City

Mr. Jeffrey A. Hinds, President
Ace Electric, Inc.
6061 Fairmount Avenue
San Diego, CA 92120
P. 619-521-9740 F. 619-521-9742

CONTRACTOR'S NAME:
ADDRESS:
TELEPHONE NO.:
CITY CONTACT: Claudia Abarca, Contract Specialist, Email: Cabarca@sandiego.gov
Phone No. 619-533-3439, Fax No. 619-533-3633
ACorsi/BDoringo/egz

COPY

CONTRACT DOCUMENTS

FOR

SAN YSIDRO ATHLETIC AREA/LARSEN FIELD LIGHTING

VOLUME 1 OF 2

BID NO.: K-14-5831-DBB-3
SAP NO. (WBS/IO/CC): S-11013
CLIENT DEPARTMENT: 1714
COUNCIL DISTRICT: 8
PROJECT TYPE: GA

THIS CONTRACT IS SUBJECT TO THE FOLLOWING:

- THE CITY'S SUBCONTRACTING PARTICIPATION REQUIREMENTS FOR SLBE PROGRAM.
- BID DISCOUNT PROGRAM (The WHITEBOOK, SLBE-ELBE Program Requirements, Section IV(2))
- PREVAILING WAGE RATES APPLY: STATE ☒ FEDERAL ☐

BID DUE DATE:

2:00 PM
JANUARY 16, 2014
CITY OF SAN DIEGO
PUBLIC WORKS CONTRACTING GROUP
1010 SECOND AVENUE, 14TH FLOOR, MS 614C
SAN DIEGO, CA 92101

ENGINEER OF WORK

The engineering Specifications and Special Provisions contained herein have been prepared by or under the direction of the following Registered Architect:

Alison M. Whitelaw 11/26/13

1) Registered Architect Date

Seal:

Sam M 11/26/13

2) For City Engineer Date

Seal:

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DESCRIPTION **PAGE NUMBER**

CITY OF SAN DIEGO, CALIFORNIA

NOTICE INVITING BIDS

1. **RECEIPT AND OPENING OF BIDS:** Bids will be received at the Public Works Contracting Group at the location, time, and date shown on the cover of these specifications for performing work on **San Ysidro Athletic Area/Larsen Field Lighting** (Project).

2. **SUMMARY OF WORK:** The Work involves furnishing all labor, materials, equipment, services, and other incidental works and appurtenances for the construction of the Project as described in ATTACHMENT A.

3. **BIDS ARE PUBLIC RECORDS:** Upon receipt by the City, Bids shall become public records subject to public disclosure. It is the responsibility of the respondent to clearly identify any confidential, proprietary, trade secret or otherwise legally privileged information contained within the Bid. General references to sections of the California Public Records Act (PRA) will not suffice. If the Contractor does not provide applicable case law that clearly establishes that the requested information is exempt from the disclosure requirements of the PRA, the City shall be free to release the information when required in accordance with the PRA, pursuant to any other applicable law, or by order of any court or government agency, and the Contractor will hold the City harmless for release of this information.

4. **EQUAL OPPORTUNITY CONTRACTING PROGRAM.**

4.1. The City has incorporated **mandatory** SLBE-ELBE subcontractor participation percentages to enhance competition and maximize subcontracting opportunities. For the purpose of achieving the mandatory subcontractor participation percentages, a recommended breakdown of the SLBE and ELBE subcontractor participation percentages based upon certified SLBE and ELBE firms has also been provided to achieve the mandatory subcontractor participation percentages:

1.	SLBE participation	**2.3%**
2.	ELBE participation	**7.2%**
3.	Total mandatory participation	**9.5%**

4.2. The Bidders are strongly encouraged to attend the Pre-Bid Meeting to better understand the Good Faith Effort requirements of this contract. See the City's document titled "SLBE Program, Instructions For Bidders Completing The Good Faith Effort Submittal" available at: http://www.sandiego.gov/eoc/

4.3. The Bid will be declared non-responsive if the Bidder fails the following mandatory conditions:

4.3.1. Bidder's inclusion of SLBE-ELBE certified subcontractors at the overall mandatory participation percentage identified in this document; OR.

4.3.2. Bidder's submission of Good Faith Effort documentation demonstrating the Bidder made a good faith effort to outreach to and include SLBE-ELBE Subcontractors required in this document within **3 Working Days** of the Bid opening if the overall mandatory participation percentage is not met.

5. PRE-BID MEETING:

5.1. There will be a Pre-Bid Meeting to discuss the scope of the Project, bidding requirements, prequalification program, and Equal Opportunity Contracting Program requirements and reporting procedures in the Public Works Contracting Group, Conference Room at 1010 Second Avenue, 14th Floor, San Diego, CA 92101 **at 10:00 AM, on DECEMBER 18, 2013.**

5.2. All potential bidders are encouraged to attend.

5.3. To request a copy of the agenda on an alternative format, or to request a sign language or oral interpreter for this meeting, call the Public Works Contracting Group at (619) 533-3450 at least 5 Working Days prior to the Pre-Bid Meeting to ensure availability.

6. CONTRACTOR REGISTRATION AND ELECTRONIC REPORTING SYSTEM:

6.1. **Prior** to the Award of the Contract or each Task Order, you and your Subcontractors and Suppliers **must** register with Prism®, the City's web-based contract compliance portal at:

https://pro.prismcompliance.com/default.aspx.

6.2. The City may not award the contract until registration of all subcontractors and suppliers is complete. In the event this requirement is not met within the time frame specified in the Notice of Intent to Award letter, the City reserves the right to rescind the Notice of Award / Intent to Award and to make the award to the next responsive and responsible bidder / proposer.

7. JOINT VENTURE CONTRACTORS. Provide a copy of the Joint Venture agreement and the Joint Venture license to the City within 10 Working Days after receiving the Contract forms. See 2-1.1.2, "Joint Venture Contractors" in The WHITEBOOK for details.

8. PREVAILING WAGE RATES: Prevailing wage rates apply to this contract.

8.1. STATE REQUIREMENTS FOR CONTRACTS SUBJECT TO STATE PREVAILING WAGE REQUIREMENTS.

8.1.1. In accordance with the provisions of California Labor Code Sections 1770, et seq. as amended, the Director of the Department of Industrial Relations has determined the general prevailing rate of per diem wages in accordance with the standards set forth in such Sections for the locality in which the Work is to be performed. Copies of the prevailing rate of per diem wages may be found at http://www.dir.ca.gov/dlsr/statistics_research.html. The Contractor shall post a copy of the above determination of the prevailing rate of per diem wages at each job site and shall make them available to any interested party on request.

8.1.2. Pursuant to Sections 1720 et seq., and 1770 et seq., of the California Labor Code the Contractor any Subcontractor shall pay not less than said specified rates determined by the Director of the California Department of Industrial Relations to all workmen employed by them in the execution of the Work.

8.1.3. The wage rates determined by the Director of Industrial Relations and published in the Department of Transportation publication entitled, "General Prevailing Wage Rates", refer to expiration dates. If the published wage rate does not refer to a predetermined wage rate to be paid after the expiration date, said published rate of wage shall be in effect for the life of this contract. If the published wage rate refers to a predetermined wage rate to become effective upon expiration of the published wage rate and the predetermined wage rate is on file with the Department of Industrial Relations, such predetermined wage rate shall become effective on the date following the expiration date and shall apply to this contract in the same manner as if it had been published in said publication. If the predetermined wage rate refers to one or more additional expiration dates with additional predetermined wage rates, which expiration dates occur during the life of this contract, each successive predetermined wage rate shall apply to this contract on the date following the expiration date of the previous wage rate. If the last of such predetermined wage rates expires during the life of this contract, such wage rate shall apply to the balance of the contract.

8.1.4. The successful bidder intending to use a craft or classification not shown on the prevailing rate determinations may be required to pay the rate of the craft or classification most closely related to it.

9. INSURANCE REQUIREMENTS:

9.1. All certificates of insurance and endorsements required by the contract are to be provided upon issuance of the City's Notice of Intent to Award letter.

9.2. Refer to sections 7-3, "LIABILITY INSURANCE", and 7-4, "WORKERS' COMPENSATION INSURANCE" of the Supplementary Special Provisions (SSP) for the insurance requirements which must be met.

10. PREQUALIFICATION OF CONTRACTORS:

10.1. Contractors submitting Bid or Proposal must be pre-qualified for the total amount proposed, inclusive of all alternate items or specified Task Order limits prior to the date of submittal. Bids from contractors who have not been pre-qualified as applicable and Bids that exceed the maximum dollar amount at which contractors are pre-qualified, will be deemed **non-responsive** and ineligible for award or a Task Order authorization. Complete information and prequalification questionnaires are available at:

http://www.sandiego.gov/cip/bidopps/prequalification.shtml

10.2. The completed questionnaire, financial statement, and bond letter or a copy of the contractor's SLBE-ELBE certification and bond letter, must be submitted no later than 2 weeks prior to the bid opening to the Public Works Contracting Group, 1010 Second Avenue, 14th Floor, San Diego, CA 92101. For additional information or the answer to questions about the prequalification program, contact David Stucky at 619-533-3474 or dstucky@sandiego.gov.

11. REFERENCE STANDARDS: Except as otherwise noted or specified, the Work shall be completed in accordance with the following standards:

Title	Edition	Document Number
Standard Specifications for Public Works Construction ("The GREENBOOK")	2012	PITS070112-01
City of San Diego Standard Specifications for Public Works Construction ("The WHITEBOOK")*	2012	PITS070112-02
City of San Diego Standard Drawings*	2012	PITS070112-03
Caltrans Standard Specifications	2010	PITS070112-04
Caltrans Standard Plans	2010	PITS070112-05
California MUTCD	2012	PITS070112-06
City Standard Drawings - Updates Approved For Use*	Varies	Varies
Standard Federal Equal Employment Opportunity Construction Contract Specifications and the Equal Opportunity Clause Dated 09-11-84	1984	769023
NOTE: *Available online under Engineering Documents and References at: http://www.sandiego.gov/publicworks/edocref/index.shtml		

12. CITY'S RESPONSES AND ADDENDA: The City at its option, may respond to any or all questions submitted in writing, via letter, or FAX in the form of an addendum. No oral comment shall be of any force or effect with respect to this solicitation. The changes to the Contract Documents through addendum are made effective as though originally issued with the Bid. The Bidders shall acknowledge the receipt of Addenda on the form provided for this purpose in the Bid.

13. CITY'S RIGHTS RESERVED: The City reserves the right to cancel the Notice Inviting Bids at any time, and further reserves the right to reject submitted Bids, without giving any reason for such action, at its sole discretion and without liability. Costs incurred by the Bidder(s) as a result of preparing Bids under the Notice Inviting Bids shall be the sole responsibility of each bidder. The Notice Inviting Bids creates or imposes no obligation upon the City to enter a contract.

14. CONTRACT PRICING FORMAT: This solicitation is for a Lump Sum contract with Unit Price provisions as set forth in the Bid Proposal Form(s), Volume 2.

15. SUBMITTAL OF "OR EQUAL" ITEMS: See Section 4-1.6, "Trade Names or Equals" in The WHITEBOOK and as amended in the SSP.

16. AWARD PROCESS:

16.1. The Award of this contract is contingent upon the Contractor's compliance with all conditions precedent to Award.

16.2. Upon acceptance of a Bid, the City will prepare contract documents for execution within approximately 21 days of the date of the Bid opening and award the Contract approximately within 7 days of receipt of properly executed Contract, bonds, and insurance documents.

16.3. This contract will be deemed executed, and effective, only upon the signing of the Contract by the Mayor or designee of the City.

17. SUBCONTRACT LIMITATIONS: The Bidder's attention is directed to Standard Specifications for Public Works Construction, Section 2-3, "SUBCONTRACTS" in The GREENBOOK and as amended in the SSP which requires the Contractor to self perform the amount therein stipulated. Failure to comply with these requirements may render the Bid **non-responsive** and ineligible for award.

18. AVAILABILITY OF PLANS AND SPECIFICATIONS: Contract Documents may be obtained by visiting the City's website: http://www.sandiego.gov/cip/. Plans and Specifications for this contract are also available for review in the office of the City Clerk or Public Works Contracting Group.

19. SUBMISSION OF QUESTIONS:

19.1. The Director (or designee), of the Public Works Department is the officer responsible for opening, examining, and evaluating the competitive Bids submitted to the City for the acquisition, construction and completion of any public improvement except when otherwise set forth in these documents. All questions related to this solicitation shall be submitted to:

Public Works Contracting Group
1010 Second Avenue, 14th Floor
San Diego, California, 92101
Attention: [Contract Specialist listed on the front cover hereof]

OR:

Email address of the Contract Specialist listed on the front cover hereof.

19.2. Questions received less than 14 days prior to the date for opening of Bids may not be considered.

19.3. Clarifications deemed by the City to be material shall be issued by Addenda and uploaded to the City's online bidding service.

19.4. Only questions answered by formal written addenda will be binding. Oral and other interpretations or clarifications will be without legal effect. It is the Bidder's responsibility to become informed of any Addenda that have been issued and to include all such information in its Bid.

20. ELIGIBLE BIDDERS: No person, firm, or corporation shall be allowed to make, file, or be interested in **more** than one (1) Bid for the same work unless alternate Bids are called for. A person, firm or corporation who has submitted a sub-proposal to a Bidder, or who has quoted prices on materials to a Bidder, is not hereby disqualified from submitting a sub-proposal or quoting prices to other Bidders or from submitting a Bid in its own behalf. Any Bidder who submits more than one bid will result in the rejection of all bids submitted.

21. SAN DIEGO BUSINESS TAX CERTIFICATE: The Contractor and Subcontractors, not already having a City of San Diego Business Tax Certificate for the work contemplated shall secure the appropriate certificate from the City Treasurer, Civic Center Plaza, first floor and

submit to the Contract Specialist upon request or as specified in the Contract Documents. Tax Identification numbers for both the Bidder and the listed Subcontractors must be submitted on the City provided forms with the Notice Inviting Bids and Contract forms.

22. PROPOSAL FORMS: Bid shall be made only upon the Bidding Documents i.e., Proposal form attached to and forming a part of the specifications. The signature of each person signing shall be in longhand.

22.1. Bidder shall complete and submit all pages in the "Bidding Document" Section (see Volume 2) as their Bid per the schedule given under "Required Documents Schedule," (see Volume 1). Bidder is requested to retain for their reference other portions of the Contract Documents that are not required to be submitted with the Bid. The entire specifications for the bid package do not need to be submitted with the bid.

22.2. The City may require any Bidder to furnish a statement of experience, financial responsibility, technical ability, equipment, and references.

22.3. Bids and certain other forms and documents as specified in the Volume 2 of 2 of the Contract Documents shall be enclosed in a sealed envelope and shall bear the title of the work and name of the Bidder and the appropriate State Contractors License designation which the Bidder holds.

22.4. Bids may be withdrawn by the Bidder prior to, but not after, the time fixed for opening of Bids.

23. BIDDER'S GUARANTEE OF GOOD FAITH (BID SECURITY):

23.1. With the exception of the contracts valued $5,000 or less, JOC and Design-Build contracts, and contracts subject to the Small and Local Business Program of $250,000 or less e.g., ELBE contracts, each Bidder shall accompany its Bid with either a cashier's check upon some responsible bank, or a check upon such bank properly certified or an approved corporate surety bond payable to the City of San Diego, for an amount of not less than 10% of the aggregate sum of the Bid, which check or bond, and the monies represented thereby shall be held by the City as a guarantee that the Bidder, if awarded the contract, will in good faith enter into such contract and furnish the required final bonds.

23.2. The Bidder agrees that in case of Bidder's refusal or failure to execute this contract and give required final bonds, the money represented by a cashier's or certified check shall remain the property of the City, and if the Bidder shall fail to execute this contract, the Surety agrees that it will pay to the City damages which the City may suffer by reason of such failure, not exceeding the sum of 10% of the amount of the Bid.

23.3. A Bid received without the specified bid security will be rejected as being **non-responsive**.

24. AWARD OF CONTRACT OR REJECTION OF BIDS:

24.1. This contract may be awarded to the lowest responsible and reliable Bidder.

24.2. Bidders shall complete the entire Bid schedule (also referred to as "schedule of prices" or Proposal form). Incomplete price schedules will be rejected as being non-responsive.

24.3. The City reserves the right to reject any or all Bids, and to waive any informality or technicality in Bids received and any requirements of these specifications as to bidding procedure.

24.4. Bidders will not be released on account of their errors of judgment. Bidders may be released only upon receipt by the City from the Bidder within 3 Working Days, excluding Saturdays, Sundays, and state holidays, after the opening of Bids, of written notice which includes proof of honest, credible, clerical error of material nature, free from fraud or fraudulent intent, and of evidence that reasonable care was observed in the preparation of the Bid.

24.5. A non-selected Bidder may protest award of the Contract to the selected Bidder by submitting a written "Notice of Intent to Protest" including supporting documentation which shall be received by Public Works Contracting Group no later than 10 days after the City's announcement of the selected Bidder or no later than 10 days from the date that the City issues notice of designation of a Bidder as non-responsible in accordance with San Diego Municipal Code Chapter 2, § 22.3029, "Protests of Contract Award."

24.6. The City of San Diego will not discriminate with regard to race, religious creed, color, national origin, ancestry, physical handicap, marital status, sex or age, in the award of contracts.

24.7. Each Bid package properly executed as required by these specifications shall constitute a firm offer, which may be accepted by the City within the time specified in the Proposal.

24.8. The City reserves the right to evaluate all Bids and determine the lowest Bidder on the basis of any proposed alternates, additive items or options, at its discretion that will be disclosed in the Volume 2 of 2.

25. BID RESULTS:

25.1. The Bid opening by the City shall constitute the public announcement of the Apparent Low Bidder. In the event that the Apparent Low Bidder is subsequently deemed non-responsive or non-responsible, a public announcement will be posted in the City's web page: http://www.sandiego.gov/cip/index.shtml, with the name of the newly designated Apparent Low Bidder.

25.2. To obtain Bid results, either attend Bid opening, review the results on the City's web site, or provide a self-addressed, stamped envelope, referencing Bid number, and Bid tabulation will be mailed to you upon verification of extensions. Bid results cannot be given over the telephone.

26. THE CONTRACT:

26.1. The Bidder to whom award is made shall execute a written contract with the City of San Diego and furnish good and approved bonds and insurance certificates specified by the City within 14 days after receipt by Bidder of a form of contract for execution unless an extension of time is granted to the Bidder in writing.

26.2. If the Bidder takes longer than 14 days to fulfill these requirements, then the additional time taken shall be added to the Bid guarantee. The Contract shall be made in the form adopted by the City, which includes the provision that no claim or suit whatsoever shall be made or brought by Contractor against any officer, agent, or employee of the City for or on account of anything done or omitted to be done in connection with this contract, nor shall any such officer, agent, or employee be liable hereunder.

26.3. If the Bidder to whom the award is made fails to enter into the contract as herein provided, the award may be annulled and the Bidder's Guarantee of Good Faith will be subject to forfeiture. An award may be made to the next lowest responsible and reliable Bidder who shall fulfill every stipulation embraced herein as if it were the party to whom the first award was made.

26.4. Pursuant to the San Diego City Charter section 94, the City may only award a public works contract to the lowest responsible and reliable Bidder. The City will require the Apparent Low Bidder to (i) submit information to determine the Bidder's responsibility and reliability, (ii) execute the Contract in form provided by the City, and (iii) furnish good and approved bonds and insurance certificates specified by the City within 14 Days, unless otherwise approved by the City, in writing after the Bidder receives notification from the City, designating the Bidder as the Apparent Low Bidder and formally requesting the above mentioned items.

26.5. The award of the Contract is contingent upon the satisfactory completion of the above mentioned items and becomes effective upon the signing of the Contract by the Mayor or designee. If the Apparent Low Bidder does not execute the Contract or submit required documents and information, the City may award the Contract to the next lowest responsible and reliable Bidder who shall fulfill every condition precedent to award. A corporation designated as the Apparent Low Bidder shall furnish evidence of its corporate existence and evidence that the officer signing the Contract and bond for the corporation is duly authorized to do so.

27. EXAMINATION OF PLANS, SPECIFICATIONS, AND SITE OF WORK: The Bidder shall examine carefully the Project Site, the Plans and Specifications, other materials as described in the Special Provisions, Section 2-7, and the proposal forms (e.g., Bidding Documents). The submission of a Bid shall be conclusive evidence that the Bidder has investigated and is satisfied as to the conditions to be encountered, as to the character, quality, and scope of Work, the quantities of materials to be furnished, and as to the requirements of the Bidding Documents Proposal, Plans, and Specifications.

28. CITY STANDARD PROVISIONS. This contract is subject to the following standard provisions. See The WHITEBOOK for details.

28.1. The City of San Diego Resolution No. R-277952 adopted on May 20, 1991 for a Drug-Free Workplace.

28.2. The City of San Diego Resolution No. R-282153 adopted on June 14, 1993 related to the Americans with Disabilities Act.

28.3. The City of San Diego Municipal Code §22.3004 for Pledge of Compliance.

28.4. The City of San Diego's Labor Compliance Program and the State of California Labor Code §§1771.5(b) and 1776.

28.5. Sections 1777.5, 1777.6, and 1777.7 of the State of California Labor Code concerning the employment of apprentices by contractors and subcontractors performing public works contracts.

28.6. The City's Equal Benefits Ordinance (EBO), Chapter 2, Article 2, Division 43 of The San Diego Municipal Code (SDMC).

28.7. The City's Information Security Policy (ISP) as defined in the City's Administrative Regulation 90.63.

29. PRE-AWARD ACTIVITIES:

29.1. The selected contractor by the City to execute a contract for this Work shall provide the information required within the time specified in "Required Documents," of this bid package. Failure to provide the information within the time specified may result in the Bid being rejected as **non-responsive.**

29.2. If the Bid is rejected as non-responsive, the selected contractor by the City to execute a contract for this Work shall forfeit the required Bid. The decision that the selected contractor by the City to execute a contract for this Work is non-responsive for failure to provide the information required within the time specified shall be at the sole discretion of the City.

30. REQUIRED DOCUMENT SCHEDULE:

30.1. The Bidder's attention is directed to the City's Municipal Code §22.0807(e),(3)-(5) for important information regarding grounds for debarment for failure to submit required documentation.

30.2. The specified Equal Opportunity Contracting Program (EOCP) forms are available for download from the City's web site at:

http://www.sandiego.gov/eoc/forms/index.shtml

ITEM	WHEN DUE	FROM	DOCUMENT TO BE SUBMITTED
1.	BID SUBMITTAL DATE/TIME	ALL BIDDERS	Bid
2.	BID SUBMITTAL DATE/TIME	ALL BIDDERS	Bid Bond
3.	BID SUBMITTAL DATE/TIME	ALL BIDDERS	Non-collusion Affidavit to be Executed By Bidder and Submitted with Bid under 23 USC 112 and PCC 7106

ITEM	WHEN DUE	FROM	DOCUMENT TO BE SUBMITTED
4.	BID SUBMITTAL DATE/TIME	ALL BIDDERS	Contractors Certification of Pending Actions
5.	BID SUBMITTAL DATE/TIME	ALL BIDDERS	Equal Benefits Ordinance Certification of Compliance
6.	WITHIN 3 WORKING DAYS OF BID OPENING WITH GOOD FAITH EFFORT DOCUMENTATION	ALL BIDDERS	SLBE Good Faith Efforts Documentation
7.	WITHIN 3 WORKING DAYS OF BID OPENING WITH GOOD FAITH EFFORT DOCUMENTATION	ALL BIDDERS	Form AA60 – List of Work Made Available
8.	WITHIN 3 WORKING DAYS OF BID OPENING WITH GOOD FAITH EFFORT DOCUMENTATION	ALL BIDDERS	Proof of Valid DBE-MBE-WBE-DVBE Certification Status e.g., Certs.
9.	WITHIN 10 WORKING DAYS AFTER RECEIPT BY BIDDER OF CONTRACT FORMS	APPARENT LOW BIDDER	Names of the principal individual owners of the Apparent Low Bidder
10.	WITHIN 10 WORKING DAYS AFTER RECEIPT BY BIDDER OF CONTRACT FORMS	APPARENT LOW BIDDER	If the Contractor is a Joint Venture: • Joint Venture Agreement • Joint Venture License
11.	WITHIN 10 WORKING DAYS AFTER RECEIPT BY BIDDER OF CONTRACT FORMS	APPARENT LOW BIDDER	Form BB05 - Work Force Report
12.	WITHIN 10 WORKING DAYS AFTER RECEIPT BY BIDDER OF CONTRACT FORMS	APPARENT LOW BIDDER	Contract Forms - Agreement
13.	WITHIN 10 WORKING DAYS AFTER RECEIPT BY BIDDER OF CONTRACT FORMS	APPARENT LOW BIDDER	Contract Forms - Payment and Performance Bond
14.	WITHIN 10 WORKING DAYS AFTER RECEIPT BY BIDDER OF CONTRACT FORMS	APPARENT LOW BIDDER	Certificates of Insurance and Endorsements
15.	WITHIN 10 WORKING DAYS AFTER RECEIPT BY BIDDER OF CONTRACT FORMS	APPARENT LOW BIDDER	Contractor Certification - Drug-Free Workplace
16.	WITHIN 10 WORKING DAYS AFTER RECEIPT BY BIDDER OF CONTRACT FORMS	APPARENT LOW BIDDER	Contractor Certification - American with Disabilities Act
17.	WITHIN 10 WORKING DAYS AFTER RECEIPT BY BIDDER OF CONTRACT FORMS	APPARENT LOW BIDDER	Contractors Standards - Pledge of Compliance

CONTRACT FORMS

AGREEMENT

CONSTRUCTION CONTRACT

This contract is made and entered into between THE CITY OF SAN DIEGO, a municipal corporation, herein called "City", and ACE ELECTRIC, INC, herein called "Contractor" for construction of **San Ysidro Athletic Area/Larsen Field Lighting**; Bid No. **K-14-5831-DBB-3**; in the amount of SIX HUNDRED SIXTY SEVEN THOUSAND TWO HUNDRED DOLLARS AND ZERO CENTS ($667,200.00), which is comprised of the Base Bid alone.

IN CONSIDERATION of the payments to be made hereunder and the mutual undertakings of the parties hereto, City and Contractor agree as follows:

1. The following are incorporated into this contract as though fully set forth herein:

   (a) The attached Faithful Performance and Payment Bonds.

   (b) The attached Proposal included in the Bid documents by the Contractor.

   (c) Reference Standards listed in the Notice Inviting Bids and the Supplementary Special Provisions (SSP).

   (d) That certain documents entitled **San Ysidro Athletic Area/Larsen Field Lighting**, on file in the Public Works Department as Document No. **S-11013**, as well as all matters referenced therein.

2. The Contractor shall perform and be bound by all the terms and conditions of this contract and in strict conformity therewith shall perform and complete in a good and workmanlike manner **San Ysidro Athletic Area/Larsen Field Lighting,** Bid Number **K-14-5831-DBB-3,** San Diego, California.

3. For such performances, the City shall pay to Contractor the amounts set forth at the times and in the manner and with such additions or deductions as are provided for in this contract, and the Contractor shall accept such payment in full satisfaction of all claims incident to such performances.

4. No claim or suit whatsoever shall be made or brought by Contractor against any officer, agent, or employee of the City for or on account of anything done or omitted to be done in connection with this contract, nor shall any such officer, agent, or employee be liable hereunder.

5. This contract is effective as of the date that the Mayor or designee signs the agreement.

IN WITNESS WHEREOF, this Agreement is signed by the City of San Diego, acting by and through its Mayor or designee, pursuant to Municipal Code **§22.3102 (a)(1)** authorizing such execution.

THE CITY OF SAN DIEGO

By _____

Print Name: Stephen Samara
Senior Contract Specialist

Date: 3/11/2014

APPROVED AS TO FORM AND LEGALITY

Jan I. Goldsmith, City Attorney

By _____

Print Name: Mark M. Moore
Deputy City Attorney

Date: 3/11/2014

CONTRACTOR

By _____

Print Name: Jeffrey A. Hinds

Title: President

Date: 2/11/14

City of San Diego License No.: B19950120 47

State Contractor's License No.: 835109

CONTRACT FORMS

ATTACHMENTS

EXECUTED IN TRIPLICATE
BOND NO. 105968912
PREMIUM: $7,847.00

PREMIUM IS FOR CONTRACT TERM AND IS SUBJECT TO ADJUSTMENT BASED ON FINAL CONTRACT PRICE

CONTRACT ATTACHMENT
PERFORMANCE BOND AND LABOR AND MATERIALMEN'S BOND

FAITHFUL PERFORMANCE BOND AND LABOR AND MATERIALMEN'S BOND:

ACE ELECTRIC, INC., a corporation, as principal, and TRAVELERS CASUALTY INSURANCE COMPANY, a corporation authorized to do business in the State of California, as Surety, hereby obligate themselves, their successors and assigns, jointly and severally, to The City of San Diego a municipal corporation in the sum of SIX HUNDRED SIXTY SEVEN THOUSAND TWO HUNDRED DOLLARS AND ZERO CENTS ($667,200.00) for the faithful performance of the annexed contract, and in the sum of SIX HUNDRED SIXTY SEVEN THOUSAND TWO HUNDRED DOLLARS AND ZERO CENTS ($667,200.00) for the benefit of laborers and materialmen designated below.

Conditions:

If the Principal shall faithfully perform the annexed contract **San Ysidro Athletic Area/Larsen Field Lighting**, Bid Number **K-14-5831-DBB-3**, San Diego, California then the obligation herein with respect to a faithful performance shall be void; otherwise it shall remain in full force.

If the Principal shall promptly pay all persons, firms and corporations furnishing materials for or performing labor in the execution of this contract, and shall pay all amounts due under the California Unemployment Insurance Act then the obligation herein with respect to laborers and materialmen shall be void; otherwise it shall remain in full force.

The obligation herein with respect to laborers and materialmen shall inure to the benefit of all persons, firms and corporations entitled to file claims under the provisions of Chapter 3 of Division 5 of Title I of the Government Code of the State of California or under the provisions of Section 3082 et seq. of the Civil Code of the State of California.

Changes in the terms of the annexed contract or specifications accompanying same or referred to therein shall not affect the Surety's obligation on this bond, and the Surety hereby waives notice of same.

CONTRACT ATTACHMENT (continued)
PERFORMANCE BOND AND LABOR AND MATERIALMEN'S BOND

The Surety shall pay reasonable attorney's fees should suit be brought to enforce the provisions of this bond.

Dated JANUARY 31, 2014

Approved as to Form and Legality

Jan I. Goldsmith, City Attorney

By _____
Deputy City Attorney

ACE ELECTRIC, INC.
Principal

By _____

JEFFREY A. HINDS, PRESIDENT
Printed Name of Person Signing for Principal

TRAVELERS CASUALTY INSURANCE COMPANY
Surety

By _____
MARK D. IATAROLA, Attorney-in-fact

Approved:

By _____
Stephen Samara
Senior Contract Specialist

9325 SKY PARK COURT, SUITE 220
Local Address of Surety

SAN DIEGO, CA 92123
Local Address (City, State) of Surety

858/616-6240
Local Telephone No. of Surety

PREMIUM IS FOR CONTRACT TERM AND IS SUBJECT TO ADJUSTMENT BASED ON FINAL CONTRACT PRICE

Premium $ 7,847.00

Bond No. 105968912

CALIFORNIA ALL-PURPOSE ACKNOWLEDGEMENT

State of California
County of San Diego } SS.

On February 3, 2014 Before Me C. Powell ,a Notary Public
Name of Notary Public

Personally Appeared Jeffrey A. Hinds
Name(s) of Signer(s)

[X] 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.

PHE1 C. POWELL COMM. #2019968 NOTARY PUBLIC • CALIFORNIA SAN DIEGO COUNTY Commission Expires Apr. 17, 2017 PHE1

Notary Stamp

C Powell
Signature of Notary Public

License Number #1845097 Expires 4-17-2017

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 this form to another document.

Description of Attached Document

Title our Type of Document: _____

Document Date: _____ Number of Pages _____

Signer(s) Other Than Named Above: _____

Capacity(ies) Claimed by Signer(s)

Signers Name: _____

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

Signer is Representing _____

Right Thumb Print of Signer 1

Right Thumb Print of Signer 2

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT

STATE OF CALIFORNIA

County of SAN DIEGO }

On 01/31/2014 (Date) before me, GLENDA J. GARDNER, NOTARY PUBLIC (Here Insert Name and Title of the Officer),

personally appeared MARK D. IATAROLA (Name(s) of Signer(s))

,

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 Glenda J Gardner
Signature of Notary Public

OFFICIAL SEAL
GLENDA J. GARDNER
NOTARY PUBLIC-CALIFORNIA
COMM. NO. 2012529
SAN DIEGO COUNTY
MY COMM. EXP. MARCH 16, 2017

Place Notary Seal Above

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 this 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: MARK D. IATAROLA
- ☐ Individual
- ☐ Corporate Officer — Title(s): _____
- ☐ Partner — ☐ Limited ☐ General
- ☑ Attorney in Fact
- ☐ Trustee
- ☐ Guardian or Conservator
- ☐ Other: _____

Signer Is Representing:

RIGHT THUMBPRINT OF SIGNER
Top of thumb here

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

Signer Is Representing:

RIGHT THUMBPRINT OF SIGNER
Top of thumb here

TRAVELERS

POWER OF ATTORNEY

Farmington Casualty Company
Fidelity and Guaranty Insurance Company
Fidelity and Guaranty Insurance Underwriters, Inc.
St. Paul Fire and Marine Insurance Company
St. Paul Guardian Insurance Company
St. Paul Mercury Insurance Company
Travelers Casualty and Surety Company
Travelers Casualty and Surety Company of America
United States Fidelity and Guaranty Company

Attorney-In Fact No. 226183 **Certificate No.** 005489475

KNOW ALL MEN BY THESE PRESENTS: That Farmington Casualty Company, St. Paul Fire and Marine Insurance Company, St. Paul Guardian Insurance Company, St. Paul Mercury Insurance Company, Travelers Casualty and Surety Company, Travelers Casualty and Surety Company of America, and United States Fidelity and Guaranty Company are corporations duly organized under the laws of the State of Connecticut, that Fidelity and Guaranty Insurance Company is a corporation duly organized under the laws of the State of Iowa, and that Fidelity and Guaranty Insurance Underwriters, Inc., is a corporation duly organized under the laws of the State of Wisconsin (herein collectively called the "Companies"), and that the Companies do hereby make, constitute and appoint

John G. Maloney, Mark D. Iatarola, Glenda J. Gardner, Michelle M. Basuil, and Helen Maloney

of the City of Escondido, State of California, their true and lawful Attorney(s)-in-Fact, each in their separate capacity if more than one is named above, to sign, execute, seal and acknowledge any and all bonds, recognizances, conditional undertakings and other writings obligatory in the nature thereof on behalf of the Companies in their business of guaranteeing the fidelity of persons, guaranteeing the performance of contracts and executing or guaranteeing bonds and undertakings required or permitted in any actions or proceedings allowed by law.

IN WITNESS WHEREOF, the Companies have caused this instrument to be signed and their corporate seals to be hereto affixed, this 14th day of May, 2013.

Farmington Casualty Company
Fidelity and Guaranty Insurance Company
Fidelity and Guaranty Insurance Underwriters, Inc.
St. Paul Fire and Marine Insurance Company
St. Paul Guardian Insurance Company
St. Paul Mercury Insurance Company
Travelers Casualty and Surety Company
Travelers Casualty and Surety Company of America
United States Fidelity and Guaranty Company

State of Connecticut
City of Hartford ss.

By: _____
Robert L. Raney, Senior Vice President

On this the 14th day of May, 2013, before me personally appeared Robert L. Raney, who acknowledged himself to be the Senior Vice President of Farmington Casualty Company, Fidelity and Guaranty Insurance Company, Fidelity and Guaranty Insurance Underwriters, Inc., St. Paul Fire and Marine Insurance Company, St. Paul Guardian Insurance Company, St. Paul Mercury Insurance Company, Travelers Casualty and Surety Company, Travelers Casualty and Surety Company of America, and United States Fidelity and Guaranty Company, and that he, as such, being authorized so to do, executed the foregoing instrument for the purposes therein contained by signing on behalf of the corporations by himself as a duly authorized officer.

In Witness Whereof, I hereunto set my hand and official seal.
My Commission expires the 30th day of June, 2016.

MARIE C. TETREAULT NOTARY PUBLIC CONNECTICUT

_____
Marie C. Tetreault, Notary Public

58440-8-12 Printed in U.S.A.

WARNING: THIS POWER OF ATTORNEY IS INVALID WITHOUT THE RED BORDER

This Power of Attorney is granted under and by the authority of the following resolutions adopted by the Boards of Directors of Farmington Casualty Company, Fidelity and Guaranty Insurance Company, Fidelity and Guaranty Insurance Underwriters, Inc., St. Paul Fire and Marine Insurance Company, St. Paul Guardian Insurance Company, St. Paul Mercury Insurance Company, Travelers Casualty and Surety Company, Travelers Casualty and Surety Company of America, and United States Fidelity and Guaranty Company, which resolutions are now in full force and effect, reading as follows:

RESOLVED, that the Chairman, the President, any Vice Chairman, any Executive Vice President, any Senior Vice President, any Vice President, any Second Vice President, the Treasurer, any Assistant Treasurer, the Corporate Secretary or any Assistant Secretary may appoint Attorneys-in-Fact and Agents to act for and on behalf of the Company and may give such appointee such authority as his or her certificate of authority may prescribe to sign with the Company's name and seal with the Company's seal bonds, recognizances, contracts of indemnity, and other writings obligatory in the nature of a bond, recognizance, or conditional undertaking, and any of said officers or the Board of Directors at any time may remove any such appointee and revoke the power given him or her; and it is

FURTHER RESOLVED, that the Chairman, the President, any Vice Chairman, any Executive Vice President, any Senior Vice President or any Vice President may delegate all or any part of the foregoing authority to one or more officers or employees of this Company, provided that each such delegation is in writing and a copy thereof is filed in the office of the Secretary; and it is

FURTHER RESOLVED, that any bond, recognizance, contract of indemnity, or writing obligatory in the nature of a bond, recognizance, or conditional undertaking shall be valid and binding upon the Company when (a) signed by the President, any Vice Chairman, any Executive Vice President, any Senior Vice President or any Vice President, any Second Vice President, the Treasurer, any Assistant Treasurer, the Corporate Secretary or any Assistant Secretary and duly attested and sealed with the Company's seal by a Secretary or Assistant Secretary; or (b) duly executed (under seal, if required) by one or more Attorneys-in-Fact and Agents pursuant to the power prescribed in his or her certificate or their certificates of authority or by one or more Company officers pursuant to a written delegation of authority; and it is

FURTHER RESOLVED, that the signature of each of the following officers: President, any Executive Vice President, any Senior Vice President, any Vice President, any Assistant Vice President, any Secretary, any Assistant Secretary, and the seal of the Company may be affixed by facsimile to any Power of Attorney or to any certificate relating thereto appointing Resident Vice Presidents, Resident Assistant Secretaries or Attorneys-in-Fact for purposes only of executing and attesting bonds and undertakings and other writings obligatory in the nature thereof, and any such Power of Attorney or certificate bearing such facsimile signature or facsimile seal shall be valid and binding upon the Company and any such power so executed and certified by such facsimile signature and facsimile seal shall be valid and binding on the Company in the future with respect to any bond or understanding to which it is attached.

