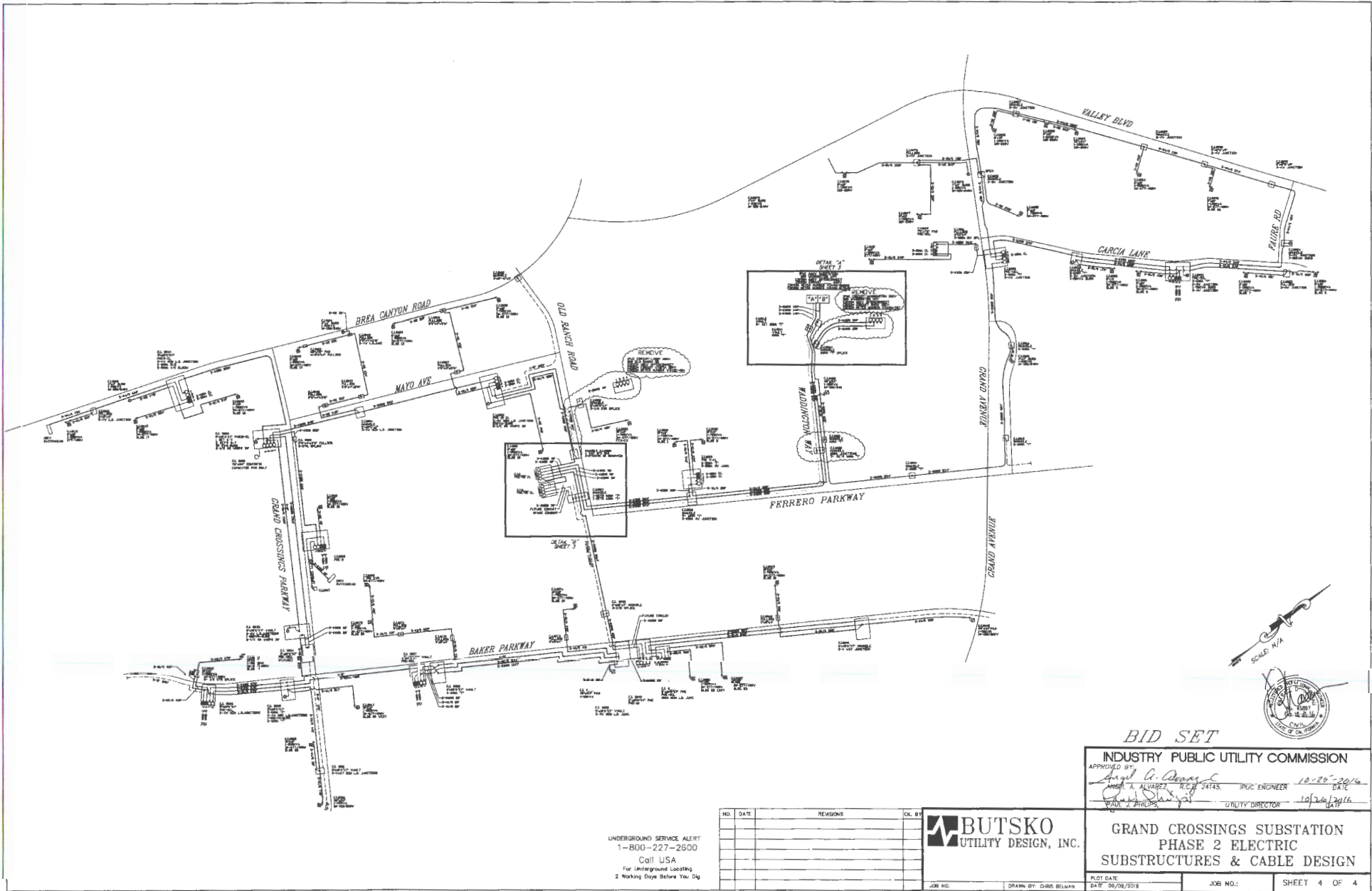
BID SET

INDUSTRY PUBLIC UTILITY COMMISSION
 APPROVED BY: *[Signature]* DATE: 10/21/2016
[Signature] DATE: 10/21/2016
 PAUL J. HARRIS UTILITY DIRECTOR

