



Agenda Item D.2
DISCUSSION/ACTION ITEM
Meeting Date: October 7, 2008

TO: Mayor and Councilmembers

FROM: Dan Singer, City Manager

CONTACT: Vyto Adomaitis, Redevelopment, Neighborhood Services and Public Safety Director

SUBJECT: Emergency Preparedness Action Item – Backup Power Generator Cost Analysis

RECOMMENDATION:

- A. Receive a report on the analysis of the purchase and lease options for backup power generation capabilities for City Hall and the City Corporation Yard and provide direction to staff on which option to proceed with; or
- B. Provide direction to staff to use the existing portable backup power generators to provide limited electrical power to City Hall during emergency events; and
- C. Authorize the City Manager to execute a contract with Imperial Electric Company for the installation of a 50kW generator at the City's Corporation Yard in an amount not to exceed \$35,343 consistent with the documents in Attachment 1 to this report. This amount includes an additional 5% project contingency to the original bid.

BACKGROUND:

On Tuesday, September 16, 2008, the City Council received a report that provided a list of equipment and supplies needed to enhance the City's emergency response capabilities. Included in the list was a backup power generator for City Hall. Through Council's discussion staff was requested to conduct a cost analysis of leasing versus the purchase of a generator for both City Hall and the City's Corporation Yard facility. This report has been prepared in response to Council's request.

DISCUSSION:

One of the highest priorities identified following the Gap Fire was the ability to maintain backup power to City Hall during emergency situations. Staff has completed the analysis requested by Council and has the following information to report:

LOCATION	PURCHASE	LEASE
City Hall		
Labor and Installation	\$35,000	\$35,000
600amp Automatic Transfer Switch	\$6,553	\$6,553
175kW Generator	\$63,082	\$5,112 (per month)
Project Contingency (5%)	\$5,232	\$2,078
Transit & Setup per occurrence (rental)	n/a	\$750
TOTAL for CITY HALL	\$109,867	\$43,631 + Monthly+Setup
Public Works Corporation Yard		
Labor and Installation	\$8,661	\$8,661
60amp Automatic Transfer Switch	\$1,648	\$1,648
50kW Generator	\$32,944	\$3,114 (per month)
Project Contingency (5%)	\$2,163	\$515
Transit & Setup per occurrence (rental)	n/a	\$450
TOTAL for CORPORATION YARD	\$45,416	\$10,824 + Monthly+Setup
Previous bid for a generator at the Corporation Yard from Imperial Electric	\$33,660	n/a

City Hall Generator Analysis-Summary:

Staff obtained estimates for the purchase and lease of a 175kW generator to power up the entire first floor of the City Hall building. The costs of the electrical upgrades, modification to the existing electrical panel, automatic transfer switch and labor and installation equal to \$41,553. Staff has added a 5% project contingency that would include costs for engineering, permits and other fees associated with the improvements. The contingency costs although equal in percentage, are less for the leased generator because it is a non – permanent installation. In the leased option, the generator would be brought to City Hall on a trailer and would power the building when needed.

Previous estimates provided to the City for the purchase of a backup power generator approached \$170,000. Of this amount, \$120,000 was for a 160kW generator. The most recent estimates provide the opportunity to purchase a larger generator directly from the manufacturer’s distributor resulting in an estimated 47% savings to the City if the purchase option is considered.

Between the purchase and lease options of the generator for City Hall, the purchase option is the most favorable. It would take only **12.34 months of rental time** before reaching the purchase cost. This is calculated by taking the purchase cost (\$63,082) and dividing by the monthly rental cost (\$5,112). If the full costs of a permanent generator are considered (\$109,867) that factor is still favorable at 21.5 months of rental.

Discussions with the owner of the City's leased facilities, Bermant Development Corporation (BDC), revealed that cost sharing of permanent modifications to the building is not a viable option at this time. The property owner is reluctant to contribute to the cost of the modifications if the City is considering re-locating City Hall to another site in the near future.

Although the total purchase cost of an estimated \$110,000 is to provide backup power to a leased City Hall facility, it is significantly below previous estimates. Staff must consider the City's current efforts to acquire a permanent facility into this discussion. If the City Council would like to concentrate our financial resources into the acquisition of a permanent City Hall, staff would recommend that existing portable power generators already owned by the City be deployed to provide limited power to City Hall in the event of emergency operations. Though this arrangement would provide minimal electrical capacity, staff could operate in this manner until permanent facilities are acquired.

Corporation Yard Analysis – Summary:

Staff also obtained estimates for the purchase and lease of a 50kW generator for the Corporation Yard. This facility is currently leased, but will become City-owned property in the near future. The costs of the electrical upgrades, modifications to the electrical panel, automatic transfer switch and labor and installation are equal in both the purchase and lease options, at \$10,309. Staff has added a 5% project contingency that would include costs for engineering, permits and other fees associated with the improvements. The contingency costs although equal in percentage, are less for the leased generator because it is a non – permanent installation. In the leased option, the generator would be brought to the Corporation Yard on a trailer to power the building when needed.

Between the purchase and lease options of the generator for the Corporation Yard, the purchase option is the most favorable. It would take only **10.6 months of rental time** before reaching the purchase cost. This is calculated by taking the purchase cost (\$32,944) and dividing by the monthly rental cost (\$3,114). As noted above in the table, the additional costs of labor & installation (\$8,661), 60amp switch (\$1,648), and contingency (\$2,163) for the electrical upgrades is \$12,472 bringing the total to \$45,416.

The previous Corporation Yard bid proposal awaiting Council approval is \$33,660. The recent estimate above would be **\$11,756 higher** than the bid proposal submitted to and under consideration by the City Council. The equipment difference between the previous bid proposal and the recent estimate is that the bid proposal includes a manual transfer switch rather than an automatic switch installed on the existing electrical service panel. Said proposal is attached to this report (Attachment 1). Staff is recommending approval of the previous bid submitted to the City Council for consideration.

STRATEGIC PLAN

Providing backup power generation to government facilities is consistent with the goal in the Strategic Plan entitled "Emphasize Public Safety" as it enhances the City's ability to respond to emergencies as well as ensuring the continuity of services to our residents during such emergencies.

ALTERNATIVES

The City Council may elect to defer the consideration of a lease or purchase option for a generator for City Hall at this time. However, staff does not recommend deferral of this item due to the efforts underway to ensure the City is adequately prepared to respond to anticipated flood events during this winter season.

Alternatively, Council may choose to direct staff to initiate a formal bid process to procure a permanent generator for the City Hall facility and return to the City Council for award of a contract. Staff does not recommend this alternative due to the City's interests in acquiring a permanent City Hall facility and the need to maximize the financial resources available to such effort.

FISCAL IMPACTS

The FY 2008-09 budget does not include any appropriations for the proposed listing of emergency preparedness action items. However, staff has identified sufficient carryover amounts from FY 07/08 that could be re-appropriated towards these items. As such, no additional allocations will be required should the City Council endorse the items identified in this report.

Submitted By:

Reviewed By:

Approved By:

Vyto Adomaitis
RDA, NS & Public Safety
Director

Michelle Greene
Administrative Services
Director

Daniel Singer
City Manager

ATTACHMENTS

1. Agenda Report and related documents dated September 16, 2008 regarding the purchase of a backup power generator for the Corporation Yard.



Agenda Item A.3
CONSENT CALENDAR
Meeting Date: September 16

TO: Mayor and Councilmembers

FROM: Steve Wagner, Community Services Director

CONTACT: Bob Morgenstern, Public Works Manager

SUBJECT: Standby Generator Installation at Corporation Yard

RECOMMENDATION:

Authorize the City Manager to execute a contract with Imperial Electric Company for the installation of a 50 kilowatt standby generator at the City's corporation yard in an amount not to exceed \$33,660 subject to the requirements of the contract documents.

BACKGROUND:

The City recently acquired a 3 acre corporation yard facility with a 4,000 square foot building at 6735 Hollister Avenue as part of the Cabrillo Business Park project. The tenant improvements to the building have been completed and Community Services personnel are in the process of relocating to that location from City Hall.

The new corporation yard facility will be used as a Department Operations Center (DOC) during emergency events. Staff will coordinate and direct contract labor forces during emergency events at the DOC. As such, the building would require back up power in the event of power outages. Improvements to the building to provide emergency power during power outages have been identified. A contract to install a standby generator at the City's corporation yard building is recommended for approval.

DISCUSSION:

The corporation yard building is well suited to serve as a DOC during emergencies affecting the City. However, the building would require sustained electrical power throughout the incident in order to remain effective. In order to insure constant power, staff consulted with an electrical engineer to develop plans and specifications for the installation of a standby generator with a manual transfer switch. The plans and specifications were developed into a bid package (Attachment 1) and the project was advertised for bid.

The bid package requested bids for two different scenarios, one was for a complete (turn key) installation and the other was for installation of a City supplied generator, fuel tank and enclosure. The following two bids were received:

COMPANY	BID	ALTERNATE BID
Imperial Electric	\$33,660.00	\$7,800.00
Newton Construction & Mgmt., Inc	\$44,000.00	\$16,000.00

The bid cost for the City to provide a generator, fuel tank, and enclosure was \$28,222.40. This amount combined with the amount bid by Imperial Electric for the installation of the generator (\$7,800) would equal \$36,022.40, which exceeds the low bid amount for complete installation by \$2,362.40. As such, staff recommends Council award a construction contract in an amount not to exceed \$33,660 to Imperial Electric for installation of the standby generator subject to the requirements of the contract documents.

ALTERNATIVES:

The Council may elect to do the following:

1. Not award the contract and not install an emergency standby generator at the corporate yard location.
2. Award the alternate bid for installation of a City supplied generator, enclosure and fuel tank.
3. Direct staff to re-bid the project and try to solicit additional bids.