I, Kevin E. Hughes, the undersigned, Assistant Secretary, of Farmington Casualty Company, Fidelity and Guaranty Insurance Company, Fidelity and Guaranty Insurance Underwriters, Inc., St. Paul Fire and Marine Insurance Company, St. Paul Guardian Insurance Company, St. Paul Mercury Insurance Company, Travelers Casualty and Surety Company, Travelers Casualty and Surety Company of America, and United States Fidelity and Guaranty Company do hereby certify that the above and foregoing is a true and correct copy of the Power of Attorney executed by said Companies, which is in full force and effect and has not been revoked.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the seals of said Companies this 31ST day of JANUARY, 20 14.

Kevin E. Hughes, Assistant Secretary

To verify the authenticity of this Power of Attorney, call 1-800-421-3880 or contact us at www.travelersbond.com. Please refer to the Attorney-In-Fact number, the above-named individuals and the details of the bond to which the power is attached.

WARNING: THIS POWER OF ATTORNEY IS INVALID WITHOUT THE RED BORDER

CONTRACTOR CERTIFICATION

DRUG-FREE WORKPLACE

PROJECT TITLE: **San Ysidro Athletic Area/Larsen Field Lighting**

I hereby certify that I am familiar with the requirements of San Diego City Council Policy No. 100-17 regarding Drug-Free Workplace as outlined in the WHITEBOOK, Section 7-13.3"Drug-Free Workplace", of the project specifications, and that;

Ace Electric, Inc.

(Name under which business is conducted)

has in place a drug-free workplace program that complies with said policy. I further certify that each subcontract agreement for this project contains language which indicates the subcontractor's agreement to abide by the provisions of subdivisions a) through c) of the policy as outlined.

Signed _____

Printed Name Jeffrey A. Hinds

Title President

CONTRACTOR CERTIFICATION

AMERICAN WITH DISABILITIES ACT (ADA) COMPLIANCE CERTIFICATION

PROJECT TITLE: **San Ysidro Athletic Area/Larsen Field Lighting**

I hereby certify that I am familiar with the requirements of San Diego City Council Policy No. 100-4 regarding the American With Disabilities Act (ADA) outlined in the WHITEBOOK, Section 7-13.2, "American With Disabilities Act", of the project specifications, and that;

Ace Electric, Inc.

(Name under which business is conducted)

has in place a workplace program that complies with said policy. I further certify that each subcontract agreement for this project contains language which indicates the subcontractor's agreement to abide by the provisions of the policy as outlined.

Signed _____

Printed Name Jeffrey A. Hinds

Title President

CONTRACTOR CERTIFICATION

CONTRACTOR STANDARDS – PLEDGE OF COMPLIANCE

PROJECT TITLE: **San Ysidro Athletic Area/Larsen Field Lighting**

I declare under penalty of perjury that I am authorized to make this certification on behalf of Ace Electric, Inc., as Contractor, that I am familiar with the requirements of City of San Diego Municipal Code § 22.3224 regarding Contractor Standards as outlined in the WHITEBOOK, Section 7-13.4, "Contractor Standards", of the project specifications, and that Contractor has complied with those requirements.

I further certify that each of the Contractor's subcontractors whose subcontracts are greater than $50,000 in value has completed a Pledge of Compliance attesting under penalty of perjury of having complied with City of San Diego Municipal Code § 22.3224.

Dated this 11th Day of FEB, 2014.

Signed _____

Printed Name Jeffrey A. Hinds

Title President

AFFIDAVIT OF DISPOSAL

WHEREAS, on the _____ DAY OF _____, _____, the undersigned entered into and executed a contract with the City of San Diego, a municipal corporation, for:

San Ysidro Athletic Area/Larsen Field Lighting
(Name of Project)

as particularly described in said contract and identified as Bid No. **K-14-5831-DBB-3;** SAP No. (WBS/CC/IO) **S-11013**; and **WHEREAS**, the specification of said contract requires the Contractor to affirm that "all brush, trash, debris, and surplus materials resulting from this project have been disposed of in a legal manner"; and **WHEREAS**, said contract has been completed and all surplus materials disposed of:

_____

_____

_____

NOW, THEREFORE, in consideration of the final payment by the City of San Diego to said Contractor under the terms of said contract, the undersigned Contractor, does hereby affirm that all surplus materials as described in said contract have been disposed of at the following location(s)

_____

_____

_____

and that they have been disposed of according to all applicable laws and regulations.

Dated this _____ DAY OF _____, _____.

_____ Contractor
by

ATTEST:

State of _____
County of _____

On this _____ DAY OF _____, 2_____, before the undersigned, a Notary Public in and for said County and State, duly commissioned and sworn, personally appeared _____ known to me to be the _____ Contractor named in the foregoing Release, and whose name is subscribed thereto, and acknowledged to me that said Contractor executed the said Release.

Notary Public in and for said County and State

COMPANY LETTERHEAD

CERTIFICATE OF COMPLIANCE

Materials and Workmanship Compliance

For Contract _____

I certify that the material listed below complies with the materials and workmanship requirements of the Caltrans Contract Plans, Special Provisions, Standard Specifications, and Standard Plans for the contract listed above.

I also certify that I am an official representative for_____, the manufacturer of the material listed above. Furthermore, I certify that where California test methods, physical or chemical test requirements are part of the specifications, that the manufacturer has performed the necessary quality control to substantiate this certification.

Material Description:

Manufacturer: _____

Model:_____

Serial Number (if applicable)_____

Quantity to be supplied:_____

Remarks:_____

Signed by: _____

Printed Name:_____

Title: _____

Company: _____

Date: _____

City of San Diego
Engineering and Capital Projects, Field Division

NOTICE OF MATERIALS TO BE USED

To:_____ Date: _____, 2___
Resident Engineer

You are hereby notified that the materials required for use under Contract No._____ for construction of_____ in the City of San Diego, will be obtained from sources herein designated.

CONTRACT ITEM NO. (Bid Item)	**KIND OF MATERIAL (Category)**	**NAME AND ADDRESS WHERE MATERIAL CAN BE INSPECTED (At Source)**

It is requested that you arrange for a sampling, testing, and inspection of the materials prior to delivery, in accordance with Section 4-1.11 of the contract documents, where it is practicable, and in accordance with your policy. It is understood that source inspection does not relieve the Contractor of full responsibility for incorporating in the work, materials that comply in all respects with the contract plans and specifications, nor does it preclude subsequent rejection of materials found to be undesirable or unsuitable.

Distribution:

Supplier

Yours truly,

_____ _____
Signature of Supplier Address

Phone Number:_____

ATTACHMENTS

ATTACHMENT A

SCOPE OF WORK

SCOPE OF WORK

1. SCOPE OF WORK: The Work involves furnishing all labor, materials, equipment, services, and other incidental works and appurtenances for the construction of the Project as described below:

The project provides for design and construction of sport lighting systems for the large baseball field and the soccer/multi-purpose sports field at San Ysidro Athletic Area and accessibility to the travel of path from parking area to the fields.

1.1. The Work shall be performed in accordance with:

1.1.1. The Notice Inviting Bids and Plans numbered **36796-01-D** thru **36796-28-D**, inclusive.

31. CONSTRUCTION COST: The City's estimated construction cost for this contract is **$665,000.**

32. LOCATION OF WORK: The location of the Work is as follows:

See **Appendix D, Location Map** of this contract document.

33. CONTRACT TIME: The Contract Time for completion of the Work shall be **132 Working Days** (of which 66 working days is for plant establishment)**.**

34. CONTRACTOR'S LICENSE CLASSIFICATION: In accordance with the provisions of California Law, the Contractor **shall possess v**alid appropriate license(s) at the time that the Bid is submitted. Failure to possess the specified license(s) shall render the Bid as **non-responsive** and shall act as a bar to award of the Contract to any Bidder not possessing required license(s) at the time of Bid.

34.1. The City has determined the following licensing classification for this contract:

- **CLASS A**

ATTACHMENT B

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ATTACHMENT C

EQUAL OPPORTUNITY CONTRACTING PROGRAM

EQUAL OPPORTUNITY CONTRACTING PROGRAM

1. To The WHITEBOOK, Chapter 10, Sections D and E, DELETE in their entirety and SUBSTITUTE with the following:

D. CITY'S EQUAL OPPORTUNITY COMMITMENT.

1. Nondiscrimination in Contracting Ordinance.

1. The Contractor, Subcontractors and Suppliers shall comply with requirements of the City's Nondiscrimination in Contracting Ordinance, San Diego Municipal Code §§22.3501 through 22.3517.

   The Contractor shall not discriminate on the basis of race, gender, religion, national origin, ethnicity, sexual orientation, age, or disability in the solicitation, selection, hiring, or treatment of subcontractors, vendors, or suppliers. The Contractor shall provide equal opportunity for subcontractors to participate in subcontracting opportunities. The Contractor understands and agrees that violation of this clause shall be considered a material breach of the contract and may result in contract termination, debarment, or other sanctions.

   The Contractor shall include the foregoing clause in all contracts between the Contractor and Subcontractors and Suppliers.

2. Disclosure of Discrimination Complaints. As part of its Bid or Proposal, the Bidder shall provide to the City a list of all instances within the past 10 years where a complaint was filed or pending against Bidder in a legal or administrative proceeding alleging that Bidder discriminated against its employees, subcontractors, vendors, or suppliers, and a description of the status or resolution of that complaint, including any remedial action taken.

3. Upon the City's request, the Contractor agrees to provide to the City, within 60 days, a truthful and complete list of the names of all Subcontractors and Suppliers that the Contractor has used in the past 5 years on any of its contracts that were undertaken within San Diego County, including the total dollar amount paid by the Contractor for each subcontract or supply contract.

4. The Contractor further agrees to fully cooperate in any investigation conducted by the City pursuant to the City's Nondiscrimination in Contracting Ordinance, Municipal Code §§22.3501 through 22.3517. The Contractor understands and agrees that violation of this clause shall be considered a material breach of the Contract and may result in remedies being ordered against the Contractor up to and including contract termination, debarment and other sanctions for violation of the provisions of the Nondiscrimination in Contracting Ordinance. The Contractor further understands and agrees that the procedures, remedies and sanctions provided for in the Nondiscrimination in Contracting Ordinance apply only to violations of the Ordinance.

E. EQUAL EMPLOYMENT OPPORTUNITY OUTREACH PROGRAM.

1. The Contractor, Subcontractors and Suppliers shall comply with the City's Equal Employment Opportunity Outreach Program, San Diego Municipal Code §§22.2701 through 22.2707.

   The Contractor shall not discriminate against any employee or applicant for employment on any basis prohibited by law. Contractor shall provide equal opportunity in all employment practices. Prime Contractor shall ensure their subcontractors comply with this program. Nothing in this section shall be interpreted to hold a prime contractor liable for any discriminatory practice of its subcontractors.

   The Contractor shall include the foregoing clause in all contracts between the Contractor and Subcontractors and Suppliers.

2. If the Contract is competitively solicited, the selected Bidder shall submit a Work Force Report (Form BB05), within 10 Working Days after receipt by the Bidder of Contract forms to the City for approval as specified in the Notice of Intent to Award letter from the City.

3. If a Work Force Report is submitted, and the City determines there are under-representations when compared to County Labor Force Availability data, the selected Bidder shall submit an Equal Employment Opportunity Plan.

4. If the selected Bidder submits an Equal Employment Opportunity Plan, it shall include the following assurances:

   1. The Contractor shall maintain a working environment free of discrimination, harassment, intimidation and coercion at all sites and in all facilities at which the Contractor's employees are assigned to work.

   2. The Contractor reviews its EEO Policy, at least annually, with all on-site supervisors involved in employment decisions.

   3. The Contractor disseminates and reviews its EEO Policy with all employees at least once a year, posts the policy statement and EEO posters on all company bulletin boards and job sites, and documents every dissemination, review and posting with a written record to identify the time, place, employees present, subject matter, and disposition of meetings.

   4. The Contractor reviews, at least annually, all supervisors' adherence to and performance under the EEO Policy and maintains written documentation of these reviews.

   5. The Contractor discusses its EEO Policy Statement with subcontractors with whom it anticipates doing business, includes the

EEO Policy Statement in its subcontracts, and provides such documentation to the City upon request.

6. The Contractor documents and maintains a record of all bid solicitations and outreach efforts to and from subcontractors, contractor associations and other business associations.

7. The Contractor disseminates its EEO Policy externally through various media, including the media of people of color and women, in advertisements to recruit, maintains files documenting these efforts, and provides copies of these advertisements to the City upon request.

8. The Contractor disseminates its EEO Policy to union and community organizations.

9. The Contractor provides immediate written notification to the City when any union referral process has impeded the Contractor's efforts to maintain its EEO Policy.

10. The Contractor maintains a current list of recruitment sources, including those outreaching to people of color and women, and provides written notification of employment opportunities to these recruitment sources with a record of the organizations' responses.

11. The Contractor maintains a current file of names, addresses and phone numbers of each walk-in applicant, including people of color and women, and referrals from unions, recruitment sources, or community organizations with a description of the employment action taken.

12. The Contractor encourages all present employees, including people of color and women employees, to recruit others.

13. The Contractor maintains all employment selection process information with records of all tests and other selection criteria.

14. The Contractor develops and maintains documentation for on-the-job training opportunities, participates in training programs, or both for all of its employees, including people of color and women, and establishes apprenticeship, trainee, and upgrade programs relevant to the Contractor's employment needs.

15. The Contractor conducts, at least annually, an inventory and evaluation of all employees for promotional opportunities and encourages all employees to seek and prepare appropriately for such opportunities.

16. The Contractor ensures the company's working environment and activities are non-segregated except for providing separate or single-user toilets and necessary changing facilities to assure privacy between the sexes.

ATTACHMENT D

INTENTIONALLY LEFT BLANK

ATTACHMENT E

SUPPLEMENTARY SPECIAL PROVISIONS

SUPPLEMENTARY SPECIAL PROVISIONS

The following Supplementary Special Provisions (SSP) modifies the following documents:

1) Standard Specifications for Public Works Construction (The GREENBOOK) currently in effect.

2) The City of San Diego Standard Specifications for Public Works Construction (The WHITEBOOK).

SECTION 1 – TERMS, DEFINITIONS, ABBREVIATIONS, UNITS OF MEASURE, AND SYMBOLS

1-2 TERMS AND DEFINITIONS.

Normal Working Hours. To the City Supplement, ADD the following:

The Normal Working Hours are 7:00 AM to 3:30 PM.

SECTION 2 – SCOPE AND CONTROL OF THE WORK

2-3.2 Self Performance. DELETE in its entirety and SUBSTITUTE with the following:

You must perform, with your own organization, Contract work amounting to at least **50%** of the base bid alone or base bid and any additive or deductive alternate(s) that together when added or deducted form the basis of award.

2-7 SUBSURFACE DATA. ADD the following:

4. In preparation of the Contract Documents, the designer has relied upon the following reports of explorations and tests of subsurface conditions at the Work Site:

    1. Report of Geotechnical Evaluation dated September 14, 2012, by Ninyo & Moore and Associates.

    2. Report of Storm Water Pollution Control Plan (SWPCP), dated March 2012 by Berger ABAM Flores Lung Associates.

5. The report(s) listed above are available for review by contacting the City Project Manager or visiting:

    ftp://ftp.sannet.gov/OUT/ECP/2-7%20SUBSURFACE%20DATA/

SECTION 4 – CONTROL OF MATERIALS

4-1.3.4 Inspection Paid For By the Contractor. To the City Supplement, ADD the following:

Electrical, Structural

4-1.6 Trade Names or Equals. ADD the following:

You must submit your list of proposed substitutions for "an equal" ("or equal") item(s) **no later than 5 Working Days after the determination of the Apparent Low Bidder** and on a City form when provided by the City.

SECTION 7 - RESPONSIBILITIES OF THE CONTRACTOR

7-3 LIABILITY INSURANCE. DELETE in its entirety and SUBSTITUTE with the following:

The insurance provisions herein must not be construed to limit your indemnity obligations contained in the Contract.

7-3.1 Policies and Procedures.

1. You must procure the insurance described below, at its sole cost and expense, to provide coverage against claims for loss including injuries to persons or damage to property, which may arise out of or in connection with the performance of the Work by you, your agents, representatives, officers, employees or Subcontractors.

2. Insurance coverage for property damage resulting from your operations is on a replacement cost valuation. The market value will not be accepted.

3. You must maintain this insurance for the duration of this contract and at all times thereafter when you are correcting, removing, or replacing Work in accordance with this contract. Your liabilities under the Contract, e.g., your indemnity obligations, is not deemed limited to the insurance coverage required by this contract.

4. Payment for insurance is included in the various items of Work as bid by you, and except as specifically agreed to by the City in writing, you are not entitled to any additional payment. Do not begin any work under this contract until you have provided and the City has approved all required insurance.

5. Policies of insurance must provide that the City is entitled to 30 days (10 days for cancellation due to non-payment of premium) prior written notice of cancellation or non-renewal of the policy. Maintenance of specified insurance coverage is a material element of the Contract. Your failure to maintain or renew coverage or to provide evidence of renewal during the term of the Contract may be treated by the City as a material breach of the Contract.

7-3.2 Types of Insurance.

7-3.2.1 Commercial General Liability Insurance.

1. Commercial General Liability Insurance must be written on the current version of the ISO Occurrence form CG 00 01 07 98 or an equivalent form providing coverage at least as broad.

2. The policy must cover liability arising from premises and operations, XCU (explosions, underground, and collapse), independent contractors, products/completed operations, personal injury and advertising injury, bodily injury, property damage, and liability assumed under an insured's contract (including the tort liability of another assumed in a business contract).

3. There must be no endorsement or modification limiting the scope of coverage for either "insured vs. insured" claims or contractual liability. You must maintain the same or equivalent insurance for at least 10 years following completion of the Work.

4. All costs of defense must be outside the policy limits. Policy coverage must be in liability limits of not less than the following:

General Annual Aggregate Limit	Limits of Liability
Other than Products/Completed Operations	$2,000,000
Products/Completed Operations Aggregate Limit	$2,000,000
Personal Injury Limit	$1,000,000
Each Occurrence	$1,000,000

7-3.2.2 Commercial Automobile Liability Insurance.

1. You must provide a policy or policies of Commercial Automobile Liability Insurance written on the current version of the ISO form CA 00 01 12 90 or later version or equivalent form providing coverage at least as broad in the amount of $1,000,000 combined single limit per accident, covering bodily injury and property damage for owned, non-owned, and hired automobiles ("Any Auto").

2. All costs of defense must be outside the limits of the policy.

7-3.3 Rating Requirements. Except for the State Compensation Insurance Fund, all insurance required by this contract as described herein must be carried only by responsible insurance companies with a rating of, or equivalent to, at least "A-, VI" by A.M. Best Company, that are authorized by the California Insurance Commissioner to do business in the State, and that have been approved by the City.

7-3.3.1 Non-Admitted Carriers. The City will accept insurance provided by non-admitted, "surplus lines" carriers only if the carrier is authorized to do business in the State and is included on the List of Approved Surplus Lines Insurers (LASLI list).

All policies of insurance carried by non-admitted carriers must be subject to all of the requirements for policies of insurance provided by admitted carriers described herein.

7-3.4 Evidence of Insurance. Furnish to the City documents e.g., certificates of insurance and endorsements evidencing the insurance required herein, and furnish renewal documentation prior to expiration of this insurance. Each required document must be signed by the insurer or a person authorized by the insurer to bind coverage on its behalf. We reserve the right to require complete, certified copies of all insurance policies required herein.

7-3.5 Policy Endorsements.

7-3.5.1 Commercial General Liability Insurance.

7-3.5.1.1 Additional Insured.

a) You must provide at your expense policy endorsement written on the current version of the ISO Occurrence form CG 20 10 11 85 or an equivalent form providing coverage at least as broad.

b) To the fullest extent allowed by law e.g., California Insurance Code §11580.04, the policy must be endorsed to include the City and its respective elected officials, officers, employees, agents, and representatives as additional insured.

c) The additional insured coverage for projects for which the Engineer's Estimate is $1,000,000 or more must include liability arising out of: (a) Ongoing operations performed by you or on your behalf, (b) your products, (c) your work, e.g., your completed operations performed by you or on your behalf, or (d) premises owned, leased, controlled, or used by you.

d) The additional insured coverage for projects for which the Engineer's Estimate is less than $1,000,000 must include liability arising out of: (a) Ongoing operations performed by you or on your behalf, (b) your products, or (c) premises owned, leased, controlled, or used by you.

7-3.5.1.2 Primary and Non-Contributory Coverage. The policy must be endorsed to provide that the coverage with respect to operations, including the completed operations, if appropriate, of the Named Insured is primary to any insurance or self-insurance of the City and its elected officials, officers, employees, agents and representatives. Further, it must provide that any insurance maintained by the City and its elected officials, officers, employees, agents and representatives must be in excess of your insurance and must not contribute to it.

7-3.5.1.3 Project General Aggregate Limit. The policy or policies must be endorsed to provide a Designated Construction Project General Aggregate Limit that will apply only to the Work. Only claims payments which arise from the Work must reduce the Designated Construction Project General Aggregate Limit. The Designated Construction Project General Aggregate Limit must be in addition to the aggregate limit provided for the products-completed operations hazard.

7-3.5.2 Commercial Automobile Liability Insurance.

7-3.5.2.1 Additional Insured. Unless the policy or policies of Commercial Auto Liability Insurance are written on an ISO form CA 00 01 12 90 or a later version of this form or equivalent form providing coverage at least as broad, the policy must be endorsed to include the City and its respective elected officials, officers, employees, agents, and representatives as additional insured, with respect to liability arising out of automobiles owned, leased, hired or borrowed by you or on your behalf. This endorsement is limited to the obligations permitted by California Insurance Code §11580.04.

7-3.6 **Deductibles and Self-Insured Retentions.** You must pay for all deductibles and self-insured retentions. You must disclose deductibles and self-insured retentions to the City at the time the evidence of insurance is provided.

7-3.7 **Reservation of Rights.** The City reserves the right, from time to time, to review your insurance coverage, limits, deductibles and self-insured retentions to determine if they are acceptable to the City. The City will reimburse you, without overhead, profit, or any other markup, for the cost of additional premium for any coverage requested by the Engineer but not required by this contract.

7-3.8 **Notice of Changes to Insurance.** You must notify the City 30 days prior to any material change to the policies of insurance provided under this contract.

7-3.9 **Excess Insurance.** Policies providing excess coverage must follow the form of the primary policy or policies e.g., all endorsements.

7-4 **WORKERS' COMPENSATION INSURANCE.** DELETE in its entirety and SUBSTITUTE with the following:

7-4.1 **Workers' Compensation Insurance and Employers Liability Insurance.**

1. In accordance with the provisions of §3700 of the California Labor Code, you must provide at your expense Workers' Compensation Insurance and Employers Liability Insurance to protect you against all claims under applicable state workers compensation laws. The City, its elected officials, and employees will not be responsible for any claims in law or equity occasioned by your failure to comply with the requirements of this section.

2. Limits for this insurance must be not less than the following:

Workers' Compensation	Statutory Employers Liability
Bodily Injury by Accident	$1,000,000 each accident
Bodily Injury by Disease	$1,000,000 each employee
Bodily Injury by Disease	$1,000,000 policy limit

3. By signing and returning the Contract you certify that you are aware of the provisions of §3700 of the Labor Code which require every employer to be insured against liability for worker's compensation or to undertake self-insurance in accordance with the provisions of that code and you must comply with such provisions before commencing the Work as required by §1861 of the California Labor Code.

7-4.1.1 **Waiver of Subrogation.** The policy or policies must be endorsed to provide that the insurer will waive all rights of subrogation against the City, and its respective elected officials, officers, employees, agents, and representatives for losses paid under the terms of the policy or policies and which arise from work performed by the Named Insured for the City.

7-5 **Permits, Fees and Notices.** To the City Supplement, ADD the following:

The Contractor shall obtain all required Development Services (DSD) permits prior to start of construction.

7-8.6 **Water Pollution Control.** ADD the following:

1. Based on a preliminary assessment by the City, the Contract is subject to **WPCP**.
2. Report of Storm Water Pollution Control Plan (SWPCP), dated March 2012 by Berger ABAM Flores Lung Associates.

7-15 **INDEMNIFICATION AND HOLD HARMLESS AGREEMENT.** To the City Supplement, fourth paragraph, last sentence, DELETE in its entirety and SUBSTITUTE with the following:

Your duty to indemnify and hold harmless does not include any claims or liability arising from the established active or sole negligence, or willful misconduct of the City, its officers, or employees.

SECTION 8 - FACILITIES FOR AGENCY PERSONNEL

8-2 **FIELD OFFICE FACILITIES.** To the City Supplement, DELETE in its entirety.

SECTION 9 - MEASUREMENT AND PAYMENT

9-3.2.5 **Withholding of Payment.** To the City Supplement, item i), DELETE in its entirety and SUBSTITUTE with the following:

i) Your failure to comply with 7-2.3, "PAYROLL RECORDS" and 2-16, "CONTRACTOR REGISTRATION AND ELECTRONIC REPORTING SYSTEM."

ADD:

9-3.7 **Compensation Adjustments for Price Index Fluctuations.** This Contract is not subject to the provisions of The WHITEBOOK for Compensation Adjustments for Price Index Fluctuations for the paving asphalt.

SECTION 707 – RESOURCE DISCOVERIES

707-1.1 **Environmental Document.** The City of San Diego Environmental Analysis Section (EAS) of the Development Services Department (DSD) has prepared a Notice of Exemption (NOE), for San Ysidro Athletic Area/Larsen Field Lighting, dated August 8, 2012 as referenced in the Contract Appendix. You must comply with all requirements of the NOE as set forth in the Contract Appendix.

Compliance with the City's environmental document is included in the various Bid items, unless a bid item has been provided.

END OF SUPPLEMENTARY SPECIAL PROVISIONS (SSP)

TECHNICALS

San Ysidro Athletic Area/Larsen Field Lighting

SAN YSIDRO ATHLETIC AREA/LARSEN FIELD LIGHTING

TECHNICALS

END TABLE OF CONTENTS

SECTION 024119 - SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Demolition and removal of selected site elements.

B. Related Requirements:

1. Section 311000 "Site Clearing" for site clearing and removal of above- and below-grade improvements.

1.2 DEFINITIONS

A. Remove: Detach items from existing construction and legally dispose of them off-site unless indicated to be removed and salvaged or removed and reinstalled.

B. Remove and Salvage: Carefully detach from existing construction, in a manner to prevent damage, and deliver to Owner.

C. Remove and Reinstall: Detach items from existing construction, prepare for reuse, and reinstall where indicated.

D. Existing to Remain: Existing items of construction that are not to be permanently removed and that are not otherwise indicated to be removed, removed and salvaged, or removed and reinstalled.

1.3 MATERIALS OWNERSHIP

A. Unless otherwise indicated, demolition waste becomes property of Contractor.

B. Historic items, relics, antiques, and similar objects including, but not limited to, pavement markings from previous sidewalk installations must be preserved on-site.

1. Carefully salvage in a manner to prevent damage and reinstall in nearby new pavement.

1.4 INFORMATIONAL SUBMITTALS

A. Schedule of Selective Demolition Activities: Indicate the following:

1. Detailed sequence of selective demolition and removal work, with starting and ending dates for each activity.

2. Interruption of utility services. Indicate how long utility services will be interrupted.

3. Coordination for shutoff, capping, and continuation of utility services.

B. Predemolition Photographs or Video: Submit before Work begins.

1.5 FIELD CONDITIONS

A. Owner will occupy portions of building immediately adjacent to selective demolition area. Conduct selective demolition so Owner's operations will not be disrupted.

B. Notify Resident Engineer of discrepancies between existing conditions and Drawings before proceeding with selective demolition.

C. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify that utilities have been disconnected and capped before starting selective demolition operations.

B. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.

C. Survey of Existing Conditions: Record existing conditions by use of preconstruction photographs.

3.2 UTILITY SERVICES AND ELECTRICAL SYSTEMS

A. Existing Services/Systems to Remain: Maintain services/systems indicated to remain and protect them against damage.

B. Existing Services/Systems to Be Removed, Relocated, or Abandoned: Locate, identify, disconnect, and seal or cap off indicated utility services and electrical systems serving areas to be selectively demolished.

1. Arrange to shut off indicated utilities with utility companies.

2. If services/systems are required to be removed, relocated, or abandoned, provide temporary services/systems that bypass area of selective demolition and that maintain continuity of services/systems to other parts of building.

3.3 PREPARATION

A. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.

B. Temporary Shoring: Provide and maintain shoring, bracing, and structural supports as required to preserve stability and prevent movement, settlement, or collapse of construction and finishes to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.

3.4 DISPOSAL OF DEMOLISHED MATERIALS

A. General: Remove demolished materials from Project site and legally dispose of them. Provide a written affidavit stating that all soil, brush, trash, debris and surplus materials resulting from this project have been disposed of in a legal manner. 100% of soil and land clearing debris shall be reused or recycled.

1. Do not allow demolished materials to accumulate on-site.

2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.

B. Disposal: Transport demolished materials off Owner's property and legally dispose of them.

3.5 CLEANING

A. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

END OF SECTION 024119

SECTION 101426 - POST AND PANEL SIGNS

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following:

1. Post and panel signs.

1.2 PERFORMANCE REQUIREMENTS

A. Design Criteria: Design, fabricate, and install exterior post and panel signs to withstand a wind velocity of 100 mph on the total sign area, in all directions.

1.3 SUBMITTALS

A. Product Data: For each type of post and panel sign specified. Include details of construction relative to materials, dimensions of individual components, profiles, and finishes.

B. Shop Drawings: For each type of post and panel sign indicated.

1. Provide plans and elevations. Show layout and installation details.

2. Provide message list, including details of wording and lettering layout, at least half size.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Galvanized Steel Sheet: ASTM A653, G90 coating, mill phosphatized.

B. Steel Tubing: Cold-formed steel tubing conforming to ASTM A 500, Grade B, hot-dip galvanized after fabrication with a minimum of 2.0 oz. of zinc/sq. ft. of surface area conforming to ASTM A 123.

C. Vinyl Film: Opaque, non-reflective vinyl film, 0.0035-inch minimum thickness, with pressure-sensitive adhesive backing, suitable for exterior applications.

D. Concrete for Post Holes: Mix portland cement complying with ASTM C 150, aggregates complying with ASTM C 33, and clean water to obtain concrete with a minimum 28-day compressive strength of 2500 psi. Use at least 4 sacks of cement/cu. yd., 1-inch maximum-size aggregate, maximum 3-inch slump, and 2 to 4 percent entrained air.

2.2 COMPONENTS

A. Steel Posts: 0.120-inch-, galvanized, seamless, square steel posts in length adequate for mounting method specified. Include post caps, fillers, spacers, and related accessories required for a complete installation.

1. Post Size: 2 by 2 inches square.

B. Sign Panels: Provide smooth, even, level sign panel surfaces constructed to remain flat under installed conditions within a tolerance of plus or minus 1/16 inch measured diagonally from corner to corner.

1. Single-Sheet Panels: Provide single-sheet sign panels with edges mechanically and smoothly finished to conform to the following:

a. Panel Material: 16 gage galvanized steel sheet.

b. Edge Condition: Square cut.

c. Corner Condition: Corners rounded.

C. Graphic Content and Style: Provide sign copy to comply with requirements indicated for sizes, styles, spacing, content, positions, materials, finishes, and colors of letters, numbers, symbols, and other graphic devices.

1. Surface-Applied, Die-Cut Vinyl Copy: Provide die-cut characters from nonreflective vinyl film with pressure-sensitive adhesive backing. Apply copy to exposed face of sign panel.

2.3 ACCESSORIES

A. Fasteners: Use exposed fasteners fabricated from non-corrosive metals that are noncorrosive to sign material.

2.4 FINISHES

A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations relative to applying and designating finishes.

B. Baked-Enamel Finish: Apply baked enamel complying with paint manufacturer's specifications for cleaning and painting.

1. Color: As selected by Architect from manufacturer's full range of colors.

PART 3 - EXECUTION

3.1 INSTALLATION

A. General: Locate sign units where indicated, using mounting methods of type described and complying with manufacturer's written instructions.

B. Excavation: In firm, undisturbed or compacted soil, drill or (using a post-hole digger) hand-excavate holes for posts to diameters and spacing indicated.

1. Excavate hole depths approximately 3 inches lower than required post bottom, with bottom of posts set at least 36 inches below finished grade.

C. Setting Posts: Center and align posts in holes 3 inches above bottom of excavation.

1. Protect portion of posts aboveground from concrete splatter. Place concrete around posts and vibrate or tamp for consolidation. Check posts for vertical and top alignment and hold in position until concrete has achieved its initial set.

D. Install signs level, plumb, and at height indicated, with surfaces free from distortion or other defects in appearance.

3.2 CLEANING AND PROTECTING

A. At completion of installation, clean soiled surfaces of sign units according to manufacturer's written instructions.

B. Protect installed sign units from damage until acceptance by Resident Engineer.

END OF SECTION 101426

SECTION 224713 - DRINKING FOUNTAINS

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes drinking fountains and related components.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of drinking fountain.

1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.

2. Include operating characteristics, and furnished specialties and accessories.

1.3 CLOSEOUT SUBMITTALS

A. Maintenance Data: For drinking fountains to include in maintenance manuals.

PART 2 - PRODUCTS

2.1 DRINKING FOUNTAINS

A. Drinking Fountains Stainless Steel pedestal, wheelchair accessible.

1. Stainless Steel Drinking Fountains:

a. Basis-of-Design Product: Subject to compliance with requirements, provide Haws Model 3500 Hi-Lo, Barrier Free, vandal resistant, pedestal Drinking Fountain or comparable product by one of the following:

1) Belson Outdoors, Inc.

2) Halsey Taylor.

3) Haws Corporation.

4) Most Dependable Fountains, Inc.

5) Murdock-Super Secur; a division of Acorn Engineering Company.

6) Stern-Williams Co., Inc.

7) Tri Palm International, LLC.

2. Standards: Comply with ICC A117.1 and NSF 61. Product shall meet latest requirements of ADAAG.

3. Pedestal: with offset to receptor.

4. Receptor(s):

a. Number: Two.

b. Material: stainless steel.

c. Shape: Rectangular.

d. Bubbler: One for each receptor, with adjustable stream regulator.

e. Drain: Grid type with NPS 1-1/4 tailpiece.

5. Controls: Push button.

6. Access to Internal Components: Panel in pedestal.

7. Provide manufacturer’s standard mounting plate and hardware.

8. Supply Piping: NPS 3/8 with shutoff valve.

9. Drain Piping: NPS 1-1/4 minimum trap and waste.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine roughing-in for water-supply and sanitary drainage and vent piping systems to verify actual locations of piping connections before fixture installation.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. Install fixtures level and plumb according to roughing-in drawings. For fixtures indicated for children, install at height required by authorities having jurisdiction.

B. Set pedestal drinking fountains on concrete slab.

C. Install trap and waste piping on drain outlet of each fixture to be connected to sanitary drainage system.

3.3 CONNECTIONS

A. Connect fixtures with water supplies, and waste, piping. Use size fittings required to match fixtures.

B. Install ball, gate, or globe shutoff valve on water supply to each fixture.

3.4 ADJUSTING

A. Adjust fixture flow regulators for proper flow and stream height.

3.5 CLEANING

A. After installing fixtures, inspect unit. Remove paint splatters and other spots, dirt, and debris. Repair damaged finish to match original finish.

B. Clean fixtures, on completion of installation, according to manufacturer's written instructions.

C. Provide protective covering for installed fixtures.

D. Do not allow use of fixtures for temporary facilities unless approved in writing by Owner.

END OF SECTION 224713

SECTION 260500 - GENERAL ELECTRICAL REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes:

1. Definitions.
2. Excavation.
3. Coordination of work.
4. Cleaning, patching repairing and painting.
5. Warranties.
6. Field test.

1.2 REFERENCES

A. American National Standards Institute, Inc. (ANSI) Publications:

1. C2 - National Electrical Safety Code.

B. California Code of Regulations (CCR) Publications:

1. Title 8, Industrial Relations.
2. Title 19, State Fire Marshal Regulations.
3. Title 24, Part 2, Energy Conservation Standards.
4. Title 24, Part 3, CCR, 2010 California Electrical Code.
5. Title 24, Part 9, CCR, 2010 California Fire Code.

C. National Electrical Manufacturers Association (NEMA) Publication: ICS6-93 Enclosures for Industrial Controls and Systems.

D. National Fire Protection Association (NFPA) Publications:

1. 70 National Electrical Code
2. 70B Recommended Practice for Electrical Equipment Maintenance.
3. NFPA 101 Life Safety Code.

E. State of California Public Utilities Commission (Cal. P.U.C.) Publications:

1. G.O. 128 Rules for Construction of Underground Electrical Supply and Communications Systems.

1.3 DEFINITIONS

The following definitions apply to terms used in these standards.

A. The words "work" or "electrical work" include products, labor, equipment, tools, appliances, transportation, and all related items directly or indirectly required to complete the specified and indicated electrical installation.

B. The word "concealed" shall meant that the installation will not be visible when all permanent or removable elements of the construction are in place. The word "exposed" shall mean that the installation is visible when all permanent or removable elements of the construction are in place.

C. The word "code" shall mean any and all regulations and requirements of regulatory bodies, public and private, having jurisdiction over the work involved.

D. The word "product" used in Division 26 means all material, equipment, machinery, and/or appliances directly or indirectly required to complete the specified and/or indicated electrical work.

E. The words "standard product" shall mean a manufactured product, illustrated and/or described in catalogs or brochures, which is in general distribution prior to the date of issue of construction documents. Products will generally be identified by means of a specific catalog number and manufacturer's name.

F. "Provide" means furnish, install, connect and test unless otherwise noted.

G. The words "conduit" and "duct" are used interchangeably, and have the same meaning.

H. "UFER" Ground: See Section 260526, "Grounding and Bonding".

1.4 DRAWINGS AND SPECIFICATIONS

A. Electrical drawings are diagrammatic but shall be followed as closely as actual construction and work of the other sections shall permit. Size and location of equipment is drawn to scale wherever possible.

B. Drawings and specifications are for the assistance and guidance of the Contractor. Exact locations, distances, and levels will be governed by the site. The Contractor shall make use of data in all the contract documents to verify information at the building site.

C. In any case where there appears to be a conflict or ambiguity between that which is shown on the electrical drawings or in the electrical specifications and any other part of the Contract Documents, the Contractor shall notify and secure directions from the Engineer.