NO.	DATE	REVISIONS	OK BY

BUTSKO
 UTILITY DESIGN, INC.
 JOB NO. _____ DRAWN BY: CHRIS BELMAN

GRAND CROSSINGS SUBSTATION
 PHASE 2 ELECTRIC
 SUBSTRUCTURES & CABLE DESIGN
 PLOT DATE: _____ DATE: 09/09/2016
 JOB NO.: _____ SHEET 3 OF 4



BID SET

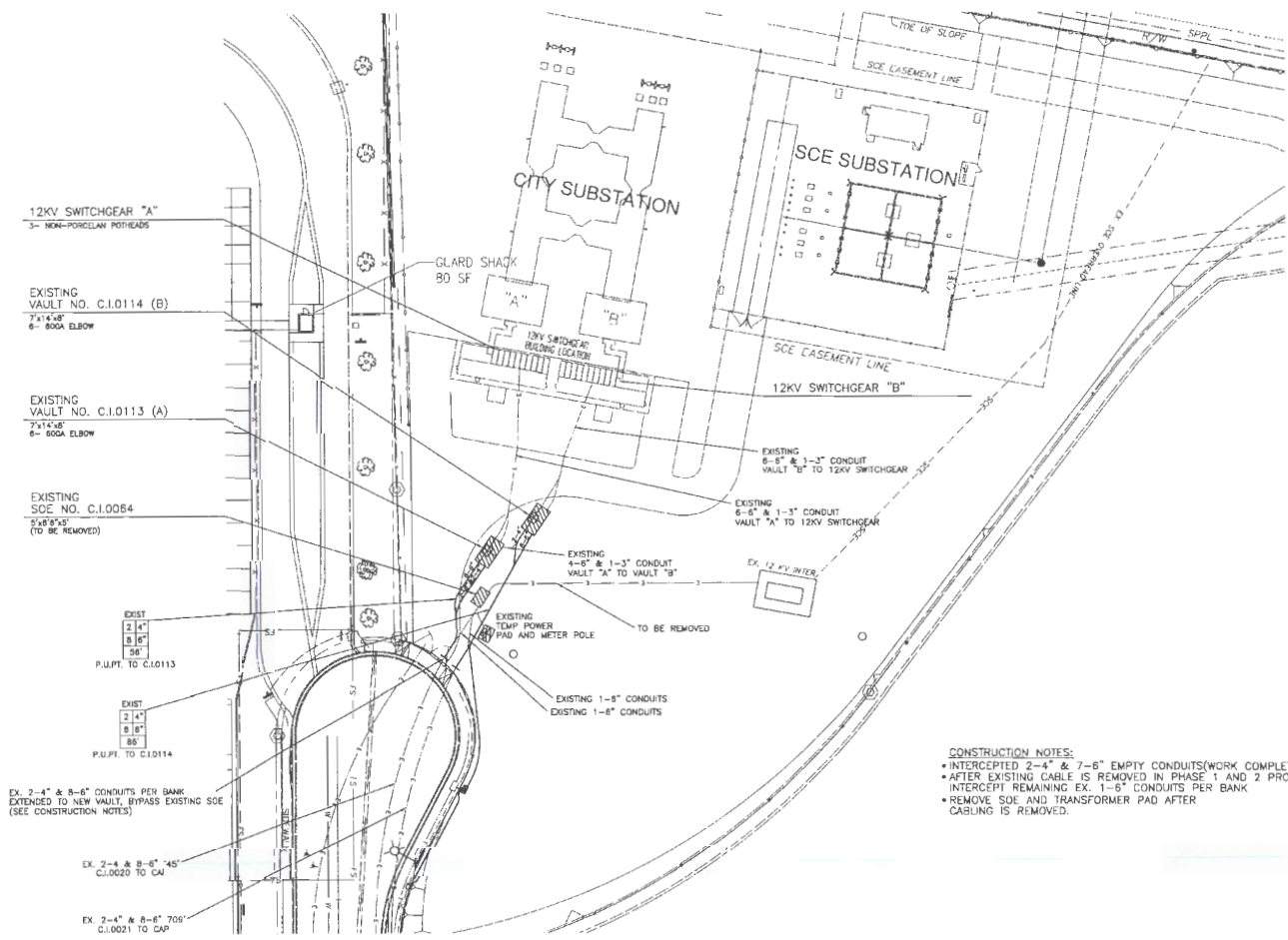
INDUSTRY PUBLIC UTILITY COMMISSION
 APPROVED BY: *Angel A. Alvarez* 10-25-2016
 ANGEL A. ALVAREZ, P.E. & S.F.S. 10/26/2016
 PAUL J. PHILIPS, UTILITY DIRECTOR