GOLETA STRATEGIC PLAN:

Installation of an emergency standby generator at the corporation yard is consistent with the Goals in the Goleta Strategic Plan entitled, "Emphasize Public Safety" and moves the City closer toward realizing its vision as defined within the City's Strategic Plan.

FISCAL IMPACTS:

The approved FY 2008-2009 Budget does not include any appropriations for the proposed generator. However, staff has identified sufficient carryover amounts from FY 07-08 that can be re-appropriated for this action. As such no additional appropriations will be required should the City Council approve the recommended action.

Submitted By:

Reviewed By:

Approved By:

Steve Wagner
Community Services
Director

Michelle Greene
Administrative Services
Director

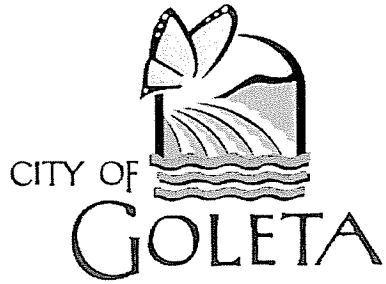
Daniel Singer
City Manager

ATTACHMENTS:

1. Plans and Specifications (Bid Package)
2. Construction Contract

ATTACHMENT 1

Plans & Specification



July 31, 2008

CITY COUNCIL
Michael T. Bennett
Mayor

Roger S. Aceves
Mayor Pro Tempore

Jean W. Blois
Councilmember

Eric Onnen
Councilmember

Jonny Wallis
Councilmember

CITY MANAGER
Daniel Singer

**SUBJECT: REQUEST FOR PROPOSALS FOR THE CITY OF
GOLETA STANDBY GENERATOR INSTALLATION PROJECT FOR
GOLETA CITY YARD**

Dear Contractor:

Please send us your proposal to install a standby generator at our City Corporation Yard located at 6735 Hollister Avenue. The City of Goleta may decide to furnish the generator, fuel tank and enclosure. Installation of City provided equipment is shown as an additive alternate in the Proposal section of our Request.

All work will be done in accordance with the latest approved applicable building, electrical and mechanical codes. All work will be inspected by the City's Building Official under a No-Fee permit.

Contract will not be fully executed until all applicable documents: Certificate of Insurance; Bonds and signed Agreement are on file with the City.

We look forward to receiving your sealed proposal along with the attached forms by August 28, 2008. Proposals must be sealed and received no later than 3:00 p.m., write "GOLETA STANDBY GENERATOR INSTALLATION PROJECT" clearly on outside of the sealed envelope. If you have any questions please call me at 805-961-7571.

Sincerely,

Robert P. Morgenstern,
Public Works Manager



**REQUEST FOR PROPOSALS FOR
THE CITY OF GOLETA STANDBY
GENERATOR INSTALLATION
PROJECT FOR GOLETA CITY YARD**

REQUEST FOR PROPOSALS FOR THE CITY OF GOLETA STANDBY GENERATOR INSTALLATION PROJECT FOR GOLETA CITY YARD

Technical Provisions:

1) Description

This work shall consist of:

- i) Installation of a 50kw diesel standby generator as specified in these Technical Provisions, Specifications and attached Plans.
- ii) All work shall be in accordance to the City of Goleta's approved Electrical Code. A No Fee permit is required prior to construction.
- iii) Provide and install all electrical equipment, appliances and lighting fixtures as shown on the plans. All shall be approved by a recognized test lab.
- iv) Furnish and install disconnect switches at remote waters.
- v) All conduit runs shall contain a code sized green ground wire.
- vi) All conductors shall be in conduit.
- vii) All conductors shall be copper with type THHN/THWN insulation.
- viii) All freight taxes and delivery charges included in bid.

2) Additive Alternate:

- i) This work shall consist of installation of **City supplied** 50kw Diesel Generator with Base Tank and Enclosure. All other equipment, material and labor shall be supplied by the Contractor.

3) Project Location:

- i) The Goleta Corporation Yard is located at: 6735 Hollister Avenue.
- ii) The contact phone number is: (805) 961-7571
- iii) Project Manager: Bob Morgenstern, Public Works Manager

Contractor's License and Insurance Requirements:

- i) Contractors shall provide a contractor's license number including class license and City of Goleta Business license (if applicable). Businesses with a fixed place of business within the city limits of Goleta **do not** need a City of Goleta business license.
- ii) Contractor shall provide certificate of insurance with endorsement naming the City of Goleta as additionally insured prior to start of work. Insurance will require \$1,000,000 minimum liability and an AM Best Rating of VII.

General Requirements:

- i) Contractor shall provide an installation schedule, with completion date, to the Public Works Manager before commencement of work.
- ii) Contractor shall provide a 24 hour contact name and number to the Public Works Manager before commencement of work.
- iii) Contractor shall state the type of devices and equipment to be used for the work.
- iv) All work to be completed within fifteen (15) working days from issuance of the "Notice to Proceed".
- v) Liquidated damages in the amount of \$250 will be assessed for every calendar day beyond the contract limits.

REFERENCES

Reference 1

Contact Name: John Maloney Phone Number: (805) 895-1700Name of organization: JMPE Electrical EngineeringAddress: 156 W. Alamar Suite B SB Ca 93105

Project Description (Use additional sheets if needed): _____

John has seen a lot of our installations.Just Ask him About what we can do!

Project Budget: _____

Reference 2

Contact Name: Terry Hite Phone Number: (805) 432-7183Name of organization: Raytheon SystemsAddress: 75 Conoman Drive Goleta Ca 93117Project Description: All Electrical Service to 12 Buildingsin the Goleta CorridorProject Budget: \$10 - \$500,000.00

Reference 3

Contact Name: Dan Gabriele Phone Number: (805) 252-0040Name of organization: Citrix OnlineAddress: 6500 Hollister Ave Goleta Ca 93117

Project Description: _____

Electrical for All Plants from Communicationsto Panel InstallationsProject Budget: \$100,000 - \$50,000.00

REQUEST FOR PROPOSALS FOR THE CITY OF GOLETA STANDBY GENERATOR INSTALLATION PROJECT FOR GOLETA CITY YARD

FOR ANY QUESTIONS REGARDING THIS PROPOSAL PLEASE CONTACT
ROBERT MORGENSTERN, PUBLIC WORKS MANAGER AT (805) 961-7571.

PROPOSALS TO BE RECEIVED BY August 28, 2008 UNTIL 3:00 P.M.

LIABILITY INSURANCE REQUIRED: \$ 1,000,000.00

BID BOND: N/A

PERFORMANCE & PAYMENT BONDS REQUIRED: 100%

ALL PROPOSALS ARE VALID FOR 60 CALENDAR DAYS AFTER BID DATE

BIDDER SHALL COMPLETE

COMPANY NAME Imperial Electric Co

STREET ADDRESS 6445 Calle Real

CITY Goleta, STATE Ca ZIP CODE 93117

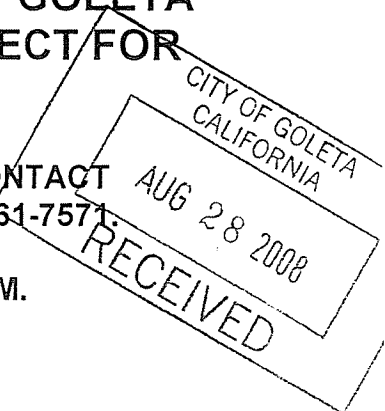
CONTRACTORS LICENSE #: 300080 CLASS: C-10

COMPANY CONTACT NAME: Mike Breymann

TITLE: Principal

TELEPHONE NUMBER: 805 681-0676

EMAIL ADDRESS: mike@imperialelectric.us



BID SCHEDULE

Item Number	Item Description	Qty	Unit	Unit Bid	Total Bid
1	Furnish and install a 50kw diesel powered standby generator in place and complete all in accordance with plans and specifications.	1	Lump Sum	\$ <u>33,660</u>	\$ <u>33,660</u>
TOTAL					\$ <u>33,660</u>

Bid total in words: Thirty Three Thousand Six hundred sixty Dollars $\frac{60}{100}$.

ADDITIVE ALTERNATE BID

Item Number	Item Description	Qty	Unit	Unit Bid	Total Bid
1A	Install a City supplied 50kw diesel powered standby generator, base tank and enclosure. Contractor furnishing all necessary electrical equipment, materials and labor all in accordance with plans and specifications in place and complete.	1	Lump Sum	\$ <u>7800^{.00}</u>	\$ <u>7800^{.00}</u>
TOTAL					\$ <u>7800^{.00}</u>

Additive Alternate bid total in words: Seventy Eight hundred dollars

SIGNED BY: _____

PRINT NAME: _____

TITLE: _____

CITY OF
GOLETA

BID SCHEDULE

Item Number	Item Description	Qty	Unit	Unit Bid	Total Bid
1	Furnish and install a 50kw diesel powered standby generator in place and complete all in accordance with plans and specifications.	1	Lump Sum	\$ _____	\$ _____
TOTAL					\$ _____

Bid total in words: _____.

ALTERNATE BID

Item Number	Item Description	Qty	Unit	Unit Bid	Total Bid
1A	Install a City supplied 50kw diesel powered standby generator, base tank and enclosure. Contractor furnishing all necessary electrical equipment, materials and labor all in accordance with plans and specifications in place and complete.	1	Lump Sum	\$ _____	\$ _____
TOTAL					\$ _____

Additive Alternate bid total in words: _____

SIGNED BY: _____

PRINT NAME: _____

TITLE: _____

LIST OF DEVICES/EQUIPMENT TO BE USED (USE ADDITIONAL PAGES IF NEEDED):

1.	21.
2.	22.
3.	23.
4.	24.
5.	25.
6.	26.
7.	27.
8.	28.
9.	29.
10.	30.
11.	31.
12.	32.
13.	33.
14.	34.
15.	35.
16.	36.
17.	37.
18.	38.
19.	39.
20.	40.