D. Drawings and specifications are intended to complement each other. Where a conflict or ambiguity exists between the requirements of the drawings and the specifications, request clarification. Do not proceed with work without direction.

E. The Engineer shall interpret the drawings and the specifications. The interpretation by the Engineer as to the true intent and meaning thereof and the quality, quantity, and sufficiency of the materials and workmanship furnished thereunder shall be accepted as final and conclusive.

F. In the case of conflicts or ambiguities not clarified prior to the bidding deadline, use the most costly alternative (better quality, greater quantity, and larger size) in preparing the bid. A clarification will be issued to the successful bidder as soon as feasible after the award and, if appropriate, a deductive change order will be issued.

G. Where items are specified in the singular, this division shall provide the quantity as shown on drawings plus any spares or extras indicated on the drawings or in the specifications.

H. Record Drawings:

1. On one (1) set of contract drawings, kept at the site during construction, mark all work that is installed differently from that shown on plans, including revised circuitry, material or equipment. Sufficient dimensions shall be provided to locate all materials installed beneath and outside the building including, but not limited to, underground conduits, cabling, ground rods, and stubouts.

2. All changes or revisions to the contract drawings including, but not limited to, those indicate by amendment, change order, field order, written response to RFI/RFC or other

contractual means shall be kept current as the work progresses and shall be incorporated onto the final record drawings.

3. Accurately locate and dimension all underground and embedded conduit runs on the record drawings.

4. The marked drawings shall be kept current as the work progresses and shall be available for inspection upon request. At the close of construction, prepare a set of accurate reproducible record drawings and turn them over to the Engineer. The correct and completed record drawings are a prerequisite to final contract payment.

    a. As part of the reproducible record drawings, the Contractor shall produce full size reproducible drawings with the final panelboard schedules as modified during construction and final light fixture schedule as modified during construction.

    b. These drawings shall be on Engineering base sheets and numerically sequenced to follow the last "E" sheet.

1.5 EXAMINATION OF SITE

A. Examination of the building site shall be made by the Contractor. The Contractor shall compare it with the drawings and specification to satisfy himself as to the conditions under which work is to be performed. The Contractor shall, at such time, ascertain and check the locations of existing structures or equipment which may affect his work.

1.6 EXCAVATION

A. Prior to starting excavation or trenching, the Contractor shall perform an underground Site Survey utilizing an electronic locator to verify the exact location of all existing underground utility piping, conduits and conductors. The Contractor shall submit for approval a site survey report to the Engineer within five (5) working days after the survey is performed. The Site Survey Report shall show the horizontal location for existing utilities and identify any possible conflicts between the new work and existing utilities.

B. All existing utilities that are disturbed by the contractor shall be immediately repaired at no cost to the City.

1.7 PERMITS, FEES AND INSPECTIONS

A. Permits, fees, and inspections including all utility fees shall be arranged for and paid by the Contractor.

B. The Contractor shall present to the Engineer properly signed certificates of the final inspection before work will be accepted.

1.8 SUBMITTALS

A. Submittal requirements for Division 26 shall be in accordance with Division 1 except as modified herein. All time requirements shall be based on the notice to proceed date of the General Contract. All materials and equipment furnished under Division 26 shall; be submitted to the Engineer for approval. Such approval shall be in writing from the Engineer including that, which is exactly as specified. Any materials or equipment installed without written approval shall be subject to immediate removal. Approval of material or equipment shall in no way obviate compliance with the contract documents.

B. Submittals shall be packaged separately for each system or major piece of equipment and reviewed by the Contractor for verification of compliance with the contract documents prior to submitting to the Engineer. Separate, bound submittals shall be provided for each specification section to the Engineer. Authorization to combine equipment or systems must be in writing

from the Engineer. All interfaces between specification sections shall be indicated in each submittal.

C. All materials and equipment shall be new and shall bear the inspection label of the Underwriters Laboratories (UL) where applicable. Materials and equipment shall be the latest standard product and shall be of the grade indicated by the trade names given.

D. The work shown on the contract drawings is engineered and designed to accommodate the equipment described hereinafter in these specifications.

E. Equipment submittals shall include manufacturer's name, model, type, number, finish, size and capacity of the equipment at the given conditions. This information shall be provided in bound submittals, each containing an index and all submittals. Provide seven (7) copies of each submittal. The title shall provide the project name, system identity, the specification number, and the Contractor's name and address. This submittal shall be in addition to the shop drawings hereinafter specified. Partial submittals of material submitted from time to time are not acceptable and may be returned without review.

F. Submittals shall be reviewed by the Engineer for compliance with the contract documents. Submittals found to be incomplete or not in compliance with the contract documents shall be returned for resubmittal. The Engineer shall review the original submittal and one (1) resubmittal per section (if required). The Contractor shall reimburse the Engineer for all subsequent submittal reviews.

G. Shop drawings for service entrance equipment shall be submitted to and approved by the San Diego Gas and Electric Company metering shop prior to submittal to the Engineer.

H. Equipment Layout Drawings: "Equipment Layout Drawings" shall be provided for each equipment room, yard or area containing equipment items furnished under Division 26. Layout drawings shall consist of a plan view of the room or area (to a ¼ inch =1'-0" minimum scale) showing projected outlines of all equipment, complete with dotted lines indicating all required clearances, including all clearances needed for removal or service. Location of all conduit and pull boxes shall be indicated. Drawings shall indicate any and all conflicts with other trades.

I. All electrical submittals shall also be routed through and reviewed by the City of San Diego Facilities Division electrical crew. All City comments will be prepared and forwarded within five (5) working days.

1.9 SUBSTITUTIONS

A. Equipment submitted for substitution must fit the space conditions shown on the drawings, leaving adequate room for maintenance around all equipment. A minimum of 36 inches (or more if required by Code) must be maintained clear in front of all electrical panels, starters, gutters or other electrical apparatus. Submit drawings showing the layout, size, and exact method of interconnection of conduit, wiring and controls, which shall conform to the manufacturer's recommendations and these specifications. The scale of these drawings shall be the scale of the contract drawings. The Contractor shall bear the excess costs, by any and all crafts, for fitting the equipment into the space and the system designated. Where additional labor or material is required to permit equipment submitted for substitution to function in an approved manner, this shall be furnished and installed by the Contractor without additional cost to the City.

B. No substitutions will be allowed for materials or equipment if three (3) or more manufacturers are indicated.

C. An item submitted for substitution does not constitute an "equal" unless approval by the Engineer has been given in writing.

D. Equipment submitted for substitution shall be approved in writing by the Engineer and shall be accompanied by the following:

1. A sample of each item submitted for substitution shall accompany the submittal if requested by the Engineer.

2. A unit price quotation shall be provided with each item intended for substitution. This quote shall include a unit price for the specified item and a unit price for the intended substitute item. The Contractor shall also provide a total (per item) of the differential payback to the City should the intended substitute item be approved as equivalent to that which is specified.

3. The Contractor shall reimburse the City for the additional services required by the Engineer to review and process substitutions.

E. Substitutions shall be approved in writing by the Engineer. The determination of the Engineer shall be final.

1.10 WARRANTY

A. All materials and equipment provided for Division 26 shall be warranted for a minimum period of one (1)-year from the official date of completion.

B. The following materials and equipment provided shall be warranted for a minimum period of three (3)-year from the official date of completion:

1. Service Entrance and Metering Equipment.

2. Circuit Breakers.

C. Refer to Section 265668, “Sports Field Lighting” for additional warranty requirements for materials and equipment specified in that section.

D. The Contractor shall provide all labor and materials required to correct problems which develop during the warranty period due to defective materials of faulty workmanship. The labor and materials to do this work shall be provided at no additional cost to the City.

E. Within one (1)-month prior to the expiration of the warranty period, the Contractor shall correct any and all defects covered by the warranty. This shall include tightening to original specifications of all bolted connections.

F. Warranty certificates shall be made out to the City and shall be delivered to the Engineer at the completion of the installation.

G. All equipment shall be guaranteed to be supported in such a way as to be free from objectionable vibration and noise.

H. Additional warranty requirement shall be as indicated on Division 26.

1.11 OPERATION AND MAINTENANCE MANUALS

A. The Contractor shall furnish operation and maintenance manuals for each electrical system and for each piece of equipment. The complete manual, bound in hardback binders, or an approved equivalent, shall be provided to the Engineer. Provide Two (2) copies of each manual. One (1) manual shall be furnished prior to the time that system or equipment tests are performed, and the remaining manuals shall be furnished one (1) week before the final job visit is made. The following identification shall be inscribed on the cover; the words "OPERATION AND MAINTENANCE MANUAL", the name and location of the building, the name of the Contractor, and the contract number.

B. The parts list for equipment shall indicate the sources of supply, recommended spare parts, and the service organization that is reasonably convenient to the building site. The manual shall be complete in all respects for all equipment, controls, and accessories provided.

C. One (1) copy shall be provided to the City Resident Engineer for the project prior to the final walk-through.

1.12 COORDINATION OF ALL WORK

A. Job Visits by the Engineer:

1. Periodic visits to the job by the Engineer are for the express purpose of verifying compliance with the contract documents.

2. Such visits shall not be construed as construction supervision. Neither shall such visits be construed as making the Engineer responsible for providing a safe place for the performance of the work by the Contractor or the Contractor's employees or the safety of the supplies of the Contractor or his Subcontractors.

B. Temporary Electrical Service:

1. The Contractor shall provide labor and materials required for the installation and maintenance of temporary lighting and required power sources for the Contractor's equipment inside the building or construction site and for pedestrian walkways during the period of construction.

2. The construction site shall be sufficiently illuminated so that construction work can be safely performed. Special attention shall be given to adequately lighting stairs, ladders, pedestrian walkways, floor openings, etc. Walkway lights shall be controlled by a switch within the building or construction site.

C. New Utility Services:

1. The Contractor shall provide all required labor and material for the installation and connection of new utility services including, but not limited to the following:

a. Electrical Service Entrance and Metering Equipment.

D. Posted Operating Instructions:

1. Operating instructions shall be provided by the Contractor at the conclusion of the project for each system and each principal piece of equipment for the use of operating and maintenance personnel. The operating instructions shall include wiring and control diagrams showing the entire system, including, but not limited to, equipment, devices, and control sequences. The Engineer shall approve all operating instructions.

2. Operating instructions shall be typewritten or engraved and shall be framed under glass or in approved laminated plastic and posted adjacent to each principal piece of equipment and shall include such instructions as start up, proper adjustment, operation, lubrication, shutdown, safety-precautions, procedure in the event of equipment failure, and any other necessary items of instructions as recommended by the manufacturer of unit.

3. Operating instructions exposed to the weather shall be made of weather-resisting materials or shall be suitably enclosed to be weather protected. Operating instructions shall not fade when exposed to sunlight and shall be secured to prevent easy removal or peeling.

1.13 TRAINING

A. User staff and maintenance personnel shall be thoroughly trained (minimum four (4)-hours) in the use of each system or major piece of equipment installed. This training shall be provided a part of the Contractors bid to supply the system or equipment. Additional training requirements, shall be as specified in the subsequent sections of Division 26.

1.14 DELIVERY AND STORAGE

A. Equipment and materials shall be properly stored, adequately protected, and carefully handled to prevent damage before and during installation. Equipment and materials shall be handled, stored, and protected in accordance with the manufacturer's recommendations and as approved by the Engineer. Electrical conduit shall be stored to provide protection from the weather and accidental damage. Plastic conduit shall be stored on even supports and in locations not subject to direct sunrays or excessive heat. Cables shall be sealed, stored, and handled carefully to avoid damage to the outer covering or insulation and damage from moisture and weather. Damaged or defective items shall be replaced with new items a no cost to the City. The Engineer shall determine if a damaged or defective item is to be replaced with a new item. The decisions by the Engineer in these matters shall be final.

1.15 FIELD TESTS

A. As an exception to requirements that may be stated elsewhere in the contract, the Engineer shall be given five (5) working days notice prior to each test. The Contractor shall provide all test equipment, personnel and incidentals including, but not limited to, water, fuel, and lubricants necessary to perform the required tests. The Owner shall provide electrical power required for all tests. The Contractor shall submit five (5) typewritten copies of all test results to the Engineer within five (5) working days after each test.

1. The information submitted shall include, but not limited to, the following:

   a. Scope of the test.

   b. Name and type of instrument used.

   c. Calibration date of instrument and name of calibration firm.

   d. Name and signature of testing personnel.

   e. Name of signature of Engineer.

   f. Analysis of test results.

2. The Contractor shall demonstrate to the Engineer the operation of all equipment and systems. All tests shall be completed to the satisfaction of the Engineer. Each test shall be performed the number of time indicated in the individual specification section. In the event the number of times the tests are to be completed is omitted, the Engineer shall determine the number.

1.16 SINGLE LINE DIAGRAM DISPLAY

A. In the main service entrance electrical room provide a 24" wide x 18" high metal frame to display an "As-Built" single line diagram of the entire final electrical distribution system. It shall be date and the "As-Built' condition notated. Mount securely on electrical room wall.

1.17 FINAL WALK THROUGH

A. The final project walk-through will be attended by the Resident Engineer, engineer, Contractor, and City Facilities Electrical Department personnel. At that time an operational test of at least the following systems shall occur to verify correct operation:

1. Emergency Systems
2. Time clocks/Photocell controls
3. Occupancy sensors and lighting switching
4. Mechanical equipment and thermostat settings
5. Other systems/components at the direction of the City.

B. Project close-out submittals will include:

1. As-Built drawings
2. A spec book
3. A book of final product submittals
4. O&M manuals
5. Signed off inspection reports and certificated

END OF SECTION 260500

SECTION 260510 - BASIC ELECTRICAL MATERIALS AND METHODS

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following:

1. Supporting devices for electrical components.
2. Cutting and patching for electrical construction.
3. Touch-up painting.
4. Tests of all electrical systems.
5. Equipment Identification

1.2 ABBREVIATIONS

EMT: Electrical metallic tubing.
FMC: Flexible metal conduit.
IMC: Intermediate metal conduit.
LFMC: Liquid tight flexible metal conduit.
RNC: Rigid nonmetallic (PVC) conduit.
RMC: Rigid metallic conduit.
RGS: Rigid Galvanized Steel Conduit

1.3 REFERENCES

A. National Fire Protection Association (NFPA) Publication 70 – National Electrical Code (NEC).

B. California Code of Regulations (CCR) Publications:

1. Title 24, Part 2, CCR California Building Code (CBC)
2. Title 24, Part 3, CCR, California Electrical Code. (CEC)
3. Title 24, Part 6, CCR, California Energy Code

C. Underwriters Laboratories, Inc. (U.L.) Publications

1. Standard for Flexible Metal Conduit.
2. Rigid Metallic Conduit.
3. Cabinet and Boxes.
4. Panelboards.
5. Thermoplastic Insulated Wires.

D. National Electrical Manufacturers Association (NEMA) – Wiring Devices (NEMA WD)

1.5 SUBMITTALS

A. The following information shall be submitted for review and approval in accordance with Section 260500, "General Electrical Requirements".

B. Shop Drawings:

1. Provide shop drawing details, furnished by the manufacturer of the fire stop material, which show complete conformance to the U.L. system listing. These drawings shall be

available to the Fire Marshal on site. The shop drawing shall be specific for each penetration with all variables defined.

C. Field Test Reports: Indicate and interpret test results for compliance with performance requirement

1.6 REGULATORY REQUIREMENTS

A. The Contractor shall conform to the requirements of the California Electrical Code and the City of San Diego Electrical Code, except where requirements herein are more stringent.

B. The Contractor shall furnish products listed and classified by Underwriters Laboratories, Inc. or as testing firm acceptable to the City as suitable for purpose specified and shown.

1.7 QUALITY ASSURANCE

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

B. Comply with California Electrical Code.

C. Comply with City of San Diego Electrical Code.

1.8 COORDINATION

A. Coordinate chases, slots, inserts, sleeves, and openings with general construction work and arrange in building structure during progress of construction to facilitate the electrical installations that follow.

1. Set inserts and sleeves in poured-in-place concrete, masonry work, and other structural components as they are constructed.

B. Sequence, coordinate, and integrate installing electrical materials and equipment for efficient flow of the Work. Coordinate installing large equipment requiring positioning before closing in the building.

C. Coordinate electrical service connections to components furnished by utility companies.

1. Coordinate installation and connection of exterior underground and overhead utilities and services, including provision for electricity-metering components.

2. Comply with requirements of authorities having jurisdiction and of utility company providing electrical power and other services.

D. Where electrical identification devices are applied to field-finished surfaces, coordinate installation of identification devices with completion of finished surface.

E. Where electrical identification markings and devices will be concealed by acoustical ceilings and similar finishes, coordinate installation of these items before ceiling installation.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Products and materials shall be as specified in the pertinent sections of Division 26.

B. All products and materials shall be new and bear UL label whenever subject to such approval. Comply with ANSI, IEEE and NEMA standards where applicable.

C. Wherever possible, all materials and equipment used in this installation shall be of the same manufacturer throughout for each class of material or equipment.

2.2 TOUCHUP PAINT

A. For Equipment: Equipment manufacturer's paint selected to match installed equipment finish.

B. Galvanized Surfaces: Zinc-rich paint recommended by item manufacturer.

2.3 WARNING LABELS AND SIGNS

A. Comply with NFPA 70 and 29 CFR 1910.145.

B. Self-Adhesive Warning Labels: Factory-printed, multicolor, pressure-sensitive adhesive labels, configured for display on front cover, door, or other access to equipment unless otherwise indicated.

C. Baked-Enamel Warning Signs:

1. Preprinted aluminum signs, punched or drilled for fasteners, with colors, legend, and size required for application.

2. 1/4-inch (6.4-mm) grommets in corners for mounting.

3. Nominal size, 7 by 10 inches (180 by 250 mm).

D. Warning label and sign shall include, but are not limited to, the following legends:

1. Multiple Power Source Warning: "DANGER - ELECTRICAL SHOCK HAZARD - EQUIPMENT HAS MULTIPLE POWER SOURCES."

2. Workspace Clearance Warning: "WARNING - OSHA REGULATION - AREA IN FRONT OF ELECTRICAL EQUIPMENT MUST BE KEPT CLEAR FOR 36 INCHES (915 MM)".

3. Emergency Stop Warning: "EMERGENCY SHUTOFF".

4. Electrical Room Warning: "NOTICE – ELECTRICAL ROOM – NO STORAGE PERMITTED".

5. Electrical Substation Yard: "DANGER – HIGH VOLTAGE – KEEP OUT

2.4 INSTRUCTION SIGNS AND EQUIPMENT IDENTIFICATION LABELS

E. Engraved, laminated acrylic or melamine plastic, minimum 3/32 inch (2.38 mm) thick for signs up to 20 sq. inches (129 sq. cm) and 1/8 inch (3.2 mm) thick for larger sizes.

1. Engraved legend with black letters minimum 1/4 inch (6.35 mm) on white face.

2. Punched or drilled for mechanical fasteners.

F. Minimum size of nameplates shall be 1-inch (25.4 mm) high by 3-inches (76.2 mm) wide.

G. Provide nameplates for each switchboard, panelboard, feeder circuit breaker, disconnect switch, time switch, control panel, transformer, and exposed junction or pull box.

2.5 WIRE AND CABLE TAGES

H. Self-adhesive, machine printed wire markers to indicate branch circuit or feeder designation.

PART 3 - EXECUTION

3.1 INSTALLATION AND CONNECTION OF ELECTRICAL EQUIPMENT

A. Equipment furnished by others shall be completely connected to the electrical system as required for correct operation. All conduit, wire, junction boxes, etc., shall be provided for proper connection and all required grounding shall be installed. Verify actual requirements with equipment supplier or Engineer prior to rough- in.

B. All outlets, devices and equipment furnished under Division 26 shall be fully installed and connected.

C. Provide all required flexible conduit, boxes, fittings, receptacles, caps, cords, and other material that may be required for the proper installation of all equipment. Refer to manufacturer's directions where applicable.

D. Coordinate the work carefully to ensure that all electrical requirements of equipment are met and all systems are made complete and operational.

E. All equipment shall be installed recessed (flush) unless otherwise noted or shown on plans.

F. Install equipment to permit easy access for all maintenance.

1. Maintain easy access to switches, motors, drives, pull boxes, receptacles, etc.

2. Relocate items which interfere with access.

3.2 SEISMIC RESTRAINTS

A. All electrical equipment shall be braced or anchored in accordance with the requirements of the CBC for the seismic zone indicated on the drawings.

1. Horizontal seismic forces shall be determined from the applicable equations of the governing code.

2. Provide all required seismic bracing, supports, bolts, washers, nuts, etc. for conduits and conduit supports.

3.3 MISCELLANEOUS WORK

A. Do all miscellaneous metal and concrete work required; all cutting and patching; and provide all hangers, anchors, chases, supports, etc., required for the installation of the electrical systems.

B. Touch-up or refinish damaged surfaces including, but not limited to, meter pedestal, light fixtures, etc., to the satisfaction of the Engineer.

C. All work shall be in accordance with applicable sections of the specifications.

3.4 CLEANING AND PROTECTION OF PRODUCTS AND PREMISES

A. At frequent intervals during the time on the site, the Contractor shall clean up after his work and remove his debris from the premises. The building and grounds shall be cleaned to the satisfaction of the Engineer. All equipment and material resulting from demolition for this project shall be removed.

B. The Contractor shall take all necessary precautions to protect all materials, equipment and property, whether electrical or not, from damage as result of his work.

C. The Contractor shall provide adequate protection for all material and equipment provided under Division 26. Material and equipment shall be stored in a clean dry place and shall be covered or protected from damage or contamination during storage and after installation.

D. Before final inspection, all material and equipment furnished under Division 26 shall be thoroughly cleaned of cement, plaster, paint spatters and other foreign materials. All surfaces shall be carefully wiped clean. Boxes, cabinets and enclosures shall be cleaned, inside and out.

3.5 CHECKING AND TESTING OF EQUIPMENT

A. Switchboards, panelboards, and all other operable equipment worked on under this contract shall be inspected for defects, and tested for proper operation.

B. Systems shall be tested for short circuits, open circuits, wrong connections, and grounds. All system shall be free from mechanical and electrical defects.

C. Circuits shall be tested for proper neutral and ground connections.

D. Where required or directed, systems shall be tested in the presence of the Engineer to demonstrate that equipment furnished, installed, or connected functions in the manner intended.

E. The contractor shall furnish all necessary instruments and equipment required for testing and shall immediately correct any defective work at no additional charge. Should the Contractor refuse or neglect to make tests necessary to satisfy the Engineer that he has carried out the true intent and meaning of the specifications, the Engineer may have such tests made and charge the expense thereof to the Contractor to be retained out of full final payment.

F. Bolted connections shall be torque-tightened to manufacturer's specifications. The Contractor shall torque all connections with a wrench that has been calibrated within the last three (three) months. Submit proof of calibration to the Owner's Representative.

G. Ground-Fault Circuit Interrupter Tests: Test each branch circuit having ground fault circuit protection to ensure that the ground fault circuit interrupter will not operate when subjected to a ground fault current of less than 4 milliamperes and will operate when subjected to ground fault current exceed 6 milliamperes. Perform tests using an instrument specifically designed and manufactured for testing ground fault circuit interrupters. Apply the test to the receptacle which is at the greatest distance from the ground fault interrupter. If ground-fault interrupter type receptacles are installed, test each receptacle for proper operation. "TEST" button operation will not be acceptable as a substitute for this test.

H. For additional checking and testing of special systems, see the section where those systems are specified.

END OF SECTION 260510

SECTION 260519 - WIRES AND CABLES

PART 1 - GENERAL

1.2 SUMMARY

A. This Section includes building wires and cables and associated connectors, splices, and terminations for wiring systems rated 600 V and less.

1.3 REFERENCES

A. CEC California Electrical Code.

B. NECA (National Electrical Contractors Association) – Standard of Installation.

C. NETA (International Electrical Testing Association) – Acceptance Testing Specifications for Electrical Power Distribution Equipment and Systems.

D. ANSI/UL – Insulation of Conductors.

1.4 SUBMITTALS

A. Field Test Reports: Indicate and interpret test results for compliance with performance requirements.

B. Product data: Submit for building wire and each cable assembly type.

C. Select each length to complete set of manufacturer markings.

D. Attach tag indicating cable size and application information.

E. Product Record Documents: Record actual locations of components and circuits.

F. Provide manufacturer's instruction for use of ground megger with proposed method indicated.

1.5 QUALITY ASSURANCE

A. Manufacturer: Shall be specialized in manufacturing products specified in this section with minimum ten years (documented) experience.

B. Testing Agency: Company shall be a member of International Electrical Testing Association and specializing in testing products specified in this section with minimum three years.

C. Listing and Labeling: Provide wires and cables specified in this Section as defined in CEC, Article 100.

1.6 REGULATORY REQUIREMENT

A. Conform to ANSI/NFPA 7

B. Conform to CCR Title 24, Part 6, California Energy Code.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Product Requirements: Products storage and handling requirements.

B. Deliver wires and cables according to NEMA WC 26.

1.8 SCHEDULING OR COORDINATION

A. Where wire and cable destination is indicated and routing is not shown, determine routing and lengths required.

B. Coordinate layout and installation of wiring and cables with other installations.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

B. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Wires and Cables:

a. American Insulated Wire Corp.; Leviton Manufacturing Co.

b. Carol Cable Co., Inc.

c. Senator Wire & Cable Company.

d. Southwire Company.

2. Connectors for Wires and Cables:

a. AMP Incorporated.

b. General Signal; O-Z/Gedney Unit.

c. Monogram Co.; AFC.

d. Square D Co.; Anderson.

2.2 BUILDING WIRES AND CABLES

A. Conductor Material: Copper

B. All conductor sizes shall be designated by American Wire Gauge (AWG) or Thousand Circular Mills (kcmil).

C. The date of manufacture shall not exceed six months prior to delivery to the site.

D. All conductors shall be stranded. Minimum wire size shall be No. 12 AWG unless otherwise specified. Exception: minimum wire size for control circuits shall be No. 14 AWG.

E. Branch circuit conductors shall be type THHN/THWN-2 (90 degrees C).

F. Feeder conductors 6 AWG and larger shall be type XHHW-2 (90 degrees C).

G. All conductors shall be color-coded as follows:

	480/277 Volts	208/120 Volts	240/120 Volts
Phase “A”	Brown	Black	Match Existing
Phase “B”	Orange	Red	Match Existing
Phase ”C”	Yellow	Blue	-
Neutral	Gray	White	White
Ground	Green	Green	Green

H. Where color other than black is not an integral part of insulation use 3M No. 35 tapes in the same color code to identify both ends of conductors No. 8 and larger. Use other colors as required to identify control or other special circuits. Ground conductors will have green insulation for 1/0 or smaller conductors, green tapes on other colors of insulation are NOT acceptable. All neutral wires shall be white with phase color stripe (for branch circuits) running along entire length.

2.3 CONNECTORS AND SPLICES

A. UL-listed, factory-fabricated wiring connectors of size, ampacity rating, material, type, and class for application and service indicated. Comply with Project's installation requirements.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine raceways and building finishes to receive wires and cables for compliance with requirements for installation tolerances and other conditions affecting performance of wires and cables. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.2 WIRE AND CABLE INSTALLATION

A. All wiring shall be installed in accordance with the California Electrical Code. All wiring shall be installed in conduit except where other raceway systems or methods are specifically shown on the drawings or required by the specifications.

B. Provide a dedicated neutral for each branch circuit phase conductor. Neutrals shall not be shared except where multi-wire circuits are specifically indicated. Branch circuit neutral color stripe shall match color of phase wire to which it is associated.

C. Thoroughly clean out all wireways and see that all parts are perfectly dry before pulling any wires. Lubricants shall be designed for use with the insulation type used and the temperature conditions. A mechanical wire puller may be used where directed, in which case a lubricant shall be used. Any wire damaged as a result of installation under this section shall be pulled out and replaced with new at no additional cost to the City.

D. Make all connections necessary to properly complete the electrical wiring. Connections shall be made only in outlet boxes, or in switchboards, or panels having sufficient code-sized gutter space.

E. Connections to equipment or busbars shall be made with approved solderless compression type copper lugs for all wires No. 8 AWG and larger. Special lugs or connections shall be as shown on the plans. Binding screws may be used for size No. 10 and smaller. Where stranded wire is connected to binding screws, nylon, self-insulated, ring tongue, pressure type terminals or equal, shall be used on the wire. Soldering will not be an acceptable method of connecting any power conductors. Clipping of wires from standard cable to fit connectors and terminal lugs shall not be permitted.

F. All conductors shall be continuous from outlet to outlet and no splices shall be made except within outlet or junction boxes. At least 8" of wire shall be left at outlet boxes for connecting fixtures and devices.

G. No wire smaller than No. 12 AWG shall be used, except for signal or control systems, or where otherwise indicated. No. 10 AWG wire shall be used for 20 ampere 120 volt branch circuits in excess of 100 feet in length. This is intended to reduce branch circuit voltage drop and takes precedence over No. 12 wire size indicated in drawings. Record drawings shall indicate installed wire size.

H. Wires entering switchboards, panelboards and control panels shall be of sufficient length for proper termination without splicing within the equipment enclosure. Any wires installed that require splicing for terminating shall be removed and replaced with ones of the proper length. Wires shall be trained and supported in neat bundles.

I. Wiring Bundles or Harnesses:

1. Multiple wires in bundles or harnesses terminating in control panels, switchboards, panelboards, etc. shall be bundled, trained and laced to achieve a neat and workmanlike appearance.

2. Surplus wire protruding from the harness for termination shall be trimmed to proper length. Do not fold and stuff surplus wires into wiring gutters.

3. Wires exiting the bundle or harness shall be carefully trained at a 90 degree angle to the termination point.

J. Permanent tags shall be connected to all feeders in intermediate pullboxes (where used) to provide identification for future use.

K. Cable Terminating: Terminations of insulated power and lighting cables shall be protected from accidental contact, deterioration of coverings, and moisture by the use of terminating devices and materials. Terminations shall be made using materials and methods as indicated or specified herein or as designated by the written instruction of the cable manufacturer and termination kit manufacturer.

L. Identification: Provide wire markers on each conductor in electrical panel, switchboard, pull box, outlet and junction box. This includes all disconnects and terminations. If more than one neutral conductor is present, mark each related circuit and panel number.

3.3 CONNECTIONS

A. Conductor Splices: Avoid splices wherever possible.

B. Wiring at Outlets: Install conductor at each outlet, with at least 12 inches (300 mm) of slack.

C. Connect outlets and components to wiring and to ground as indicated and instructed by manufacturer.

D. Tighten electrical connectors and terminals according to manufacturer's published torque-tightening values. If manufacturer's torque values are not indicated, use those specified in UL 486A and UL 486B.

3.4 FIELD TESTS

A. As an exception to requirements that may be stated elsewhere in the contract, the Engineer shall be given five (5) working days notice prior to each test.

B. Testing Equipment: The testing equipment and devices used in performing the required tests shall have a calibration sticker affixed to the device stating the date when calibrated, date due for re-calibration, and the signature of the individual who did the calibration. In addition to the sticker a certificate shall also contain the brand name and the serial number of the device.

C. Insulation Resistance Test for System 600 Volts and Less: After all wiring is completed and connected ready for operation, but prior to placing system in service and before any branch circuit breakers are closed, insulation resistance tests shall be made in all feeder and subfeeder circuits. The insulation resistance between conductors and between each conductor and ground shall be measured. Measurements shall be made with an instrument capable of marking measurements at an applied potential of 500 volts. Readings shall be taken after the voltage has been applied for a minimum of one minute. The minimum insulation resistance for circuits of No. 12 AWG conductors shall be 1,000,000 ohms. For circuits of No. 10 AWG or larger conductors, a resistance based on the allowable ampacity of the conductor as fixed by the CEC shall be as follows:

1. 25 through 40 amperes 250,000 ohms
2. 51 through 100 amperes 100,000 ohms
3. 101 through 200 amperes 50,000 ohms
4. 201 through 400 amperes 25,000 ohms
5. 401 through 800 amperes 12,000 ohms
6. Over 800 amperes 5,000 ohms

D. Test Report (Submit four (4) copies in writing):

1. 600 volt cables (identify each cable and test results).

END OF SECTION 260519

SECTION 260526 - GROUNDING AND BONDING

PART 1 - GENERAL

1.1 SUMMARY

A. This Section specifies the minimum materials and performance standards for grounding and bonding.

B. Sections include:

1. Grounding electrodes and conductors.

2. Grounding electrodes.

3. Equipment grounding conductors.

4. Bonding.

1.2 REFERENCES

A. American National Standards Institute (ANSI) Publication C2-97 – National Electrical Safety Code.

B. Institute of Electrical and Electronic Engineers (IEEE) Publication 142 – Recommended Practice for Grounding of Industrial and Commercial Power Systems.

C. National Fire Protection Association (NFPA) Publication:

1. 70 – National Electrical Code.

2. 780 – Lightning Protection Code.

D. Underwriters Laboratories, Inc. (U.L.) Publication:

1. 83 - Thermoplastic Insulated Wires.

2. 467 - Grounding and Bonding Equipment.

3. 486A - Wire Connectors and Soldering Lugs for Use with Copper Conductors.

1.3 REGULATORY REQUIREMENTS

A. The Contractor shall conform to requirements of the California Electrical Code.

B. The Contractor shall furnish products listed and classified by Underwriters Laboratories, Inc. or testing firm acceptable to the City as suitable for purpose specified and shown.

1.4 PERFORMANCE REQUIREMENTS

A. Grounding system resistance shall be 5 ohms or less unless otherwise indicated. Lengthen rods or provide additional rods where necessary to meet this requirement.

1.5 SUBMITTALS

A. The following information shall be submitted for review and approval in accordance with Section 260500, "General Electrical Requirements".

1. Catalog Cut:

a. Ground Rod.

b. Ground Connectors

2. Ground resistance from each major piece of equipment to the ground electrode. Equipment shall include, but not be limited to the following:

a. Main Switchboard

b. Transformers

3. Thermal (or Exothermic) Weld Process

1.6 WARRANTY

A. Warranty shall comply with the provisions of Section 260500, "General Electrical Requirements".

PART 2 - PRODUCTS

2.1 A grounding electrode conductor, sized in accordance with Section 250.66 of CEC for the derived phase conductors, shall be used to bond the grounded conductor of the derived system to the grounding electrodes.

2.2 ROUND RODS

A. Provide copper clad steel rods with adequate diameter to permit driving full length of the rod in the earth but not less than ¾-inch. Length shall be 10-feet unless otherwise indicated. Provide couplings and driving pins where required.

2.3 EXOTHERMIC WELDS

A. Provide exothermic welds which require no outside source of heat or power. Welds shall be accomplished by reduction of copper oxide and aluminum powered metals in a mold. Weld shall provide connection of conductor to device, device to device or conductor to conductor as required. Weld shall be of proper size to provide continuous rating of devices or conductors which are connected.

2.4 GROUNDING AND BONDING CONDUCTORS

A. Grounding and bonding conductors shall be sized in accordance with CEC Table 250.122 for equipment grounding conductors and with CEC Table 250.66 for grounding electrode and equipment bonding conductors.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Make mechanical and electrical contact at all panelboards, outlet boxes, junction boxes, and wherever the conduit run is connected. Permanently and effectively ground all conduit and other equipment as required by all applicable codes, regulations and standards.

B. Install a code sized green insulated equipment ground wire in all feeder and branch circuit conduits unless a larger size is indicated on plans.

C. System neutrals shall only be grounded at the main service and separately derived systems. The service neutral shall be connected to the grounding electrodes indicated. Neutral conductors of separately derived systems shall be connected to the grounding electrodes indicated.

D. Drive ground rods full length in a depression at least six (6)-inches below finished grade. When more than one (1) rod is driven, space them at least the full length of the rod.

E. Make all grounding connections which are to be buried or otherwise normally unaccessible by thermal welds or by using a mechanical connector and brazing over completely. Thermal welds which have puffed up or shown convex surfaces (indicating improper cleaning at the surfaces) are not acceptable. No mechanical connector is required at the thermal weldments.

F. Provide a "UFER" ground for electrical service per CEC 250.52 (C), consisting of a minimum of 20 feet of reinforcing bar minimum 1/2-inch diameter (#4 bar), or 25 feet of bare stranded No. 4 AWG copper wire, embedded in concrete (at switchboard slab) so that all portions of the cable are between 2 inches and 4 inches from the earth and with the center of the cable bonded to the ground rod.

G. The green insulated ground (bond) wire shall be spliced together within all outlet boxes. A green insulated bonding jumper shall be provided from the splice to the box body. Attachment to the box body shall be provided using a tapped #10-31 x 3/8" screw minimum. A green insulated bonding jumper shall be provided from the splice to the receptacle ground screw including all self-grounding receptacle.

3.2 TESTS

A. All testing shall be performed by an independent testing agency.

B. As an exception to requirements that may be stated elsewhere in the contract, the Resident Engineer shall be given five (5) working days notice prior to each test.

C. The testing equipment and devices used in performing the required tests shall have a calibration sticker affixed to the device stating the date when calibrated, date due for re-calibration, and the signature of the individual who did the calibration. In addition to the sticker, a certificate shall also contain the brand name and the serial number of the device.

D. Ground Rod Test: Test ground rods for ground resistance value before any wire is connected. A portable testing megger shall be used to test each ground or group of grounds. The auxiliary or reference ground rods shall be ¾-inch copper clad steel, not less than 4-feet in length and driven 3-1/2 feet deep, and shall be installed in a straight line from the ground being tested. Number 14 AWG stranded wire leads with at least 600 volt rubber insulation shall be connected to binding post on the instrument.

1. When there is more than one (1) ground within a circle of 10-feet at a particular location, the reference rods as driven for the "first" test shall be used for tests on the other rods without changing their location. The instrument shall be equipped with a meter reading directly in ohms or fractions thereof to indicate the ground value of the ground electrode under test. Provide one (1) copy of the megger manufacturer's directions for use of the ground megger indicating the methods to be used.

E. Test Report (Submit four (4) copies in writing):

1. Grounding electrodes and systems (identifying electrodes and systems, each test).

END OF SECTION 260526

SECTION 260543 - RACEWAYS AND FITTINGS

PART 1 - GENERAL

1.1 SUMMARY

A. The following information shall be submitted for review and approval in accordance with Section 260500, "General Electrical Requirements".

B. Conduits and tubing for conductors shall be delivered to the site in standard lengths with each length bearing the manufacturer’s trademark or stamp and U.L. labeled.

C. Warning Tape: The Contractor shall submit a ten (10) foot sample of the warning tape. The sample will be retained for comparison with the installed tape.

D. Field Test Reports:

1. Provide field test report for compaction tests.

E. Shop Drawings:

1. Precast or Factory-Fabricated Underground Utility Structures:

a. Include plans, elevations, sections, details, attachments to other work, and accessories.

b. Include duct entry provisions, including locations and duct sizes.

c. Include reinforcement details.

d. Include frame and cover design.

e. Include grounding details.

f. Include dimensioned locations of pulling-in irons.