UNDERGROUND SERVICE ALERT
 1-800-227-2600
 Call USA
 For Underground Locating
 2 Working Days Before You Dig

NO.	DATE	REVISIONS	OK BY

BUTSKO
 UTILITY DESIGN, INC.

GRAND CROSSINGS SUBSTATION
 PHASE 2 ELECTRIC
 SUBSTRUCTURES & CABLE DESIGN



12KV SWITCHGEAR "A"
3- NON-PORCELAIN POTHEADS

EXISTING
VAULT NO. C.I.0114 (B)
7'x14'x8'
6" 800A ELBOW

EXISTING
VAULT NO. C.I.0113 (A)
7'x14'x8'
6" 800A ELBOW

EXISTING
SDE NO. C.I.0054
5'x8'x5'
(TO BE REMOVED)

EXIST
2'4"
8'6"
50'
P.U.P.T. TO C.I.0113

EXIST
2'4"
8'6"
85'
P.U.P.T. TO C.I.0114

EX. 2-4" & 8-6" CONDUITS PER BANK
EXTENDED TO NEW VAULT, BYPASS EXISTING SDE
(SEE CONSTRUCTION NOTES)

EX. 2-4" & 8-6" 45'
C.I.0020 TO CA1

EX. 2-4" & 8-6" 705'
C.I.0021 TO CA2

GLARD SHACK
80 SF

CITY SUBSTATION

SCE SUBSTATION

12KV SWITCHGEAR "B"

EXISTING
6-8" & 1-3" CONDUIT
VAULT "B" TO 12KV SWITCHGEAR

EXISTING
6-8" & 1-3" CONDUIT
VAULT "A" TO 12KV SWITCHGEAR

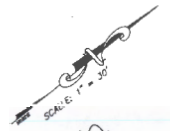
EXISTING
4-6" & 1-3" CONDUIT
VAULT "A" TO VAULT "B"

EX. 12 KV INTER.

EXISTING
TEMP POWER
PAD AND METER POLE
TO BE REMOVED

EXISTING 1-8" CONDUITS
EXISTING 1-6" CONDUITS

- CONSTRUCTION NOTES:
- INTERCEPTED 2-4" & 7-6" EMPTY CONDUITS(WORK COMPLETED)
 - AFTER EXISTING CABLE IS REMOVED IN PHASE 1 AND 2 PROJECTS
 - INTERCEPT REMAINING EX. 1-5" CONDUITS PER BANK
 - REMOVE SDE AND TRANSFORMER PAD AFTER CABLING IS REMOVED.



BID SET

INDUSTRY PUBLIC UTILITY COMMISSION
APPROVED BY:
PAUL J. ALVAREZ, LICENSE 94144, PUBLIC ENGINEER, DATE 10-28/2016
PAUL J. PHILLIPS, UTILITY DIRECTOR, DATE 10/28/2016

NO.	DATE	REVISIONS	CK. BY

BUTSKO
UTILITY DESIGN, INC.