BONDS

**PERFORMANCE BOND
FOR
STANDBY GENERATOR INSTALLATION PROJECT FOR GOLETA CITY YARD IN
THE CITY OF GOLETA, CALIFORNIA**

_____ (“PRINCIPAL”), and
_____, a corporation organized under the laws
of the State of _____ and licensed by the State of California to execute bonds and
undertakings as sole surety (“SURETY”), are held and firmly bound unto the CITY OF GOLETA
 (“CITY”) in the sum of _____ dollars,
 (\$ _____) (100% of amount bid in proposal) lawful money of the United States, which may be
increased or decreased by a rider hereto executed in the same manner as this bond, for the payment of
which sum PRINCIPAL and SURETY bind themselves, their successors, and assigns, jointly and
severally, by this instrument.

PRINCIPAL or SURETY will apply this bond for the faithful performance of any and all of the
conditions and stipulations set forth in this bond, and the Community Services contract (“Contract”)
executed by CITY and PRINCIPAL. In the case of any default in the performance of the conditions and
stipulations of this undertaking, it is agreed that PRINCIPAL or SURETY will apply the bond or any
portion thereof, to the satisfaction or any damages, assessments, penalties, or deficiencies arising by
reason of such default.

BOND CONDITIONS

1. PRINCIPAL will construct the public improvements (“Project”) identified in the Contract. Such
performance will be in accordance with the Contract Documents identified in the Contract, which are
hereby incorporated and made a part of this bond. City has estimated the required amount of the bond as
shown above.
2. PRINCIPAL’s work on the Project will be done in accordance with the Contract Documents.
Should PRINCIPAL fail to complete all required work within the time allowed, CITY may, at its sole
discretion, cause all required work to be done and the parties executing the bond will be firmly bound
for the payment of all necessary costs therefore.
3. PRINCIPAL will guarantee its work against any defective work, labor or materials on the Project for
a period of one (1) year following the Project’s completion and acceptance by CITY.
4. This bond is conditioned upon and guarantees due compliance with all applicable law including,
without limitation, the Goleta Municipal Code (“GMC”).
5. SURETY, for value received, agrees that no changes, extensions of time, alteration or modification
of the Contract or of the obligations to be performed thereunder will in any way affect its obligation on
this bond, and waives notice of any such change, extension of time, alteration or modification of the
Contract or of the obligations to be performed. Furthermore, SURETY expressly waives the provisions
of California Civil Code Sections 2845 and 2849.
6. This bond consists of this instrument; the Contract and Contract Documents referenced above; and
the following two (2) attached exhibits all of which are incorporated herein by reference:
 - A. A certified copy of the appointment, power of attorney, bylaws or other instrument entitling or
authorizing the persons executing this bond to do so; and

B. A certificate issued by the county clerk for the county in which SURETY's representative is located conforming with California Code of Civil Procedure § 995.640 and stating that SURETY's certificate of authority has not been surrendered, revoked, cancelled, annulled, or suspended, or in the event that it has, that renewed authority has been granted.

7. Should PRINCIPAL perform its obligations within the time allowed, PRINCIPAL's obligation will be void upon the acceptance of the performance by CITY; otherwise this obligation will remain in full force and effect.

SIGNED AND SEALED this ____ day of _____, 20__.

PRINCIPAL:
PRINCIPAL's MAILING ADDRESS:

(Signature of authorized officer)

(Name and Title)

(Signature of authorized officer)

(Name and Title)

SURETY:
SURETY's MAILING ADDRESS:

(Signature of authorized officer)

(Name and Title)

(Signature of authorized officer)

(Name and Title)

NOTE: ALL signatures must be acknowledged by a notary public. Attach the appropriate acknowledgement form. Also, attach evidence of the authority of any person signing as attorney-in-fact.

**PAYMENT BOND
FOR
STANDBY GENERATOR INSTALLATION PROJECT FOR GOLETA CITY YARD IN
THE CITY OF GOLETA, CALIFORNIA**

The City of Goleta ("CITY") has awarded to _____ as Contractor (hereafter as "PRINCIPAL"), a contract ("Contract") for the above stated project. PRINCIPAL is required to furnish a bond in connection with such Contract, to secure the payment of claims of laborers, mechanics, material persons, and other persons as provided by law.

PRINCIPAL and _____, a corporation incorporated under the laws of the State of _____ and licensed by the State of California to execute bonds and undertakings as sole surety ("SURETY"), are held and firmly bound unto the CITY in the sum of _____ (\$ _____) dollars, (100% of amount bid in proposal), lawful money of the United States, which may be increased or decreased by a rider hereto executed in the same manner as this bond, for the payment of which sum PRINCIPAL and SURETY bind themselves, their successors, and assigns, jointly and severally, by this instrument.

BOND CONDITIONS

1. PRINCIPAL will construct the public improvements ("Project") identified in the Contract. Such performance will be in accordance with the Contract Documents identified in the Contract, which are hereby incorporated and made a part of this bond. City has estimated the required amount of the bond as shown above.
2. If PRINCIPAL, its heirs, executors, administrators, successors, assigns or subcontractors, shall fail to pay any of the persons named in Section 3181 of the California Civil Code, or any amounts due under the California Unemployment Insurance Code with respect to work or labor performed under the Contract, 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 work or labor performed under the Contract, SURETY will pay for the same in an amount not exceeding the penal sum specified in this bond.
3. This bond shall inure to the benefit to any of the persons named in Civil Code Section 3181 so as to give a right of action to such persons or their assigns in any suit brought upon this bond. In case suit is successfully brought upon this bond, SURETY further agrees to pay all reasonable attorneys' fees and costs in an amount fixed by the court.
4. This bond is conditioned upon and guarantees due compliance with all applicable law including, without limitation, the Goleta Municipal Code ("GMC").
5. SURETY, for value received, agrees that no changes, extensions of time, alteration or modification of the Contract or of the obligations to be performed thereunder will in any way affect its obligation on this bond, and waives notice of any such change, extension of time, alteration or modification of the Contract or of the obligations to be performed.

Furthermore, SURETY expressly waives the provisions of California Civil Code Sections 2845 and 2849.

6. This bond consists of this instrument; the Contract and Contract Documents referenced above; and the following two (2) attached exhibits all of which are incorporated herein by reference:
 - A. A certified copy of the appointment, power of attorney, bylaws or other instrument entitling or authorizing the persons executing this bond to do so; and
 - B. A certificate issued by the county clerk for the county in which SURETY's representative is located conforming with California Code of Civil Procedure § 995.640 and stating that SURETY's certificate of authority has not been surrendered, revoked, cancelled, annulled, or suspended, or in the event that it has, that renewed authority has been granted.

7. Should PRINCIPAL perform its obligations within the time allowed, PRINCIPAL's obligation will be void upon the acceptance of the performance by CITY; otherwise this obligation will remain in full force and effect.

[Signatures on the following page.]

SIGNED AND SEALED this _____ day of _____, 200__.

PRINCIPAL:

SURETY:

PRINCIPAL's MAILING ADDRESS:

SURETY's MAILING ADDRESS:

(Signature of authorized officer)

(Signature of authorized officer)

(Name and Title)

(Name and Title)

(Signature of authorized officer)

(Signature of authorized officer)

(Name and Title)

(Name and Title)

NOTE: ALL signatures must be acknowledged by a notary public. Attach appropriate acknowledgement form. Also, attach evidence of the authority of any person signing as attorney-in-fact.

SPECIFICATIONS

SECTION 16000

ELECTRICAL

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.02 SUMMARY

Work in general includes, but is not limited to, the following:

- A. Existing Service - 480 volt, three phase, three wire.
- B. Grounding of equipment, service, etc.
- C. Complete emergency standby power system as shown on Drawings and specified herein, including conduit, wiring, disconnects, circuit breakers, transfer switch, generator, and other items necessary for complete and operable systems.
- D. Electrical connection of equipment furnished by others as shown on the Drawings.
- E. Control wiring and installation and connections of control devices as specified herein.
- F. Sealing of conduit penetration in exterior wall.

1.03 SITE VISITS, COORDINATION OF CONTRACT DOCUMENTS,
VERIFICATION OF DIMENSIONS

- A. Examine existing conditions as applicable. Become acquainted with Specifications and Drawings for all portions of the Project. Notify Project Manager of apparent discrepancies and of inconsistency between the Specifications and the existing conditions. Secure and follow Project Manager's instructions. The Drawings serve as working drawings only, indicating diagrammatically the general layout of the systems and their various components and equipment.
- B. Scaled and figured dimensions are approximate and are given for estimate purposes only. Carefully check and verify dimensions and sizes in order to determine if equipment and materials will fit together and if the dimensions of the assembly are compatible with the space provided. Where equipment is furnished by others, verify that dimensions and requirements for assembly are compatible with the space provided before proceeding with the roughing-in connections. Field verifications of locations shown on Drawings are necessary since actual locations, distances, mounting heights, etc., may be affected by field conditions. The right is reserved to make reasonable changes in locations of equipment or other features shown on Drawings prior to rough-in without additional cost to the Owner.

- C. Where apparatus and equipment have been indicated on the Drawings, dimensions have been taken from typical equipment of the class indicated. Carefully check the Drawings to see that the contemplated equipment will fit into the spaces provided, regardless of whether or not it may have been approved for quality and utility as an equal.
- D. Rough in all equipment, fixtures, etc., as designated on the Drawings and as specified herein. The Drawings indicate only the approximate location of rough-ins. The exact rough-in locations must be determined from large-scale certified Drawings. The Contractor shall obtain all certified rough-in information before progressing with any Work for rough-in connections.
- E. Be responsible for providing outlets and services of proper size at the required locations.
- F. Coordinate requirements of equipment furnished by others, prior to ordering and installation.
- G. No allowance will be made for extra expense due to failure or neglect to follow foregoing directives.