F. Product Certificates: For concrete and steel used in precast concrete handholes, as required by ASTM C 858.

1.2 REFERENCES

A. National Electrical Manufacturer’s Association (NEMA) Publications.

B. American Society for Testing and Materials (ASTM) Publications.

C. American Association of State Highway and Transportation Officials (AASHTO).

D. National Fire Protection Association (NFPA) Publications.

E. State of California Public Utilities Commission (Cal P.U.C.) Publications.

F. Underwriters Laboratories, Inc., (UL) Publications.

1.3 WARRANTY

A. Warranty shall comply with the provisions of Section 260500, "General Electrical Requirements".

PART 2 - PRODUCTS

2.1 CONDUITS AND FITTINGS

A. Standard weight rigid galvanized steel (RGS) conduit shall be hot dipped galvanized or sherardized. All fittings shall be of the screw thread type. Couplings, locknuts, bushings, etc.,

shall be hot dipped galvanized or sherardized. Where indicated, rigid steel conduit shall be PVC coated (minimum 40 mils).

B. Flexible conduit shall be galvanized steel. Where used in damp or wet locations or where indicated herein, it shall be of the liquid-tight type with outer neoprene jacket and suitable liquid-tight fittings.

C. Straight lengths of rigid non-metallic conduit shall be polyvinylchloride (PVC) Schedule 40, U.L. listed. All couplings, fittings, solvent cement, etc., shall be manufactured specifically for the type of material with which they are used. Plastic conduit shall be stored on a flat surface and protected from direct sunlight.

D. PVC coated rigid metal conduit couplings with green urethane interior coating to connect coated conduit sections and/or parts, as manufactured by Perma-Cote or approved equal.

E. All PVC elbows shall be Schedule 80.

2.2 WARNING TAPE

A. Warning tape shall be 5.5 mil composition film, 6-inches wide containing one layer of metalized foil laminated between two (2) layers of inert plastic film specifically formulated for prolonged use underground. Tape shall be highly resistant to alkalis, acids and other destructive agents found in the soil. Warning tape shall bear a continuous printed message warning of the exact location of underground installations. This message shall be in permanent ink specifically formulated for prolonged use underground. Tape shall have black letter (minimum ½ inch high) on red background with the message "ELECTRICAL" printed on twelve (12)-inch centers for the entire length of the tape.

2.3 PULLROPE

A. The pull rope shall be polypropylene with a minimum tensile strength of 200-pounds.

2.4 PRECAST CONCRETE HANDHOLES AND PULL BOXES

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

1. Christy Concrete Products.
2. Elmhurst-Chicago Stone Co.
3. Oldcastle Precast Group.
4. Rinker Group, Ltd.
5. Riverton Concrete Products.
6. U.S. Precast Group
7. Utility Concrete Products, LLC.
8. Utility Vault Co.
9. Wausau Tile Inc.

B. Comply with ASTM C 858 for design and manufacturing processes.

C. Description: Factory-fabricated, reinforced-concrete, monolithically poured walls and bottom unless open-bottom enclosures are indicated. Frame and cover shall form top of enclosure and shall have load rating consistent with that of handhole or pull box.

1. Frame and Cover: Weatherproof cast-iron frame, with cast-iron cover with recessed cover hook eyes and tamper-resistant, captive, cover-securing stainless steel bolts.
2. Cover Finish: Nonskid finish shall have a minimum coefficient of friction of 0.50.
3. Cover Legend: Molded lettering, "ELECTRIC."
4. Configuration: Units shall be designed for flush burial and have precast bottom unless otherwise indicated. Exception: Units smaller than 24 inches wide by 36 inches long shall have open bottom.
5. Duct Entrances in Handhole Walls: Cast end-bell or duct-terminating fitting in wall for each entering duct.
    a. Type and size shall match fittings to duct or conduit to be terminated.
    b. Fittings shall align with elevations of approaching ducts and be located near interior corners of handholes to facilitate racking of cable.
6. Handholes and pull boxes 12 inches wide by 24 inches long and larger shall have inserts for pulling-in irons installed before concrete is poured.
7. Provide grounding lug on underside of metallic cover. Lug shall be bronze and attached to cover with stainless steel bolt. Cast iron covers shall be drilled and tapped for attachment bolt.

PART 3 - EXECUTION

3.1 USES PERMITTED

A. Rigid Galvanized Conduit (RGS):
1. Where exposed to weather (including rooftop and under canopy locations).
2. For roof penetrations.
3. In concrete or masonry construction.
4. For all or any portion of exposed conduits less than four (4)-feet above finished floor or grade.
5. Where shown on drawings or indicated herein.

B. Liquid-tight Flexible Metal Conduit:
1. Final connections of conduit systems to all motors, generators and direct wired vibrating equipment (including transformers) for interior and exterior locations not to exceed three (3)-feet long.
2. At seismic separations or building expansion joints.

C. Rigid Non-metallic Conduit (PVC):
1. Rigid non-metallic conduit (PVC-40) may be installed in place of PVC coated RGS underground, outside of the building foundation.
2. Concrete or masonry walls or concrete slabs except bottom floor.
3. Where shown on drawings.

D. PVC Elbows:
1. Conduit stub-ups from underground including the final 90 degree sweep and the riser.

2. Underground bends or sweeps in PVC conduit for vertical risers shall be according to the following formula, as a minimum: For conduits under 2 inch diameter sweep radius shall be six times the diameter; for conduits 2 inch and larger diameter sweep radius shall be twelve times the diameter.

3. Where shown on drawings.

4. The smaller inside diameter of Schedule 80 elbows shall be reamed at the connection to Schedule 40 conduit to prevent damage to conductor installation.

E. Handholes and Pull Boxes for 600 V and Less:

1. Units in Roadways and Other Deliberate Traffic Paths: Precast concrete. AASHTO HB 17, H-20 structural load rating.

2. Units in Driveway, Parking Lot, and Off-Roadway Locations, Subject to Occasional, Nondeliberate Loading by Heavy Vehicles: Precast concrete, AASHTO HB 17, H-20 structural load rating.

3. Units in Sidewalk and Similar Applications with a Safety Factor for Non-deliberate Loading by Vehicles: Precast concrete, AASHTO HB 17, H-10 structural load rating.

4. Cover design load shall not exceed the design load of the handhole or pull box.

3.2 CONDUIT SIZES

A. The minimum conduit size shall be 1-inch for lighting and power branch circuit wiring.

B. Condulets for conduits larger than 1-1/2 inch I.D. shall be of the mogul design secured within 6 inches of each conduit connection.

3.3 INSTALLATION

A. All conduits shall contain an insulated equipment ground wire whether indicated or not. The equipment ground wire shall be sized in accordance with Table 250.122 of the CEC, and increased proportionally for voltage drop, unless otherwise noted.

B. All conduit systems shall be mechanically and electrically continuous.

C. Conduits shall not be encased in concrete floor slabs on grade.

D. Seal service entrance conduits and all underground conduit runs with "Duct Seal" or equal. Make gas-tight. Seal in junction boxes, handholes and metering switchboard.

E. Conduits shall be run concealed, except in certain approved and indicated locations. Conduits shall be grouped in neat parallel lines following the lines of the building structure.

F. The ends of all conduit shall be square, carefully reamed out to full size, shouldered in the fittings, and bushed or capped wherever stubbed.

G. Upon completion of any run of conduit, test the run and see that it is free of obstruction. Plug each end with conduit pennies and bushings and leave plugged until ready to pull wire or cable.

H. Not more than four (4) 90 degrees ells or bends or the equivalent shall be used in any single run of conduit. Conduit shall enter through side walls of handholes, except may enter bottom of open-bottom handholes or pull boxes if degrees of bend are not exceeded.

I. Conduit installed on equipment shall not obstruct any removable panel, access door, or control. Control apparatus, outlet, junction, and pullboxes, shall be installed so as not to interfere with any piping, fixtures, or equipment.

J. Precast Concrete Handhole and Pull Box Installation:

1. Comply with ASTM C 891 unless otherwise indicated.

2. Install units level and plumb and with orientation and depth coordinated with connecting ducts, to minimize bends and deflections required for proper entrances.

3. Unless otherwise indicated, support units on a level bed of crushed stone or gravel, graded from 1-inch sieve to No. 4 sieve and compacted to same density as adjacent undisturbed earth.

4. Covers: In paved areas and trafficways, set surface flush with finished grade. Set covers in other locations 1 inch above finished grade.

5. Bond equipment ground conductor to metallic cover with No. 6 AWG green insulated jumper with 3'-0" slack extending above grade level.

3.4 EARTHWORK

A. Excavate trenches to depths indicated except that if hard material is encountered, the provisions of the contract respecting an adjustment for changed conditions shall apply, subject to the requirements of notification thereunder being given. Hard material shall be defined as solid rock, firmly cemented unstratified masses or conglomerate deposits possessing the characteristics of solid rock not ordinarily removed without systematic drilling and blasting, and any boulder, masonry, or concrete (except pavement), exceeding ½-cubic yard in volume.

B. Excavated materials not required or suitable for backfill shall be removed from the project site. Provide sheeting and shoring as necessary for protection of work and safety of personnel. Remove water from excavation by pumping or other approved method.

C. Backfilling: Provide a plastic warning tape approximately six (6)-inches below the top of the trench in the backfill. Backfill shall be placed in layers not more than six (6)-inches thick and each layer shall be compacted. Backfilling shall be free from roots, wood scrap material, and other vegetable matter and refuse. Compaction of backfill shall be to 90 percent of maximum density, except top 12-inches of backfill shall be compacted to 95 percent.

1. Backfilling around structures shall consist of earth, loam sandclay, or sand and gravel, free from large clods of earth or stones over one inch in size. Backfill materials shall be placed symmetrically on all sides in loose layers not more than nine (9)-inches deep. Each layer shall be moistened, if necessary, and compacted with mechanical or hand tampers to specified compaction.

3.5 GROUNDING

A. Grounding shall be accordance with Section 260526, "Grounding and Bonding".

END OF SECTION 260543

SECTION 260573 - OVERCURRENT PROTECTIVE DEVICES

PART 1 - GENERAL

1.1 REFERENCES

A. National Electrical Manufacturers Association FU 1.

B. California Electrical Code (CEC).

1.2 SUMMARY

A. Circuit breakers (each type and style).

B. Circuit breaker handle padlock assembly.

C. Enclosures (each type and style).

1.3 WARRANTY

A. Warranty shall comply with the provisions of Section 260500, "General Electrical Requirements".

PART 2 - PRODUCTS

2.1 CIRCUIT BREAKERS

A. Circuit breakers for main service equipment and panelboards shall be bolt-on type. Exception: Circuit breakers for load centers may be plug-in type where indicated on the panel schedules. Handle ties and dual, quad or tandem breakers are not acceptable. Mounting hardware, accessories, faceplates, enclosures, etc., shall be provided as required. Each and every circuit breaker shall be provided with a handle padlock attachment. This attachment shall allow the circuit breaker to be padlocked in either the "ON" or "OFF" position. Circuit breakers for main service equipment shall be as specified in Section 262413, "Service Entrance and Metering Equipment."

B. Circuit breakers shall be quick-break on manual and automatic operation, and the handle mechanism shall be trip-free to prevent holding contact closed against a short circuit or sustained overload. Contacts shall be of high pressure butt-type and shall be made of a silver alloy material. Arc chutes shall be provided. Automatic thermal and magnetic tripping devices shall be located in each pole for the breaker.

C. Short circuit interrupting capacity shall be as indicated on the plans and shall in no case be less than 10,000A symmetrical at 120/240 volts, or 14,000A symmetrical at 277/480 volts.

D. Circuit breakers with frame sizes 225A and larger shall have adjustable magnetic trip setting.

E. Circuit breakers with frame sizes 400A and larger shall have electronic trip units with adjustable long time and short time pickup, long time and short time delay and instantaneous trip.

F. Where indicated or required by code, circuit breakers shall have integral ground fault protection for equipment.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Bolted connections shall be torque-tightened to manufacturer's specifications.

B. Clipping of wires from standard cable to fit connector shall not be permitted. Appropriate connecting device shall be provided for multiple or oversized cable connections.

C. Install series rated warning labels where overcurrent devices are series-rated to achieve adequate short circuit current rating.

3.2 TESTS

A. Each and every circuit breaker shall be operated under load a minimum of three (3) times.

B. Test switches a minimum of three (3) times to ensure correct operation.

C. Measure contact resistance and perform trip unit test on all circuit breakers 100A trip and larger. Submit typewritten report to owner. Correct all deficiencies and retest. Test report entries shall identify each circuit breaker and metering pedestal.

END OF SECTION 260573

SECTION 262200 - LOW-VOLTAGE TRANSFORMERS

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following types of dry-type transformers rated 600 V and less, with capacities up to 1000 kVA:

1. Distribution transformers.

1.2 SUBMITTALS

A. Product Data: Include rated nameplate data, capacities, weights, dimensions, center of gravity, minimum clearances, installed devices and features, and performance for each type and size of transformer indicated.

B. Shop Drawings: Detail equipment assemblies and indicate dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of each field connection.

1. Wiring Diagrams: Power, signal, and control wiring.

C. Manufacturer Seismic Qualification Certification: Submit certification that transformers, accessories, and components will withstand seismic forces defined in Section 260510 "Basic Electrical Materials and Methods". Include the following:

1. Basis for Certification: Indicate whether withstand certification is based on actual test of assembled components or on calculation.

a. The term "withstand" means "the unit will remain in place without separation of any parts from the device when subjected to the seismic forces specified and the unit will be fully operational after the seismic event."

2. Dimensioned Outline Drawings of Equipment Unit: Identify center of gravity and locate and describe mounting and anchorage provisions.

3. Detailed description of equipment anchorage devices on which the certification is based and their installation requirements.

D. Source quality-control test reports.

E. Operation and Maintenance Data: For transformers to include in emergency, operation, and maintenance manuals.

1.3 QUALITY ASSURANCE

A. Source Limitations: Obtain each transformer type through one source from a single manufacturer.

B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in California Electrical Code (CEC), Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

C. Comply with IEEE C57.12.91, "Test Code for Dry-Type Distribution and Power Transformers."

1.4 DELIVERY, STORAGE, AND HANDLING

A. Temporary Heating: Apply temporary heat according to manufacturer's written instructions within the enclosure of each ventilated-type unit, throughout periods during which equipment is not energized and when transformer is not in a space that is continuously under normal control of temperature and humidity.

1.5 COORDINATION

A. Coordinate size and location of concrete bases with actual transformer provided. Cast anchor-bolt inserts into bases. Concrete, reinforcement, and formwork requirements are specified with concrete.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Eaton Electrical Inc.; Cutler-Hammer Products.
2. General Electric Company.
3. Square D; Schneider Electric.

2.2 GENERAL TRANSFORMER REQUIREMENTS

A. Description: Factory-assembled and -tested, air-cooled units for 60-Hz service.

B. Cores: Grain-oriented, non-aging silicon steel.

C. Coils: Continuous windings without splices except for taps.

1. Internal Coil Connections: Brazed or pressure type.
2. Coil Material: Copper.

2.3 DISTRIBUTION TRANSFORMERS

A. Comply with NEMA ST 20, and list and label as complying with UL 1561.

B. Provide transformers that are constructed to withstand seismic forces specified in Section 260510 "Basic Electrical Materials and Methods".

C. Cores: One leg per phase.

D. Enclosure: Ventilated, NEMA 250, Type 3R.

1. Core and coil shall be encapsulated within resin compound, sealing out moisture and air.
2. Provide rodent screen at all openings in bottom of enclosure.

E. Taps for Transformers Smaller than 3 kVA: None.

F. Taps for Transformers 7.5 to 24 kVA: One 5 percent tap above and one 5 percent tap below normal full capacity.

G. Taps for Transformers 25 kVA and Larger: Two 2.5 percent taps above and four 2.5 percent taps below normal full capacity.

H. Insulation Class: 220 deg C, UL-component-recognized insulation system with a maximum of 150 deg C rise above 40 deg C ambient temperature.

I. Energy Efficiency for Transformers Rated 15 kVA and Larger:

1. Complying with California Energy Commission Appliance Efficiency Regulations.
2. Tested according to NEMA TP 2.

2.4 IDENTIFICATION DEVICES

A. Nameplates: Engraved, laminated-plastic or metal nameplate for each distribution transformer, mounted with corrosion-resistant screws. In addition to manufacturer's nameplate, provide an engraved nameplate indicating kVA rating, voltages, feeder source, and load panel served. Nameplates and label products are specified in Section 260510 "Basic Electrical Materials and Methods."

2.5 SOURCE QUALITY CONTROL

A. Test and inspect transformers according to IEEE C57.12.91.

B. Factory Sound-Level Tests: Conduct sound-level tests on equipment for this Project.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine conditions for compliance with enclosure- and ambient-temperature requirements for each transformer.

B. Verify that field measurements are as needed to maintain working clearances required by CEC and manufacturer's written instructions.

C. Examine concrete bases for suitable mounting conditions where transformers will be installed.

D. Verify that ground connections are in place and requirements in Section 260526 "Grounding and Bonding for Electrical Systems" have been met. Maximum ground resistance shall be 5 ohms at location of transformer.

E. Proceed with installation only after all unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. Construct concrete bases and anchor floor-mounting transformers according to manufacturer's written instructions, California Building Code, and seismic anchoring requirements in Section 260510 "Basic Electrical Materials and Methods".

B. Install transformers on neoprene vibration isolation pads.

3.3 CONNECTIONS

A. Ground equipment according to Section 260526 "Grounding and Bonding".

B. Connect wiring according to Section 260519 "Wires and Cables".

C. Conduit terminations at exterior transformers shall be through bottom of enclosure for concealment to discourage tampering. Carefully cut rodent screen to clear conduits by ½-inch maximum all around.

3.4 FIELD QUALITY CONTROL

A. Tests and Inspections:

1. Perform each visual and mechanical inspection and electrical test stated in NETA Acceptance Testing Specification. Certify compliance with test parameters.

B. Remove and replace units that do not pass tests or inspections and retest as specified above.

C. Test Labeling: On completion of satisfactory testing of each unit, attach a dated and signed "Satisfactory Test" label to tested component.

3.5 ADJUSTING

A. Record transformer secondary voltage at each unit for at least 48 hours of typical occupancy period. Adjust transformer taps to provide optimum voltage conditions at secondary terminals. Optimum is defined as not exceeding nameplate voltage plus 10 percent and not being lower than nameplate voltage minus 3 percent at maximum load conditions. Submit recording and tap settings as test results.

B. Output Settings Report: Prepare a typewritten report recording output voltages and tap settings.

3.6 CLEANING

A. Vacuum dirt and debris; do not use compressed air to assist in cleaning.

END OF SECTION 262200

SECTION 262413 - SERVICE ENTRANCE AND METERING EQUIPMENT

PART 1 - GENERAL

1.1 SUMMARY

A. All labor, materials, appliances, tools, equipment, facilities, transportation and services necessary for an incidental to performing all operations in connection with furnishing, delivery and installation of the work of this section, complete, as shown on the drawings and/or specified herein. Work includes but is not necessarily limited to the following:

1. Examine all other sections for work related to the other sections and required to be included as work under this section.

2. Coordinate all work in this section with related trades.

3. Main service equipment.

B. Perform all incidental work not indicated on the drawings nor mentioned in the specifications that belong to the work described or that is required for a completed system.

1.2 SUBMITTALS

A. The following information shall be submitted for approval:

1. Main switchboard (including all devices).

2. Pull section (if any).

3. Feeder circuit breakers.

B. The approval of equipment specified in this section shall be contingent upon the submittal and approval of the equipment layout drawings required by Section 260500, "General Electrical Requirements".

1.3 WARRANTY

A. Warranty shall comply with the provisions of Section 260500, "General Electrical Requirements".

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. The main distribution equipment and all components shall be the latest standard product as manufactured by GE, Square-D, or Eaton Cutler Hammer.

2.2 MAIN SWITCHBOARD

A. Each switchboard section shall be a completely self-supporting structure of the required number of vertical sections bolted together to form one (1) metal enclosed rigid switchboard 90 inches high, with sides, top and rear covered with removable code gauge steel plates mounted with vandal resistant screws. Provide adequate lifting means and the means to be rolled or moved into installation position and bolted directly to the floor without use of floor sills.

B. Busbars shall be copper, sized on the basis of not more than 1000A amperes per square inch current density. Copper busbars shall be bolted (cross bus between sections), shall have all bolted connections tin or silver plated and bolted with Belleville cup washers. The bus bars shall be mounted on supports of high impact nontracking insulating material and shall be braced for short circuit conditions when connected directly to a power source having available short circuit current as indicated on the drawings. A ¼” x 2” copper ground bus shall be firmly secured to length of each switchboard. A 100 percent neutral bus shall be provided unless

otherwise noted. All hardware used on conductors shall have a tensile strength of 120,000 psi and have a suitable protective finish. A-B-C type bus arrangements left-to-right, top-to-bottom, and front-to-rear shall be used throughout to assure convenient and safe testing and maintenance.

C. All steel surfaces shall be chemically cleansed and treated to prevent the entrance of moisture and formation of rush under the pain film. The switchboard exterior shall be finished in ANSI-61, light gray or suppliers' standard finish with written approval from the Resident Engineer.

D. Clamp type terminals for all incoming and outgoing cables shall be included with UL stamp showing approval for CU/AL application. Drawings for approval shall show complete rating, short circuit withstandability of bus and ratings of devices, overall outline dimensions including space available for conduits, circuit schedule showing circuit number, device description, device from ampere rating, trip or fuse ampere rating, feeder circuit identification, conductor sizes and one-line diagram with each circuit device numbered.

E. Switchboards shall be totally front accessible. The main protective device shall be individually mounted and fully compartmentalized. The distribution branch protective devices shall be group mounted with gutter clearances in accordance with UL and with hinged full height wiring gutter doors for clear access to wiring terminals. Vertical section shall have full height bus installed readily without drilling or field modifications. Provide with continuous ground bus.

F. The entire assembly shall be suitable for use in a 480Y/277 volt, 3 phase, 4 wire, AC system and shall satisfy all applicable provisions of UL 891 and NEMA PUB-2. The entire assembly shall be UL listed for service entrance equipment.

G. Each switchboard section shall be completely assembly, wired, adjusted and tested at the factory. After assembly, the complete switchboard will be tested for operation under simulated service conditions to ensure the accuracy of the wiring and the functioning of all equipment.

H. The main circuits shall be given a dielectric test of 2200 volts for one minute between live parts and ground and between opposite polarities. The wiring and control circuits shall be given dielectric tests of 1500 volts for one (1) minute between live parts and ground.

I. Switchboard shall be constructed of 12 gauge galvanized steel with a sloped to rear roof line. Slope to be a minimum ½ inch per foot. 14 gauge steel doors are acceptable if the doors have suitable welded in stiffing pans to prevent deflection of doors. 14 gauge doors without stiffening pans are not acceptable.

J. All external connecting hardware shall be vandal resistant. Carriage type bolts will be acceptable.

K. Cubical Space Heaters: Factory-installed electric space heaters of sufficient wattage in each vertical section to maintain enclosure temperature above expected dew point.

1. Space-Heater Control: Humidistats to maintain relative humidity below 80%.

2. Space-Heater Power Source: Transformer, factory installed in switchboard.

L. Utility Metering Compartment: Fabricated, barrier compartment and section complying with utility company's requirements; hinged sealed door; buses provisioned for mounting utility company's current transformers and potential transformers or potential taps as required by utility company. If separate vertical section is required for utility metering, match and align with basic switchboard. Provide service entrance label and necessary applicable service entrance features.

2.3 MAIN PROTECTIVE DEVICE

A. The main circuit breaker shall be manually operated, fixed mounted and U.L. listed for 100 percent continuous load application. The circuit breaker shall comply with U.L. 489 and be U.L. listed. The circuit breaker shall have, but not be limited to, the following features:

1. Trip Unit:

a. The trip unit and sensor package shall be a solid state, true RMS sensing totally enclosed device that plugs into the front of the circuit breaker. The trip unit shall be keyed to ensure proper trip unit/circuit breaker coordination. The trip unit shall detect overload and short circuit currents and act to trip the circuit breaker at the desired time and current point. The trip unit shall contain the circuit breaker rating plug and resettable indicators to indicate the reason the breaker tripped: The trip unit shall be equipped with a sealable transparent cover to prevent tampering.

b. The trip shall be equipped with the following adjustments:

1) Long time pickup current.

2) Long time delay

3) Short time pickup current.

4) Short time delay. Provide selectable I^2t.

5) Instantaneous pickup current.

6) Ground fault pickup current

7) Ground fault time delay. Prove selectable I^2t

2.4 FEEDER CIRCUIT BREAKERS AND FUSIBLE SWITCHES

A. Feeder circuit breakers in the main switchboards shall be molded case and shall comply with the requirements of Section 260573, "Overcurrent Protective Devices".

B. The Ampere Interrupting Capacity (A.I.C.) and the short time rating of all feeder circuit breakers shall be fully-rated for 110% of the available fault current.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Secure switchboard firmly to floor or pad with anchor bolts and shims as required for a level installation with no strain on bus bars or supports

B. Tag all conductors at terminals for phase indication and load served.

C. Provide nameplates and warning signs. Identification shall be in accordance with Section 260510, “Basic Electrical Materials and Methods”.

D. Provide cable ties for cables from point of entrance to respective device terminals.

E. Conduits shall not enter the top or sides of switchboard.

3.2 SEISMIC RESTRAINTS

A. Refer to Section 260510, "Basic Electrical Materials and Methods"; provide seismic restraints as required. Follow manufacturers recommended installation instructions.

3.3 TESTING:

A. Each switchboard assembly shall be fully tested in accordance with Section 260510, “Basic Electrical Materials and Methods”.

END OF SECTION 262413

SECTION 265668 - SPORTS FIELD LIGHTING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

B. The provisions of Section 260500, "General Electrical Requirements", and Section 260510, "Basic Electrical Materials and Methods", apply to this Section.

1.2 SUMMARY

A. Work covered by this section of the specifications shall conform to the contract documents, engineering plans as well as state and local codes.

B. The purpose of these specifications is to define the performance and design standards for San Ysidro Athletic Area/Larsen Field. The manufacturer / contractor shall supply lighting equipment to meet or exceed the standards set forth in these specifications.

C. The sports lighting will be for the following fields:

1. Baseball Field – 342’/364’/342’ - 90’ base-path

2. Southwest Soccer Field – 360’ x 215’

D. The primary goals of this sports lighting project are:

1. Guaranteed Light Levels: Selection of appropriate light levels impact the safety of the players and the enjoyment of spectators. Therefore light levels are guaranteed for a period of 25-years.

2. Environmental Light Control: It is the primary goal of this project to minimize spill light and glare.

3. Life-cycle Cost: In order to reduce the operating budget, the preferred lighting system shall be energy efficient and cost effective to operate. All maintenance costs shall be eliminated, and the field(s) should be proactively monitored to detect fixture outages over a 25-year life-cycle. To allow for optimized use of labor resources and avoid unneeded operation of the facility, customer requires a remote on/off control system for the lighting system.

4. Control and Monitoring: To allow for optimized use of labor resources and avoid unneeded operation of the facility, customer requires a remote on/off control system for the lighting system. Field(s) should be proactively monitored to detect fixture outages over a 25-year life-cycle.

1.3 LIGHTING PERFORMANCE

A. Performance Requirements: Playing surfaces shall be lit to an average constant light level and uniformity as specified in the chart below. Light levels shall be held constant for 25-years. Lighting calculations shall be developed and field measurements taken on the grid spacing with the minimum number of grid points specified below. Average illumination level shall be measured in accordance with the IESNA LM-5-04. Light levels shall be guaranteed from the first 100 hours of operation for the maximum warranty period.

Area of Lighting	Average Constant Light Levels	Max to Min Uniformity Ratio	Grid Points	Grid Spacing
Baseball Field - Infield	50 footcandles	2:1	25	30’ x 30’
Baseball Field - Outfield	30 footcandles	2.5:1	105	30’ x 30’
Southwest Soccer Field	30 footcandles	3:1	84	30’ x 30’

1. Lumen maintenance control strategy: A constant light system shall use automatic power adjustments to achieve a lumen maintenance control strategy as described in the IESNA Lighting Handbook 10th Edition, Lighting Controls Section, page 16-8: "Lumen maintenance involves adjusting lamp output over time to maintain constant light output as lamps age, and dirt accumulation reduces luminaire output. With lumen maintenance control, either lamps are dimmed when new, or the lamp's current is increased as the system ages."
2. Independent Test Report: Manufacturers bidding any form of a constant light system must provide an independent test report certifying the system meets the lumen maintenance control strategy above and verifying the field performance of the system for the duration of the useful life of the lamp based on lamp replacement hours. Report shall be signed by a licensed professional engineer with outdoor lighting experience. If report is not provided at least 10 days prior to bid opening, the manufacturer shall provide the initial and maintained designs called for in this specification under Alternate Manufacturers, section 1.8.
3. Project References: Manufacturers bidding any form of a constant light system must provide a minimum of five (5) project references within the state of California that have been completed within the last calendar year utilizing this exact technology. Manufacturer will include project name, project city, and if requested, contact name and contact phone number for each reference.

B. Mounting Heights: To ensure proper aiming angles for reduced glare and to provide better playability, the pole mounting heights from the playing field surface shall be 70’ for the A1-A2 poles, 80’ for the B1-B2 and S1-S2 poles and 90’ for C1-C2 poles.

1.4 ENVIRONMENTAL LIGHT CONTROL

A. Spill Light Control: Maximum horizontal footcandles at the property line shall not exceed 14.0. Footcandle readings shall be taken at 30-foot intervals along the specified line. Average illumination level shall be measured in accordance with the IESNA LM-5-04 at the first 100 hours of operation.

1.5 LIFE-CYCLE COSTS

A. Energy Consumption: The average kWh consumption for the field lighting system shall be 117.3 or less.

B. Complete Lamp Replacement: Manufacturer shall include all group lamp replacements required to provide 25-years of operation based upon 500 usage hours per year.

C. Preventative and Spot Maintenance: Manufacturer shall provide all preventative and spot maintenance, including parts and labor for 25-years from the date of equipment shipment. Individual lamp outages shall be repaired when the usage of any field is materially impacted. Owner agrees to check fuses in the event of a luminaire outage.

D. Remote Monitoring System: System shall monitor lighting performance and notify manufacturer if individual luminaire outage is detected so that appropriate maintenance can be scheduled. The manufacturer shall notify the owner of outages within 24 hours, or the next business day. The controller shall determine switch position (Manual or Auto) and contactor status (open or closed).

E. Remote Lighting Control System: System shall allow owner and users with a security code to schedule on/off system operation via a web site, phone, fax or email up to ten years in advance. Manufacturer shall provide and maintain a two-way TCP/IP communication link. Trained staff shall be available 24/7 to provide scheduling support and assist with reporting needs.

1. The owner may assign various security levels to schedulers by function and/or fields. This function must be flexible to allow a range of privileges such as full scheduling capabilities for all fields, to only having permission to execute "early off" commands by phone.

2. Controller shall accept and store 7-day schedules, be protected against memory loss during power outages, and shall reboot once power is regained and execute any commands that would have occurred during outage.

F. Management Tools: Manufacturer shall provide a web-based database of actual field usage and provide reports by facility and user group.

1. Hours of Usage: Manufacturer shall provide a means of tracking actual hours of usage for the field lighting system that is readily accessible to the owner.

a. Cumulative hours: shall be tracked to show the total hours used by the facility

b. Current lamp hours: shall be tracked separately to reflect the amount of hours on the current set of lamps being used, so relamping can be scheduled accurately

G. Communication Costs: Manufacturer shall include communication costs for operating the controls and monitoring system for a period of 25-years.

H. 25-Year Life-cycle Cost: Manufacturer shall submit 25-year life-cycle cost calculations as follows. Equipment and total life-cycle shall be entered separately submittal.

1.	**Luminaire energy consumption** # luminaires x __kW demand per luminaire x $.10 kWh rate x 500 annual usage hours x 25-years		
2.	**Cost for spot relamping and maintenance over 25-years** Assume 7.5 repairs at $500 each if not included with the bid	+	
3.	**Cost to relamp all luminaires during 25-years** 500 annual usage hours x 25-years / 2,100 hours x $125 lamp & labor x # fixtures if not included with the bid	+	
4.	**Extra energy used without base bid automated control system** $ Energy consumption in item a. x 5% if control system not included with the bid	+	
	TOTAL 25-Year Life-cycle Operating Cost	=	

1.6 WARRANTY AND GUARANTEE

A. 25-Year Warranty: Each manufacturer shall supply a signed warranty covering the entire system for 25-years OR for the maximum hours of coverage based on the estimated annual usage, whichever occurs first. Warranty shall guarantee light levels; lamp replacements; system energy consumption; monitoring, maintenance and control services, spill light control, and structural integrity. Manufacturer shall maintain specifically-funded financial reserves to assure fulfillment of the warranty for the full term. Warranty may exclude fuses, storm damage, vandalism, abuse and unauthorized repairs or alterations. Group lamp replacements for constant light systems must occur in accordance with the independent test report provided by the manufacturer; alternate systems must relamp every 2,100 hours.

1.7 DELIVERY TIMING

A. Equipment On-Site: The equipment must be on-site 4 to 6 weeks from receipt of approved submittals and receipt of complete order information.

1.8 SUBMITTAL REQUIREMENTS

A. Approved Product: Musco's Green Generation Lighting® sports lighting system is the approved product. All substitutions must provide a complete submittal package for approval **no later than 5 working days after determination of the apparent low bidder** as outlined in Submittal Information at the end of this section. Special manufacturing to meet the standards of this specification may be required.

B. Design Approval: The owner / engineer will review shop drawings from the manufacturers to ensure compliance to the specification. If the design meets the design requirements of the specifications, a letter will be issued to the manufacturer indicating approval for the specific design submitted.

1.9 ALTERNATE SYSTEM REQUIREMENTS

A. Compliance to Specifications: Acceptance of a bid alternate does not negate the contractor and lighting manufacturer's responsibility to comply fully with the requirements of these specifications. Any exceptions to the specifications must be clearly stated in the prior approval submittal documents.

B. Light Level Requirements: Manufacturer shall provide computer models guaranteeing light levels on the field over 25-years. If a constant light level cannot be provided, the specified maximum Recoverable Light Loss Factor and maintenance/group relamping schedule shall be provided in accordance with recommendations in the Pennsylvania State University report "Empirical Light Loss Factors for Sports Lighting", presented at the 2009 IESNA Annual Conference.

Lamp Replacement Interval (hours)	Recoverable Light Loss Factor (RLLF)
2,100	0.69

For alternate systems, scans for both initial and maintained light levels are required.

Area of Lighting	Average Initial Light Levels	Average Target/Maintained Light Levels	Max to Min Uniformity Ratio	Grid Points	Grid Spacing
Baseball Field - Infield	72.4 footcandles	50 footcandles	2:1	25	30’ x 30’
Baseball Field - Outfield	43.4 footcandles	30 footcandles	2.5:1	105	30’ x 30’
Southwest Soccer Field	43.4 footcandles	30 footcandles	3:1	84	30’ x 30’

C. Revised Electrical Distribution: Manufacturer shall provide revised electrical distribution plans to include changes to service entrance, panel, and wire sizing.

PART 2 - PRODUCT

2.1 LIGHTING SYSTEM CONSTRUCTION

A. System Description: Lighting system shall consist of the following:

1. Galvanized steel poles and crossarm assemblies.
2. Pre-stressed concrete base embedded in concrete backfill allowed to cure for 12-24 hours before pole stress is applied. Alternate may be an anchor bolt foundation designed such that the steel pole and any exposed steel portion of the foundation is located a minimum of 18 inches above final grade. The concrete for anchor bolt foundations shall be allowed to cure for a minimum of 28 days before the pole stress is applied.
3. All luminaires shall be constructed with a die-cast aluminum housing or external hail shroud to protect the luminaire reflector system.
4. Manufacturer will remote all ballasts and supporting electrical equipment in aluminum enclosures mounted approximately 10’ above grade. The enclosures shall include ballast, capacitor and touch-safe fusing to indicate when a fuse is to be replaced for each luminaire. Safety disconnect per circuit for each pole structure will be located in the enclosure.
5. Wire harness complete with an abrasion protection sleeve, strain relief and plug-in connections for fast, trouble-free installation.
6. Controls and Monitoring Cabinet to provide on-off control and monitoring of the lighting system, constructed of NEMA Type 4 aluminum. Communication method shall be provided by manufacturer. Cabinet shall contain custom configured contactor modules for 30, 60, and 100 amps, labeled to match field diagrams and electrical design. Manual Off-On-Auto selector switches shall be provided.

B. Manufacturing Requirements: All components shall be designed and manufactured as a system. All luminaires, wire harnesses, ballast and other enclosures shall be factory assembled, aimed, wired and tested.

C. Durability: All exposed components shall be constructed of corrosion resistant material and/or coated to help prevent corrosion. All exposed carbon steel shall be hot dip galvanized per ASTM A123. All exposed aluminum shall be powder coated with high performance polyester or anodized. All exterior reflective inserts shall be anodized, coated, and protected from direct

environmental exposure to prevent reflective degradation or corrosion. All exposed hardware and fasteners shall be stainless steel of 18-8 grade or better, passivated and coated with aluminum-based thermosetting epoxy resin for protection against corrosion and stress corrosion cracking. Structural fasteners may be carbon steel and galvanized meeting ASTM A153 and ISO/EN 1461 (for hot dipped galvanizing), or ASTM B695 (for mechanical galvanizing). All wiring shall be enclosed within the crossarms, pole, or electrical components enclosure.

1. Enhanced corrosion protection package: Due to the potentially corrosive environment for this project, manufacturers must provide documentation that their products meet the following enhanced requirements in addition to the standard durability protection specified above:

    a. Exposed carbon steel horizontal surfaces on the crossarm assembly shall be galvanized to a five (5) mil minimum average thickness.

    b. Exposed die cast aluminum components shall be Type II anodized per MIL-STD-8625 and coated with high performance polyester.

    c. Exposed extruded aluminum components shall be Type II anodized per MIL-STD-8625 and coated with high performance polyester.

D. Lightning Protection: All structures shall be equipped with lightning protection meeting NFPA 780 standards. Contractor shall supply and install a grounding electrode of not less than 5/8 inch diameter and 8 feet long, with a minimum of 10 feet embedment. Grounding electrode shall be connected to the structure by a grounding electrode conductor with a minimum size of 2 AWG for poles with 75 feet mounting height or less, and 2/0 AWG for poles with more than 75 feet mounting height.

E. Safety: All system components shall be UL Listed for the appropriate application.

F. Electric Power Requirements for the Sports Lighting Equipment:

1. Electric power: 480 Volt, 3 Phase

2. Maximum total voltage drop: Voltage drop to the disconnect switch located on the poles shall not exceed three (3) percent of the rated voltage.