GRAND CROSSINGS SUBSTATION
PHASE 3 ELECTRIC
SUBSTRUCTURES & CABLE DESIGN

PLOT DATE: DATE: 08/09/2018 JOB NO.: SHEET 2 OF 2

END OF SPECIFICATIONS

Grand Crossing Substation- Phase 1,2,3 Substructure & Cabling

CONTRACT NO.1431

EXHIBIT B

**Cost Comparison Sheet for the Grand Crossing Substation – Phases 1, 2, 3
Substructure & Cabling Project**

[Attached]

INDUSTRY PUBLIC UTILITIES COMMISSION

ITEM NO. 5.6

Memo



To: Alex Gonzalez, Director of Development Services and Administration
From: Greg B. Galindo, General Manager
Date: February 7, 2017
Subject: Leasing 350 Acre-Feet of Main San Gabriel Basin Groundwater Production Rights from the City of Whittier

- Purpose - To secure additional Main San Gabriel Basin (Basin) Groundwater Production Rights for the City of Industry Waterworks System to minimize the impacts of the rising cost of replenishment water to the Industry Public Utilities (IPU) Water System Customers.
- Recommendation - Approve the agreement with the City of Whittier (Whittier) for the lease of 350 acre-feet of Groundwater Production Rights at a rate of \$699.79 per acre-foot.
- Fiscal Impact - The IPU Water Operations 2016-17 Fiscal Year (FY) Budget appropriates \$352,700 for the lease of groundwater production rights. The cost of leasing 350 acre-feet from Whittier is \$244,926.50 and is within the 2016-17 FY Budget appropriation and will result in a \$24,223.50 savings in the cost of replenishment water.

Summary

The IPU Water System, also referred to as the City of Industry Waterworks System (CIWS) has 1,103 acre-feet (AF) of adjudicated prescriptive pumping rights in the Main San Gabriel Basin (Basin). These rights equal to a .5581% Pumper's Share of available pumping rights annually. These pumping rights allow the City to produce water from the basin on an annual basis in accordance with the rules and regulations of the Basin's Watermaster. The Board of Directors of Watermaster annually establishes an Operating Safe Yield for the Basin, which is the amount of water that can be pumped annually from the Basin that is anticipated to be replenished by local precipitation within its watershed. For the current 2016-17 production year, the Operating Safe Yield was set at 150,000 AF. This results in the City having 837.15 AF of pumping rights for the current year.

To meet its customer's water needs, the CIWS produces water from the Basin via its Well No. 5. In accordance with agreements between the City and San Gabriel Valley Water Company (SGVWC) and the BPOU, LLC (Potentially Responsible Parties), the water pumped from Well No. 5 is conveyed to a groundwater treatment facility owned by SGVWC in order to remove/treat several contaminants from the water. After treatment, the water is conveyed back to the CIWS through interconnections between SGVWC and CIWS.

The CIWS's five-year average annual water production is approximately 1,380 AF, which is greater than its annual production rights in the Basin. This results in the CIWS having to lease groundwater production rights or purchase replenishment water to replace the water produced over its production rights. When needed, replenishment water is purchased from the Upper San Gabriel Valley Municipal

Water District (Upper District). Upper District's current rate for replenishment water is \$769.00 per AF. To avoid purchasing water at this cost, District Staff actively pursues leases of water production rights in the Basin to offset the amount of replenishment water the CIWS will be required to purchase. Leases are preferred by District Staff when the cost per AF to lease rights provides a savings to the CIWS's customers as compared to the purchase of replenishment water. District staff has been successful in the past in leasing water production rights at 91% and 92% of the Upper District rate for replenishment water.

For this fiscal year, District Staff has a verbal commitment from the City of Whittier to lease 350 AF of 2016-17 groundwater production rights at 91% of Upper District's current replenishment rate. Provided below is a calculation of the production rights lease rate for the current year; (\$769 x 91% = \$699.79). The cost to lease 350 AF will be \$244,926.50. A draft of the Production Rights Lease Agreement is enclosed for your review and approval.

The Upper District Full Service Untreated Tier 1 Rate is subject to change and is expected to increase in January of 2018. Any lease amount that results in the CIWS having more production rights than its actual production, will be carried over to the next production year. The District is committed to pursue effective cost savings measures that help maintain the affordability of the CIWS's rates. This water management strategy results in a 9% savings in the cost of water that is over the CIWS's annual production rights. Enclosed is a projection of the impact that leasing water production rights has on the cost of water annually.