1.04 RULES AND REGULATIONS

- A. Materials and installation shall be in accordance with current rules and requirements of California Code of Regulations and local codes and ordinances including, but not necessarily limited to, the following:
 - 1. The California Electrical Code.
 - 2. Title 8, Chapter 4, California Code of Regulations (Low Voltage Electrical Safety Orders).
 - 3. Local Building Codes.
 - 4. California State Fire Marshal.
 - 5. Certified Ballast Manufacturers' Association (CBM).
 - 6. Uniform Building Code.
 - 7. NEMA (National Electrical Manufacturers Assoc.).
 - 8. IEEE (Institute of Electrical and Electronic Engineers).
 - 9. IPCEA (Insulated Power Cable Engineers Association).
 - 10. ANSI (American National Standards Institute).
 - 11. ASTM (American Society for Testing and Materials).
 - 12. UL (Underwriters Laboratories).

13. OSHA (Occupational Safety & Health Act) Federal.
 14. Title 24, CCR.
 15. NFPA (National Fire Protection Association).
 16. NESC (National Electrical Safety Code).
 17. NECA Standards of Installation.
- B. Where these Specifications call for a higher standard than the above-mentioned rules, the Specifications shall govern.
- C. Should there be any direct conflict between the above mentioned rules and these Specifications, the rules shall govern.
- D. Nothing in the Drawings or Specifications is to be construed to permit Work not conforming to the rules, codes, and regulations.
- E. All materials utilized shall be new and the best of their respective grades or kinds.

1.05 DEFINITIONS

- A. Article 100 of the California Electrical Code shall serve as a guide for definitions.
- B. Industry standard definitions.
- C. Specific Definitions:
1. Concealed: Hidden from sight, as in trenches, chases, hollow construction, above furred spaces, suspended ceilings (acoustical or plastic type), or exposed to view only in tunnels, attics, shafts, crawl spaces, unfinished spaces, or other areas solely for maintenance and repair.
 2. Exposed: Not concealed.
 3. Unfinished Space: A room or space that is ordinarily accessible only to building maintenance personnel, a room noted on the "Finish Schedule" with exposed and unpainted construction for walls, floor or ceilings, or specifically mentioned as "unfinished".
 4. Finished Spaces: Any space ordinarily visible to the visiting public, including exterior areas.

1.06 RULES OF LOCAL UTILITY COMPANIES

- A. Comply with rules and regulations of the serving utility companies, and before submitting bid, check and include applicable service costs for the Project.

1.07 RECOGNIZED TEST LAB

- A. All equipment specified or installed under this project shall be listed by a recognized test lab and bear that label of approval.

1.08 PERMITS AND FEES

- A. Procure licenses and permits necessary for the completion of the Work, and inspection and other applicable fees. Before final payment, deliver to the Owner certificates and permits, approved and signed by the authorities having jurisdiction.

1.09 RECORD DRAWINGS

- A. Include under this Work complete and accurate record information both during construction and before final acceptance by the Owner, and costs associated therewith shall be included under this Work.
- B. Obtain from the Project Manager, at cost, a complete set of applicable blue-line prints. On these prints, systematically and accurately keep an up-to-date and legible dimensional record of Work installed differently from the location or manner indicated by the Drawings, as well as exact locations of stub-outs and hidden or underground features. Have these Drawings readily available for reference and review. When job status permits, submit them to the Project Manager and amend or correct and re-submit if requested.
- C. When the above information is complete and acceptable, deliver Record Drawings to the Project Manager.

1.10 SUBMITTALS - SUBSTITUTIONS

- A. Bids shall be based on Drawings and Specifications and references exactly as shown except as substitutions are permitted under terms of the Instructions to Bidders. Acceptance by the Project Manager of a variation or alternate shall not of itself waive other requirements of the Drawings and Specifications.
- B. Before a substitute is used, it shall be equal in quality and utility to the material or make of equipment specified, and furthermore, shall be suitable for the particular application. The decision of the Project Manager as to the quality and utility of the substitute offered shall be final.
- C. When submitting a substitute to a specified item, provide complete data for both the specified item and the substitute. Complete data includes:
 - 1. Catalog cuts with complete dimensions, characteristics, electrical properties, Underwriter's Laboratory listing, harmonics, light output, mounting and support requirements.
 - 2. Calculations, photometrics, system load data, energy effect on system, etc.

If the substitute is not deemed equal in both utility and quality to the specified item, the specified item will be approved and it shall be provided by the Contractor.

- D. Submit in one package complete systematized lists of equipment and Drawings, catalog cuts, brochures, capacity tables and curves, descriptive information, performance data and guarantees and warranties referenced either to applicable Specification paragraphs or to item numbers as shown on the Drawings, or both. Submit six (6) copies.
- E. Do not order or install equipment until submittals have been reviewed and approved.
- F. Where accepted materials or equipment other than is specified or shown on the Drawings require redesign of structural, architectural, electrical or mechanical features or layouts, such changes shall be made by, or at the expense of the Contractor - all subject to complete review by the Project Manager.
- G. Because of the contingencies involved, review and general acceptance of proposed substitutes shall not relieve the Contractor's responsibility under this Work for ensuring in all respects the suitability of such materials and equipment for the particular Project requirements.

1.11 SHOP DRAWINGS

- A. Prepare shop Drawings of items as required by the Project Manager or by Drawings and Specifications; submit six (6) copies of each to the Project Manager as part of the submittal package, sufficiently in advance of construction, if necessary.
- B. The shop drawings shall be submitted sufficiently in advance of construction to allow time for review and for resubmission, if necessary.
- C. Submit all shop drawings and data at one time for equipment provided under this Section. The complete electrical shop drawings shall be bound in one pamphlet or binder indexed to this Section.
- D. Shop drawing submittals processed are not change orders. The purpose of shop drawing submittals by the Contractor is to demonstrate that the Contractor understands the design concept; he demonstrates his understanding by indicating which equipment and material he intends to furnish and install and by detailing the fabrication and installation methods he intends to use. If deviations, discrepancies or conflicts between shop Drawings and Specifications are discovered, either prior to or after shop drawing submittals are processed, the design Drawings and Specifications shall control and shall be followed.
- E. Manufacturers' data and dimension sheets shall be submitted giving all pertinent physical and engineering data including weights, cross-sections and maintenance instructions. Standard items of equipment such as receptacles, switches, plates, etc., which are cataloged items, shall be listed by manufacturer.
- F. Index all submittals and reference to these Specifications.

1.12 COMPLETION DATA

- A. Submit completion data to the Project Manager in acceptable quantity and form before requesting a final inspection. Such submittal shall be corrected, amended, or completed before final acceptance of the Work.
- B. Include Record Drawings, maintenance manuals, and data; test results; control and wiring diagrams.

1.13 CUTTING, PATCHING, AND REPAIRING

- A. Cutting, patching, and framing of wood members to accommodate this Work shall be done by the Contractor and shall be in conformance with Sections 613 and 617 (F) and (K), Title 24, California Code of Regulations. All such cutting, patching and framing shall be approved by the Project Manager.
- B. Do minor miscellaneous cutting, drilling, and patching necessary and normally required at the time of actually installing this Work. Patching shall be of the same materials, workmanship, and finish as the original or surrounding Work to the complete satisfaction of the Project Manager. Comply with Division-1 CUTTING AND PATCHING Section.
- C. Adequately inform other trades of openings and framing requirements for this Work and provide suitable instructions for establishing locations and sizes of openings or sleeves so that these may be provided in the proper location at the proper time. Concrete shall not be cut, except where approved by the Project Manager.

1.14 SIMILARITY OF MATERIALS

- A. Unless specified otherwise, fixtures, fittings, hangers, and respective type features and equipment, of a similar type or having similar operative or functional features, shall be of the same manufacturer throughout the Project.

1.15 MANUFACTURERS' DIRECTIONS

- A. Follow manufacturers' directions and recommendations in all cases where the manufacturers' equipment or articles are used for this Work. Compliance with the manufacturer's direction is a requirement for that product's listing with a recognized test lab.

1.16 VERIFICATION OF DIMENSIONS

- A. Scaled and figured dimensions are approximate only. Before proceeding with Work, carefully check and verify dimensions, etc., on architectural Drawings, and be responsible for properly fitting equipment and materials together and to the structure in spaces provided.
- B. Drawings are essentially diagrammatic, and many offsets, bends, pull boxes, special fittings, and exact locations are not indicated. Carefully study Drawings and premises in order to determine best methods, exact locations, routes, building obstructions, etc., and install apparatus and equipment in available locations. Install apparatus and equipment in manner

and locations to avoid obstructions, preserve headroom, and keep openings and passageways clear.

1.17 IDENTIFICATION OF EQUIPMENT

- A. All electrical equipment shall be labeled, tagged, stamped, or otherwise identified in accordance with the following schedule:
1. Branch Circuit Panelboards:
 - a. Panel identification shall be P-Touch 3/4" label.
 - b. Circuit directory shall be a two-column, 8-1/2 x 11" sheet attached to the inside of the door. Each odd numbered circuit shall be in sequence in the left column and the even numbered circuit in the right column (e.g., 1, 3, 5..., 2, 4, 6...). Each circuit shall be identified as to the use and room name(s) or area(s). Confirm room names and/or room numbers with the Project Manager prior to project completion. Circuit breaker identification shall be by permanently installed metal numbers or plastic numbers under acrylic plastic. "Paste-on" numbers will not be accepted. Refer to "Panelboards" section for additional requirements.
 2. Distribution Panelboards: Identification shall be with 1" x 4" laminated, white on black, micarta nameplates on each major component, each with name and/or number of unit and other pertinent data as required. Emergency power distribution panels shall be identified with white on red micarta nameplates. Letters shall be no less than 3/8" high.
 3. Circuit breakers shall be identified by number and name with 3/4" x 1-1/2" laminated micarta nameplates with 3/16" high letters mounted adjacent to circuit breaker or switch.
 4. Miscellaneous equipment (electrical), such as individually mounted safety switches, starters, step-down transformers, pull boxes, junction boxes, etc., shall be identified as required by the use of such equipment with P-Touch labels as required.
 5. In general, the installed nameplates, as herein called for shall also clearly indicate its use, area served, circuit identification, voltage and any other useful data.
 6. All auxiliary systems, including communications, shall be labeled to indicate function.
 7. Motor control and motor control centers shall be labeled with the identification given on drawing schedules.