2.2 STRUCTURAL PARAMETERS

A. Support Structure Wind Load Strength: Poles and other support structures, brackets, arms, bases, anchorages and foundations shall be determined based on the 2010 CBC Building Code, wind speed of 85 mph, exposure category C, and an importance factor of 1.0. Luminaire, visor, and crossarm shall withstand 150 mph winds and maintain luminaire aiming alignment.

B. Structural Design: The stress analysis and safety factor of the poles shall conform to AASHTO 2009 (LTS-5) Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals.

C. Soil Conditions: The design criteria for these specifications are based on soil design parameters as outlined in the geotechnical report. If a geotechnical report is not provided by the owner, the foundation design shall be based on soils that meet or exceed those of a Class 5 material as defined by 2010 CBC.

It shall be the contractor’s responsibility to notify the owner if soil conditions exist other than those on which the foundation design is based, or if the soil cannot be readily excavated. Contractor may issue a change order request / estimate for the owner’s approval / payment for additional costs associated with:

1. Providing engineered foundation embedment design by a registered engineer in the State of California.
2. Additional materials required to achieve alternate foundation.
3. Excavation and removal of materials other than normal soils, such as rock, caliche, etc.

D. Foundation Drawings: Project specific foundation drawings stamped by a registered engineer in the state where the project is located are required. The foundation drawings must list the moment, shear (horizontal) force, and axial (vertical) force at ground level for each pole.

PART 3 - EXECUTION

3.1 FIELD QUALITY CONTROL

A. Illumination Measurements: Upon substantial completion of the project and in the presence of the Contractor, Project Engineer, Owner's Representative, and Manufacturer's Representative, illumination measurements shall be taken and verified. The illumination measurements shall be conducted in accordance with IESNA LM-5-04.

B. Correcting Non-Conformance: If, in the opinion of the Owner or his appointed Representative, the actual performance levels including footcandles, uniformity ratios, and maximum kilowatt consumptions are not in conformance with the requirements of the performance specifications and submitted information, the Manufacturer shall be liable to any or all of the following:

1. Manufacturer shall at his expense provide and install any necessary additional fixtures to meet the minimum lighting standards. The Manufacturer shall also either replace the existing poles to meet the new wind load (EPA) requirements or verify by certification by a licensed structural engineer that the existing poles will withstand the additional wind load.
2. Manufacturer shall minimize the Owner's additional long term fixture maintenance and energy consumption costs created by the additional fixtures by reimbursing the Owner the amount of $1,000.00 (one thousand dollars) for each additional fixture required.
3. Manufacturer shall remove the entire unacceptable lighting system and install a new lighting system to meet the specifications.

SUBMITTAL INFORMATION

Design Submittal Data Checklist and Certification

All items listed below are mandatory, shall comply with the specification and be submitted according to pre-bid submittal requirements

Tab	Item	Description
A	Letter/ Checklist	Listing of all information being submitted must be included on the table of contents. List the name of the manufacturer's local representative and his/her phone number. Signed submittal checklist to be included.
B	Equipment Layout	Drawing(s) showing field layouts with pole locations
C	On Field Lighting Design	Lighting design drawing(s) showing: a. Field Name, date, file number, prepared by, and other pertinent data b. Outline of field(s) being lighted, as well as pole locations referenced to the center of the field (x & y), Illuminance levels at grid spacing specified c. Pole height, number of fixtures per pole, as well as luminaire information including wattage, lumens and optics d. Height of light test meter above field surface e. Summary table showing the number and spacing of grid points; average, minimum and maximum illuminance levels in footcandles (fc); uniformity including maximum to minimum ratio, coefficient of variance and uniformity gradient; number of luminaries, total kilowatts, average tilt factor; light loss factor. f. Alternate manufacturers shall provide both initial and maintained light scans using a maximum Recoverable Light Loss Factor (RLLF) as specified in section 1.8.
D	Off Field Lighting Design	Lighting design drawing showing initial vertical spill light levels along the boundary line (defined on bid drawings) in footcandles. Vertical levels shall be at 30-foot intervals along the boundary line. Readings shall be taken with the meter orientation at both horizontal and aimed towards the most intense bank lights.
E	Life-cycle Cost Calculation	Document life-cycle cost calculations as defined in the specification. Identify energy costs for operating the luminaires, maintenance cost for the system including spot lamp replacement, and group relamping costs. All costs should be based on 25-years.
F	Luminaire Aiming Summary	Document showing each luminaire's aiming angle and the poles on which the luminaries are mounted. Each aiming point shall identify the type of luminaire.
G	Structural Calculations	Pole structural calculations and foundation design showing foundation shape, depth backfill requirements, rebar and anchor bolts (if required). Pole base reaction forces shall be shown on the foundation drawing along with soil bearing pressures. Design must be stamped by a structural engineer in the state

Tab	Item	Description
		of California.
H	Control & Monitoring System	Manufacturer shall provide written definition and schematics for automated control system to include monitoring. They will also provide examples of system reporting and access for numbers for personal contact to operate the system.
I	Performance Guarantee	Provide performance guarantee including a written commitment to undertake all corrections required to meet the performance requirements noted in these specifications at no expense to the owner. Light levels must be guaranteed per specification for 25-years.
J	Warranty	Provide written warranty information including all terms and conditions.
K	Independent Testing Report	Manufacturer bidding any form of a constant light system is to provide an independent test report certifying the system meets the lumen maintenance control strategy defined in Section 1.2.A.1, verifying the field performance of the system for the duration of the useful life of the lamp based on lamp replacement hours. Report shall be signed by a licensed professional engineer with outdoor lighting experience.
L	Project References	Manufacturer to provide a list of projects where the technology proposed for this project has been installed in the state of California. If any form of a constant light system is bid, a minimum of 5 project references completed within the last calendar year is required. For a depreciating light system a full list of projects completed within the past 3 years is required. Reference list will include project name, project city, and if requested, contact name and contact phone number.
M	Product Information	Complete set of product brochures for all components, including a complete parts list and UL Listings.
N	Delivery	Manufacturer shall supply an expected delivery timeframe from receipt of approved submittals and complete order information.
O	Non-Compliance	Manufacturer shall list all items that do not comply with the specifications. If in full compliance, tab may be omitted.

The information supplied herein shall be used for the purpose of complying with the specifications for San Ysidro Athletic Area/Larsen Field. By signing below I agree that all requirements of the specifications have been met and that the manufacturer will be responsible for any future costs incurred to bring their equipment into compliance for all items not meeting specifications and not listed in the Non-Compliance section.

Manufacturer: **Signature:**

Contact Name: **Date:** _____/_____/_____

SECTION 311000 - SITE CLEARING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Clearing and Grubbing.
2. Removing below-grade site improvements.
3. Temporary erosion- and sedimentation-control measures.

1.2 MATERIAL OWNERSHIP

A. Except for stripped topsoil and other materials indicated to be stockpiled or otherwise remain Owner's property, cleared materials shall become Contractor's property and shall be removed from Project site.

1.3 PROJECT CONDITIONS

A. Traffic: Minimize interference with adjoining roads, streets, walks, and other adjacent occupied or used facilities during site-clearing operations.

1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction.
2. Provide alternate routes around closed or obstructed traffic ways if required by Owner or authorities having jurisdiction.

B. Salvable Improvements: Carefully remove items indicated to be salvaged and store on Owner's premises where indicated on plans.

C. Utility Locator Service: Notify utility locator service for area where Project is located before site clearing.

D. Do not commence site clearing operations until temporary erosion- and sedimentation-control and plant-protection measures are in place.

E. The following practices are prohibited within protection zones:

1. Storage of construction materials, debris, or excavated material.
2. Parking vehicles or equipment.
3. Foot traffic.
4. Erection of sheds or structures.
5. Impoundment of water.
6. Excavation or other digging unless otherwise indicated.
7. Attachment of signs to or wrapping materials around trees or plants unless otherwise indicated.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Satisfactory Soil Material: Requirements for satisfactory soil material are specified in Division 31 Section "Earth Moving."

1. Obtain approved borrow soil material off-site when satisfactory soil material is not available on-site.

PART 3 - EXECUTION

3.1 PREPARATION

A. Protect and maintain benchmarks and survey control points from disturbance during construction.

B. Locate and clearly identify trees, shrubs, and other vegetation to remain or to be relocated.

C. Protect existing site improvements to remain from damage during construction.

1. Restore damaged improvements to their original condition, as acceptable to Owner.

3.2 TEMPORARY EROSION AND SEDIMENTATION CONTROL

A. Provide temporary erosion- and sedimentation-control measures to prevent soil erosion and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways, according to erosion- and sedimentation-control Drawings and requirements of authorities having jurisdiction.

B. Verify that flows of water redirected from construction areas or generated by construction activity do not enter or cross protection zones.

C. Inspect, maintain, and repair erosion- and sedimentation-control measures during construction until permanent vegetation has been established.

D. Remove erosion and sedimentation controls and restore and stabilize areas disturbed during removal.

3.3 TREE AND PLANT PROTECTION

A. General: Protect trees and plants remaining on-site according to requirements in Division 32 Section "Tree Trimming and Protection."

B. Repair or replace trees, shrubs, and other vegetation indicated to remain or be relocated that are damaged by construction operations, in a manner approved by Resident Engineer.

3.4 CLEARING AND GRUBBING

A. Remove obstructions, trees, shrubs, and other vegetation to permit installation of new construction.

1. Grind down stumps and remove roots, obstructions, and debris to a depth of 18 inches (450 mm) below exposed subgrade.

2. Use only hand methods for grubbing within protection zones.

B. Fill depressions caused by clearing and grubbing operations with satisfactory soil material unless further excavation or earthwork is indicated.

1. Place fill material in horizontal layers not exceeding a loose depth of 8 inches (200 mm), and compact each layer to a density equal to adjacent original ground.

3.5 SITE IMPROVEMENTS

A. Remove existing below-grade improvements as indicated and necessary to facilitate new construction.

3.6 DISPOSAL OF SURPLUS AND WASTE MATERIALS

A. Remove surplus soil material, unsuitable topsoil, obstructions, demolished materials, and waste materials including trash and debris, and legally dispose of them off Owner's property.

Separate recyclable materials produced during site clearing from other nonrecyclable materials. Store or stockpile without intermixing with other materials and transport them to recycling facilities. Do not interfere with other Project work.

END OF SECTION 311000

SECTION 312000 - EARTH MOVING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Preparing subgrades for slabs-on-grade, walks, and pavements.
2. Excavating and backfilling for structures.
3. Drainage course for concrete slabs-on-grade.
4. Subbase course for concrete walks, pavements.
5. Subbase course and base course for asphalt paving.
6. Excavating and backfilling for utility trenches.

1.2 DEFINITIONS

A. Backfill: Soil material used to fill an excavation.

1. Initial Backfill: Backfill placed beside and over pipe in a trench, including haunches to support sides of pipe.
2. Final Backfill: Backfill placed over initial backfill to fill a trench.

B. Base Course: Aggregate layer placed between the subbase course and hot-mix asphalt paving.

C. Bedding Course: Aggregate layer placed over the excavated subgrade in a trench before laying pipe.

D. Borrow Soil: Satisfactory soil imported from off-site for use as fill or backfill.

E. Drainage Course: Aggregate layer supporting the slab-on-grade that also minimizes upward capillary flow of pore water.

F. Excavation: Removal of material encountered above subgrade elevations and to lines and dimensions indicated.

1. Authorized Additional Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions as directed by Resident Engineer. Authorized additional excavation and replacement material will be paid for according to Contract provisions for changes in the Work.
2. Unauthorized Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions without direction by Resident Engineer. Unauthorized excavation, as well as remedial work directed by Resident Engineer, shall be without additional compensation.

G. Fill: Soil materials used to raise existing grades.

H. Structures: Buildings, footings, foundations, retaining walls, slabs, tanks, curbs, mechanical and electrical appurtenances, or other man-made stationary features constructed above or below the ground surface.

I. Subbase Course: Aggregate layer placed between the subgrade and base course for hot-mix asphalt pavement, or aggregate layer placed between the subgrade and a cement concrete pavement or a cement concrete or hot-mix asphalt walk.

J. Subgrade: Uppermost surface of an excavation or the top surface of a fill or backfill immediately below subbase, drainage fill, drainage course, or topsoil materials.

K. Utilities: On-site underground pipes, conduits, ducts, and cables, as well as underground services within buildings.

1.3 QUALITY ASSURANCE

A. Preexcavation Conference: Conduct conference at Project site.

1.4 PROJECT CONDITIONS

A. Utility Locator Service: Notify utility locator service for area where Project is located before beginning earth moving operations.

B. Do not commence earth moving operations until plant-protection measures specified in Division 32 Section "Tree Trimming and Protection" are in place.

PART 2 - PRODUCTS

2.1 SOIL MATERIALS

A. General: Provide borrow soil materials when sufficient satisfactory soil materials are not available from excavations.

B. Satisfactory Soils: Soil Classification Groups GW, GP, GM, SW, SP, and SM according to ASTM D 2487, or a combination of these groups; free of rock or gravel larger than 3 inches (75 mm) in any dimension, debris, waste, frozen materials, vegetation, and other deleterious matter.

1. Liquid Limit:

2. Plasticity Index:

C. Unsatisfactory Soils: Soil Classification Groups GC, SC, CL, ML, OL, CH, MH, OH, and PT according to ASTM D 2487, or a combination of these groups.

1. Unsatisfactory soils also include satisfactory soils not maintained within 2 percent of optimum moisture content at time of compaction.

D. Subbase Material: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; with at least 90 percent passing a 1-1/2-inch (37.5-mm) sieve and not more than 12 percent passing a No. 200 (0.075-mm) sieve.

E. Base Course: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; with at least 95 percent passing a 1-1/2-inch (37.5-mm) sieve and not more than 8 percent passing a No. 200 (0.075-mm) sieve.

F. Engineered Fill: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; with at least 90 percent passing a 1-1/2-inch (37.5-mm) sieve and not more than 12 percent passing a No. 200 (0.075-mm) sieve.

G. Bedding Course: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; except with 100 percent passing a 1-inch (25-mm) sieve and not more than 8 percent passing a No. 200 (0.075-mm) sieve.

H. Drainage Course: Narrowly graded mixture of washed crushed stone, or crushed or uncrushed gravel; ASTM D 448; coarse-aggregate grading Size 57; with 100 percent passing a 1-1/2-inch (37.5-mm) sieve and 0 to 5 percent passing a No. 8 (2.36-mm) sieve.

2.2 ACCESSORIES

A. Warning Tape: Acid- and alkali-resistant, polyethylene film warning tape manufactured for marking and identifying underground utilities, 6 inches (150 mm) wide and 4 mils (0.1 mm) thick, continuously inscribed with a description of the utility; colored to comply with local practice or requirements of authorities having jurisdiction.

B. Detectable Warning Tape: Acid- and alkali-resistant, polyethylene film warning tape manufactured for marking and identifying underground utilities, a minimum of 6 inches (150 mm) wide and 4 mils (0.1 mm) thick, continuously inscribed with a description of the utility, with metallic core encased in a protective jacket for corrosion protection, detectable by metal detector when tape is buried up to 30 inches (750 mm) deep; colored to comply with local practice or requirements of authorities having jurisdiction.

PART 3 - EXECUTION

3.1 PREPARATION

A. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earth moving operations.

B. Protect and maintain erosion and sedimentation controls during earth moving operations.

C. Protect subgrades and foundation soils from freezing temperatures and frost. Remove temporary protection before placing subsequent materials.

3.2 EXCAVATION, GENERAL

A. Unclassified Excavation: Excavate to subgrade elevations regardless of the character of surface and subsurface conditions encountered. Unclassified excavated materials may include rock, soil materials, and obstructions. No changes in the Contract Sum or the Contract Time will be authorized for rock excavation or removal of obstructions.

1. If excavated materials intended for fill and backfill include unsatisfactory soil materials and rock, replace with satisfactory soil materials.

3.3 EXCAVATION FOR STRUCTURES

A. Excavate to indicated elevations and dimensions within a tolerance of plus or minus 1 inch (25 mm). If applicable, extend excavations a sufficient distance from structures for placing and removing concrete formwork, for installing services and other construction, and for inspections.

1. Excavations for Footings and Foundations: Do not disturb bottom of excavation. Excavate by hand to final grade just before placing concrete reinforcement. Trim bottoms to required lines and grades to leave solid base to receive other work.

B. Excavations at Edges of Tree- and Plant-Protection Zones:

1. Excavate by hand to indicated lines, cross sections, elevations, and subgrades. Use narrow-tine spading forks to comb soil and expose roots. Do not break, tear, or chop exposed roots. Do not use mechanical equipment that rips, tears, or pulls roots.

2. Cut and protect roots according to requirements in Division 32 Section "Tree Trimming and Protection."

3.4 EXCAVATION FOR WALKS AND PAVEMENTS

A. Excavate surfaces under walks and pavements to indicated lines, cross sections, elevations, and subgrades.

3.5 EXCAVATION FOR UTILITY TRENCHES

A. Excavate trenches to indicated gradients, lines, depths, and elevations.

B. Excavate trenches to uniform widths to provide the following clearance on each side of pipe or conduit. Excavate trench walls vertically from trench bottom to 12 inches (300 mm) higher than top of pipe or conduit unless otherwise indicated.

1. Clearance: 12 inches (300 mm) each side of pipe or conduit.

C. Trench Bottoms: Excavate and shape trench bottoms to provide uniform bearing and support of pipes and conduit. Shape subgrade to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits. Remove projecting stones and sharp objects along trench subgrade.

1. Excavate trenches 6 inches (150 mm) deeper than elevation required in rock or other unyielding bearing material, 4 inches (100 mm) deeper elsewhere, to allow for bedding course.

D. Trenches in Tree- and Plant-Protection Zones:

1. Hand-excavate to indicated lines, cross sections, elevations, and subgrades. Use narrow-tine spading forks to comb soil and expose roots. Do not break, tear, or chop exposed roots. Do not use mechanical equipment that rips, tears, or pulls roots.

2. Do not cut main lateral roots or taproots; cut only smaller roots that interfere with installation of utilities.

3. Cut and protect roots according to requirements in Division 32 Section "Tree Trimming and Protection."

3.6 SUBGRADE INSPECTION

A. Proof-roll subgrade below the building slabs and pavements with a pneumatic-tired dump truck to identify soft pockets and areas of excess yielding. Do not proof-roll wet or saturated subgrades.

B. Reconstruct subgrades damaged by freezing temperatures, frost, rain, accumulated water, or construction activities, as directed by Resident Engineer, without additional compensation.

3.7 UNAUTHORIZED EXCAVATION

A. Fill unauthorized excavation under foundations or wall footings by extending bottom elevation of concrete foundation or footing to excavation bottom, without altering top elevation. Lean concrete fill, with 28-day compressive strength of 2500 psi (17.2 MPa), may be used when approved by Resident Engineer.

1. Fill unauthorized excavations under other construction, pipe, or conduit as directed by Resident Engineer.

3.8 STORAGE OF SOIL MATERIALS

A. Stockpile borrow soil materials and excavated satisfactory soil materials without intermixing. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.

1. Stockpile soil materials away from edge of excavations. Do not store within drip line of remaining trees.

3.9 UTILITY TRENCH BACKFILL

A. Place backfill on subgrades free of mud, frost, snow, or ice.

B. Place and compact bedding course on trench bottoms and where indicated. Shape bedding course to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits.

C. Trenches under Footings: Backfill trenches excavated under footings and within 18 inches (450 mm) of bottom of footings with satisfactory soil; fill with concrete to elevation of bottom of footings.

D. Trenches under Roadways: Provide 4-inch- (100-mm-) thick, concrete-base slab support for piping or conduit below surface of roadways. After installing and testing, completely encase piping or conduit in a minimum of 6 inches (150 mm) of concrete before backfilling or placing roadway subbase course.

E. Place and compact initial backfill of satisfactory soil, free of particles larger than 1 inch (25 mm) in any dimension, to a height of 12 inches (300 mm) over the pipe or conduit.

1. Carefully compact initial backfill under pipe haunches and compact evenly up on both sides and along the full length of piping or conduit to avoid damage or displacement of piping or conduit. Coordinate backfilling with utilities testing.

F. Place and compact final backfill of satisfactory soil to final subgrade elevation.

G. Install warning tape directly above utilities, 12 inches (300 mm) below finished grade, except 6 inches (150 mm) below subgrade under pavements and slabs.

3.10 SOIL FILL

A. Plow, scarify, bench, or break up sloped surfaces steeper than 1 vertical to 4 horizontal so fill material will bond with existing material.

B. Place and compact fill material in layers to required elevations as follows:

1. Under grass and planted areas, use satisfactory soil material.

2. Under walks and pavements, use satisfactory soil material.

3. Under steps and ramps, use engineered fill.

4. Under building slabs, use engineered fill.

5. Under footings and foundations, use engineered fill.

3.11 SOIL MOISTURE CONTROL

A. Uniformly moisten or aerate subgrade and each subsequent fill or backfill soil layer before compaction to within 2 percent of optimum moisture content.

1. Do not place backfill or fill soil material on surfaces that are muddy, frozen, or contain frost or ice.

2. Remove and replace, or scarify and air dry, otherwise satisfactory soil material that exceeds optimum moisture content by 2 percent and is too wet to compact to specified dry unit weight.

3.12 COMPACTION OF SOIL BACKFILLS AND FILLS

A. Place backfill and fill soil materials in layers not more than 8 inches (200 mm) in loose depth for material compacted by heavy compaction equipment, and not more than 4 inches (100 mm) in loose depth for material compacted by hand-operated tampers.

B. Place backfill and fill soil materials evenly on all sides of structures to required elevations, and uniformly along the full length of each structure.

C. Compact soil materials to not less than the following percentages of maximum dry unit weight according to ASTM D 1557:

1. Under structures, building slabs, steps, and pavements, scarify and recompact top 12 inches (300 mm) of existing subgrade and each layer of backfill or fill soil material at 95 percent.

2. Under walkways, scarify and recompact top 12 inches (300 mm) below subgrade and compact each layer of backfill or fill soil material at **95** percent.

3. Under turf or unpaved areas, scarify and recompact top 6 inches (150 mm) below subgrade and compact each layer of backfill or fill soil material at 85 percent.

4. For utility trenches, compact each layer of initial and final backfill soil material at 85percent.

3.13 GRADING

A. General: Uniformly grade areas to a smooth surface, free of irregular surface changes. Comply with compaction requirements and grade to cross sections, lines, and elevations indicated.

B. Site Rough Grading: Slope grades to direct water away from buildings and to prevent ponding. Finish subgrades to required elevations within the following tolerances:

1. Turf or Unpaved Areas: Plus or minus 1 inch (25 mm).

2. Walks: Plus or minus 1 inch (25 mm).

3. Pavements: Plus or minus 1/2 inch (13 mm).

C. Grading inside Building Lines: Finish subgrade to a tolerance of 1/2 inch (13 mm) when tested with a 10-foot (3-m) straightedge.

3.14 SUBBASE AND BASE COURSES UNDER PAVEMENTS AND WALKS

A. Place subbase course and base course on subgrades free of mud, frost, snow, or ice.

B. On prepared subgrade, place subbase course and base course under pavements and walks as follows:

1. Shape subbase course and base course to required crown elevations and cross-slope grades.

2. Place subbase course and base course that exceeds 6 inches (150 mm) in compacted thickness in layers of equal thickness, with no compacted layer more than 6 inches (150 mm) thick or less than 3 inches (75 mm) thick.

3. Compact subbase course and base course at optimum moisture content to required grades, lines, cross sections, and thickness to not less than **95** percent of maximum dry unit weight according to ASTM D 1557.

3.15 FIELD QUALITY CONTROL

A. Testing Agency: Contractor will engage a qualified geotechnical engineering testing agency to perform tests and inspections.

B. Allow testing agency to inspect and test subgrades and each fill or backfill layer. Proceed with subsequent earth moving only after test results for previously completed work comply with requirements.

C. Footing Subgrade: At footing subgrades, at least one test of each soil stratum will be performed to verify design bearing capacities. Subsequent verification and approval of other footing

subgrades may be based on a visual comparison of subgrade with tested subgrade when approved by Resident Engineer.

D. When testing agency reports that subgrades, fills, or backfills have not achieved degree of compaction specified, scarify and moisten or aerate, or remove and replace soil materials to depth required; recompact and retest until specified compaction is obtained.

3.16 PROTECTION

A. Protecting Graded Areas: Protect newly graded areas from traffic, freezing, and erosion. Keep free of trash and debris.

B. Repair and reestablish grades to specified tolerances where completed or partially completed surfaces become eroded, rutted, settled, or where they lose compaction due to subsequent construction operations or weather conditions.

C. Where settling occurs before Project correction period elapses, remove finished surfacing, backfill with additional soil material, compact, and reconstruct surfacing.

1. Restore appearance, quality, and condition of finished surfacing to match adjacent work, and eliminate evidence of restoration to greatest extent possible.

3.17 DISPOSAL OF SURPLUS AND WASTE MATERIALS

A. Remove surplus satisfactory soil and waste materials, including unsatisfactory soil, trash, and debris, and legally dispose of them off Owner's property.

END OF SECTION 312000

SECTION 315000 - EXCAVATION SUPPORT AND PROTECTION

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes temporary excavation support and protection systems.

1.2 PERFORMANCE REQUIREMENTS

A. Design, furnish, install, monitor, and maintain excavation support and protection system capable of supporting excavation sidewalls and of resisting soil and hydrostatic pressure and superimposed and construction loads.

1. Delegated Design: Design excavation support and protection system, including comprehensive engineering analysis by a qualified professional engineer, using performance requirements and design criteria indicated.

1.3 SUBMITTALS

A. Shop Drawings: For excavation support and protection system.

B. Delegated-Design Submittal: For excavation support and protection system indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

1.4 QUALITY ASSURANCE

A. Preinstallation Conference: Conduct conference at Project site.

1.5 PROJECT CONDITIONS

A. Survey Work: Engage a qualified land surveyor or professional engineer to survey adjacent existing buildings, structures, and site improvements; establish exact elevations at fixed points to act as benchmarks. Clearly identify benchmarks and record existing elevations.

1. During installation of excavation support and protection systems, regularly resurvey benchmarks, maintaining an accurate log of surveyed elevations and positions for comparison with original elevations and positions. Promptly notify Resident Engineer if changes in elevations or positions occur or if cracks, sags, or other damage is evident in adjacent construction.

PART 2 - PRODUCTS

2.1 MATERIALS

A. General: Provide materials that are either new or in serviceable condition.

B. Structural Steel: ASTM A 36/A 36M, ASTM A 690/A 690M, or ASTM A 992/A 992M.

C. Steel Sheet Piling: ASTM A 328/A 328M, ASTM A 572/A 572M, or ASTM A 690/A 690M; with continuous interlocks.

D. Cast-in-Place Concrete: ACI 301, of compressive strength required for application.

E. Reinforcing Bars: ASTM A 615/A 615M, Grade 60 (Grade 420), deformed.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Soldier Piles: Install steel soldier piles before starting excavation. Extend soldier piles below excavation grade level to depths adequate to prevent lateral movement. Space soldier piles at

regular intervals not to exceed allowable flexural strength of wood lagging. Accurately align exposed faces of flanges to vary not more than 2 inches (50 mm) from a horizontal line and not more than 1:120 out of vertical alignment.

1. Install wood lagging within flanges of soldier piles as excavation proceeds. Trim excavation as required to install lagging. Fill voids behind lagging with soil, and compact.

2. Install wales horizontally at locations indicated on Drawings and secure to soldier piles.

B. Sheet Piling: Before starting excavation, install one-piece sheet piling lengths and tightly interlock to form a continuous barrier. Accurately place the piling, using templates and guide frames unless otherwise recommended in writing by the sheet piling manufacturer. Limit vertical offset of adjacent sheet piling to 60 inches (1500 mm). Accurately align exposed faces of sheet piling to vary not more than 2 inches (50 mm) from a horizontal line and not more than 1:120 out of vertical alignment. Cut tops of sheet piling to uniform elevation at top of excavation.

C. Bracing: Locate bracing to clear columns, floor framing construction, and other permanent work. If necessary to move brace, install new bracing before removing original brace.

1. Do not place bracing where it will be cast into or included in permanent concrete work unless otherwise approved by Resident Engineer.

2. Install internal bracing, if required, to prevent spreading or distortion of braced frames.

3. Maintain bracing until structural elements are supported by other bracing or until permanent construction is able to withstand lateral earth and hydrostatic pressures.

3.2 REMOVAL AND REPAIRS

A. Remove excavation support and protection systems when construction has progressed sufficiently to support excavation and bear soil and hydrostatic pressures. Remove in stages to avoid disturbing underlying soils or damaging structures, pavements, facilities, and utilities.

1. Remove excavation support and protection systems to a minimum depth of 48 inches (1200 mm) below overlaying construction and abandon remainder.

B. Leave excavation support and protection systems permanently in place.

END OF SECTION 315000

SECTION 321216 - ASPHALT PAVING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Cold milling of existing hot-mix asphalt pavement.

2. Hot-mix asphalt paving overlay.

B. Related Sections:

1. Division 31 Section "Earth Moving" for aggregate subbase and base courses and for aggregate pavement shoulders.

2. Division 32 Section "Concrete Paving Joint Sealants" for joint sealants and fillers at paving terminations.

1.2 SUBMITTALS

A. Product Data: For each type of product indicated. Include technical data and tested physical and performance properties.

1. Job-Mix Designs: Certification, by authorities having jurisdiction, of approval of each job mix proposed for the Work.

2. Job-Mix Designs: For each job mix proposed for the Work.

B. Material Certificates: For each paving material, from manufacturer.

1.3 QUALITY ASSURANCE

A. Manufacturer Qualifications: A paving-mix manufacturer registered with and approved by authorities having jurisdiction.

B. Regulatory Requirements: Comply with materials, workmanship, and other applicable requirements of Standard Specifications for Public Works Construction (latest edition) by the American Public Works Association for asphalt paving work.

1. Measurement and payment provisions and safety program submittals included in standard specifications do not apply to this Section.

C. Pre-installation Conference: Conduct conference at Project site.

1.4 PROJECT CONDITIONS

A. Environmental Limitations: Do not apply asphalt materials if subgrade is wet or excessively damp, if rain is imminent or expected before time required for adequate cure, or if the following conditions are not met:

1. Tack Coat: Minimum surface temperature of 60 deg F (15.6 deg C).

2. Asphalt Base Course: Minimum surface temperature of 40 deg F (4.4 deg C) and rising at time of placement.

3. Asphalt Surface Course: Minimum surface temperature of 60 deg F (15.6 deg C) at time of placement.

B. Pavement-Marking Paint: Proceed with pavement marking only on clean, dry surfaces and at a minimum ambient or surface temperature of 40 deg F (4.4 deg C) for oil-based materials, 55 deg F (12.8 deg C) for water-based materials, and not exceeding 95 deg F (35 deg C).

PART 2 - PRODUCTS

2.1 AGGREGATES

A. Coarse Aggregate: ASTM D 692, sound; angular crushed stone, crushed gravel, or cured, crushed blast-furnace slag.

B. Fine Aggregate: ASTM D 1073, sharp-edged natural sand or sand prepared from stone, gravel, cured blast-furnace slag, or combinations thereof.

C. Mineral Filler: ASTM D 242, rock or slag dust, hydraulic cement, or other inert material.

2.2 ASPHALT MATERIALS

A. Asphalt Binder: AASHTO M 320 or AASHTO MP 1a, PG 64-22.

B. Tack Coat: ASTM D 977 emulsified asphalt, or ASTM D 2397 cationic emulsified asphalt, slow setting, diluted in water, of suitable grade and consistency for application.

2.3 AUXILIARY MATERIALS

A. Herbicide: Commercial chemical for weed control, registered by the EPA. Provide in granular, liquid, or wettable powder form.

B. Pavement-Marking Paint: MPI #32 Alkyd Traffic Marking Paint.

1. Color: White, Blue, White, Red.

2.4 MIXES

A. Hot-Mix Asphalt: Dense, hot-laid, hot-mix asphalt plant mixes approved by authorities having jurisdiction; designed according to procedures in AI MS-2, "Mix Design Methods for Asphalt Concrete and Other Hot-Mix Types"; and complying with the following requirements:

1. Provide mixes with a history of satisfactory performance in geographical area where Project is located.

2. Base Course:

3. Surface Course:

PART 3 - EXECUTION

3.1 EXAMINATION

A. Proof-roll subgrade below pavements with heavy pneumatic-tired equipment to identify soft pockets and areas of excess yielding. Do not proof-roll wet or saturated subgrades.

B. Proceed with paving only after unsatisfactory conditions have been corrected.

3.2 COLD MILLING

A. Clean existing pavement surface of loose and deleterious material immediately before cold milling. Remove existing asphalt pavement by cold milling to grades and cross sections indicated.

1. Mill to a depth of 1-1/2 inches (38 mm).

3.3 PATCHING

A. Hot-Mix Asphalt Pavement: Saw cut perimeter of patch and excavate existing pavement section to sound base. Excavate rectangular or trapezoidal patches, extending 12 inches (300 mm) into adjacent sound pavement, unless otherwise indicated. Cut excavation faces vertically.

Remove excavated material. Recompact existing unbound-aggregate base course to form new subgrade.

B. Portland Cement Concrete Pavement: Break cracked slabs and roll as required to reseat concrete pieces firmly.

1. Remove disintegrated or badly cracked pavement. Excavate rectangular or trapezoidal patches, extending into adjacent sound pavement, unless otherwise indicated. Cut excavation faces vertically. Recompact existing unbound-aggregate base course to form new subgrade.

C. Tack Coat: Apply uniformly to vertical surfaces abutting or projecting into new, hot-mix asphalt paving at a rate of 0.05 to 0.15 gal./sq. yd. (0.2 to 0.7 L/sq. m).

1. Allow tack coat to cure undisturbed before applying hot-mix asphalt paving.

2. Avoid smearing or staining adjoining surfaces, appurtenances, and surroundings. Remove spillages and clean affected surfaces.

D. Patching: Fill excavated pavements with hot-mix asphalt base mix for full thickness of patch and, while still hot, compact flush with adjacent surface.

3.4 SURFACE PREPARATION

A. General: Immediately before placing asphalt materials, remove loose and deleterious material from substrate surfaces. Ensure that prepared subgrade is ready to receive paving.

B. Herbicide Treatment: Apply herbicide according to manufacturer's recommended rates and written application instructions. Apply to dry, prepared subgrade or surface of compacted-aggregate base before applying paving materials.

C. Tack Coat: Apply uniformly to surfaces of existing pavement at a rate of 0.05 to 0.15 gal./sq. yd. (0.2 to 0.7 L/sq. m).

1. Allow tack coat to cure undisturbed before applying hot-mix asphalt paving.

2. Avoid smearing or staining adjoining surfaces, appurtenances, and surroundings. Remove spillages and clean affected surfaces.

3.5 HOT-MIX ASPHALT PLACING

A. Machine place hot-mix asphalt on prepared surface, spread uniformly, and strike off. Place asphalt mix by hand to areas inaccessible to equipment in a manner that prevents segregation of mix. Place each course to required grade, cross section, and thickness when compacted.

1. Spread mix at minimum temperature of 250 deg F (121 deg C).

2. Regulate paver machine speed to obtain smooth, continuous surface free of pulls and tears in asphalt-paving mat.

B. Place paving in consecutive strips not less than 10 feet (3 m) wide unless infill edge strips of a lesser width are required.

C. Promptly correct surface irregularities in paving course behind paver. Use suitable hand tools to remove excess material forming high spots. Fill depressions with hot-mix asphalt to prevent segregation of mix; use suitable hand tools to smooth surface.

3.6 JOINTS

A. Construct joints to ensure a continuous bond between adjoining paving sections. Construct joints free of depressions, with same texture and smoothness as other sections of hot-mix asphalt course.

1. Clean contact surfaces and apply tack coat to joints.

2. Offset longitudinal joints, in successive courses, a minimum of 6 inches (150 mm).

3. Offset transverse joints, in successive courses, a minimum of 24 inches (600 mm).

4. Construct transverse joints at each point where paver ends a day's work and resumes work at a subsequent time. Construct these joints using either "bulkhead" or "papered" method according to AI MS-22, for both "Ending a Lane" and "Resumption of Paving Operations."

3.7 COMPACTION

A. General: Begin compaction as soon as placed hot-mix paving will bear roller weight without excessive displacement. Compact hot-mix paving with hot, hand tampers or with vibratory-plate compactors in areas inaccessible to rollers.

1. Complete compaction before mix temperature cools to 185 deg F (85 deg C).

B. Breakdown Rolling: Complete breakdown or initial rolling immediately after rolling joints and outside edge. Examine surface immediately after breakdown rolling for indicated crown, grade, and smoothness. Correct laydown and rolling operations to comply with requirements.

C. Intermediate Rolling: Begin intermediate rolling immediately after breakdown rolling while hot-mix asphalt is still hot enough to achieve specified density. Continue rolling until hot-mix asphalt course has been uniformly compacted to the following density:

1. Average Density: 92 percent of reference maximum theoretical density according to ASTM D 2041, but not less than 90 percent nor greater than 96 percent.

D. Finish Rolling: Finish roll paved surfaces to remove roller marks while hot-mix asphalt is still warm.

E. Edge Shaping: While surface is being compacted and finished, trim edges of pavement to proper alignment. Bevel edges while asphalt is still hot; compact thoroughly.

F. Protection: After final rolling, do not permit vehicular traffic on pavement until it has cooled and hardened.

G. Erect barricades to protect paving from traffic until mixture has cooled enough not to become marked.

3.8 ASPHALT CURBS

A. Construct hot-mix asphalt curbs over compacted pavement surfaces. Apply a light tack coat unless pavement surface is still tacky and free from dust. Spread mix at minimum temperature of 250 deg F (121 deg C).

1. Asphalt Mix: Same as pavement surface-course mix.

B. Place hot-mix asphalt to curb cross section indicated or, if not indicated, to local standard shapes, by machine or by hand in wood or metal forms. Tamp hand-placed materials and screed to smooth finish. Remove forms after hot-mix asphalt has cooled.

3.9 INSTALLATION TOLERANCES

A. Pavement Thickness: Compact each course to produce the thickness indicated within the following tolerances:

1. Base Course: Plus or minus 1/2 inch (13 mm).

2. Surface Course: Plus 1/4 inch (6 mm), no minus.

B. Pavement Surface Smoothness: Compact each course to produce a surface smoothness within the following tolerances as determined by using a 10-foot (3-m) straightedge applied transversely or longitudinally to paved areas:

1. Base Course: 1/4 inch (6 mm).

2. Surface Course: 1/8 inch (3 mm).

3. Crowned Surfaces: Test with crowned template centered and at right angle to crown. Maximum allowable variance from template is 1/4 inch (6 mm).

3.10 PAVEMENT MARKING

A. Do not apply pavement-marking paint until layout, colors, and placement have been verified with Resident Engineer.

B. Allow paving to age for 90 days before starting pavement marking.

C. Sweep and clean surface to eliminate loose material and dust.

D. Apply paint with mechanical equipment to produce pavement markings, of dimensions indicated, with uniform, straight edges. Apply at manufacturer's recommended rates to provide a minimum wet film thickness of 15 mils (0.4 mm).