In addition to the cost of the leasing water production rights or replenishment water purchases, the CIWS must pay assessments for each AF of water produced annually. These assessments are set by the Watermaster Board of Directors on an annual basis. A list of these assessments, their purpose and their current rate is shown below:

Assessment	Purpose	Current Rate \$/AF
Administrative	Fund Watermaster; pays for various programs that Watermaster is responsible for, such as water quality monitoring, well permitting, enforcing rules and regulations and Judgement provisions.	\$15.00
Make-Up Obligation	Pays for all necessary costs of administration and satisfaction of the Make-up Water Obligation to the area at or below Whittier Narrows, pursuant to the Judgment in the Long Beach Case.	\$0.00
In-Lieu	Pays for the In-Lieu water program. Funds the difference in cost for a Producer that is directed by Watermaster to utilize supplemental water (i.e., import water) in-lieu of producing a like amount of groundwater.	\$10.00
Resource Development (RDA)	To fund the purchase, financing and/or development of new or additional supplemental water sources.	\$20.00 (may be adjusted to \$40.00)

In recent months, Watermaster in collaboration with Basin Producers has discussed and considered a substantial increase in the Resource Development Assessment (RDA), to purchase additional import water for replenishment purposes. The proposed increases will raise the RDA from \$20.00/AF to \$175.00/AF over a five-year period, which would increase the unit cost of water by 40¢. These purchases are aimed to supplement storm water recharge, that has been well below

average over the last five years. As a result of the lack of local precipitation the Basin water level hit an all-time low of 172.2 feet above sea level (ASL) on October 7, 2016. Recent precipitation and import water deliveries have increased the Basin water level to 180 feet ASL, but this is still far below the preferred minimum operating range of 200 feet ASL. I will provide additional information on the increase to the RDA and the impacts to CIWS' overall cost of water when Watermaster adopts the increase in assessments.

Recommendation

Approve the agreement with the City of Whittier for the lease of 350 AF of groundwater production rights at a rate of \$699.79 per AF. If approved, District Staff will process the necessary documents with the Main San Gabriel Basin Watermaster and expend Industry Public Utilities Water Operations Funds to complete the lease transaction. The District will provide the City confirmation from Watermaster upon their acceptance of the lease documentation.

Fiscal Impact from Recommendation

The IPU Water Operations 2016-17 FY Budget appropriates \$352,700 for the lease of groundwater production rights. The cost of leasing 350 AF from Whittier is \$244,926.50, which is below the Budget appropriation for water rights leases in 2016-17. This lease will result in a \$24,223.50 savings in the cost of replenishment water.

Respectfully Submitted,

Greg B. Galindo

General Manager

La Puente Valley County Water District

Enclosure

- Agreement to Lease 350 Acre-Feet of Main San Gabriel Basin Water Production Rights from City of Whittier
- Summary of Impact from Annual Water Production Rights Leases

**AGREEMENT FOR LEASE OF ANNUAL
WATER PRODUCTION RIGHTS**

THIS AGREEMENT is made and effective as of _____ (“Effective Date”), between the City of Whittier (“Lessor”) and the City of Industry Waterworks System, a California municipal corporation (“Lessee”). Lessor and Lessee are sometimes individually referred to herein as a “Party” and are sometimes collectively referred to herein as the “Parties.”

RECITALS

WHEREAS, both Lessor and Lessee were parties in that certain action that adjudicated groundwater rights in the Main San Gabriel Groundwater Basin (Upper San Gabriel Valley Municipal Water District v. City of Alhambra, et al., Los Angeles County Superior Court Case No. 924128) and has resulted in the Amended Judgment dated August 24, 1989 (the “Amended Judgment”); and

WHEREAS, pursuant to the Amended Judgment, both Lessor and Lessee hold certain adjudicated rights to pump groundwater from the Main San Gabriel Groundwater Basin (“Main Basin”) on an annual basis which are further described in the Amended Judgment and referred to for purposes of this Agreement as “Annual Production Rights”; and