1.18 ARC FLASH LABELING

- A. All panels, circuit breaker enclosures, switchboards and motor control centers shall be labeled with Arc Flash Warning Stickers.

B These labels shall contain the following:

1. Arc Flash Boundary
2. Minimum arc rating
3. Personal Protective Equipment Level, PPE
4. Shock Hazard Level
5. Fault Current

1.19 CLOSING IN OF UNREVIEWED WORK

- A. Do not allow or cause any of this Work to be covered up or enclosed until it has been reviewed by the Project Manager. Should any of this Work be enclosed or covered up before such review, uncover the Work and make repairs with such materials as may be necessary to restore the Work and that of the other trades to its original and proper condition at no additional cost to the Owner.

1.20 SAFETY PRECAUTIONS

- A. It is intended that within the scope of this Work during construction and until final acceptance, strict attention be given to matters pertaining to public safety and to safety of the construction workers and complementing personnel; and to other health and building safety requirements as specified and indicated including, but not limited to: Protection of openings in fire-rated construction; clearances from and/or protection of combustibles; proper securement for fixtures, equipment materials; method of performing the Work, operational and safety check of electrical devices, etc.; erection and maintenance of suitable barriers, protective devices, lights and warning signs and adequate provisions for storage and protection of Work, materials and equipment.
- B. It is understood that the responsibility for the proper attention to the above stipulations is included under this Work.

1.21 WIRING OF EQUIPMENT FURNISHED UNDER OTHER SECTIONS

- A. All electrical wiring including power wiring and control wiring (except as specified under Automatic Temperature Control), including raceways, wiring, outlet and junction boxes, and labor for installation of the wiring and equipment shall be included in this section of the Specifications.
- B. All control devices, and starters not in motor control centers, for equipment furnished under the Air Conditioning section (except as specified under Automatic Temperature Control paragraph), Plumbing section, Fire Sprinkler or Lawn Sprinkler section are to be furnished under that particular section and installed under this section.

- C. Wiring diagrams complete with all connection details shall be furnished under each respective section.
- D. Coordinate requirements with Division 15 sections prior to ordering and installation.
- E. Comply with requirements of Article 430 of the California Electrical Code.

1.22 CONCRETE

- A. Where used for structures to be provided under the contract such as bases, etc., concrete work and associated reinforcing shall be as specified under that Division.
- B. See other sections for additional requirements for underground vaults, cable ducts, etc.

1.23 PROTECTION OF EXISTING LINES

- A. Exercise special care to avoid damaging and to maintain in operation, all existing utility runs during the construction period. Also avoid damaging existing piping, conduits, or equipment that is to remain, whether or not specifically indicated on the Drawings. Existing utilities, piping, conduits, and equipment may or may not be shown on the Drawings. The Drawings only reflect information intended to suggest the probable extent and possible location of indicated runs and equipment. There may be other runs. There may be other locations. Neither the Owner nor the Project Manager represents that either has any precise knowledge as to either the full extent or exact location of equipment and runs that may fall within the building or Project Site.
- B. Execute excavation and demolition on the Site and in the building with extreme care (by hand or small tools wherever appropriate) and at the sole risk of the Contractor and the workers involved.
- C. Locate all known existing installations before proceeding with construction operations which may cause damage to such installations. The existing installations shall be kept in service where possible and damage to them shall be repaired at no increases in Contract Sum.
- D. If other structures or utilities are encountered, request Project Manager to provide direction on how to proceed with the Work.

1.24 MOUNTING

- A. Provide materials and accessories necessary to properly mount and secure equipment furnished and/or installed under the electrical Work. This includes but is not limited to such items as conduit, outlets, junction boxes, switches, relays, disconnect switches, lighting fixtures, cabinets, and transformers.
- B. Inserts and Anchors shall be:
 1. Furnished and installed for support of Work under this Division.

2. Adjustable concrete hanger inserts installed in new concrete work as manufactured by Hilti or as approved.
3. Installed in locations as approved by Project Manager.
4. Expandable lead type anchors installed in existing concrete with minimum surface damage, as manufactured by Hilti.
5. Toggle bolts, or "molly anchors", where installed in concrete block walls.
6. Complete with 3/16" or heavier steel backup plate where used to support heavy items. Through-bolts or backup plate shall be concealed from view, except as otherwise indicated.

C. Mounting of equipment that is of such size as to be freestanding and that equipment which cannot conveniently be located on walls, such as motor starters, etc., shall be rigidly supported on a framework of galvanized steel angle, Unistrut or as approved.

D. Furnish and install sleeves for the installation of Work under all sections of this Division. Sleeves through floors, roof and walls shall be as described in conduit section.

1.25 TESTS

A. Perform electrical tests as required or directed. Provide materials, labor, and equipment necessary for performances of these tests, and at completion of the Work perform a complete "in-service" operation of the entire electrical and power system to show compliance with the Drawings and Specifications. Replace Work showing faults under tests without additional cost to the Owner. Test system voltage at switchboards at completion of Work and provide a written report to the Project Manager.

1.26 EQUIPMENT LISTS AND MAINTENANCE MANUALS

A. Prior to completion of job, Contractor shall compile a complete equipment list and maintenance manual. The equipment list shall include the following items for every piece of material and equipment supplied under this section of the Specifications.

1. Name, model and manufacturer.
2. Complete parts Drawings and list.
3. Local supply for parts and replacement and telephone number.
4. All tags, inspection slips, instruction packages, etc. removed from equipment as shipped from the factory, properly identified as to the piece of equipment it was taken from.

B. Maintenance manuals shall be furnished for each applicable section of the Specifications, shall be suitably bound with hard covers, and shall include all available manufacturers'

operation and maintenance instructions, together with as-built Drawings and lists hereinbefore specified and other diagrams and instructions necessary to properly operate and maintain the equipment. The equipment lists and maintenance manuals shall be submitted in duplicate to Architect for approval not less than 10 days prior to the completion of the job. The maintenance manuals shall also include the name, address and phone number of the General Contractor and all subcontractors involved in any of the Work specified herein. The maintenance manuals shall be finally provided in four copies.

1.27 CLEANING

- A. During construction on a daily basis, and upon completion of the Work, remove from the site all debris and excess materials, tools, and removed items, resulting from this Work. Clean equipment, including lighting fixtures, free of dust, dirt, grease, paint, etc.

1.28 SALVAGE

- A. Deliver salvaged equipment and material deemed salvageable by Project Manager to location designated by Project Manager. Remove other removed material and equipment from site.

1.29 GUARANTEE

- A. Leave the entire installation in complete working order, free from defects in materials, workmanship or finish. Guarantee to repair or replace parts that may develop defects due to faulty materials, equipment, or workmanship within a period of one year after the Work is accepted by the Owner. Also guarantee to repair or replace with like materials, other existing Work in the building damaged from or during the repair of any such defective equipment, materials, or workmanship.

1.30 INSTALLERS QUALIFICATIONS

- A. Installer must have completed an indentured IBEW/NECA apprenticeship program.
- B. Foreman must be a Journeyman Wireman with at least ten years experience in the field.
- C. Submit Installer's Qualifications along with material submittal.

PART 2 - PRODUCTS AND EXECUTION

2.01 GROUNDING

- A. Grounding shall be executed in accordance with applicable codes and regulations of the State of California, California Electrical Code and local authorities having jurisdiction as well as any additional provisions specified or shown on Drawings.
- B. Grounding bushings shall be used wherever conduits are grounded. Feeder conduits to panels and air conditioners shall have grounding bushings.

- C. Grounding conductors should be located to permit, the shortest and most direct path to ground. Connections shall be readily accessible for inspection and connections shall not be permanently concealed in floors or walls.
- D. Non-current carrying metallic parts of electrical equipment and raceways shall be securely grounded to the common system ground. In all locations, ground conductors shall be run through conduits and shall be securely bonded to the conduit at the entrance and exit. The conduit for the grounding conductors shall be continuous from the point of attachment to cabinets or equipment to the grounding electrode, and shall be securely fastened to the ground clamp fittings.
- E. Ground connections to equipment shall be made with an approved type of exothermic weld or shall be bolted or clamped to equipment or conduit. Sheet metal strap types of ground clamps shall not be used. Contact surfaces shall be thoroughly cleaned and bright before connection is made so as to ensure a good metal to metal contact.
- F. Where nonmetallic conduit is used, ground shall be achieved through use of a separate, green-insulated, copper, code-size, ground conductor included in the conduit.
- G. Bonding of cold water piping system shall be achieved at the service entrance. A copper saddle shall be installed over the copper pipe at the location of the clamp to avoid damage to the pipe.

2.02 CONDUIT

A. Rigid Steel Conduit:

1. Rigid steel conduit shall have zinc coated exterior, zinc or enamel interior, standard weight, zinc coated couplings, locknuts and bushings and shall bear the U.L. label. Rigid conduit shall not be installed underground.
2. Use rigid conduit only for exposed exterior conduit runs, wherever subject to physical damage, or where specifically called for on the Drawings or required by a serving utility.
3. Intermediate metallic conduit (I.M.C.) may be used in lieu of rigid steel conduit.