3.11 FIELD QUALITY CONTROL

A. Testing Agency: Contractor will engage a qualified testing agency to perform tests and inspections.

B. Replace and compact hot-mix asphalt where core tests were taken.

C. Remove and replace or install additional hot-mix asphalt where test results or measurements indicate that it does not comply with specified requirements.

3.12 DISPOSAL

Except for material indicated to be recycled, remove excavated materials from Project site and legally dispose of them in an EPA-approved landfill.

END OF SECTION 321216

SECTION 321313 - CONCRETE PAVING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Parking lots.

2. Curbs and gutters.

3. Walks.

1.2 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Samples: For each exposed product and for each color and texture specified.

C. Other Action Submittals:

1. Design Mixtures: For each concrete paving mixture. Include alternate design mixtures when characteristics of materials, Project conditions, weather, test results, or other circumstances warrant adjustments.

1.3 QUALITY ASSURANCE

A. Ready-Mix-Concrete Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C 94/C 94M requirements for production facilities and equipment.

B. ACI Publications: Comply with ACI 301 (ACI 301M) unless otherwise indicated.

PART 2 - PRODUCTS

2.1 STEEL REINFORCEMENT

A. Recycled Content: Provide steel reinforcement with an average recycled content of steel so postconsumer recycled content plus one-half of preconsumer recycled content is not less than 25 percent.

B. Plain-Steel Welded Wire Reinforcement: ASTM A 185/A 185M, fabricated from as-drawn steel wire into flat sheets.

C. Deformed-Steel Welded Wire Reinforcement: ASTM A 497/A 497M, flat sheet.

D. Reinforcing Bars: ASTM A 615/A 615M, Grade 60 (Grade 420); deformed.

E. Plain-Steel Wire: ASTM A 82/A 82M, as drawn.

F. Deformed-Steel Wire: ASTM A 496/A 496M.

G. Dowel Bars: ASTM A 615/A 615M, Grade 60 (Grade 420) plain-steel bars**;** zinc coated (galvanized) after fabrication according to ASTM A 767/A 767M, Class I coating. Cut bars true to length with ends square and free of burrs.

H. Bar Supports: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars, welded wire reinforcement, and dowels in place. Manufacture bar supports according to CRSI's "Manual of Standard Practice" from steel wire, plastic, or precast concrete of greater compressive strength than concrete specified.

2.2 CONCRETE MATERIALS

A. Cementitious Material: Use the following cementitious materials, of same type, brand, and source throughout Project:

1. Portland Cement: ASTM C 150, gray portland cement Type II. Supplement with the following:

a. Fly Ash: ASTM C 618, Class F.

b. Ground Granulated Blast-Furnace Slag: ASTM C 989, Grade 100 or 120.

B. Normal-Weight Aggregates: ASTM C 33, Class 4S, uniformly graded. Provide aggregates from a single source.

C. Water: Potable and complying with ASTM C 94/C 94M.

D. Air-Entraining Admixture: ASTM C 260.

E. Chemical Admixtures: Admixtures certified by manufacturer to be compatible with other admixtures and to contain not more than 0.1 percent water-soluble chloride ions by mass of cementitious material.

2.3 RELATED MATERIALS

A. Joint Fillers: ASTM D 1752, cork or self-expanding cork in preformed strips.

B. Slip-Resistive Aggregate Finish: Factory-graded, packaged, rustproof, nonglazing, abrasive aggregate of fused aluminum-oxide granules or crushed emery aggregate containing not less than 50 percent aluminum oxide and not less than 20 percent ferric oxide; unaffected by freezing, moisture, and cleaning materials.

2.4 CONCRETE MIXTURES

A. Prepare design mixtures, proportioned according to ACI 301 (ACI 301M), with the following properties:

1. Compressive Strength (28 Days): 3000 psi (20.7 MPa).

2. Maximum Water-Cementitious Materials Ratio at Point of Placement: 0.45.

3. Slump Limit: 4 inches (100 mm)f, plus or minus 1 inch (25 mm).

4. Air Content: 5-1/2 percent plus or minus 1.5 percent.

B. Chemical Admixtures: Use admixtures according to manufacturer's written instructions.

C. Synthetic Fiber: Uniformly disperse in concrete mixture at manufacturer's recommended rate, but not less than 1.0 lb/cu. yd. (0.60 kg/cu. m).

D. Color Pigment: Add color pigment to concrete mixture according to manufacturer's written instructions.

2.5 CONCRETE MIXING

A. Ready-Mixed Concrete: Measure, batch, and mix concrete materials and concrete according to ASTM C 94/C 94M. Furnish batch certificates for each batch discharged and used in the Work.

PART 3 - EXECUTION

3.1 EXAMINATION AND PREPARATION

A. Proof-roll prepared subbase surface below concrete paving to identify soft pockets and areas of excess yielding.

B. Remove loose material from compacted subbase surface immediately before placing concrete.

3.2 EDGE FORMS AND SCREED CONSTRUCTION

A. Set, brace, and secure edge forms, bulkheads, and intermediate screed guides to required lines, grades, and elevations. Install forms to allow continuous progress of work and so forms can remain in place at least 24 hours after concrete placement.

B. Clean forms after each use and coat with form-release agent to ensure separation from concrete without damage.

3.3 STEEL REINFORCEMENT

A. General: Comply with CRSI's "Manual of Standard Practice" for fabricating, placing, and supporting reinforcement.

3.4 JOINTS

A. General: Form construction, isolation, and contraction joints and tool edges true to line, with faces perpendicular to surface plane of concrete. Construct transverse joints at right angles to centerline unless otherwise indicated.

B. Construction Joints: Set construction joints at side and end terminations of paving and at locations where paving operations are stopped for more than one-half hour unless paving terminates at isolation joints.

C. Isolation Joints: Form isolation joints of preformed joint-filler strips abutting concrete curbs, catch basins, manholes, inlets, structures, other fixed objects, and where indicated.

D. Contraction Joints: Form weakened-plane contraction joints, sectioning concrete into areas as indicated. Construct contraction joints for a depth equal to at least one-fourth of the concrete thickness to match jointing of existing adjacent concrete paving:

E. Edging: After initial floating, tool edges of paving, gutters, curbs, and joints in concrete with an edging tool to a 1/4-inch (6-mm) radius. Repeat tooling of edges after applying surface finishes. Eliminate edging-tool marks on concrete surfaces.

3.5 CONCRETE PLACEMENT

A. Moisten subbase to provide a uniform dampened condition at time concrete is placed.

B. Comply with ACI 301 (ACI 301M) requirements for measuring, mixing, transporting, placing, and consolidating concrete.

C. Deposit and spread concrete in a continuous operation between transverse joints. Do not push or drag concrete into place or use vibrators to move concrete into place.

D. Screed paving surface with a straightedge and strike off.

E. Commence initial floating using bull floats or darbies to impart an open-textured and uniform surface plane before excess moisture or bleed water appears on the surface. Do not further disturb concrete surfaces before beginning finishing operations or spreading surface treatments.

3.6 FLOAT FINISHING

A. General: Do not add water to concrete surfaces during finishing operations.

B. Float Finish: Begin the second floating operation when bleed-water sheen has disappeared and concrete surface has stiffened sufficiently to permit operations. Float surface with power-driven floats or by hand floating if area is small or inaccessible to power units. Finish surfaces to true

planes. Cut down high spots and fill low spots. Refloat surface immediately to uniform granular texture.

1. Burlap Finish: Drag a seamless strip of damp burlap across float-finished concrete, perpendicular to line of traffic, to provide a uniform, gritty texture.
2. Medium-to-Fine-Textured Broom Finish: Draw a soft-bristle broom across float-finished concrete surface perpendicular to line of traffic to provide a uniform, fine-line texture.
3. Medium-to-Coarse-Textured Broom Finish: Provide a coarse finish by striating float-finished concrete surface 1/16 to 1/8 inch (1.6 to 3 mm) deep with a stiff-bristled broom, perpendicular to line of traffic.

C. Slip-Resistive Aggregate Finish: Before final floating, spread slip-resistive aggregate finish on paving surface according to manufacturer's written instructions.

1. Cure concrete with curing compound recommended by slip-resistive aggregate manufacturer. Apply curing compound immediately after final finishing.
2. After curing, lightly work surface with a steel wire brush or abrasive stone and water to expose nonslip aggregate.

3.7 CONCRETE PROTECTION AND CURING

A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures.

B. Comply with ACI 306.1 for cold-weather protection.

C. Evaporation Retarder: Apply evaporation retarder to concrete surfaces if hot, dry, or windy conditions cause moisture loss approaching 0.2 lb/sq. ft. x h (1 kg/sq. m x h) before and during finishing operations. Apply according to manufacturer's written instructions after placing, screeding, and bull floating or darbying concrete but before float finishing.

D. Begin curing after finishing concrete but not before free water has disappeared from concrete surface.

E. Curing Methods: Cure concrete by moisture curing, moisture-retaining-cover curing, curing compound or a combination of these.

3.8 PAVING TOLERANCES

A. Comply with tolerances in ACI 117 and as follows:

1. Elevation: 3/4 inch (19 mm).
2. Thickness: Plus 3/8 inch (10 mm), minus 1/4 inch (6 mm).
3. Surface: Gap below 10-foot- (3-m-) long, unleveled straightedge not to exceed 1/2 inch (13 mm).
4. Joint Spacing: 3 inches (75 mm).
5. Contraction Joint Depth: Plus 1/4 inch (6 mm), no minus.
6. Joint Width: Plus 1/8 inch (3 mm), no minus.

3.9 REPAIRS AND PROTECTION

A. Remove and replace concrete paving that is broken, damaged, or defective or that does not comply with requirements in this Section. Remove work in complete sections from joint to joint unless otherwise approved by Resident Engineer.

B. Protect concrete paving from damage. Exclude traffic from paving for at least 14 days after placement. When construction traffic is permitted, maintain paving as clean as possible by removing surface stains and spillage of materials as they occur.

C. Maintain concrete paving free of stains, discoloration, dirt, and other foreign material. Sweep paving not more than two days before date scheduled for Substantial Completion inspections.

END OF SECTION 321313

SECTION 321373 - CONCRETE PAVING JOINT SEALANTS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Cold-applied joint sealants.

2. Hot-applied joint sealants.

1.2 SUBMITTALS

A. Product Data: For each joint-sealant product indicated.

B. Samples: For each kind and color of joint sealant required.

C. Product certificates.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Compatibility: Provide joint sealants, backing materials, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by joint-sealant manufacturer based on testing and field experience.

B. Colors of Exposed Joint Sealants: Match Architect's samples.

2.2 COLD-APPLIED JOINT SEALANTS

A. Single-Component, Self-Leveling, Silicone Joint Sealant for Concrete: ASTM D 5893, Type SL.

1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:

a. Crafco Inc., an ERGON company; RoadSaver Silicone SL.

b. Dow Corning Corporation; 890-SL.

c. Pecora Corporation; 300 SL.

2.3 JOINT-SEALANT BACKER MATERIALS

A. Round Backer Rods for Cold-Applied Joint Sealants: ASTM D 5249, Type 3, of diameter and density required to control joint-sealant depth and prevent bottom-side adhesion of sealant.

B. Backer Strips for Cold- and Hot-Applied Joint Sealants: ASTM D 5249; Type 2; of thickness and width required to control joint-sealant depth, prevent bottom-side adhesion of sealant, and fill remainder of joint opening under sealant.

2.4 PRIMERS

A. Primers: Product recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.

PART 3 - EXECUTION

3.1 INSTALLATION

A. General: Comply with joint-sealant manufacturer's written installation instructions for products and applications indicated unless more stringent requirements apply.

B. Cleaning of Joints: Clean out joints immediately before installing joint sealants.

C. Joint-Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.

D. Install joint-sealant backings of kind indicated to support joint sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.

1. Do not leave gaps between ends of joint-sealant backings.

2. Do not stretch, twist, puncture, or tear joint-sealant backings.

3. Remove absorbent joint-sealant backings that have become wet before sealant application and replace them with dry materials.

E. Install joint sealants using proven techniques that comply with the following and at the same time backings are installed:

1. Place joint sealants so they directly contact and fully wet joint substrates.

2. Completely fill recesses in each joint configuration.

3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.

F. Tooling of Nonsag Joint Sealants: Immediately after joint-sealant application and before skinning or curing begins, tool sealants according to the following requirements to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint:

1. Remove excess joint sealant from surfaces adjacent to joints.

2. Use tooling agents that are approved in writing by joint-sealant manufacturer and that do not discolor sealants or adjacent surfaces.

G. Provide joint configuration to comply with joint-sealant manufacturer's written instructions unless otherwise indicated.

H. Clean off excess joint sealant or sealant smears adjacent to joints as the Work progresses, by methods and with cleaning materials approved in writing by manufacturers of joint sealants and of products in which joints occur.

END OF SECTION 321373

SECTION 322350 - TREE TRIMMING AND PROTECTION

PART 1 - GENERAL

1.1 DESCRIPTION

A. Work includes, but is not necessarily limited to, tree trimming, and protection of existing trees, as shown on drawings and described below.

1.2 RELATED WORK DESCRIBED ELSEWHERE

A. Site Clearing: Section 311000

B. Earthmoving: Section 312000

1.3 QUALITY ASSURANCE

A. Scheduling: Prior to beginning work described in this section, the Contractor and Resident Engineer shall review on-site all portions of the work, its extent, and proposed methods of execution. Do not begin any work without review and approval of Resident Engineer.

B. Staff: All tree trimming shall be done by qualified tree arborist, with a minimum of five years of prior experience in similar work, and subject to Resident Engineer's approval.

1.4 REFERENCES

A. Codes and Regulations

1. Applicable regulations, including CAL-OSHA, regarding protection of persons and property.

2. City requirements regarding tree removal and disposal, including permits.

B. Referenced Standard: "Tree Maintenance and Protection Recommendations," prepared by Ralph Osterling Consultants Inc., dated November 7, 1988.

PART 2 – MATERIALS – NOT USED

PART 3 – EXECUTION\

3.1 SURFACE CONDITIONS

A. Inspection

1. Prior to all work of this Section, carefully inspect the installed work of all other trades and verify that such work is complete to the point where this installation may properly commence.

2. Verify that all tree trimming be performed in strict accordance with all pertinent codes and regulations and the requirements of these Specifications.

3. Confirm tree trimming/removal designations, verifying extent of modification necessary for each tree.

B. Discrepancies

1. In the event of discrepancy, immediately notify the Resident Engineer.

2. Do not proceed with installation in areas of discrepancy until all such discrepancies have been fully resolved.

3.2 TREE WORK PROCEDURES

A. Protection

1. Prior to beginning any work in proximity of existing trees, install tree protection barriers.
2. Barriers shall be as shown on drawings or Resident Engineer approved equal.
3. Following earthwork operations, provide wood chip mulch 4 to 6 inches deep beneath entire on-site tree drip line.
4. Do not permit material storage, vehicle parking, or construction operations within tree drip line.

B. Tree Trimming

1. Remove all deadwood along trunks and major scaffold limbs. Scaffold limbs are defined as those that make up the main supporting framework of the tree canopy. Within free-branching crown areas, remove all accessible major deadwood, defined as wood with a minimum diameter of 1-1/2 inches at its intersection with a live lateral.
2. Where designated on drawings, thin crowns by approximately 25 to 30 percent. When thinning to compensate for root loss, crown reduction should approximate root loss or disturbance. However, do not reduce crown by more than 40 percent.
3. Where designated on drawings, reduce by approximately 25-30 percent the overall size of trees by cutting back major scaffold limbs.
4. All pruning cuts shall be made to live wood and sound lateral limbs. Final cuts shall be relatively flush but shall not remove the shoulder rings. Heading-back or stub-cutting shall not be allowed.
5. All removed branches shall be cut back to their point of origin or to a lateral large enough to assume the terminal role.
6. All pruning shall consider the overall structural strength of the tree.
7. Trees shall be shaped to a natural and characteristic form.

C. Root Trimming

1. Where grading will expose or remove existing root structure, obtain direction from Resident Engineer prior to proceeding with actual grading/root removal.
2. Adjust tree crown as specified above.
3. Broken or severed roots exposed or disturbed during excavation shall be cut back to within 1-2 inches of the soil. Pruning cuts shall be made obliquely with the cut facing down. The exposed root ends shall be covered with moist soil or organic mulch to keep the roots cool and moist.
4. Where tree has had more than 20 percent of its root system disturbed, it shall receive nitrogen fertilizer applied at the rate of 2 lbs. per 1,000 square feet at frequency established by Resident Engineer. Irrigate as directed by Resident Engineer.

3.3 CLEAN-UP

A. Remove all debris and trash from site.

B. All wood chips, leaves, stump products and other organic materials shall be removed from site.

C. Dispose of all debris and waste in an approved manner at an off-site location.

3.4 MAINTENANCE

A. Adjust and maintain temporary irrigation system as required by Resident Engineer for a period of 90 days after project completion.

END OF SECTION 322350

SECTION 323113 - CHAIN-LINK FENCES AND GATES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, apply to this Section.

1.2 SUMMARY

A. This Section includes the following:

1. Galvanized steel chain-link fabric.

2. Galvanized steel framework.

1.3 SUBMITTALS

A. Shop Drawings: Show locations of fence, each gate, posts, rails, and tension wires and details of gate swing, or other operation, hardware, and accessories. Indicate materials, dimensions, sizes, weights, and finishes of components. Include plans, elevations, sections, gate swing and other required installation and operational clearances, and details of post anchorage and attachment and bracing.

B. Product Certificates: Signed by manufacturers of chain-link fences and gates certifying that products furnished comply with requirements.

1.4 PROJECT CONDITIONS

A. Field Measurements: Verify layout information for chain-link fences and gates shown on Drawings in relation to property survey and existing structures. Verify dimensions by field measurements.

PART 2 - PRODUCTS

2.1 CHAIN-LINK FENCE FABRIC

A. Carbon Steel Chain-Link Fence Fabric: Provide fabric fabricated in one-piece widths for fencing in height of 12 feet and less. Comply with CLFMI's "Product Manual" and with requirements indicated below:

B. Standard Fence Fabric:

1. Mesh and Wire Size: 2-inch mesh, 0.148-inch diameter (9 gauge).

C. Zinc-Coated Fabric: ASTM A 392, hot-dipped galvanized after weaving.

a. Class 2: Not less than 2.0 oz./sq. ft. of uncoated wire surface.

b. Class 1: Not less than 1.2 oz/sq. ft. of uncoated wire surface on 11 gauge fabric only.

D. Selvage: Knuckled at bottom and top.

2.2 FENCE FRAMING – See attached table

A. Round Steel Pipe: Standard weight, Nominal Pipe Size (NPS), Schedule 40, galvanized steel pipe, hot-dipped after fabrication, complying with ASTM F 1083 and ASTM A53. Comply with ASTM F 1043, Material Design Group IA, external and internal coating Type A, consisting of not less than 1.8-oz./sq. ft. zinc; and the following strength and stiffness requirements:

1. Line, End, Corner, and Pull Posts and Top Rail and gate frames: Per ASTM A53 requirements, Schedule 40 steel pipe, galvanized.

2. Thread protectors shall not be used as couplings under any circumstances.

B. Post Brace Rails: Provide brace rail with truss rod assembly for each gate, end, and pull post. Provide two brace rails extending in opposing directions, each with truss rod assembly, for each corner post and for pull posts. Provide rail ends and clamps for attaching rails to posts.

C. Top Rails (Provide at all chain-link fencing): Fabricate top rail from lengths 21 feet or longer, with wedged-end or fabricated for expansion-type coupling, forming a continuous rail along top of chain-link fabric.

D. Top rails, mid-rails, diagonal braces, and bottom rails shall be 1-¼ inches inside diameter by 2.27 lb/ft.

E. Fencing which will be supporting windscreen shall have posts designed for extra wind load.

F. All pipe used in chain link fencing shall be stamped by the manufacturer, either with indelible ink or incused, indicating the pipe wall thickness, inside diameter, ASTM standard to which it conforms, and the manufacturer's name.

G. Schedule of pipe sizes

Table 1 - ASTM A53 Threaded and Coupled Pipe Black and Galvanized ½" to 6"

Nominal Size	**Outside Diameter**		**Wall Thickness**			**Weight**		
In.	In.	Mm	In.	Mm	. No	lb/ft	Kg/m	Kg/ft
1/2"	0.084	21.3	0.109 0.147	2.77 3.73	40 (STD) 80 (XS)	0.85 1.09	1.26 1.62	0.39 0.49
3/4"	1.050	26.7	0.113 0.154	2.87 3.91	40 (STD) 80 (XS)	1.13 1.48	1.68 2.20	0.51 0.67
1"	1.315	33.4	0.133 0.179	3.38 4.55	40 (STD) 80 (XS)	1.68 2.18	2.50 3.24	0.76 0.99
1 1/4"	1.660	42.2	0.140 0.191	3.56 4.85	40 (STD) 80 (XS)	2.288 3.02	3.39 4.49	1.04 1.37
1 1/2"	1.900	48.3	0.145 0.200	3.68 5.08	40 (STD) 80 (XS)	2.73 3.66	4.06 5.45	1.24 1.66
2"	2.375	60.3	0.154 0.208	3.91 5.54	40 (STD) 80 (XS)	3.68 5.07	5.42 7.55	1.67 2.30
2 1/2"	2.875	73.0	0.203 0.276	5.16 7.01	40 (STD) 80 (XS)	5.82 7.73	8.66 11.50	2.64 3.51
3"	3.500	88.9	0.216 0.300	5.49 7.62	40 (STD) 80 (XS)	7.62 10.33	11.34 15.37	3.46 4.69
3 1/2"	4.000	101.6	0.226 0.318	5.74 8.08	40 (STD) 80 (XS)	9.2 12.63	13.69 18.80	4.18 5.73
4"	4.500	114.3	0.237 0.337	6.02 8.56	40 (STD) 80 (XS)	10.89 15.17	16.21 22.58	4.94 6.89
6"	6.625	168.3	0.280 0.312	7.11 7.92	40 (STD) 80 (XS)	18.97 21.04	28.23 31.31	8.60 9.54

2.3 TENSION WIRE – Hot-dipped galvanized

A. General: Provide horizontal tension wire at the following locations:

1. Location: Extended along bottom of all fence fabric.

B. Metallic-Coated Steel Wire: 0.177-inch- diameter (7-gauge), marcelled tension wire complying with ASTM A 824 and the following:

1. Coating: Type II, zinc coated (galvanized) by the hot-dip process, with the following minimum coating weight:

a. Class 2: Not less than 1.2 oz./sq. ft. of uncoated wire surface.

b. Matching chain-link fabric coating weight.

2.4 SWING GATES - See Table 2

A. General: Comply with ASTM F 900 for swing-type gates.

B. Metal Pipe Tubing: Hot-dipped galvanized steel, Nominal Pips Size (NPS). Comply with ASTM F 1083, ASTM A53 and ASTM F 1043 for materials and protective coatings.

C. Frames and Bracing: Fabricate members from round hot-dipped galvanized steel pipe with inside dimension (1 ½ inches) and weight (Nominal Pipe size for gate frame @ 2.73 lb/l.f.).

D. Frame Corner Construction: As follows:

1. Welded, and 5/16-inch- diameter, adjustable truss rods for panels 5 feet wide or wider.

E. Gate Posts: Fabricate members from round hot-dipped galvanized steel pipe with inside dimension and weight according to Table 2 for the gate leaf widths required.

1. All gate posts shall be of sufficient strength so that the total deflection of the gate and the post at the end of the gate leaf shall not exceed the lesser of 2% of the gate leaf width or 4 inches.

2. When necessary to meet this requirement due to the total weight of the gate leaf, the next larger size posts required shall be used. Gates shall not be equipped with rollers or casters for support.

Table 2

Swing gate member sizes		
Gate opening	**Nominal size**	**lb/ft.**
Single leaf to 6 feet	2 1/2"	5.79
Double leaf to 12 feet opening		
Single leaf 6 to 13 feet	3 1/2"	9.11
Double leaf 12 to 26 feet opening		
Single leaf 13 to 18 feet	6"	18.97
Double leaf 26 to 36 feet opening		

F. Hardware: Latches permitting operation from both sides of gate, heavy-duty offset hinges, center gate stops and, for each gate leaf more than 5 feet wide, keepers. Fabricate latches with integral eye openings for padlocking; padlock accessible from both sides of gate.

1. Provide means of padlocking gates in the open position where indicated that gate must be locked in open position during activity hours.

2. In addition to bolts, spotweld hinges and latches to posts.

3. All screws and bolts shall be tamper-proof.

4. Chains: Provide each gate with 3-foot length of chain to secure gate to fence with a padlock when open. Install ¾ inch round eye, cadmium plated harness snap on one end of chain. Secure chain with spotweld.

5. Gates shall swing a minimum of 180 degrees.

6. Single latches shall be industrial gravity type gate latch with automatic stop.

7. Double latch shall be drop bar one-inch inside diameter by 1.68 lb/ft nominal pipe size securely bolted to gate frame and shall engage an iron gate stop. Drop bar shall engage 1-½" by 2.73 lb/ft. inside pipe diameter pipe sleeve set in concrete. Provide drop bar keeper on gate to secure it in lifted position.

2.5 FITTINGS - Hot-dipped galvanized

A. General: Provide fittings for a complete fence installation, including special fittings for corners. Comply with ASTM F 626.

B. Post and Line Caps: Hot-dip galvanized pressed steel or hot-dip galvanized cast iron. Provide weathertight closure cap for each post.

1. Provide line post caps with loop to receive top rail.

C. Rail and Brace Ends: Hot-dip galvanized pressed steel or hot-dip galvanized cast iron. Provide rail ends or other means for attaching rails securely to each gate, corner, pull, and end post.

D. Rail Fittings: Provide the following:

1. Top Rail Sleeves: Hot-dip galvanized pressed steel or round steel tubing. Not less than 6 inches long.

2. Rail Clamps: Hot-dip galvanized pressed steel. Provide line and corner boulevard clamps for connecting intermediate rails in the fence line to line posts.

E. Tension and Brace Bands: Hot-dip galvanized pressed steel.

F. Tension Bars: Hot-dip galvanized steel, length not less than 2 inches shorter than full height of chain-link fabric. Provide one bar for each gate and end post, and two for each corner and pull post, unless fabric is integrally woven into post.

G. Truss Rod Assemblies: Hot-dip galvanized steel rod and turnbuckle or other means of adjustment.

H. Tie Wires, Clips, and Fasteners: Provide the following types according to ASTM F 626:

1. Standard Round Wire Ties: For attaching chain-link fabric to posts, rails, and frames, complying with the following:

a. Hot-Dip Galvanized Steel: 0.148-inch- diameter (9-gauge) wire; galvanized coating thickness matching coating thickness of chain-link fence fabric.

2. Round Wire Hog Rings: Hot-dip galvanized steel for attaching chain-link fabric to horizontal tension wires.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas and conditions, with Installer present, for compliance with requirements for a verified survey of property lines and legal boundaries, site clearing, earthwork, pavement work, and other conditions affecting performance.

1. Do not begin installation before final grading is completed, unless otherwise permitted by Resident Engineer.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Stake locations of fence lines, gates, and terminal posts. Do not exceed intervals of 500 feet or line of sight between stakes. Indicate locations of utilities, lawn sprinkler system, underground structures, benchmarks, and property monuments.

3.3 INSTALLATION, GENERAL

A. General: Install chain-link fencing to comply with ASTM F 567 and more stringent requirements specified.

3.4 CHAIN-LINK FENCE INSTALLATION

A. Terminal Posts: Locate terminal end, corner, and gate posts per ASTM F 567 and terminal pull posts at changes in horizontal or vertical alignment of 15 degrees or more

B. Line Posts: Space line posts uniformly as follows:

1. Standard fencing: 10 feet o.c.

2. Tennis court fencing: 10 feet o.c.

3. Handball court fencing: 5 to 6 feet o.c., based on bay size.

4. High Security fencing: 8 feet o.c.

C. Post Bracing Assemblies: Install according to ASTM F 567, maintaining plumb position and alignment of fencing. Install braces at end and gate posts and at both sides of corner and pull posts. Locate horizontal braces at mid-height of fabric on fences with top rail and at two-thirds fabric height on fences without top rail. Install so posts are plumb when diagonal rod is under proper tension.

D. Tension Wire: Install according to ASTM F 567, maintaining plumb position and alignment of fencing. Pull wire taut, without sags. Fasten fabric to tension wire with 0.120-inch- diameter hog rings of same material and finish as fabric wire, spaced a maximum of 24 inches o.c. Install tension wire in locations indicated before stretching fabric.

1. Bottom Tension Wire: Install tension wire within 6 inches of bottom of fabric and tie to each post with not less than same gage and type of wire.

E. Top Rail: Where indicated, install according to ASTM F 567, maintaining plumb position and alignment of fencing. Run rail continuously through line post caps, bending to radius for curved runs and terminating into rail end attached to posts or post caps fabricated to

receive rail at terminal posts. Provide expansion couplings as recommended by fencing manufacturer.

F. Chain-Link Fabric: Apply fabric to outside of enclosing framework. Leave 2 inches between finish grade or surface and bottom selvage, except leave one inch at tennis court fabric. Pull fabric taut and tie to posts, rails, and tension wires. Anchor to framework so fabric remains under tension after pulling force is released.

1. Do not allow fabric to be in contact with finish grade.

G. Tension or Stretcher Bars: Thread through fabric and secure to end, corner, pull, and gate posts with tension bands spaced not more than 15 inches o.c.

H. Tie Wires: Use wire of proper length to firmly secure fabric to line posts and rails. Attach wire at one end to chain-link fabric, wrap wire around post a minimum of 180 degrees, and attach other end to chain-link fabric per ASTM F 626. Bend ends of wire to minimize hazard to individuals and clothing.

1. Maximum Spacing: Tie fabric to line posts 12 inches o.c. and to braces 24 inches o.c.

I. Fasteners: Install nuts for tension bands and carriage bolts on the side of the fence opposite the fabric side.

3.5 GATE INSTALLATION

A. General: Install gates according to manufacturer's written instructions, level, plumb, and secure for full opening without interference. Attach fabric as for fencing. Attach hardware using tamper-resistant or concealed means. Install ground-set items in concrete for anchorage. Adjust hardware for smooth operation and lubricate where necessary.

3.6 ADJUSTING

A. Gate: Adjust gate to operate smoothly, easily, and quietly, free from binding, warp, excessive deflection, distortion, nonalignment, misplacement, disruption, or malfunction, throughout entire operational range. Confirm that latches and locks engage accurately and securely without forcing or binding.

B. Lubricate hardware and other moving parts.

3.7 GALVANIZE REPAIR

A. Touch-up welds and damaged galvanized surfaces with “Galvicon” by Galvicon Corp., or “Drygalv” by Anchor Brand Co., or approved equal.

END OF SECTION 323113

SECTION 329200 - TURF AND GRASSES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Sodding.

2. Turf renovation.

1.2 QUALITY ASSURANCE

A. Installer Qualifications: A qualified landscape installer whose work has resulted in successful turf establishment.

1. Experience: Three years' experience in turf installation."

1.3 DELIVERY, STORAGE, AND HANDLING

A. Sod: Harvest, deliver, store, and handle sod according to requirements in "Specifications for Turfgrass Sod Materials" and "Specifications for Turfgrass Sod Transplanting and Installation" sections in TPI's "Guideline Specifications to Turfgrass Sodding." Deliver sod within 24 hours of harvesting and in time for planting promptly. Protect sod from breakage and drying.

B. Bulk Materials:

1. Do not dump or store bulk materials near structures, utilities, walkways and pavements, or on existing turf areas or plants.

2. Provide erosion-control measures to prevent erosion or displacement of bulk materials; discharge of soil-bearing water runoff; and airborne dust reaching adjacent properties, water conveyance systems, or walkways.

3. Accompany each delivery of bulk materials with appropriate certificates.

1.4 FIELD CONDITIONS

A. Weather Limitations: Proceed with planting only when existing and forecasted weather conditions permit planting to be performed when beneficial and optimum results may be obtained. Apply products during favorable weather conditions according to manufacturer's written instructions.

PART 2 - PRODUCTS

2.1 TURFGRASS SOD

A. Turfgrass Sod: Certified, complying with "Specifications for Turfgrass Sod Materials" in TPI's "Guideline Specifications to Turfgrass Sodding." Furnish viable sod of uniform density, color, and texture that is strongly rooted and capable of vigorous growth and development when planted.

B. Turfgrass Species: Provide Turf Sod acceptable to the City of San Diego Park and Rec Department. Furnish Tifway Bermuda; or Tifway II Bermuda, or GN-1 Bermuda. Hybrid Bermuda sods that do not contain perennial rye shall be over seeded with “Grand Slam” or ‘Turfstar’ Perennial Rye, at a rate of 5 lbs./1,000 square feet..

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas to be planted for compliance with requirements and other conditions affecting installation and performance of the Work.

1. Verify that no foreign or deleterious material or liquid such as paint, paint washout, concrete slurry, concrete layers or chunks, cement, plaster, oils, gasoline, diesel fuel, paint thinner, turpentine, tar, roofing compound, or acid has been deposited in soil within a planting area.

2. Suspend planting operations during periods of excessive soil moisture until the moisture content reaches acceptable levels to attain the required results.

3. Uniformly moisten excessively dry soil that is not workable or which is dusty.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

C. If contamination by foreign or deleterious material or liquid is present in soil within a planting area, remove the soil and contamination as directed by Resident Engineer and replace with new planting soil.

3.2 PREPARATION

A. Protect structures; utilities; sidewalks; pavements; and other facilities, trees, shrubs, and plantings from damage caused by planting operations.

1. Protect grade stakes set by others until directed to remove them.

B. Install erosion-control measures to prevent erosion or displacement of soils and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways.

3.3 TURF AREA PREPARATION

A. General: Prepare planting area for soil placement and mix planting soil according to generally accepted practices.

B. Placing Planting Soil: Reduce elevation of planting soil to allow for soil thickness of sod.

C. Moisten prepared area before planting if soil is dry. Water thoroughly and allow surface to dry before planting. Do not create muddy soil.

D. Before planting, obtain Resident Engineer's acceptance of finish grading; restore planting areas if eroded or otherwise disturbed after finish grading.

3.4 SODDING

A. Lay sod within 24 hours of harvesting unless a suitable preservation method is accepted by Resident Engineer prior to delivery time. Do not lay sod if dormant or if ground is frozen or muddy.

B. Lay sod to form a solid mass with tightly fitted joints. Butt ends and sides of sod; do not stretch or overlap. Stagger sod strips or pads to offset joints in adjacent courses. Avoid damage to soil or sod during installation. Tamp and roll lightly to ensure contact with soil, eliminate air pockets, and form a smooth surface. Work sifted soil or fine sand into minor cracks between pieces of sod; remove excess to avoid smothering sod and adjacent grass.

1. Lay sod across slopes exceeding 1:3.

C. Saturate sod with fine water spray within two hours of planting. During first week after planting, water daily or more frequently as necessary to maintain moist soil to a minimum depth of 1-1/2 inches below sod.

3.5 TURF RENOVATION

A. Renovate existing turf where removed or damaged by construction activities.

B. Renovate turf damaged by Contractor's operations, such as storage of materials or equipment and movement of vehicles.

1. Reestablish turf where settlement or washouts occur or where minor regrading is required.

2. Install new planting soil as required.

C. Remove sod and vegetation from diseased or unsatisfactory turf areas; do not bury in soil.

D. Remove topsoil containing foreign materials, such as oil drippings, fuel spills, stones, gravel, and other construction materials resulting from Contractor's operations, and replace with new planting soil.

E. Mow, dethatch, core aerate, and rake existing turf.

F. Remove weeds before seeding. Where weeds are extensive, apply selective herbicides as required. Do not use pre-emergence herbicides.

G. Remove waste and foreign materials, including weeds, soil cores, grass, vegetation, and turf, and legally dispose of them off Owner's property.

H. Till stripped, bare, and compacted areas thoroughly to a soil depth of 6 inches.

I. Apply initial fertilizer required for establishing new turf and mix thoroughly into top 4 inches of existing soil. Install new planting soil to fill low spots and meet finish grades.

1. Initial Fertilizer: Commercial fertilizer applied according to manufacturer's recommendations.

J. Apply sod as required for new turf.

K. Water newly planted areas and keep moist until new turf is established.

3.6 TURF MAINTENANCE

A. General: Maintain and establish turf by watering, fertilizing, weeding, mowing, trimming, replanting, and performing other operations as required to establish healthy, viable turf. Roll, regrade, and replant bare or eroded areas and remulch to produce a uniformly smooth turf. Provide materials and installation the same as those used in the original installation.

1. Fill in as necessary soil subsidence that may occur because of settling or other processes. Replace materials and turf damaged or lost in areas of subsidence.

2. Apply treatments as required to keep turf and soil free of pests and pathogens or disease. Use integrated pest management practices whenever possible to minimize the use of pesticides and reduce hazards.

B. Watering: Install and maintain temporary piping, hoses, and turf-watering equipment to convey water from sources and to keep turf uniformly moist to a depth of 4 inches.

1. Schedule watering to prevent wilting, puddling, erosion, and displacement of seed or mulch. Lay out temporary watering system to avoid walking over muddy or newly planted areas.

2. Water turf with fine spray at a minimum rate of 1 inch per week unless rainfall precipitation is adequate.

C. Mow turf as soon as top growth is tall enough to cut. Repeat mowing to maintain specified height without cutting more than one-third of grass height. Remove no more than one-third of grass-leaf growth in initial or subsequent mowings. Do not delay mowing until grass blades bend over and become matted. Do not mow when grass is wet. Schedule initial and subsequent mowings to maintain the following grass height:

3.7 SATISFACTORY TURF

A. Turf installations shall meet the following criteria as determined by Resident Engineer:

1. Satisfactory Sodded Turf: At end of maintenance period, a healthy, well-rooted, even-colored, viable turf has been established, free of weeds, open joints, bare areas, and surface irregularities.

B. Use specified materials to reestablish turf that does not comply with requirements, and continue maintenance until turf is satisfactory.

3.8 CLEANUP AND PROTECTION

A. Promptly remove soil and debris created by turf work from paved areas. Clean wheels of vehicles before leaving site to avoid tracking soil onto roads, walks, or other paved areas.

B. Remove surplus soil and waste material, including excess subsoil, unsuitable soil, trash, and debris, and legally dispose of them off Owner's property.

C. Erect temporary fencing or barricades and warning signs as required to protect newly planted areas from traffic. Maintain fencing and barricades throughout initial maintenance period and remove after plantings are established.