WHEREAS, pursuant to the Amended Judgment, including but not limited to Section 55 thereof, parties to the Amended Judgment are authorized to assign, transfer, license or lease all or any portion of their Annual Production Rights to other entities, including but not limited to other parties to the Amended Judgment, provided that appropriate notice procedures established by the Main San Gabriel Basin Watermaster (“Watermaster”) are followed; and

WHEREAS, Lessee desires to lease from Lessor, and Lessor desires to lease to Lessee 350 acre-feet of Lessor’s Annual Production Rights in Fiscal Year 2016-17 (the “Lease Year”); and

WHEREAS, Lessor warrants and represents that it has and will have a minimum of 350 acre-feet of Annual Production Rights available for lease to Lessee under this Agreement in the Lease Year, and that Lessor has not and will not pump, transfer, license or lease all or any portion of said Annual Production Rights to any other party, person or entity.

NOW, THEREFORE, Lessor and Lessee agree to the terms and conditions set forth herein:

1. Water Rights Leased

A. Lessor hereby leases to Lessee, and Lessee hereby leases from Lessor, the right to extract 350 acre-feet of Lessor's Annual Production Right from the Main Basin in the Lease Year (Fiscal Year 2016-17), Lessee agrees to put all amounts of water extracted under this Agreement to reasonable and beneficial use.

B. For purposes of computing the Parties' respective carryover, assessments, and other rights and obligations under the Amended Judgment, Lessee's Annual Production Right under the Amended Judgment shall be increased, and Lessor's Annual Production Right under the Amended Judgment shall be decreased, by the quantity of Annual Production Right Leased in the Lease Year covered by this Agreement. Except for the rights expressly leased under this Agreement, Lessee shall not acquire any other current or future right, title or interest in any water rights held by Lessor under the Amended Judgment or otherwise held by Lessor now or in the future.

2. Term

The Term of this Agreement shall commence on the Effective Date and upon execution of this Agreement by both Parties and shall remain and continue in effect until June 30, 2017.

3. Compliance with the Amended Judgment, Watermaster Rules and Regulations, and Other Procedures

A. In the Lease Year of this Agreement, the Parties agree to execute and file with Watermaster a Temporary Assignment or Lease of Water Right form, as provided in Exhibit "D" of the Watermaster Rules and Regulations (the "Watermaster Form"), that sets forth the annual quantity of Annual Production Rights to be leased by Lessor to Lessee for that Lease Year in accordance with this Agreement. In accordance with the Watermaster Rules and Regulations, including but not limited to Section 13(b) and Section 13(g), the Parties agree to file the Watermaster Form with Watermaster within fifteen (15) days of the Watermaster Form being fully executed by the Parties.

B. Lessee shall report all of its extractions made pursuant to this Agreement to Watermaster and to any and all other entities to whom such information must be provided. Specifically, Lessee shall note, in any recording of water production from the Main Basin, any and all amounts of pumping that was done by Lessee pursuant to this Agreement.

C. In the exercise of any rights conferred upon Lessee under this Agreement, Lessee shall comply with and be bound by all terms and conditions of the Amended Judgment, the Watermaster Rules and Regulations, and any and all other orders or determinations of the Court or Watermaster.

4. Payment

Lessee shall pay to Lessor the sum of Two Hundred Forty-Four Thousand Nine Hundred Twenty-Six Dollars and Fifty Cents (\$244,926.50) for 350 acre-feet of Lessor's Annual Production Right in the Lease Year (Fiscal Year 2016-17) at a rate of Six Hundred and Ninety-Nine Dollars and Seventy-Nine Cents (\$699.79) per acre-foot (the "Payment"). Payment to Lessor under this Agreement shall be made no later than thirty (30) days after the Parties have filed the first Watermaster Form with Watermaster in accordance with Section 3.A above.

5. Payment of Assessments

In addition to the Payment set forth in Section 4 above, Lessee shall pay any and all applicable Watermaster assessments related to the production of any water leased under this Agreement.