B. Electrical Metallic Tubing:

1. Electrical metallic tubing (E.M.T.) shall bear the U.L. label and shall be zinc coated thinwall conduit with zinc-coated couplings and connections. "Indent" type fittings shall not be used.
2. E.M.T. may be used where rigid, flexible or non-metallic conduit is not required.
3. E.M.T. shall be used for interior dry locations. EMT shall be used where no specified conduit type is called for on the Drawings.

C. Flexible Metallic Conduit:

1. Flexible metallic conduit shall be galvanized steel and bear the U.L. label. Fittings for flexible conduit shall be squeeze type. Screw-in connectors and other connectors that decrease the interior diameter of the conduit shall not be used unless specifically approved by the Project Manager.
2. Liquid-tight flexible conduit shall bear the U.L. label and be plastic jacketed moisture and oil resistant with oil and vapor tight connectors.
3. Use flexible conduit for final connection to equipment where vibration may injure direct conduit connection. It may be used for indoor dry locations, for fixture whips not to exceed 72 inches and in other locations where structural conditions will not permit the use of EMT not to exceed six feet, only if approved by the Project Manager.
4. Use liquid-tight flexible conduit in lieu of flexible conduit for wet, damp, or outdoor areas or where weatherproof flexible conduit is called for on the Drawings or by code.

D. Plastic Conduit: Plastic conduit shall not be used on this project.

E. Installation of Conduit:

1. Provide secure mounting facilities for conduits. Wire or plumbers tape shall not be used for hanging conduit. Strap shall be factory made of the one hole malleable iron or two hole galvanized clamp type.
2. Provide expansion couplings wherever conduits cross expansion joints.
3. Run conduit at right angles or parallel to structural members, walls, floors and ceilings. Where several conduits are run together or suspended, they shall be hung on Unistrut trapezes with minimum 3/8-inch rod hangers.
4. Cut ends of conduit square and ream to remove burrs or sharp edges. Terminate conduits properly with bushings, locknuts, etc. Terminate one (1) inch and larger conduits with insulated bushings.
5. Render conduits projecting through the roofing watertight by proper flashings. Securely fasten a sheet metal cap and tighten bank or storm collar to the conduits. Extend flashing a minimum of six (6) inches in all directions. Coordinate and install roof flashing for conduits to the satisfaction of the Project Manager.
6. All conduit runs shall have a code size insulated grounding conductor.
7. Pull wires shall be installed in empty conduits including telephone conduits and stub-outs, No. 12 AWG, type "THWN" insulated copper wire or 1/8-inch polyethylene rope shall be used.
8. Flexible conduit connections shall comply with NEC Section 350-22.

9. Seal conduits penetrating exterior walls.

2.03 OUTLET, JUNCTION AND PULL BOXES

- A. Outlet boxes and junction boxes shall be galvanized one-piece pressed steel, knockout type. The size of each box shall be determined by the number of wires or conduits or size of conduits entering the box, but shall not be less than 4" square and 1-1/2" deep unless otherwise noted. All boxes shall be UL listed.
- B. Locknuts shall be used on both sides of conduit connections to box or panel, in addition to bushing. Where a larger size opening occurs than size of conduit, use reducing washers.
- C. Exposed boxes shall be weatherproof, threaded or hub conduit with gasketed conduit cover suitable for device installed or with blank cover plate when conduit is used as a junction box. Conduit wire fill capacity shall not be exceeded.
- D. Large size junction or pull boxes shall be fabricated from code gauge sheet steel. Where located indoors, finish shall be gray enamel and covers shall be secured with screws. Where exposed to weather, they shall be weatherproof, NEMA 3R, and rain-tight and hot-dip galvanized after fabrication; also, they shall have weatherproof gaskets, flat covers and galvanized iron screws. Provide knockouts and/or threaded hubs as required for the conduit used. Boxes in finished areas shall be prime painted.
- E. Any unused, removed knockouts shall be filled with a K.O. cover.
- F. Provide bonding or grounding from metal conduit terminating in J.B.S. with concentric KO's.

2.04 PLATES AND DEVICE COVERS

- A. Plates for switches and receptacles, shall be weatherproof "while-in-use", Hubbell 302/304 alloy or P & S "S" line, unless otherwise noted. Plates shall be engraved per Drawings or as covered under the Article of this Specification titled MARKING.

2.05 RECEPTACLES

- A. Duplex convenience outlets shall be specification grade, backwire, three wire, NEMA #5-20R, self-grounding type, 20 ampere, 125 volt parallel slots, polarized, in white. Additional receptacles shall be as indicated on the Drawings. Receptacles shall be Hubbell #5253W.
- B. Receptacles indicated weatherproof shall have lift cover plates that are weatherproof "while in use" Taymac Corp. or equal.
- C. Ground fault current interrupter outlets shall be self-testing, Hubbell # GFR5352WST.

2.06 LIGHTING SWITCHES

- A. Line voltage lighting switches shall be specification grade, quiet type, 20 amp, 120/277 volt A.C. white handled, unless otherwise noted. Switches shall be Hubbell #CS1221W.

2.07 WIRE AND CABLE

A. 600 Volt Conductors:

1. Conductors shall be copper and delivered to the site in their original, unbroken packages plainly marked or tagged with U.L. label, size, kind, insulation, name of manufacturer and trade name of the wire.
2. Type "THWN", 600 volt insulation for damp or wet locations or on boilers and furnaces and their controls.
3. Type "THHN" 600 volt insulation shall be used in other locations unless noted.
4. Minimum size conductor shall be #12.
5. Conductors shall be stranded.
6. Ground conductors shall be bare copper or have green insulation.

B. Installation:

1. Conductors shall be continuous between outlets or junction boxes and no splices shall be made except in outlet boxes, pull boxes, panelboard gutters or handholes.
2. Joints, splices and taps No. 10 or smaller (including fixture pigtails) shall be connected with "floating spring" type connectors. No. 8 and larger shall be connected with solderless connectors of 100% electrolytic copper. Split-bolt connectors are not acceptable.
3. Tighten pressure type lugs on panels and equipment, and then retighten 24 hours or more later after energizing. Provide written report of torque values on lugs.
4. Oil or grease shall not be used when pulling conductors. Use U.L. approved cable lubrication only.
5. Lace or train conductors neatly in panels, cabinets and equipment. Use plastic wire ties to route conductors at edge of enclosure away from overcurrent devices.
6. Branch circuits shall be color coded in compliance with Section 210-5 of the California Electrical Code. Colored tape is not acceptable.
7. All wiring, both line and low voltage, shall be installed in conduit unless otherwise noted.

C. Tag:

1. Branch circuits shall be left tagged with circuit numbers in gutters and junction boxes where unused circuits terminate.
2. Feeder conductors shall be tagged as phase "A" or "B" or "C".
3. The method of tagging shall be with adhesive preprinted tape numbered or lettered wrap around tags. Colored tape is not acceptable.
4. Tagging shall be applied after wire is installed in conduit.
5. Feeders in panel or equipment shall be tagged by phase letter in each panel or equipment.
6. Where it is impractical to use printed markers on certain wires or cables, use blank tape with identification marked thereon with indelible pencil.

D. Color Coding for Phase Identification: Color code secondary service, feeder, and branch circuit conductors with factory applied color as follows:

<u>208y/120Volts</u>	<u>Phase</u>	<u>480y/277Volts</u>
Black	A	Yellow
Red	B	Brown
Blue	C	Orange
White	Neutral	Gray
Green	Ground	Green

2.08 DISCONNECT SWITCHES

- A. Non-fusible or fusible as shown on the Drawings, heavy duty, 250 or 600 volts as required, NEMA Type 1 enclosure, except where WP is indicated or required by code, use NEMA Type 3R enclosure.