D. Remove nondegradable erosion-control measures after grass establishment period.

3.9 MAINTENANCE SERVICE

A. Turf Maintenance Service: Provide full maintenance by skilled employees of landscape Installer. Maintain as required in "Turf Maintenance" Article. Begin maintenance immediately after each area is planted and continue until acceptable turf is established, but for not less than the following periods:

1. Sodded Turf: 66 days from date of Substantial Completion.

END OF SECTION 329200

SUPPLEMENTARY SPECIAL PROVISIONS

APPENDICES

APPENDIX A

Notice of Exemption

NOTICE OF EXEMPTION

(Check one or both)

TO: __X__ RECORDER/COUNTY CLERK
P.O. BOX 1750, MS A-33
1600 PACIFIC HWY, ROOM 260
SAN DIEGO, CA 92101-2422

_____ OFFICE OF PLANNING AND RESEARCH
1400 TENTH STREET, ROOM 121
SACRAMENTO, CA 95814

FROM: CITY OF SAN DIEGO
DEVELOPMENT SERVICES DEPARTMENT
1222 FIRST AVENUE, MS 501
SAN DIEGO, CA 92101

PROJECT NO.: WBS # S-11013 PROJECT TITLE: San Ysidro Athletic Area & Larsen Field Lighting

PROJECT LOCATION-SPECIFIC: The project is located at the south end of Sycamore Road within the San Ysidro Community Planning Area.

PROJECT LOCATION-CITY/COUNTY: San Diego/San Diego

DESCRIPTION OF NATURE AND PURPOSE OF THE PROJECT: This project would install 8 new 90 foot high light poles for two existing multi-purpose sports fields at the San Ysidro Area/Larsen Field. Currently the existing sports fields contain 16 light poles measuring approximately 65 feet in height. The construction of the light posts would result in excavation of approximately 2 feet of cut to accommodate the electrical wiring and light post foundation. This project is needed to expand the hours of facility use and its capacity to serve the community's residential growth. The project is located at the south end of Sycamore Road within the San Ysidro Community Planning Area.

NAME OF PUBLIC AGENCY APPROVING PROJECT: City of San Diego

NAME OF PERSON OR AGENCY CARRYING OUT PROJECT: City of San Diego, E&CP Dept/Alexandra Corsi
600 B Street, Suite 800 (MS 908A) San Diego, CA 92101 619 533-4644

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)
(X) CATEGORICAL EXEMPTION: 15303(NEW CONSTRUCTION OR CONVERSION OF SMALL STRUCTURES)
( ) STATUTORY EXEMPTIONS:

REASONS WHY PROJECT IS EXEMPT: Photographic simulations were provided in order to assess the potential visual quality impacts of the new structures. Based upon the simulations it can be determined that the lights would not obstruct a scenic vista and since the park currently contains light poles the existing character of the park would not be significantly altered. Therefore, after a complete environmental review it was determined that the proposed project qualifies for State CEQA Guideline §15303, "New Construction" and does not trigger any of the exceptions to categorical exemptions found in State CEQA Guideline § 15300.2

LEAD AGENCY CONTACT PERSON: TELEPHONE: (619) 446-5324

IF FILED BY APPLICANT:

1. ATTACH CERTIFIED DOCUMENT OF EXEMPTION FINDING.
2. HAS A NOTICE OF EXEMPTION BEEN FILED BY THE PUBLIC AGENCY APPROVING THE PROJECT?
   ( ) YES ( ) NO

IT IS HEREBY CERTIFIED THAT THE CITY OF SAN DIEGO HAS DETERMINED THE ABOVE ACTIVITY TO BE EXEMPT FROM CEQA

SIGNATURE/TITLE

AUGUST 8, 2012
DATE

CHECK ONE:
(X) SIGNED BY LEAD AGENCY

DATE RECEIVED FOR FILING WITH COUNTY CLERK OR OPR:

APPENDIX B

Materials Typically Accepted by Certificate of Compliance

Materials Typically Accepted by Certificate of Compliance

1. Soil amendment
2. Fiber mulch
3. PVC or PE pipe up to 16 inch diameter
4. Stabilizing emulsion
5. Lime
6. Preformed elastomeric joint seal
7. Plain and fabric reinforced elastomeric bearing pads
8. Steel reinforced elastomeric bearing pads
9. Waterstops (Special Condition)
10. Epoxy coated bar reinforcement
11. Plain and reinforcing steel
12. Structural steel
13. Structural timber and lumber
14. Treated timber and lumber
15. Lumber and timber
16. Aluminum pipe and aluminum pipe arch
17. Corrugated steel pipe and corrugated steel pipe arch
18. Structural metal plate pipe arches and pipe arches
19. Perforated steel pipe
20. Aluminum underdrain pipe
21. Aluminum or steel entrance tapers, pipe downdrains, reducers, coupling bands and slip joints
22. Metal target plates
23. Paint (traffic striping)
24. Conductors
25. Painting of electrical equipment
26. Electrical components
27. Engineering fabric
28. Portland Cement
29. PCC admixtures
30. Minor concrete, asphalt
31. Asphalt (oil)
32. Liquid asphalt emulsion
33. Epoxy

APPENDIX C

Sample City Invoice

City of San Diego, Field Engineering Div., 9485 Aero Drive, SD CA 92123						Contractor's Name:					
Project Name:						Contractor's Address:					
SAP No. (WBS/IO/CC)											
City Purchase Order No.						Contractor's Phone #:				Invoice No.	
Resident Engineer (RE):						Contractor's Fax #:				Invoice Date:	
RE Phone#:		RE Fax#:				Contact Name:			Billing Period:		
Item #	Item Description	Contract Authorization				Previous Estimate		This Estimate		Totals to Date	
		Unit	Qty	Price	Extension	%/QTY	Amount	% / QTY	Amount	% / QTY	Amount
1	2 Parallel 4" PVC C900	LF	1,380	$34.00	$46,920.00						
2	48" Primary Steel Casing	LF	500	$1,000.00	$500,000.00						
3	2 Parallel 12" Secondary Steel	LF	1,120	$53.00	$59,360.00						
4	Construction and Rehab of PS 49	LS	1	$150,000.00	$150,000.00						
5	Demo	LS	1	$14,000.00	$14,000.00						
6	Install 6' High Chain Link Fence	LS	1	$5,600.00	$5,600.00						
7	General Site Restoration	LS	1	$3,700.00	$3,700.00						
8	10" Gravity Sewer	LF	10	$292.00	$2,920.00						
9	4" Blow Off Valves	EA	2	$9,800.00	$19,600.00						
10	Bonds	LS	1	$16,000.00	$16,000.00						
11	Field Orders	AL	1	80,000	$80,000.00						
11.1	**Field Order 1**	**LS**	**5,500**	**$1.00**	$5,500.00						
11.2	**Field Order 2**	**LS**	**7,500**	**$1.00**	$7,500.00						
11.3	**Field Order 3**	**LS**	**10,000**	**$1.00**	$10,000.00						
11.4	**Field Order 4**	**LS**	**6,500**	**$1.00**	$6,500.00						
12	**Certified Payroll**	**LS**	**1**	**$1,400.00**	$1,400.00						
CHANGE ORDERS											
Change Order 1		**4,890**									
Items 1-4					**$11,250.00**						
Item 5-Deduct Bid Item 3		**LF**	**120**	**-$53.00**	**($6,360.00)**						
Change Order 2		**160,480**									
Items 1-3					**$95,000.00**						
Item 4 Deduct Bid Item 1		**LF**	**380**	**-$340.00**	**($12,920.00)**						
Item 5-Encrease bid Item 9		**LF**	**8**	**$9,800.00**	**$78,400.00**						
Change Order 3 (Close Out)		**-121,500**									
Item 1 Deduct Bid Item 3			**53**	**-500.00**	**($26,500.00)**						
Item 2 Deduct Bid Item 4		**LS**	**-1**	**45,000.00**	**($45,000.00)**						
Items 3-9			**1**	**-50,500.00**	**($50,500.00)**						
SUMMARY								Total This	$ -	**Total Billed**	$0.00
A. Original Contract Amount							**Retention and/or Escrow Payment Schedule**				
B. Approved Change Order 1 Thru 3							Total Retention Required as of this billing				
C. Total Authorized Amount (A+B)							Previous Retention Withheld in PO or in Escrow				
D. Total Billed to Date							Add'l Amt to Withhold in PO/Transfer in Escrow:				
E. Less Total Retention (5% of D)							Amt to Release to Contractor from PO/Escrow:				
F. Less Total Previous Payments											
G. Payment Due Less Retention						**Contractor Signature and Date:**					
H. Remaining Authorized Amount											

APPENDIX D

Location Map

ATTACHMENT F

INTENTIONALLY LEFT BLANK

1/17/14 eW

City of San Diego

CONTRACTOR'S NAME: Ace Electric, Inc.
ADDRESS: 6061 Fairmount Ave, San Diego, CA 92120
TELEPHONE NO.: 619-521-9740 FAX NO.: 619-521-9742
CITY CONTACT: Claudia Abarca, Contract Specialist, Email: Cabarca@sandiego.gov
Phone No. 619-533-3439, Fax No. 619-533-3633
A.Corsi/BDoringo/egz

CONTRACT DOCUMENTS

FOR

SAN YSIDRO ATHLETIC AREA/LARSEN FIELD LIGHTING

VOLUME 2 OF 2

BID NO.:	K-14-5831-DBB-3
SAP NO. (WBS/IO/CC):	S-11013
CLIENT DEPARTMENT:	1714
COUNCIL DISTRICT:	8
PROJECT TYPE:	GA

THIS CONTRACT IS SUBJECT TO THE FOLLOWING:

- THE CITY'S SUBCONTRACTING PARTICIPATION REQUIREMENTS FOR SLBE PROGRAM.
- BID DISCOUNT PROGRAM (The WHITEBOOK, SLBE-ELBE Program Requirements, Section IV(2))
- PREVAILING WAGE RATES APPLY: STATE ☒ FEDERAL ☐

THIS BIDDING DOCUMENT TO BE SUBMITTED IN ITS ENTIRETY
REFER TO VOLUME 1 COVER PAGE FOR TIME, DATE, AND LOCATION

TABLE OF CONTENTS

DESCRIPTION **PAGE NUMBER**

Volume 2 - Bidding Documents

The following forms must be completed in their entirety and submitted with the Bid. Include the form(s) even if the information does not apply. Where the information does not apply write in N/A. Failure to include any of the forms may cause the Bid to be deemed **non-responsive.** If you are uncertain or have any questions about any required information, contact the City no later than 14 days prior to Bid due date.

PROPOSAL

Bidder's General Information

To the City of San Diego:

Pursuant to "Notice Inviting Bids", specifications, and requirements on file with the City Clerk, and subject to all provisions of the Charter and Ordinances of the City of San Diego and applicable laws and regulations of the United States and the State of California, the undersigned hereby proposes to furnish to the City of San Diego, complete at the prices stated herein, the items or services hereinafter mentioned. The undersigned further warrants that this bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that the bid is genuine and not collusive or sham; that the bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or that anyone shall refrain from bidding; that the bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder, or to secure any advantage against the public body awarding the contract of anyone interested in the proposed contract; that all statements contained in the bid are true; and, further, that the bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid, and will not pay, any fee to any corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid.

The undersigned bidder(s) further warrants that bidder(s) has thoroughly examined and understands the entire Contract Documents (plans and specifications) and the Bidding Documents therefore, and that by submitting said Bidding Documents as its bid proposal, bidder(s) acknowledges and is bound by the entire Contract Documents, including any addenda issued thereto, as such Contract Documents incorporated by reference in the Bidding Documents.

IF A SOLE OWNER OR SOLE CONTRACTOR SIGN HERE:

(1) Name under which business is conducted _____

(2) Signature (Given and surname) of proprietor _____

(3) Place of Business (Street & Number) _____

(4) City and State _____ Zip Code _____

(5) Telephone No. _____ Facsimile No. _____

(6) Email Address _____

IF A PARTNERSHIP, SIGN HERE:

(1) Name under which business is conducted _____

(2) Name of each member of partnership, indicate character of each partner, general or special (limited):

_____

_____

(3) Signature (Note: Signature must be made by a general partner)

_____

Full Name and Character of partner

_____

_____

(4) Place of Business (Street & Number) _____

(5) City and State _____ Zip Code _____

(6) Telephone No. _____ Facsimile No. _____

(7) Email Address _____

IF A CORPORATION, SIGN HERE:

(1) Name under which business is conducted Ace Electric, Inc.

(2) Signature, with official title of officer authorized to sign for the corporation:

_____
(Signature)

Jeffrey A. Hinds
(Printed Name)

President
(Title of Officer)

(Impress Corporate Seal Here)

(3) Incorporated under the laws of the State of California

(4) Place of Business (Street & Number) 6061 Fairmount Ave

(5) City and State San Diego, CA Zip Code 92120

(6) Telephone No. 619-521-9740 Facsimile No. 619-521-9742

(7) Email Address HindsCAceElectricInc.com

THE FOLLOWING SECTIONS MUST BE FILLED IN BY ALL PROPOSERS:

In accordance with the "**NOTICE INVITING BIDS**", the bidder holds a California State Contractor's license for the following classification(s) to perform the work described in these specifications:

LICENSE CLASSIFICATION C10, A

LICENSE NO. 835109 EXPIRES 3/31/2014

This license classification must also be shown on the front of the bid envelope. Failure to show license classification on the bid envelope may cause return of the bid unopened.

TAX IDENTIFICATION NUMBER (TIN): [redacted]

Email Address: Hinds@AceElectricInc.com

THIS PROPOSAL MUST BE NOTARIZED BELOW:

I certify, under penalty of perjury, that the representations made herein regarding my State Contractor's license number, classification and expiration date are true and correct.

Signature _____ Jeffrey A. Hinds Title President

SUBSCRIBED AND SWORN TO BEFORE ME, THIS _____ DAY OF _____, ____.

Notary Public in and for the County of _____, State of _____

See Attached

(NOTARIAL SEAL)

CALIFORNIA ALL-PURPOSE ACKNOWLEDGEMENT

State of California
County of San Diego } SS.

On January 14, 2014 Before Me C. Powell ,a Notary Public
Name of Notary Public

Personally Appeared Jeffrey A. Hinds
Name(s) of Signer(s)

[X] 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.

C. POWELL
COMM. #2019968
NOTARY PUBLIC • CALIFORNIA
SAN DIEGO COUNTY
Commission Expires Apr. 17, 2017
PHE1 PHE1

Notary Stamp

C. Powell
Signature of Notary Public

License Number #1845097 Expires 4-17-2017

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 this form to another document.

Description of Attached Document

Title our Type of Document: _____

Document Date: _____ Number of Pages _____

Signer(s) Other Than Named Above: _____

Capacity(ies) Claimed by Signer(s)

Signers Name: _____

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

Signer is Representing _____

Right Thumb Print of Signer 1

Right Thumb Print of Signer 2

BID BOND

KNOW ALL MEN BY THESE PRESENTS,

That ACE ELECTRIC, INC. as Principal, and TRAVELERS CASUALTY AND SURETY COMPANY OF AMERICA as Surety, are held and firmly bound unto The City of San Diego hereinafter called "OWNER," in the sum of 10% OF THE TOTAL BID AMOUNT for the payment of which sum, well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

WHEREAS, said Principal has submitted a Bid to said OWNER to perform the WORK required under the bidding schedule(s) of the OWNER's Contract Documents entitled

SAN YSIDRO ATHLETIC AREA/LARSEN FIELD LIGHTING, BID NO. K-14-5831-DBB-3

NOW THEREFORE, if said Principal is awarded a contract by said OWNER and, within the time and in the manner required in the "Notice Inviting Bids" enters into a written Agreement on the form of agreement bound with said Contract Documents, furnishes the required certificates of insurance, and furnishes the required Performance Bond and Payment Bond, then this obligation shall be null and void, otherwise it shall remain in full force and effect. In the event suit is brought upon this bond by said OWNER and OWNER prevails, said Surety shall pay all costs incurred by said OWNER in such suit, including a reasonable attorney's fee to be fixed by the court.

SIGNED AND SEALED, this 13TH day of JANUARY, 2014

ACE ELECTRIC, INC. (SEAL)	TRAVELERS CASUALTY AND SURETY COMPANY OF AMERICA (SEAL)
(Principal)	(Surety)
By: (Signature)	By: Mark D. Iatarola (Signature)
JEFFREY A. HINDS, PRESIDENT	MARK D. IATAROLA, ATTORNEY-IN-FACT

(SEAL AND NOTARIAL ACKNOWLEDGEMENT OF SURETY)

CALIFORNIA ALL-PURPOSE ACKNOWLEDGEMENT

State of California
County of San Diego } SS.

On January 14, 2014 Before Me C. Powell ,a Notary Public
Name of Notary Public

Personally Appeared Jeffrey A. Hinds
Name(s) of Signer(s)

[X] 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.

C. POWELL
COMM. #2019968
NOTARY PUBLIC • CALIFORNIA
SAN DIEGO COUNTY
Commission Expires Apr. 17, 2017

Notary Stamp

C Powell
Signature of Notary Public

License Number #1845097 Expires 4-17-2017

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 this form to another document.

Description of Attached Document

Title our Type of Document: _____

Document Date: _____ Number of Pages _____

Signer(s) Other Than Named Above: _____

Capacity(ies) Claimed by Signer(s)

Signers Name: _____

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

Signer is Representing _____

Right Thumb Print of Signer 1

Right Thumb Print of Signer 2

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT

STATE OF CALIFORNIA

County of SAN DIEGO }

On 1/13/2014 (Date) before me, MICHELLE M. BASUIL, NOTARY PUBLIC (Here Insert Name and Title of the Officer),

personally appeared MARK D. IATAROLA (Name(s) of Signer(s))

,

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 michelle m. Basuil (Signature of Notary Public)

GSN1 MICHELLE M. BASUIL COMM. # 2034911 NOTARY PUBLIC · CALIFORNIA SAN DIEGO COUNTY My Commission Expires August 24, 2017 GSN1

Place Notary Seal Above

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 this form to another document.

Description of Attached Document

Title or Type of Document: BID BOND

Document Date: 1/13/2014 Number of Pages: 1

Signer(s) Other Than Named Above: _____

Capacity(ies) Claimed by Signer(s)

Signer's Name: MARK D. IATAROLA
- ☐ Individual
- ☐ Corporate Officer — Title(s): _____
- ☐ Partner — ☐ Limited ☐ General
- ☑ Attorney in Fact
- ☐ Trustee
- ☐ Guardian or Conservator
- ☐ Other: _____

Signer Is Representing: _____

RIGHT THUMBPRINT OF SIGNER
Top of thumb here

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

Signer Is Representing: _____

RIGHT THUMBPRINT OF SIGNER
Top of thumb here

TRAVELERS

POWER OF ATTORNEY

Farmington Casualty Company
Fidelity and Guaranty Insurance Company
Fidelity and Guaranty Insurance Underwriters, Inc.
St. Paul Fire and Marine Insurance Company
St. Paul Guardian Insurance Company

St. Paul Mercury Insurance Company
Travelers Casualty and Surety Company
Travelers Casualty and Surety Company of America
United States Fidelity and Guaranty Company

Attorney-In Fact No. 226183 **Certificate No.** 005489465

KNOW ALL MEN BY THESE PRESENTS: That Farmington Casualty Company, St. Paul Fire and Marine Insurance Company, St. Paul Guardian Insurance Company, St. Paul Mercury Insurance Company, Travelers Casualty and Surety Company, Travelers Casualty and Surety Company of America, and United States Fidelity and Guaranty Company are corporations duly organized under the laws of the State of Connecticut, that Fidelity and Guaranty Insurance Company is a corporation duly organized under the laws of the State of Iowa, and that Fidelity and Guaranty Insurance Underwriters, Inc., is a corporation duly organized under the laws of the State of Wisconsin (herein collectively called the "Companies"), and that the Companies do hereby make, constitute and appoint

John G. Maloney, Mark D. Iatarola, Glenda J. Gardner, Michelle M. Basuil, and Helen Maloney

of the City of Escondido, State of California, their true and lawful Attorney(s)-in-Fact, each in their separate capacity if more than one is named above, to sign, execute, seal and acknowledge any and all bonds, recognizances, conditional undertakings and other writings obligatory in the nature thereof on behalf of the Companies in their business of guaranteeing the fidelity of persons, guaranteeing the performance of contracts and executing or guaranteeing bonds and undertakings required or permitted in any actions or proceedings allowed by law.

IN WITNESS WHEREOF, the Companies have caused this instrument to be signed and their corporate seals to be hereto affixed, this 14th day of May, 2013.

Farmington Casualty Company
Fidelity and Guaranty Insurance Company
Fidelity and Guaranty Insurance Underwriters, Inc.
St. Paul Fire and Marine Insurance Company
St. Paul Guardian Insurance Company

St. Paul Mercury Insurance Company
Travelers Casualty and Surety Company
Travelers Casualty and Surety Company of America
United States Fidelity and Guaranty Company

State of Connecticut
City of Hartford ss.

By: _____
Robert L. Raney, Senior Vice President

On this the 14th day of May, 2013, before me personally appeared Robert L. Raney, who acknowledged himself to be the Senior Vice President of Farmington Casualty Company, Fidelity and Guaranty Insurance Company, Fidelity and Guaranty Insurance Underwriters, Inc., St. Paul Fire and Marine Insurance Company, St. Paul Guardian Insurance Company, St. Paul Mercury Insurance Company, Travelers Casualty and Surety Company, Travelers Casualty and Surety Company of America, and United States Fidelity and Guaranty Company, and that he, as such, being authorized so to do, executed the foregoing instrument for the purposes therein contained by signing on behalf of the corporations by himself as a duly authorized officer.

In Witness Whereof, I hereunto set my hand and official seal.
My Commission expires the 30th day of June, 2016.

MARIE C. TETREAULT NOTARY PUBLIC CONNECTICUT

_____
Marie C. Tetreault, Notary Public

58440-8-12 Printed in U.S.A.

NON-COLLUSION AFFIDAVIT TO BE EXECUTED BY BIDDER AND SUBMITTED WITH BID UNDER 23 UNITED STATES CODE 112 AND PUBLIC CONTRACT CODE 7106

State of California)
) ss.
County of San Diego)

Jeffrey A. Hinds, being first duly sworn, deposes and says that he or she is President of the party making the foregoing bid that the bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that the bid is genuine and not collusive or sham; that the bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or that anyone shall refrain from bidding; that the bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder, or to secure any advantage against the public body awarding the contract of anyone interested in the proposed contract; that all statements contained in the bid are true; and further, that the bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid, and will not pay, any fee to any corporation, partnership, company association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid.

Signed: ______________________

Title: President

Subscribed and sworn to before me this ____ day of __________, 2____

See Attached
____
Notary Public

(SEAL)

CALIFORNIA ALL-PURPOSE ACKNOWLEDGEMENT

State of California
County of San Diego } SS.

On January 14, 2014 Before Me C. Powell ,a Notary Public
Name of Notary Public

Personally Appeared Jeffrey A. Hinds
Name(s) of Signer(s)

[X] 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.

C. POWELL
COMM. #2019968
NOTARY PUBLIC • CALIFORNIA
SAN DIEGO COUNTY
Commission Expires Apr. 17, 2017

Notary Stamp

C Powell
Signature of Notary Public

License Number #1845097 Expires 4-17-2017

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 this form to another document.

Description of Attached Document

Title our Type of Document: _____

Document Date: _____ Number of Pages _____

Signer(s) Other Than Named Above: _____

Capacity(ies) Claimed by Signer(s)

Signers Name: _____

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

Signer is Representing _____

Right Thumb Print of Signer 1

Right Thumb Print of Signer 2

CONTRACTORS CERTIFICATION OF PENDING ACTIONS

As part of its bid or proposal (Non-Price Proposal in the case of Design-Build contracts), the Bidder shall provide to the City a list of all instances within the past 10 years where a complaint was filed or pending against the Bidder in a legal or administrative proceeding alleging that Bidder discriminated against its employees, subcontractors, vendors or suppliers, and a description of the status or resolution of that complaint, including any remedial action taken.

CHECK ONE BOX ONLY.

☒ The undersigned certifies that within the past 10 years the Bidder has NOT been the subject of a complaint or pending action in a legal administrative proceeding alleging that Bidder discriminated against its employees, subcontractors, vendors or suppliers.

☐ The undersigned certifies that within the past 10 years the Bidder has been the subject of a complaint or pending action in a legal administrative proceeding alleging that Bidder discriminated against its employees, subcontractors, vendors or suppliers. A description of the status or resolution of that complaint, including any remedial action taken and the applicable dates is as follows:

Date of Claim	Location	Description of Claim	Litigation (Y/N)	Status	Resolution/Remedial Action Taken

Contractor Name: Ace Electric, Inc.

Certified By Jeffrey A. Hinds (Name) Title President

(Signature) Date 1/14/14

USE ADDITIONAL FORMS AS NECESSARY

EQUAL BENEFITS ORDINANCE CERTIFICATION OF COMPLIANCE

For additional information, contact:
CITY OF SAN DIEGO
EQUAL BENEFITS PROGRAM
202 C Street, MS 9A, San Diego, CA 92101
Phone (619) 533-3948 Fax (619) 533-3220

COMPANY INFORMATION

Company Name: Ace Electric, Inc.	Contact Name: Jeffrey A. Hinds
Company Address: 6061 Fairmount Ave	Contact Phone: 619-521-9740
San Diego, CA 92120	Contact Email: HindsAceElectricInc.com

CONTRACT INFORMATION

Contract Title: San Ysidro Athletic Area/Larsen Field Lighting	Start Date:
Contract Number (if no number, state location):	End Date:

SUMMARY OF EQUAL BENEFITS ORDINANCE REQUIREMENTS

The Equal Benefits Ordinance [EBO] requires the City to enter into contracts only with contractors who certify they will provide and maintain equal benefits as defined in SDMC §22.4302 for the duration of the contract. To comply:

- Contractor shall offer equal benefits to employees with spouses and employees with domestic partners.
  - Benefits include health, dental, vision insurance; pension/401(k) plans; bereavement, family, parental leave; discounts, child care; travel/relocation expenses; employee assistance programs; credit union membership; or any other benefit.
  - Any benefit not offer an employee with a spouse, is not required to be offered to an employee with a domestic partner.
- Contractor shall post notice of firm's equal benefits policy in the workplace and notify employees at time of hire and during open enrollment periods.
- Contractor shall allow City access to records, when requested, to confirm compliance with EBO requirements.
- Contractor shall submit *EBO Certification of Compliance*, signed under penalty of perjury, prior to award of contract.

NOTE: This summary is provided for convenience. Full text of the EBO and Rules Implementing the EBO are available at *www.sandiego.gov/administration.*

CONTRACTOR EQUAL BENEFITS ORDINANCE CERTIFICATION

Please indicate your firm's compliance status with the EBO. The City may request supporting documentation.

☒ I affirm **compliance** with the EBO because my firm *(contractor must select one reason):*

- ☒ Provides equal benefits to spouses and domestic partners.
- ☐ Provides no benefits to spouses or domestic partners.
- ☐ Has no employees.
- ☐ Has collective bargaining agreement(s) in place prior to January 1, 2011, that has not been renewed or expired.

☐ I request the City's approval to pay affected employees a cash equivalent in lieu of equal benefits and verify my firm made a reasonable effort but is not able to provide equal benefits upon contract award. I agree to notify employees of the availability of a cash equivalent for benefits available to spouses but not domestic partners and to continue to make every reasonable effort to extend all available benefits to domestic partners.

It is unlawful for any contractor to knowingly submit any false information to the City regarding equal benefits or cash equivalent associated with the execution, award, amendment, or administration of any contract. [San Diego Municipal Code §22.4307(a)]

Under penalty of perjury under laws of the State of California, I certify the above information is true and correct. I further certify that my firm understands the requirements of the Equal Benefits Ordinance and will provide and maintain equal benefits for the duration of the contract or pay a cash equivalent if authorized by the City.

Jeffrey A. Hinds, President — Name/Title of Signatory

Signature

FOR OFFICIAL CITY USE ONLY

Receipt Date: EBO Analyst: ☐ Approved ☐ Not Approved – Reason:

rev 02/15/2011

PROPOSAL (BID)

The Bidder agrees to the construction of **San Ysidro Athletic Area/Larsen Field Lighting**, for the City of San Diego, in accordance with these contract documents for the prices listed below. The Bidder guarantees the Contract Price for a period of 120 days (90 days for federally funded contracts and contracts valued at $500,000 or less) from the date of Bid opening to Award of the Contract. The duration of the Contract Price guarantee shall be extended by the number of days required for the City to obtain all items necessary to fulfill all conditions precedent e.g., bond and insurance.

Item	Quantity	Unit	NAICS	Payment Reference	Description	Unit Price	Extension
BASE BID							
1.	1	LS	238990	9-3.1	Construction of Park Improvements		$ 576,500-
2.	1	LS	541330	701-13.8.4	Water Pollution Control Development		$ 3,100-
3.	1	LS	237990	701-13.8.4	Water Pollution Control Implementation		$ 4,600-
4.	1	AL	238210	9-3.1	SDG&E Fee – Type I		$40,000.00
5.	1	AL	238990	7-5.3	Permit Fee – Type I		$3,000.00
6.	1	LS	238990	9-3.4.1	Mobilization		$ 3,700-
7.	1	LS	524126	2-4.1	Bond (Payment & Performance)		$ 3,200-
8.	1	AL		9-3.5	Field Orders - Type II		$28,100.00
						ESTIMATED TOTAL BASE BID	$ 667,200-

TOTAL BID PRICE FOR BID (Items 1 through 8 inclusive) amount written in words:

SIX HUNDRED SIXTY SEVEN Thousand Two HUNDRED DOLLARS

The Bid shall contain an acknowledgment of receipt of all addenda, the numbers of which shall be filled in on the Bid form. If an addendum or addenda has been issued by the City and not noted as being received by the Bidder, this proposal shall be rejected as being **non-responsive**. The following addenda have been received and are acknowledged in this bid: NONE

The names of all persons interested in the foregoing proposal as principals are as follows:

Ace Electric, Inc.
Jeffrey A. Hinds, President, Sec., Treas.
David J. Ensminger, VP

IMPORTANT NOTICE: If Bidder or other interested person is a corporation, state secretary, treasurer, and manager thereof; if a co-partnership, state true name of firm, also names of all individual co-partners composing firm; if Bidder or other interested person is an individual, state first and last names in full.

Bidder: Ace Electric, Inc.

Title: President

Business Address: 6061 Fairmount Ave, San Diego, CA 92120

Place of Business: San Diego

Place of Residence: San Diego

Signature: Jeffrey A. Hinds

NOTES:

A. The City shall determine the low Bid based on the Base Bid alone.

B. Prices and notations shall be in ink or typewritten. All corrections (which have been initiated by the Bidder using erasures, strike out, line out, or "white-out") shall be typed or written in with ink adjacent thereto, and shall be initialed in ink by the person signing the bid proposal.

C. Failure to initial all corrections made in the bidding documents shall cause the Bid to be rejected as **non-responsive** and ineligible for further consideration.

D. Blank spaces must be filled in, using figures. Bidder's failure to submit a price for any Bid item that requires the Bidder to submit a price shall render the Bid **non-responsive** and shall be cause for its rejection.

E. Unit prices shall be entered for all unit price items. Unit prices shall not exceed two (2) decimal places. If the Unit prices entered exceed two (2) decimal places, the City will only use the first two digits after the decimal points without rounding up or down.

F. All extensions of the unit prices bid will be subject to verification by the City. In the case of inconsistency or conflict between the product of the Quantity x Unit Price and the Extension, the product shall govern.

G. In the case of inconsistency or conflict, between the sums of the Extensions with the estimated total Bid, the sum of the Extensions shall govern.

H. Bids shall not contain any recapitulation of the Work. Conditional Bids will be rejected as being **non-responsive**. Alternative proposals will not be considered unless called for.

LIST OF SUBCONTRACTORS

In accordance with the requirements provided in the "Subletting and Subcontracting Fair Practices Act", Division 2, Part 1, Chapter 4 of the Public Contract Code, the Bidder shall list below the name and address of each Subcontractor who will perform work, labor, render services or specially fabricates and installs a portion [type] of the work or improvement, in an amount in excess of 0.5% of the Contractor's total Bid. The Bidder shall also list below the portion of the work which will be done by each subcontractor under this Contract. The Contractor shall list only one Subcontractor for each portion of the Work. The **DOLLAR VALUE** of the total Bid to be performed shall be stated for all subcontractors listed. Failure to comply with this requirement shall result in the Bid being rejected as **non-responsive** and ineligible for award. The Bidder's attention is directed to the Special Provisions - General; Paragraph 2-3 Subcontracts, which stipulates the percent of the Work to be performed with the Bidders' own forces. The Bidder shall list all SLBE, ELBE, DBE, DVBE, MBE, WBE, OBE, SDB, WoSB, HUBZone, and SDVOSB Subcontractors that Bidders are seeking recognition towards achieving any mandatory, voluntary, or both subcontracting participation percentages.

NAME, ADDRESS AND TELEPHONE NUMBER OF SUBCONTRACTOR	CONSTRUCTOR OR DESIGNER	TYPE OF WORK	DOLLAR VALUE OF SUBCONTRACT	MBE, WBE, DBE, DVBE, OBE, ELBE, SLBE, SDB, WoSB, HUBZone, OR SDVOSB①	WHERE CERTIFIED②	CHECK IF JOINT VENTURE PARTNERSHIP
Name: EMERSON - ELECTRICAL RELIABILITY SERVICE Address: 5810 VAN ALLEN WAY City: CARLSBAD State: CA Zip: 92126 Phone: 760-804-2970	CONSTRUCTOR	ELECTRICAL TESTING	$5,420.00	—	—	—
Name: McGRATH CONSULTING Address: PO 20205 City: EL CAJON State: CA Zip: 92021 Phone: 619 443 3811	CONSTRUCTOR	STORM WATER CONTROL PROGRAM	$450.00	ELBE	CITY	
Name: ACME SAFETY & SUPPLY Address: 1616 WEST AVE City: NATIONAL CITY State: CA Zip: 91950 Phone: 619 299 5700	CONSTRUCTOR	PROVIDE & INSTALL SIGNS	$1,924.00	SLBE	CITY	

① As appropriate, Bidder shall identify Subcontractor as one of the following and shall include a valid proof of certification (except for OBE, SLBE and ELBE):

Certified Minority Business Enterprise	MBE	Certified Woman Business Enterprise	WBE
Certified Disadvantaged Business Enterprise	DBE	Certified Disabled Veteran Business Enterprise	DVBE
Other Business Enterprise	OBE	Certified Emerging Local Business Enterprise	ELBE
Certified Small Local Business Enterprise	SLBE	Small Disadvantaged Business	SDB
Woman-Owned Small Business	WoSB	HUBZone Business	HUBZone
Service-Disabled Veteran Owned Small Business	SDVOSB		

0.0318

② As appropriate, Bidder shall indicate if Subcontractor is certified by:

City of San Diego	CITY	State of California Department of Transportation	CALTRANS
California Public Utilities Commission	CPUC	San Diego Regional Minority Supplier Diversity Council	SRMSDC
State of California's Department of General Services	CADoGS	City of Los Angeles	LA
State of California	CA	U.S. Small Business Administration	SBA

The Bidder will not receive any subcontracting participation percentages if the Bidder fails to submit the required proof of certification.

1/2

LIST OF SUBCONTRACTORS

In accordance with the requirements provided in the "Subletting and Subcontracting Fair Practices Act", Division 2, Part 1, Chapter 4 of the Public Contract Code, the Bidder shall list below the name and address of each Subcontractor who will perform work, labor, render services or specially fabricates and installs a portion [type] of the work or improvement, in an amount in excess of 0.5% of the Contractor's total Bid. The Bidder shall also list below the portion of the work which will be done by each subcontractor under this Contract. The Contractor shall list only one Subcontractor for each portion of the Work. The **DOLLAR VALUE** of the total Bid to be performed shall be stated for all subcontractors listed. Failure to comply with this requirement shall result in the Bid being rejected as **non-responsive** and ineligible for award. The Bidder's attention is directed to the Special Provisions - General; Paragraph 2-3 Subcontracts, which stipulates the percent of the Work to be performed with the Bidders' own forces. The Bidder shall list all SLBE, ELBE, DBE, DVBE, MBE, WBE, OBE, SDB, WoSB, HUBZone, and SDVOSB Subcontractors that Bidders are seeking recognition towards achieving any mandatory, voluntary, or both subcontracting participation percentages.

NAME, ADDRESS AND TELEPHONE NUMBER OF SUBCONTRACTOR	CONSTRUCTOR OR DESIGNER	TYPE OF WORK	DOLLAR VALUE OF SUBCONTRACT	MBE, WBE, DBE, DVBE, OBE, ELBE, SLBE, SDB, WoSB, HUBZone, OR SDVOSB①	WHERE CERTIFIED②	CHECK IF JOINT VENTURE PARTNERSHIP
Name: In-Line Fence Address: P.O. Box 2837 City: Ramona State: CA Zip: 92065 Phone: 760 576 1760	Constructor	Fence	$11,100	SLBE	City	
Name: J & S Asphalt Address: 6121 Fairmount City: San Diego State: CA Zip: 92120 Phone: 619-583-0593	~~Asphalt~~ Constructor	Asphalt	$1950	SLBE	City	
Name: Address: City: State: Zip: Phone:						

① As appropriate, Bidder shall identify Subcontractor as one of the following and shall include a valid proof of certification (except for OBE, SLBE and ELBE):

Certified Minority Business Enterprise	MBE	Certified Woman Business Enterprise	WBE
Certified Disadvantaged Business Enterprise	DBE	Certified Disabled Veteran Business Enterprise	DVBE
Other Business Enterprise	OBE	Certified Emerging Local Business Enterprise	ELBE
Certified Small Local Business Enterprise	SLBE	Small Disadvantaged Business	SDB
Woman-Owned Small Business	WoSB	HUBZone Business	HUBZone
Service-Disabled Veteran Owned Small Business	SDVOSB		

② As appropriate, Bidder shall indicate if Subcontractor is certified by:

City of San Diego	CITY	State of California Department of Transportation	CALTRANS
California Public Utilities Commission	CPUC	San Diego Regional Minority Supplier Diversity Council	SRMSDC
State of California's Department of General Services	CADoGS	City of Los Angeles	LA
State of California	CA	U.S. Small Business Administration	SBA

The Bidder will not receive any subcontracting participation percentages if the Bidder fails to submit the required proof of certification.

NAMED EQUIPMENT/MATERIAL SUPPLIER LIST

The Bidder seeking the recognition of equipment, materials, or supplies obtained from Suppliers towards achieving any mandatory, voluntary, or both subcontracting participation percentages shall list the Supplier(s) on the Named Equipment/Material Supplier List. The Named Equipment/Material Supplier List, at a minimum, shall have the name, locations (City) and the **DOLLAR VALUE** of the Suppliers. The Bidder will be credited up to 60% of the amount to be paid to the Suppliers for such materials and supplies unless vendor manufactures or substantially alters materials and supplies in which case 100% will be credited. The Bidder is to indicate (Yes/No) whether listed firm is a supplier or manufacturer. In calculating the subcontractor participation percentages, vendors/suppliers will receive 60% credit of the listed **DOLLAR VALUE**, whereas manufacturers will receive 100% credit. If no indication provided, listed firm will be credited at 60% of the listed dollar value for purposes of calculating the Subcontractor Participation Percentage, Suppliers will receive 60% credit of the listed **DOLLAR VALUE**, whereas manufacturers will receive 100% credit. If no indication provided, listed firm will be credited at 60% of the listed **DOLLAR VALUE** for purposes of calculating the subcontractor participation percentages.