6. Water Quality

Lessor makes no warranties or representations, and assumes no liabilities, obligations or responsibilities of whatever nature to Lessee or any other person or entity with respect to the quality of any water extracted for any purpose by Lessee under this Agreement.

7. Indemnification

A. Lessee assumes the sole risk for the exercise of any and all rights conferred on it by this Agreement. Lessee agrees and does hereby indemnify, defend, save, and hold harmless Lessor, and its elected and appointed officials, officers, agents, employees, consultants and attorneys (collectively, "Indemnified Parties") as follows:

1. From and against any and all losses, damage, liability, actions, claims, costs, and expenses from damage, of any nature, including, but not limited to, bodily injury, occupational disease, death, person injury, property damages, reasonable attorneys' fees and court costs (hereafter "Loss"), relating to or arising out of the exercise of any rights conferred hereunder on Lessee; provided, however, that Lessee's obligations under this Section 7 shall not apply to any Loss as defined herein arising out of or resulting in any manner from the negligent act or acts of any of the Indemnified Parties as defined herein; and

2. From and against any and all costs, expenses, or charges which may accrue to any persons furnishing or supplying work, services, materials, equipment or supplies to Lessee in connection with its performance of or rights under this Agreement.

B. In the event that Lessee or Lessor are sued by a third party for damages caused or allegedly caused by negligent or other wrongful conduct by Lessee or any of

Lessee's elected or appointed officials, officers, agents, employees, consultants or attorneys, or by an alleged dangerous condition of property created by Lessee, Lessee shall not be relieved of its indemnity obligation to Lessor by any settlement with any such third party unless that settlement includes a full release and dismissal of all claims by the third party against the Indemnified Parties.

8. Breach and Termination

In the event of any material breach of this Agreement by either Party, the Party alleging the breach shall notify the other Party in writing of said breach, and the Party alleged to be in breach shall have thirty (30) days from its receipt of such written notice in which to cure said breach. If the alleged breach is not cured within the timeframe specified by this Section 8, the Party alleging breach shall be entitled to any and all remedies which may be available to it at law or in equity, including but not limited to termination or specific performance of this Agreement.

9. Notices

Any notice which either Party may give to the other Party under this Agreement must be in writing and may be given either by (A) personal service; (B) delivery by a reputable document delivery service, such as, but not limited to, Federal Express, which provides a receipt showing date and time of delivery; or (C) mailing in the United States Mail, certified mail, postage prepaid, return receipt requested, addressed to the Party as set forth below or at such other address as the Party may later designate by the notice procedure herein provided.

To Lessor: City of Whittier
 Attention: Director of Public Works (WUA)
 13230 Penn Street
 Whittier, CA 90602-1772

To Lessee: Paul Phillips
 City of Industry Waterworks System
 15625 East Stafford Street #100
 City of Industry, CA 91744

10. Assignment

Neither Party shall assign, let or sublet the whole or any part of its interest in this Agreement without the prior written consent of the other Party.

11. No Third Party Beneficiaries

This Agreement does not create, and shall not be construed to create, any rights enforceable by any person, partnership, corporation, joint venture, limited liability

company, public entity, or other form of organization or association of any kind that is not a party to this Agreement.

12. Attorneys' Fees

In the event of any action between the Parties hereto seeking enforcement or interpretation of any of the provisions of this Agreement, the prevailing Party in such action shall be entitled to an award, in addition to any damages, for its reasonable costs and expenses, including without limitation, actual costs and attorneys' fees, consultants' fees and experts' fees, as ordered by the trier of fact.

13. Binding Effect and Governing Law

This Agreement is intended to be and shall be binding upon and enforceable against each of the Parties hereto. This Agreement shall be governed by and construed in accordance with the laws of the State of California.

14. Waiver

Any waiver of the provisions of this Agreement by the Party entitled to the benefits thereof as to any instance must be in writing and shall in no event be deemed a waiver of the same provision with respect to any other instance or a waiver of any other provision of this Agreement.