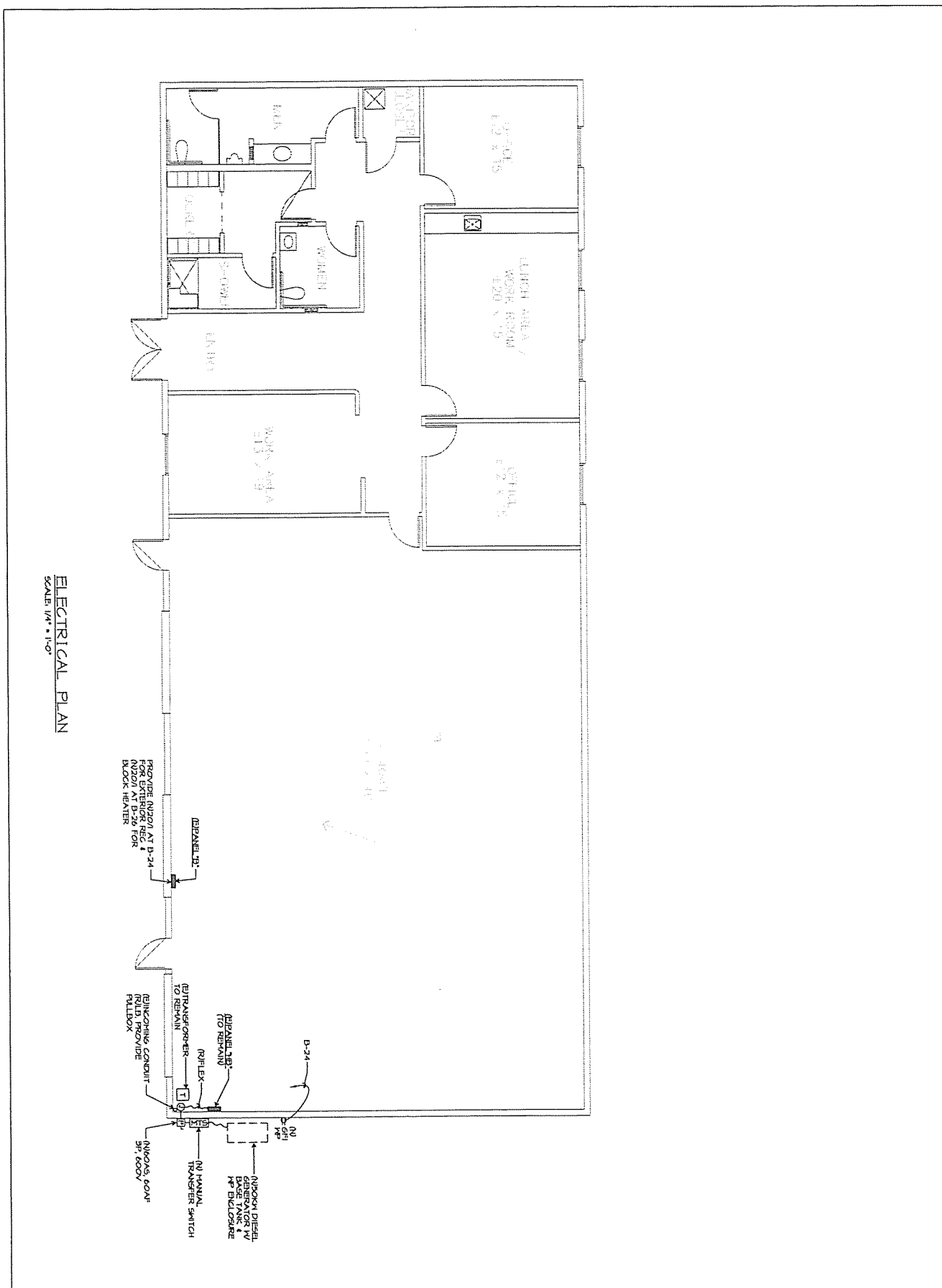
2.09 LIGHTING FIXTURES

- A. Lighting fixtures shall be of manufacture and type as specified in the Fixture Schedule, and shall have all parts and fittings necessary to completely and properly install the fixture. Fixtures of the same type shall be of one manufacturer and of identical finish and material.
- B. Lighting fixtures shall bear Underwriter's Laboratories labels.
- C. Fixtures shall be furnished and installed as indicated on the Drawings, including hangers, glassware, auxiliary equipment, sockets, lamps, connectors for continuous installation, etc.
- D. Each fixture shall be wired with conductors suitable for the voltage, current and temperature to which the conductors will be subjected.

- E. If excessive ballast hum develops within 12 months after installation, the condition shall be corrected at no charge to the Owner. Flickering of the lamps or blacking of the lamp ends within 12 months shall also be corrected at no charge to the Owner.
- F. Proper lamps of type, size, color temperature and wattage indicated shall be furnished and installed in each fixture and shall be manufactured by General Electric, Phillips, Sylvania, or Venture. The Contractor shall replace lamps which have been burned out prior to final completion. Clean dust, dirt, fingerprints and grease from fixtures before final completion.

END OF SECTION

PLANS



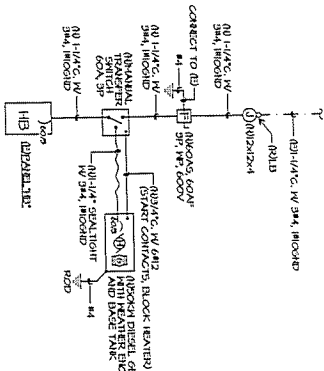
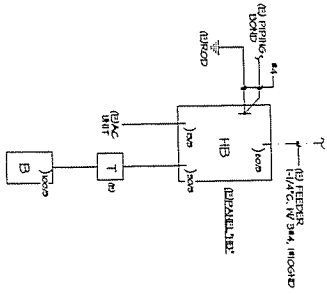
ELECTRICAL PLAN
SCALE: 1/4" = 1'-0"

<p>E-2</p> <p>DATE: 01/26/2009</p> <p>DRAWN BY: MJS</p> <p>CHECKED BY: MJS</p>	<p>ELECTRICAL PLAN</p>	<p>PUBLIC WORKS BUILDING</p> <p>STANDBY GENERATOR INSTALLATION</p> <p>6735 HOLLISTER AVE.</p> <p>GOLETA, CA.</p>		<p>MPPE</p> <p>MARSHALL PARTNERSHIP PROFESSIONAL ENGINEERS</p> <p>10000 MARSHALL AVENUE, SUITE 200</p> <p>ROCKY HILL, CT 06067</p> <p>TEL: 860.339.0226</p> <p>FAX: 860.339.0227</p> <p>WWW.MARSHALLPARTNERSHIP.COM</p>	<p>CITY OF GOLETA</p>	<p>REVISIONS</p> <p>1</p>

(E) SINGLE LINE DIAGRAM

(N) SINGLE LINE DIAGRAM

SCALE: NONE



GENERAL NOTES

1. VERIFY ALL GIVE AND VERIFY BEFORE COMMENCEMENT WORK TO BE.
2. THE ELECTRICAL WORK SHALL BE INSTALLED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE AND ALL APPLICABLE LOCAL AND STATE CODES. THE FOLLOWING SHALL APPLY.
3. CONDUIT SHALL BE INSTALLED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE AND ALL APPLICABLE LOCAL AND STATE CODES. ALL ELECTRICAL, MECHANICAL, AND PLUMBING SHALL BE INSTALLED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE AND ALL APPLICABLE LOCAL AND STATE CODES.
4. ALL ELECTRICAL, MECHANICAL, AND PLUMBING SHALL BE INSTALLED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE AND ALL APPLICABLE LOCAL AND STATE CODES.
5. ALL ELECTRICAL, MECHANICAL, AND PLUMBING SHALL BE INSTALLED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE AND ALL APPLICABLE LOCAL AND STATE CODES.
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SYMBOLS

	GENERATOR
	BUS
	TRANSFORMER
	CIRCUIT BREAKER
	LOAD
	GROUND
	CONDUIT
	CABLE
	RACEWAY
	TRAY
	DUCT
	PIPE
	VALVE
	FLANGE
	GASKET
	NUT/BOLT
	WELD
	HOLE
	SLOT
	CHAMFER
	FILLET
	BREAK

GENERAL NOTES, SYMBOLS, SCHEDULES & DETAILS

SCALE: NONE
 SHEET NO. 002216
 DATE: 11/15/15
 E-1

PUBLIC WORKS BUILDING
 STANDBY GENERATOR INSTALLATION
 6735 HOLLISTER AVE.
 GOLETA, CA.



CITY OF GOLETA
 RECORDS BY

ATTACHMENT 2

Construction Contract

**CONSTRUCTION CONTRACT
FOR
STANDBY GENERATOR INSTALLATION PROJECT FOR GOLETA CITY YARD**

This contract ("Contract") is made and entered into for the above stated project this 16th day of September, 2008, by and between the City of Goleta ("City") and Imperial Electric Company, Inc., ("Contractor").

1. Contract Documents.

"Contract Documents" means the Notice Inviting Sealed Bids; Bidding Instructions; Supplementary Instructions to Bidders; Bid Proposal; this Contract; Standard Specifications; Supplementary Conditions; Exhibits; Technical Specifications; List of Drawings; Drawings; Addenda; Notice to Proceed; Change Orders; Notice of Completion; and all other documents identified in the Contract Documents which together form the contract between the City and the Contractor for the Work.

2. Work.

For and in consideration of the payments and agreements to be made and performed by City, Contractor agrees to furnish all materials and perform all work required for the Project, and to fulfill all other obligations as set forth in the Contract Documents ("Work").

3. Contract Amount.

The City agrees to pay the Contractor a sum not to exceed Thirty-Three Thousand Six Hundred Sixty and no/100 dollars (\$33,660.00) for the Work in the manner set forth in the Contract Documents. The City may adjust this amount as set forth in the Contract Documents.

4. Time for Performance.

- 4.1 The Contractor will fully complete the Work within Thirty (30) working days (the "Contract Time").
- 4.2 The Contract Time will commence when the City issues a notice to proceed. The Contract Documents will supersede any conflicting provisions included on the notice to proceed issued pursuant to this Contract.
- 4.3 The Contractor shall not perform any Work until:
 - i. The Contractor furnishes proof of insurance as required by the Contract Documents; and
 - ii. The City gives the Contractor a notice to proceed.

- 4.4 By signing this Contract, the Contractor represents to the City that the Contract Time is reasonable for completion of the Work and that the Contractor will complete the Work within the Contract Time.
- 4.5 Should the Contractor begin the Work before receiving written authorization to proceed, any such Work is at the Contractor's own cost and risk.

5. Labor Practices.

- 5.1 Contractor acknowledges that this Contract is subject to the provisions of Division 2, Part 7, Chapter 1 (commencing the Section 1720) of the California Labor Code relating to Community Services and public agencies and agrees to be bound by all the provisions thereof as though set forth in full herein. The California prevailing rates of per diem wages are on file in the office of the City Clerk.
- 5.2 Contractor agrees to comply with the provisions of California Labor Code Sections 1774 and 1775 concerning the payment of prevailing rates of wages to workers and the penalties for failure to pay prevailing wages. Contractor shall, as a penalty to the City, forfeit not more than fifty dollars (\$50) for each calendar day, or portion thereof, for each worker paid less than the prevailing rates as determined by the Director of Industrial Relations for the work or craft in which the worker is employed for any public work done under the Contract by Contractor or by any Subcontractor.
- 5.3 Contractor agrees to comply with the provisions of California Labor Code Section 1777.5 concerning the employment of apprentices on Community Services projects, and further agrees that Contractor is responsible for compliance with Section 1777.5 by all of its Subcontractors.
- 5.4 Contractor agrees to comply with the provisions of California Labor Code Section 1813 concerning penalties for workers who work excess hours. Except as provided by Labor Code Section 1815, the Contractor shall, as a penalty to the City, forfeit twenty-five dollars (\$25) for each worker employed in the execution of the Contract by the Contractor or by any Subcontractor for each calendar day during which such worker is required or permitted to work more than 8 hours in any one calendar day and 40 hours in any one calendar week in violation of the provisions of Division 2, Part 7, Chapter 1, Article 3 (commencing at Section 1810) of the California Labor Code.
- 5.5 In accordance with California Labor Code Sections 1860 and 3700, every contractor is required to secure the payment of compensation to its employees. In accordance with the provisions of California Labor Code Section 1861, Contractor, by signing this Contract, certifies that Contractor is aware of the provisions of Section 3700 of the Labor Code which require every employer to be insured against liability for workers' compensation or to undertake self-insurance

in accordance with the provisions of that code, and will comply with such provisions before commencing the performance of the work of this Contract.

- 5.6 Contractor agrees to comply with the provisions of California Labor Code Section 1776 concerning the creation, retention, and inspection of payroll records, and further agrees to be responsible for compliance with Section 1776 by all of its Subcontractors.

6. Insurance.

- 6.1 Insurance Requirements. CONTRACTOR shall provide and maintain insurance, acceptable to the City Manager or City Counsel, in full force and effect throughout the term of this AGREEMENT, against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work hereunder by CONTRACTOR, its agents, representatives or employees. Insurance is to be placed with insurers with a current A.M. Best's rating of no less than A:VII. CONTRACTOR shall provide the following scope and limits of insurance:

- A. Minimum Scope of Insurance. Coverage shall be at least as broad as:
- (1) Insurance Services Office form Commercial General Liability coverage (Occurrence Form CG 0001).
 - (2) Insurance Services Office form number CA 0001 (Ed. 1/87) covering Automobile Liability, including code 1 "any auto" and endorsement CA 0025, or equivalent forms subject to the written approval of the City.
 - (3) Workers' Compensation insurance as required by the Labor Code of State of California and Employer's Liability insurance and covering all persons providing services on behalf of the CONTRACTOR and all risks to such persons under this AGREEMENT.
- B. Minimum Limits of Insurance. CONTRACTOR shall maintain limits of insurance no less than:
- (1) General Liability: \$1,000,000 general aggregate for bodily injury, personal injury and property damage.
 - (2) Automobile Liability: \$1,000,000 per accident for bodily injury and property damage.
 - (3) Workers' Compensation and Employer's Liability: Workers' Compensation as required by the Labor Code of the State of California and Employers Liability limits of \$1,000,000 per accident.

6.2 Other Provisions. Insurance policies required by this AGREEMENT shall contain the following provisions:

- A. All Policies. Each insurance policy required by this paragraph shall be endorsed and state the coverage shall not be suspended, voided, cancelled by the insurer or either party to this AGREEMENT, reduced in coverage or in limits except after 30 days' prior written notice by Certified mail, return receipt requested, has been given to City's Risk Manager.
- B. General Liability and Automobile Liability Coverages.
 - (1) CITY, and its respective elected and appointed officers, officials, and employees and volunteers are to be covered as additional insureds as respects: liability arising out of activities CONTRACTOR performs; products and completed operations of CONTRACTOR; premises owned, occupied or used by CONTRACTOR; or automobiles owned, leased, hired or borrowed by CONTRACTOR. The coverage shall contain no special limitations on the scope of protection afforded to CITY, and their respective elected and appointed officers, officials, or employees.
 - (2) CONTRACTOR's insurance coverage shall be primary insurance with respect to CITY, and its respective elected and appointed, its officers, officials, employees and volunteers. Any insurance or self insurance maintained by CITY, and its respective elected and appointed officers, officials, employees or volunteers, shall apply in excess of, and not contribute with, CONTRACTOR's insurance.
 - (3) CONTRACTOR's insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability.
 - (4) Any failure to comply with the reporting or other provisions of the policies including breaches of warranties shall not affect coverage provided to CITY, and its respective elected and appointed officers, officials, employees or volunteers.
- C. Workers' Compensation and Employer's Liability Coverage. Unless the City Manager otherwise agrees in writing, the insurer shall agree to waive all rights of subrogation against CITY, and its respective elected and appointed officers, officials, employees and agents for losses arising from work performed by CONTRACTOR.

6.3 Other Requirements. CONTRACTOR agrees to deposit with CITY, at or before the effective date of this contract, certificates of insurance necessary to satisfy CITY that the insurance provisions of this contract have been complied with. The City Attorney may require that CONTRACTOR furnish CITY with copies of original endorsements effecting coverage required by this Section. The

certificates and endorsements are to be signed by a person authorized by that insurer to bind coverage on its behalf. CITY reserves the right to inspect complete, certified copies of all required insurance policies, at any time.

- A. Any deductibles or self-insured retentions must be declared to and approved by CITY. At the option of CITY, either the insurer shall reduce or eliminate such deductibles or self-insured retentions as respects CITY or its respective elected or appointed officers, officials, employees and volunteers or the CONTRACTOR shall procure a bond guaranteeing payment of losses and related investigations, claim administration, defense expenses and claims.
- B. The procuring of such required policy or policies of insurance shall not be construed to limit CONTRACTOR's liability hereunder nor to fulfill the indemnification provisions and requirements of this AGREEMENT.

7. Independent Contractor.

Contractor is and shall at all times remain as to the City, a wholly independent contractor. Neither the City nor any of its agents shall have control of the conduct of Contractor or any of the Contractor's employees, except as herein set forth. Contractor shall not at any time or in any manner represent that it or any of its agents or employees are in any manner agents or employees of City.

8. Taxes.

The Contractor is responsible for paying all retail, sales and use, transportation, export, import, special, or other taxes and duties applicable to, and assessable against any work, materials, equipment, services, processes and operations incidental to or involved in this Contract. The Contractor is responsible for ascertaining and arranging to pay them. The prices established in this Contract shall include compensation for any taxes the Contractor is required to pay by laws and regulations in effect on the bid opening date.

9. Notices.

All notices and communications shall be sent to the parties at the following address:

CITY: Daniel Singer, City Manager
City of Goleta
130 Cremona Drive, Suite B
Goleta, CA 93117
(805) 961-7500

CONTRACTOR: Michael Breyman
Imperial Electric Co.
6445 Calle Real
Goleta, CA 93117-1542
(510) 441-9981

10. Ownership of Documents.

All documents, data, studies, drawings, maps, models, photographs and reports prepared by the Contractor under the Contract Documents are the City's property. The Contractor may retain copies of such documents and materials as desired, but will deliver all original materials to the City upon the City's written notice.

11. Audit of Records.

The Contractor will maintain full and accurate records with respect to all services and matters covered under this Contract. The City will have free access at all reasonable times to such records, and the right to examine and audit the same and to make transcript therefrom, and to inspect all program data, documents, proceedings and activities. The Contractor will retain such financial and program service records for at least three (3) years after termination or final payment under the Contract Documents.

12. Indemnification.

Contractor agrees to defend, indemnify and hold harmless City and all of its officers, employees and agents from any liability, financial loss, claims, demands, or causes of action, including but not limited to related expenses, attorney's fees and costs, based on, arising out of, or in any way related to the work undertaken by Contractor or any person employed by Contractor or its agents. Nothing in this section shall narrow the indemnification provisions contained in the City's Standard Specifications.

13. Assignment.

This Contract is not assignable nor the performance of either party's duties delegable without the prior written consent of the other party. Any attempted or purported assignment or delegation of any or the rights of obligations of either party without the prior written consent of the other shall be void and of no force and effect.

14. Integration.

This Contract supersedes any and all other agreements either oral or written, between the parties and contains all of the covenants and agreements between the parties pertaining to the work of improvements described herein. Each party to this Contract acknowledges that no representations, inducements, promises or agreements, orally or otherwise, have been made by any party, or anyone acting on behalf of any party, which are not embodied herein, and that any other agreement, statements or promise not contained in this Contract shall not be valid or binding.

15. Authority/Modification.

The parties represent and warrant that all necessary action has been taken by the parties to authorize the undersigned to execute this Contract and to engage in the actions described herein. This Contract may be modified by written amendment. The City's city manager, or designee, may execute any such amendment on the City's behalf.

16. Interpretation.

This Contract was drafted in, and will be construed in accordance with the laws of the State of California, and exclusive venue for any action involving this Contract will be in Santa Barbara County.

17. Severability.

If any portion of the Contract Documents are declared by a court of competent jurisdiction to be invalid or unenforceable, then such portion will be deemed modified to the extent necessary in the opinion of the court to render such portion enforceable and, as so modified, such portion and the balance of this Contract will continue in full force and effect.

18. Captions.

The captions of the sections of this Contract are for convenience of reference only and will not affect the interpretation of this Contract.

Continued on next page...

19. Time of Essence.

Time is of the essence for each and every provision of the Contract Documents.

IN WITNESS WHEREOF the parties hereto for themselves, their heirs, executors, administrators, successors, and assigns do hereby agree to the full performance of the covenants herein contained and have caused this Contract to be executed in duplicate by setting hereunto their names, titles, hands, and seals this 16th day of September, 2008.

CONTRACTOR:

By: _____	By: _____
Name: _____	Name: _____
Title: _____	Title: _____

Contractor's License No. _____

Note: Signature must be acknowledged before a notary public. Attach appropriate acknowledgment.

CITY:

_____	_____
Daniel Singer, City Manager	Date

ATTESTED:

_____	_____
Deborah Constantino, City Clerk	Date

APPROVED AS TO FORM:

_____	_____
Tim W. Giles, City Attorney	Date

(EXECUTED IN DUPLICATE)