15. Entire Agreement and Amendments

This Agreement, together with the Watermaster Forms to be filed in accordance with Section 3.A above, constitute the entire agreement between the Parties with respect to the subject matter hereof. All prior agreements with respect to the subject matter hereof, whether verbal or written, are hereby superseded in their entirety by this Agreement and the Watermaster Form and are of no further force or effect. Amendments to this Agreement or the Watermaster Form shall be effective only if in writing and signed by the authorized representatives of the respective Parties.

16. Counterparts

This Agreement may be executed in counterparts by the Parties and shall become effective and binding upon the Parties at such time as all of the signatories hereto have executed the original or a counterpart of this Agreement. All counterparts so executed shall constitute one and the same Agreement, binding upon each of the Parties hereto, notwithstanding that each of the Parties are not signatory to the original or the same counterpart. Facsimile and electronic copies of signatures shall be binding for all purposes.

17. Authority

In signing below, each Party represents and warrants to the other Party that each is a duly organized or constituted entity, with all requisite power to carry out its obligations under this Agreement, and that the execution, delivery and performance of this Agreement have been duly authorized by all necessary action(s) of the elected or other governing body of such Party, and that the person executing this Agreement on behalf of a Party is authorized to bind that Party to this Agreement for all purposes.

IN WITNESS WHEREOF, the Parties hereto have executed this Agreement as of the Effective Date.

CITY OF WHITTIER

By: _____
Jeffery W. Collier
CITY MANAGER

ATTEST:

CITY CLERK
Kathryn A. Marshall

APPROVED AS TO FORM:

CITY ATTORNEY
Richard D. Jones

CITY OF INDUSTRY WATERWORKS SYSTEM

By: _____
Paul Philips
CITY MANAGER

CIWS Water Production and Production Rights Lease Summary 2014-2019

Production Year	2014-15 (Actual)	2015-16 (Actual)	2016-17 (Projected)	2017-18 (Projected)	2018-19 (Projected)
1 Watermaster Operating Safe Yield (AF)	150,000	150,000	150,000	150,000	150,000
2 CIWS Annual AF Production Right (Safe Yield x Pumper's Share .5581%)	837.15	837.15	837.15	837.15	837.15
3 Carryover Production Rights (AF)	448.62	399.38	767.59	604.74	516.89
4 Total Production Rights (AF)	1,285.77	1,236.53	1,604.74	1,441.89	1,354.04
5 Annual Production (AF)	1,386.39	1,243.93	1,350.00	1,375.00	1,400.00
6 Production Over CIWS Rights (AF)	100.62	7.40	(254.74)	(66.89)	45.96
7 Production Rights Lease 1 (AF)	500.00	775.00	350.00	450.00	500.00
Production Rights Lease 2 (AF)					
8 Cyclic Storage Purchased/Used (AF)	-	-	-	-	-
9 Annual Production Rights Remaining (AF)	399.38	767.59	604.74	516.89	454.04
10 Lease 1 Rate (\$/AF)	\$ 612.43	\$ 641.24	\$ 699.79	\$ 728.70	\$ 750.57
Lease 2 Rate \$/AF					
11 Cyclic Storage Rate (\$/AF)	\$ 673.00	\$ 697.00	\$ 769.00	\$ 792.07	\$ 815.83
12 Lease 1 Cost	\$ 306,215	\$ 496,961	\$ 244,927	\$ 327,917	\$ 375,283
Lease 2 Cost	\$ -	\$ -	\$ -	\$ -	\$ -
13 Cyclic Storage Cost	\$ -	\$ -	\$ -	\$ -	\$ -
14 Cost of Rights Over Pumper's Share	\$ 306,215	\$ 496,961	\$ 244,927	\$ 327,917	\$ 375,283
15 Average Rate of Right Over Pumper's Share (\$/AF)	\$ 612.43	\$ 641.24	\$ 699.79	\$ 728.70	\$ 750.57

Notes: Row 1 - Safe Yield is set by Watermaster in May of each for the subsequent year based on hydrological conditions. Columns for years 2016-17 through 2018-19 -figures based on District staff projections. Row 14 - Depicts only the total cost of water rights leases and/or replenishment water purchases. This figure does not include any other applicable production assessments, power or treatment costs.