NAME, ADDRESS AND TELEPHONE NUMBER OF VENDOR/SUPPLIER	MATERIALS OR SUPPLIES	DOLLAR VALUE OF MATERIAL OR SUPPLIES	SUPPLIER (Yes/No)	MANUFACTURER (Yes/No)	MBE, WBE, DBE, DVBE, OBE, ELBE, SLBE, SDB, WoSB, HUBZone, OR SDVOSB①	WHERE CERTIFIED ②
Name: DYNAMIK, INC. Address: 2766 LOADING RD City: SAN DIEGO State: CA Zip: 92106 Phone: 866-820-3110	SWITCHGEAR, WIRE - MISC. ELECTRICAL MATERIALS	$ 81,900 -	YES	NO	SLBE, WOSB, HUBZONE, SDVOSB	~~CITY OF SAN DIEGO~~ ~~STATE OF CALIF~~ CITY CALTRANS
Name: Address: City: State: Zip: Phone:						
Name: Address: City: State: Zip: Phone:						

① As appropriate, Bidder shall identify Vendor/Supplier as one of the following and shall include a valid proof of certification (except for OBE, SLBE and ELBE):

Certified Minority Business Enterprise	MBE	Certified Woman Business Enterprise	WBE
Certified Disadvantaged Business Enterprise	DBE	Certified Disabled Veteran Business Enterprise	DVBE
Other Business Enterprise	OBE	Certified Emerging Local Business Enterprise	ELBE
Certified Small Local Business Enterprise	SLBE	Small Disadvantaged Business	SDB
Woman-Owned Small Business	WoSB	HUBZone Business	HUBZone
Service-Disabled Veteran Owned Small Business	SDVOSB		

② As appropriate, Bidder shall indicate if Vendor/Supplier is certified by:

City of San Diego	CITY	State of California Department of Transportation	CALTRANS
California Public Utilities Commission	CPUC	San Diego Regional Minority Supplier Diversity Council	SRMSDC
State of California's Department of General Services	CADoGS	City of Los Angeles	LA
State of California	CA	U.S. Small Business Administration	SBA

The Bidder will not receive any subcontracting participation percentages if the Bidder fails to submit the required proof of certification.

SAN YSIDRO ATHLETIC AREA / LARSEN FIELD LIGHTING

455 SYCAMORE ROAD, SAN YSIDRO, CA 92173

INSPECTION STAGES AND INSPECTION TEAM:

PARK INSPECTION TEAM

A. SITE SUPERINTENDENT (CONTRACTOR/DEVELOPER'S REPRESENTATIVE)

B. CONTRACTOR(S)

C. RESIDENT ENGINEER FROM FIELD ENGINEERING DEPARTMENT

D. CITY PROJECT MANAGER

E. DESIGN CONSULTANT

F. PARK AND RECREATION DISTRICT MANAGER

G. PARK AND RECREATION ASSET MANAGER

PARK CONSTRUCTION INSPECTION STAGES: (MINIMUM DEPENDING ON PROJECT)

1. PRE-CONSTRUCTION MEETING.
*2. ROUGH GRADING AND DRAINAGE.
*3. IRRIGATION MAINLINE PRESSURE TEST.
*4. IRRIGATION LATERAL LINE PRESSURE TESTS.
5. WIRING PRIOR TO BACKFILLING TRENCHES.
6. HARDSCAPE AT TIME OF FINISHED STAKING AND LAYOUT.
7. FINISH GRADING AND SOIL PREPARATION.
8. IRRIGATION COVERAGE TEST.
*9. PLANT MATERIAL (WHEN DELIVERED) AND PLACEMENT APPROVAL.
10. PLAY GROUND INSPECTION, IF APPLICABLE.
11. PROJECT CONSTRUCTION 90 PERCENT COMPLETE (DEVELOP PUNCH LIST AND SUBMIT)

RED-LINE AS-BUILTS.

12. 90-DAY PLANT MAINTENANCE PERIOD (THIS INSPECTION IS TO BE HELD WHEN THE PUNCH LIST ITEMS ARE COMPLETE. IF TURF AREA IS PLANTED FROM SEED OR STOLONS. THE PLANT MAINTENANCE PERIOD SHALL BE 120-DAYS).
13. FINAL WALK-THROUGH, ACCEPTANCE BY THE CITY. CONTRACTOR TO SUBMIT FINAL APPROVED AS-BUILT DRAWINGS TO THE CITY.

* = ITEMS NOT A PART OF THIS PROJECT INCLUDE LANDSCAPE AND IRRIGATION

DESCRIPTION OF WORK

1. INSTALLATION OF (8) SPORTS LIGHTING POLES UP TO 90' TALL SERVING THE EXISTING BASEBALL FIELD AND MULTI-PURPOSE SOCCER FIELD.
2. INSTALLATION OF A NEW ELECTRICAL SERVICE INCLUDING SDG&E UTILITY TRANSFORMER AND OL-TOU METER SERVING BOTH NEW AND EXISTING SPORTS LIGHTING - CONTRACTOR TO COORDINATE WITH SDG&E WORK ORDER #258364-010 - CONTACT: SCOTT VALENTI.
3. PATH OF TRAVEL IMPROVEMENTS TO AREAS SERVED BY NEW SPORTS LIGHTING INCLUDING ACCESSIBLE PARKING SIGNAGE, REPLACEMENT OF NON-COMPLIANT CONCRETE WALKS AND RECONFIGURATION OF BASEBALL FIELD GATES AND DUGOUTS.
4. REPLACEMENT OF DRINKING FOUNTAIN SERVING BASEBALL FIELD.

NOTE:
RESTROOMS LOCATED IN THE CESAR CHAVEZ COMMUNITY CENTER SERVING THE AREA OF REMODEL ARE COMPLIANT.

PROJECT DIRECTORY

CLIENT/LEGAL OWNER
CITY OF SAN DIEGO
ENGINEERING & CAPITAL PROJECTS
600 B STREET 8TH FLOOR,
SAN DIEGO, CA 92101
ALEXANDRA CORSI:
(619) 533-5186

ARCHITECT
PLATT/WHITELAW ARCHITECTS INC.
4034 30TH STREET
SAN DIEGO, CA 92104
PH: (619) 546-4326
FAX: (619) 546-4350
SANDRA GRAMLEY

GEOTECHNICAL REPORT
(FOR REFERENCE)
GEOTECHNICAL EVALUATION
PREPARED BY: NINYO & MOORE
DATED: SEPTEMBER 14, 2012

CIVIL ENGINEER
FLORES LUND CONSULTANTS
7220 TRADE STREET, SUITE 120
SAN DIEGO, CA 92121
PH: (858) 566-0626
FAX: (858) 566-0627
AHMAD KHAN

ELECTRICAL ENGINEER
TURPIN & RATTAN
4719 PALM AVE
LA MESA, CA 91941-5221
PH: (619) 466-6224
FAX: (619) 466-6233
DALE FRANCHAK

DRAWING INDEX

UNDERGROUND UTILITIES

BEFORE EXCAVATING, VERIFY THE LOCATION OF UNDERGROUND UTILITIES. AT LEAST THREE (3) WORKING DAYS PRIOR TO EXCAVATION, THE CONTRACTOR SHALL REQUEST A MARKOUT OF UNDERGROUND UTILITIES BY CALLING THE BELOW LISTED REGIONAL NOTIFICATION CENTER FOR AN INQUIRY IDENTIFICATION NUMBER.

UNDERGROUND SERVICE ALERT (GAS, ELECTRIC, TELEPHONE, WATER, SEWER, LIGHTING & T.V.)	811
CITY IRRIGATION SYSTEMS & WIRING	619-533-5783
CITY FACILITIES MAINTENANCE DIVISION	619-525-8500

CITY OF SAN DIEGO POLICY COMPLIANCE

1. BACKFLOW DEVICE IS EXISTING AND SHALL BE PROTECTED AS PART OF THIS PROJECT
2. COMPLY WITH HAZARDOUS MATERIALS PER CITY OF SAN DIEGO BULLETIN 116
3. COMPLY WITH CONSTRUCTION AND DEMOLITION DEBRIS PER CITY BULLETIN 119
4. COMPLY WITH STORM WATER REQUIREMENTS PER CITY OF SAN DIEGO STORM WATER MANAGEMENT PLAN AS DETERMINED BY FORM DS-560. PROJECT DOES NOT DISTURB MORE THAN 1 ACRE AND CREATES LESS THAN 5000 S.F. OF IMPERVIOUS SURFACE. PROJECT DOES NOT REQUIRE A N.P.D.E.S. PERMIT. PROJECT WILL REQUIRE CONSTRUCTION B.M.P. PER SECTION IV OF THE CITY OF SAN DIEGO'S STORM WATER STANDARDS MANUAL.

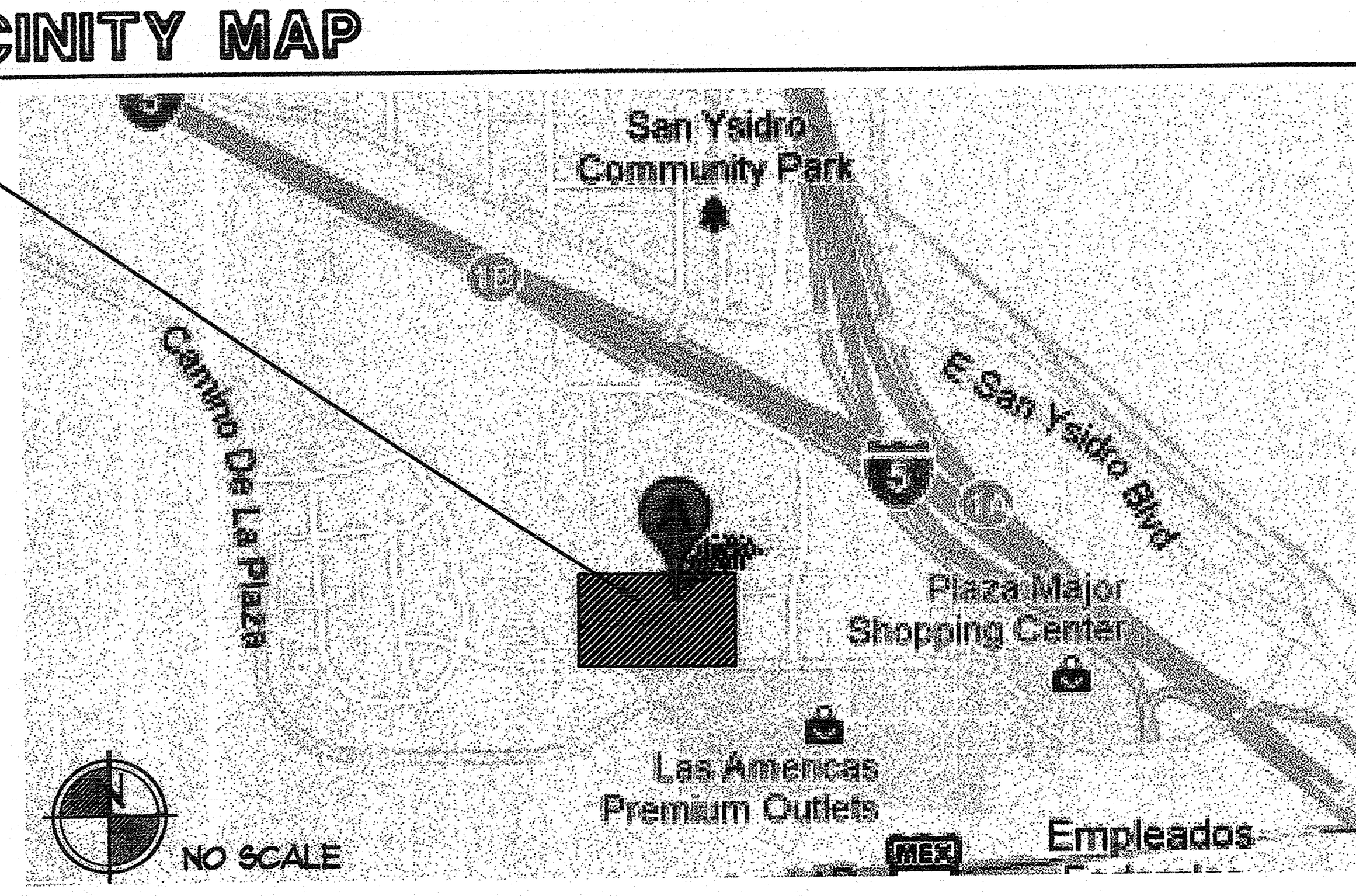
RESPONSIBLE CHARGE

I HEREBY DECLARE THAT I AM THE ARCHITECT OF WORK FOR THIS PROJECT, THAT I HAVE EXERCISED REASONABLE CARE OVER THE DESIGN OF THE PROJECT AS DEFINED IN SECTION 6703 OF THE BUSINESS AND PROFESSIONS CODE, AND THAT THE DESIGN IS CONSISTENT WITH CURRENT STANDARDS.

I UNDERSTAND THAT THE CHECK OF PROJECT DRAWINGS AND SPECIFICATIONS BY THE CITY OF SAN DIEGO IS CONFINED TO A REVIEW ONLY AND DOES NOT RELIEVE ME AS ARCHITECT OR ENGINEER OF WORK, OF MY RESPONSIBILITIES FOR PROJECT DESIGN.

ALISON M. WHITELAW C-10375 — 10/22/13 DATE
PLATT/WHITELAW ARCHITECTS INC.

VICINITY MAP



CODES, STANDARDS AND SPECIFICATIONS

APPLICABLE BUILDING CODES:

2010 CA. BUILDING STANDARDS ADMIN. CODE	TITLE 24 OF CALIFORNIA CCR PART 1
2010 CALIFORNIA BUILDING CODE	TITLE 24 OF CALIFORNIA CCR PART 2
2010 CALIFORNIA ELECTRICAL CODE	TITLE 24 OF CALIFORNIA CCR PART 3
2010 CALIFORNIA MECHANICAL CODE	TITLE 24 OF CALIFORNIA CCR PART 4
2010 CALIFORNIA PLUMBING CODE	TITLE 24 OF CALIFORNIA CCR PART 5
2010 CALIFORNIA ENERGY CODE	TITLE 24 OF CALIFORNIA CCR PART 6
2010 CALIFORNIA FIRE CODE	TITLE 24 OF CALIFORNIA CCR PART 9

- DISABLED ACCESS REGULATIONS, TITLE 24, (MARCH 1993)
- ADDITIONAL APPLICABLE STANDARDS AND SPECIFICATIONS:
  - 2010 ADA STANDARDS FOR ACCESSIBLE DESIGN AND DEPARTMENT OF JUSTICE 28 CFR PARTS 35 & 36

BUILDING CODES ANALYSIS

CODE CLASSIFICATIONS:
- ALL WORK TO BE DONE WILL BE SITE IMPROVEMENTS
- SOME ELECTRICAL WORK SHALL BE DONE TO EXISTING EQUIPMENT
- NO NEW STRUCTURES SHALL BE ADDED

LEGAL DESCRIPTION

LOTS 1, 2 AND 3 OF TIAJUANA CITY MAP 562 AND RECORD OF SURVEY MAP 6518, ALL IN THE CITY OF SAN DIEGO, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA.

AIDA GURMU — 10/30/13 — MECHANICAL
Stamp transfer for Tammy Bui PTS 322976

SPEC NO. 5831

CONSTRUCTION CHANGE / ADDENDUM

CHANGE	DATE	AFFECTED OR ADDED SHEET NUMBERS	APPROVAL NO.

WARNING: IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.

CITY OF SAN DIEGO
PUBLIC WORKS PROJECT

Platt/Whitelaw Architects, Inc.
4034 30th Street, SAN DIEGO CA 92104
(619) 546-4326 FAX (619) 546-4350

REGISTERED ARCHITECT — ALISON M. WHITELAW — C-10375 — EXP 7-31-15 — STATE OF CALIFORNIA

SAN YSIDRO ATHLETIC AREA / LARSEN FIELD LIGHTING

SHEET TITLE: TITLE SHEET, CODES, SHEET INDEX AND DIRECTORY
SHEET NUMBER: T-100

CITY OF SAN DIEGO, CALIFORNIA
ENGINEERING AND CAPITAL PROJECTS
SHEET 1 OF 28 SHEETS

WBS #S-11013

Samir M. — FOR CITY ENGINEER — 11/5/13 DATE
SAMIR MAHMALJI — SECTION HEAD

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	SG/JPB		8/30/13	

ALEXANDRA CORSI — PROJECT MANAGER
CCS27 COORDINATE
138-1752 — CCS83 COORDINATE

CONTRACTOR ____ DATE STARTED ____
INSPECTOR ____ DATE COMPLETED ____

36796-01-D

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GENERAL NOTES

1. ALL WORK SHALL CONFORM TO THE CALIFORNIA BUILDING CODE. SEE TITLE SHEET FOR CURRENT ADOPTED CODES AND STANDARDS. THE CURRENT ADOPTED VERSIONS OF THE CALIFORNIA PLUMBING CODE, CALIFORNIA MECHANICAL CODE, CALIFORNIA FIRE CODE, CALIFORNIA ELECTRICAL CODE, NFPA LIFE SAFETY CODE, AMERICANS WITH DISABILITIES ACT REGULATIONS, AND ALL ICC, NFPA, U.L., ANSI, ASTM AND OTHER STANDARDS.
2. THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS IS THAT ALL THE WORK OF THE ALTERATION IS TO BE IN ACCORDANCE WITH TITLE 24, CALIFORNIA CODE OF REGULATIONS. NOTIFY THE RESIDENT ENGINEER OF ANY EXISTING CONDITIONS DISCOVERED, WHICH WILL RESULT IN NON-COMPLIANT CONSTRUCTION, AND WHICH ARE NOT COVERED BY THE CONTRACT DOCUMENTS WHEREIN THE FINISHED WORK WILL NOT COMPLY WITH TITLE 24, CALIFORNIA CODE OF REGULATIONS. A CHANGE ORDER DETAILING AND SPECIFYING THE REQUIRED WORK, SHALL BE SUBMITTED TO AND APPROVED BY RESIDENT ENGINEER BEFORE PROCEEDING WITH THE WORK.
3. COMPLETION OF ALL WORK SHOWN, PRESCRIBED OR REASONABLY INFERRED, BUT NOT LIMITED TO THAT EXPLICITLY INDICATED IN THE CONTRACT DOCUMENTS. ALL CONTRACTORS ARE RESPONSIBLE FOR FOLLOWING THE CONTRACT SPECIFICATIONS AND DRAWINGS, IF ANY QUESTIONS ARISE FROM CONFLICTS OR NEED FOR ADDITIONAL INFORMATION, THE CONTRACTOR SHALL NOTIFY THE RESIDENT ENGINEER IMMEDIATELY.
4. UNDER NO CIRCUMSTANCES SHALL DIMENSIONS BE SCALED DIRECTLY FROM DRAWINGS. THE CONTRACTOR SHALL NOTIFY THE RESIDENT ENGINEER OF ANY DISCREPANCIES OR CONFLICTS.
5. ORIGINAL CONSTRUCTION DRAWINGS ARE AVAILABLE FOR CONTRACTOR INFORMATION. THE RESIDENT ENGINEER HAS NOT VERIFIED AND DOES NOT WARRANTY ACCURACY OF DRAWINGS.
6. THE CONTRACTOR AND ALL SUBCONTRACTORS SHALL VERIFY ALL DIMENSIONS AND CONDITIONS ON THE JOB SITE PRIOR TO START OF WORK. ANY DEVIATIONS FROM THE CONTRACT DOCUMENTS WHICH ARE NECESSITATED BY FIELD CONDITIONS SHALL BE REPORTED TO THE RESIDENT ENGINEER. IT IS CONSIDERED ESSENTIAL THAT THE CONTRACTOR EXAMINE THE SITE & PORTIONS THEREOF WHICH AFFECT THE CONTRACTOR'S WORK. NO ADDITIONAL EXPENSE SHALL BE AWARDED RESULTING FROM THE FAILURE TO PERFORM THIS EXAMINATION. THE RESIDENT ENGINEER SHALL BE NOTIFIED OF ANY CONFLICTS, ERRORS OR OMISSIONS. VERIFY ALL DIMENSIONS & EXISTING CONDITIONS INCLUDING, BUT NOT LIMITED TO: WALLS, FLOORS, MECHANICAL CONSTRUCTION, EXISTING CONSTRUCTION TO REMAIN & EXISTING CONSTRUCTION TO BE DEMOLISHED.
7. INFORMATION SHOWN BY CONSULTANTS OR DISCIPLINE DOCUMENTS IS NOT MEANT TO DEFINE SCOPE OF WORK OF SUBCONTRACTOR RESPONSIBILITY. IT SHALL BE THE GENERAL CONTRACTOR'S RESPONSIBILITY TO DETERMINE SCOPE OF WORK AMONG THE SUBCONTRACTORS DURING THE BIDDING PROCESS.
8. ALL SYMBOLS AND ABBREVIATIONS USED ON THE DRAWINGS ARE CONSIDERED TO BE CONSTRUCTION STANDARDS. IF THE CONTRACTOR HAS QUESTIONS REGARDING ABBREVIATIONS OR THEIR EXACT MEANING, THE RESIDENT ENGINEER SHALL BE NOTIFIED FOR CLARIFICATION.
9. REROUTE ALL SERVICES OR PORTIONS OF SERVICES IN THE PATH OF DEMOLITION OR NEW WORK AND PROVIDE FOR COMPATIBILITY WITH NEW WORK AS REQUIRED, EXAMPLE: RELOCATE EXISTING LIGHT SWITCHES AND RECEPTACLES IF REQUIRED AT APPROPRIATE ACCESSIBLE HEIGHT.
10. ALL EXISTING LIFE-SAFETY FEATURES OF THE EXISTING FACILITY MUST BE PROTECTED AND MAINTAINED AT CONTRACTOR'S EXPENSE THROUGHOUT THE CONSTRUCTION PERIOD. ALL EXIT PATHS MUST BE KEPT UNOBSTRUCTED.
11. AT KEY NOTES WHICH STATE THE PHRASE "PATCH OR PAINT", THE WORD "PATCH" OR "PAINT" REQUIRES THE CONTRACTOR TO PREPARE MATERIALS PER THE SPECIFICATIONS OR MANUFACTURES INSTRUCTIONS. IF ADDITIONAL WORK BEYOND THE SCOPE DESCRIBED IN CONTRACT DOCUMENTS IS REQUIRED, QUANTITIES OF DAMAGED MATERIALS TO REPAIR ITEMS NOT NOTED ON PLANS SHALL BE IDENTIFIED BY THE CONTRACTOR.
12. THE CONTRACTOR SHALL ARRANGE FOR THE PREMISES TO BE MAINTAINED IN AN ORDERLY MANNER THROUGHOUT THE COURSE OF WORK. PROVIDE AND MAINTAIN TEMPORARY BARRICADES AND FACILITIES AS REQUIRED TO PROTECT THE PUBLIC DURING THE PERIOD OF CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO EXISTING STRUCTURES, SITE WORK OR EQUIPMENT. SUCH DAMAGE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE AND TO THE SATISFACTION OF THE RESIDENT ENGINEER.
13. CONTRACTOR SHALL COORDINATE WITH THE RESIDENT ENGINEER REGARDING CONTRACTORS SITE USE AND ACCESS, AND MAINTAIN STAFF AND PUBLIC ACCESS AT ALL TIMES SITE IS OPEN FOR USE, AND ENSURE ALL CONSTRUCTION WORK IS INSIDE FENCED AREA.
14. THE CONTRACTOR/SUBCONTRACTORS SHALL FURNISH AND SHALL BE FULLY RESPONSIBLE FOR ADEQUATE SHORING, BRACING, BARRICADES AND PROTECTIVE MEASURES, ETC., REQUIRED FOR SAFETY AND TO PROTECT THE CONSTRUCTION SITE AND PERIPHERY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO EXISTING STRUCTURE, FINISHES OR EQUIPMENT. SUCH DAMAGE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE, TO THE SATISFACTION OF THE RESIDENT ENGINEER.
15. IT IS THE CONTRACTORS SOLE RESPONSIBILITY TO ENFORCE SAFETY MEASURES AND REGULATIONS. THE CONTRACTOR SHALL DESIGN AND CONSTRUCT, AND BE SOLELY RESPONSIBLE FOR CONFORMING TO ALL LOCAL, STATE AND FEDERAL SAFETY AND HEALTH STANDARDS LAWS AND REGULATIONS.
16. CONTRACTOR SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT INCLUDING: SAFETY OF ALL PERSONS AND PROPERTY, THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS.
17. CONTRACTOR WILL MAKE EXPLORATION EXCAVATIONS AND LOCATE EXISTING UNDERGROUND FACILITIES SUFFICIENTLY AHEAD OF CONSTRUCTION TO PERMIT REVISIONS TO PLANS IF REVISIONS ARE NECESSARY BECAUSE OF ACTUAL LOCATION OF EXISTING FACILITIES.
18. LOCATION AND ELEVATION OF IMPROVEMENTS TO BE MET BY WORK TO BE DONE SHALL BE CONFIRMED BY FIELD MEASUREMENTS PRIOR TO CONSTRUCTION OF NEW WORK.
19. CONTRACTOR IS REQUIRED TO TAKE PRECAUTIONARY MEASURES TO PROTECT THE UTILITY LINES SHOWN HEREON AND ANY OTHER EXISTING LINES NOT OF RECORD OR NOT SHOWN.
20. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY MONUMENTATION AND/OR BENCH MARK SURVEY(S) (WITH A REGISTERED CIVIL ENGINEER AUTHORIZED TO PRACTICE LAND SURVEYING) WHICH WILL BE DISTURBED OR DESTROYED BY CONSTRUCTION. SUCH POINTS SHALL BE REFERENCED AND REPLACED WITH APPROPRIATE MONUMENTATION BY A LICENSED LAND CORNER RECORD, OR RECORD OF SURVEY AS APPROPRIATE. THE RECORD SHALL BE FILED BY THE LICENSED LAND SURVEYOR OR REGISTERED CIVIL ENGINEER AS REQUIRED BY THE LAND SURVEYOR'S ACT.
21. THE CONTRACTOR SHALL ALSO TAKE THE NECESSARY STEPS TO PROTECT ADJACENT PROPERTY FROM ANY EROSION AND SILTATION THAT RESULTS FROM HIS OPERATIONS BY APPROPRIATE MEANS (GRAVEL BAG, DIKES, ETC) UNTIL SUCH TIME THAT THE PROJECT IS COMPLETE AND ACCEPTED FOR BY CITY.
22. THE INTENT OF THESE DOCUMENTS IS TO INCLUDE ALL LABOR, MATERIALS, AND SERVICES NECESSARY FOR THE COMPLETION OF ALL WORK SHOWN, PRESCRIBED OR REASONABLY IMPLIED, BUT NOT LIMITED TO THAT EXPLICITLY INDICATED IN THE DOCUMENTS.
23. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SCHEDULING AND COORDINATION.
24. VERIFY WITH RESIDENT ENGINEER WHETHER THESE NOTES OR SPECIFIC NOTES ON DRAWINGS SHALL TAKE PRECEDENCE IN CASE OF CONFLICT.
25. WHERE NO CONSTRUCTION DETAILS ARE SHOWN OR NOTED FOR ANY PART OF THE WORK, SUCH DETAILS SHALL BE THE SAME AS FOR SIMILAR WORK SHOWN ON THE DRAWINGS. VERIFY WITH RESIDENT ENGINEER.
26. ICC ES REPORT NUMBERS WHERE SHOWN ON DRAWINGS AND IN THE SPECIFICATIONS ARE SHOWN ONLY TO INDICATE THE REQUIREMENTS BY THE LOCAL BUILDING DEPARTMENT. OTHER PRODUCTS WITH APPROVED REPORT NUMBERS MAY BE USED IF SUBMITTED TO AND APPROVED BY THE RESIDENT ENGINEER AND THE BUILDING DEPARTMENT PRIOR TO INSTALLATION.
27. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE UNDERGROUND UTILITIES INSTALLATION WITH THE UTILITY COMPANIES. UTILITY INSTALLATION SHOULD OCCUR PRIOR TO STREET PAVING OPERATIONS. CAUTION: BEFORE EXCAVATING, VERIFY THE LOCATION OF UNDERGROUND UTILITES. MINIMUM OF 3 DAYS AND MAXIMUM OF 14 DAYS PRIOR TO EXCAVATION CONTACT FOR MARK-OUT SERVICE: 811.

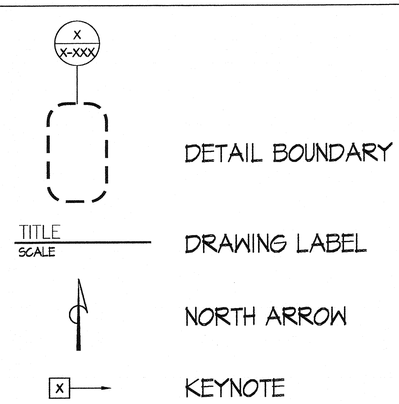
ACCESS COMPLIANCE

IF THE BUILDING INSPECTOR DETERMINES NONCOMPLIANCE WITH ANY CURRENT ACCESSIBILITY PROVISIONS OF THE LAW, HE/SHE SHALL REQUIRE SUBMITTAL OF COMPLETE AND DETAILED PLANS TO THE PLAN REVIEW DIVISION OF THE DEVELOPMENT SERVICES DEPARTMENT FOR FURTHER REVIEW. PLANS MUST CLEARLY SHOW ALL EXISTING NONCOMPLIANCE CONDITIONS AFFECTED BY THE REMODEL (INCLUDING SITE PLAN, FLOOR PLANS, DETAILS, ETC.) AND PROPOSED MODIFICATIONS OF DEFICIENCIES TO MEET CURRENT ACCESSIBILITY PROVISIONS. THE PLANS MUST BE STAMPED BY THE FIELD INSPECTOR PRIOR TO SUBMITTAL FOR PLAN REVIEW.

ABBREVIATIONS

AB	ANCHOR BOLT	EJ	EXPANSION JOINT	LAT	LATERAL	RR	RETURN REGISTER
ABV	ABOVE	EL	ELEVATION	LAV	LAVATORY	R&R	REMOVE AND REINSTALL
AC	ASPHALTIC CONCRETE	ELEC	ELECTRICAL	LF	LINEAL FEET	RTD	RATED
ACS	ACCESS COMPLIANCE (DSA)	ELEV	ELEVATOR / ELEVATION	LOC	LOCATION		
ACT	ACOUSTICAL CEILING TILE	EMBED	EMBEDMENT	LP	LOW POINT	S	SOUTH, SEWER
ADDL	ADDITIONAL	EQ	EQUAL			SC	SOLID CORE
ADJ	ADJACENT	ES	EACH SIDE	MACH	MACHINE	SCHED	SCHEDULE
A/E	ARCHITECT/ENGINEER	EW	EACH WAY	MAS	MASONRY	SDRSD	SAN DIEGO REGIONAL STANDARD DRAWINGS
AFF	ABOVE FINISH FLOOR	EXP	EXPOSED / EXPANSION	MAT	MATERIAL		
ALT	ALTERNATE	EXT	EXTERIOR	MAX	MAXIMUM	SF	SQUARE FEET
ALUM	ALUMINUM			MB	MACHINE BOLT	SHT	SHEET
APPL	APPLICATION	F/	FROM	MECH	MECHANICAL	SHT'G	SHEATHING
ARCH	ARCHITECT / ARCHITECTURAL	FB	FIBERGLASS	MFR	MANUFACTURER	SHWR	SHOWER
ASPH	ASPHALT	FD	FLOOR DRAIN	MH	MANHOLE	SIM	SIMILAR
		FDC	FIRE DEPARTMENT CONNECTION	MIN	MINIMUM	SM	SURFACE MOUNT
BD	BOARD	FDN	FOUNDATION	MO	MASONRY OPENING	SMS	SHEET METAL SCREW
BLDG	BUILDING	FE	FIRE EXTINGUISHER	MTD	MOUNTED	SP	SPECIAL
BLW	BELOW	FEC	FIRE EXTINGUISHER CABINET	MTL	METAL	SPC	SPACE
BM	BEAM	FF	FINISH FLOOR, FACTORY FINISH			SPEC	SPECIFIED/SPECIFICATION
B/M	BENCH MARK	FG	FINISH GRADE	N	NORTH	SQ	SQUARE
BO	BOTTOM OF	FH	FIRE HYDRANT	(N)	NEW	SR	SUPPLY REGISTER
BOB	BOTTOM OF BEAM	FHC	FIRE HOSE CABINET	NIC	NOT IN CONTRACT	SS	STAINLESS STEEL
BTM	BOTTOM	FIN	FINISH	NO / (#)	NUMBER	STC	SOUND TRANSMISSION CLASS
BTWN	BETWEEN	FIXT	FIXTURE	NOM	NOMINAL	STD	STANDARD
BYND	BEYOND	FLR	FLOOR	NTS	NOT TO SCALE	STL	STEEL
		FLS	FIRE & LIFE SAFETY (DSA)			STRUCT	STRUCTURAL
CAB	CABINET	FLUOR	FLUORESCENT	O/	OVER	SUSP	SUSPENDED
CB	CATCH BASIN	FO	FACE OF	OA	OVERALL	T&B	TOP & BOTTOM
CEM	CEMENT	FOB	FACE OF BUILDING / BEAM	OC	ON CENTER	T&G	TONGUE AND GROOVE
CHN'L	CHANNEL	FOC	FACE OF CONCRETE	OCC	OCCUPANT / OCCUPANCY	TEL	TELEPHONE
CI	CAST IRON	FOF	FACE OF FINISH	OD	OUTSIDE DIAMETER / OVERFLOW DRAIN	THK	THICK / THICKNESS
CIP	CAST IN PLACE	FOM	FACE OF MASONRY			THRESH	THRESHOLD
CJ	CONTROL JOINT	FOP	FACE OF POST	OH	OPPOSITE HAND	TLT	TOILET
CL / (℄)	CENTER LINE	FOS	FACE OF STUD	O/H	OVERHEAD	TO	TOP OF
CLG	CEILING	FRP	FIBERGLASS REINFORCED PLASTIC	OPNG	OPENING	TC	TOP OF CURB
CLKG	CAULKING	FS	FINISH SURFACE	OPP	OPPOSITE	TOC	TOP OF CONCRETE
CLR	CLEAR	FT	FOOT, FEET			TOS	TOP OF STEEL
CMU	CONCRETE MASONRY UNIT	FTG	FOOTING	P	PAINT	TOW	TOP OF WALL
COL	COLUMN	FV	FIELD VERIFY	PC	PIECE	TP	TOILET PAPER DISPENSER
CONC	CONCRETE			PCF	POUNDS PER CUBIC FOOT	TRANS	TRANSVERSE
CONST	CONSTRUCTION	GA	GAUGE	PERF	PERFORATED	TYP	TYPICAL
CONT	CONTINUOUS, CONTINUED	GALV	GALVANIZED	PH	PANIC HARDWARE		
CPT	CARPET	GEN	GENERAL	PL/(℄)	PROPERTY LINE	UON	UNLESS OTHERWISE NOTED
CSK	COUNTERSINK	GR	GRADE	PLAM	PLASTIC LAMINATE	U/S	UNDERSIDE
CSWK	CASEWORK	GWB	GYPSUM WALL BOARD	PLAS	PLASTIC		
CT	CERAMIC TILE	GYP	GYPSUM	PLBG	PLUMBING	VAT	VINYL ASBESTOS TILE
CTR	CENTER			PLT	PLATE	VCT	VINYL COMPOSITION TILE
		HB	HOSE BIBB	PLYWD	PLYWOOD	VERT	VERTICAL
DBL	DOUBLE	HC	HOLLOW CORE	POT	PATH OF TRAVEL (ACCESSIBLE)	VIF	VERIFY IN FIELD
DEMO	DEMOLISH / DEMOLITION	HD	HEAD				
DF	DRINKING FOUNTAIN	HDWR	HARDWARE	PSF	POUNDS PER SQUARE FOOT	W	WEST
DH	DOUBLE HUNG	HI	HIGH	PSI	POUNDS PER SQUARE INCH	W/	WITH
DG	DECOMPOSED GRANITE	HM	HOLLOW METAL	PT	PRESSURE TREATED	WC	WATER CLOSET
DIA / (ϕ)	DIAMETER	HORIZ	HORIZONTAL	PVC	POLY VINYL CHLORIDE	WD	WOOD
DIM	DIMENSION	HP	HIGH POINT			WDW	WINDOW
DN	DOWN	HT	HEIGHT	QT	QUARRY TILE	WI	WOODWORK INSTITUTE
DR	DOOR	HVAC	HEATING, VENTILATING AND AIR CONDITIONING	QTY	QUANTITY	WMS	WIRE MESH SCREEN
DS	DOWNSPOUT					W/O	WITHOUT
DSA	DIVISION OF STATE ARCHITECT	HW	HARDWOOD	R / RAD	RADIUS	WP	WATERPROOF
DTL	DETAIL			RCP	REFLECTED CEILING PLAN	WPJ	WEAKENED PLANE JOINT
DWG	DRAWING	ID	INSIDE DIAMETER	RD	ROOF DRAIN	WS	WOOD SCREW
		INSUL	INSULATION/INSULATED	REC	RECESSED	WT	WEIGHT
E	EAST	INT	INTERIOR	REF	REFERENCE	WWF	WELDED WIRE FABRIC
(E)	EXISTING			REINF	REINFORCING / REINFORCEMENT		
EA	EACH	JAN	JANITOR	REQD	REQUIRED	℄	CENTER LINE
ECP	EXTERIOR CEMENT PLASTER	JT	JOINT	RM	ROOM	ϕ	DIAMETER
EF	EACH FACE / EXHAUST FAN			RMV	REMOVE	#	POUND OR NUMBER
EG	EXISTING GRADE	LAM	LAMINATE	RO	ROUGH OPENING		

SYMBOLS



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REGISTERED ARCHITECT ALISON M. WHITELAW C-10375 EXP 7-31-15 STATE OF CALIFORNIA

SAN YSIDRO ATHLETIC AREA / LARSEN FIELD LIGHTING

SHEET TITLE: GENERAL NOTES, LEGEND AND ABBREVIATIONS

SHEET NUMBER: T-101

CITY OF SAN DIEGO, CALIFORNIA
ENGINEERING AND CAPITAL PROJECTS
SHEET 2 OF 28 SHEETS

WBS #S-11013

FOR CITY ENGINEER — DATE 11/5/13

SAMIR MAHMALJI, SECTION HEAD

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	SG/JFB		6/30/15	

ALEXANDRA CORSI, PROJECT MANAGER

CCS27 COORDINATE: —

CCS83 COORDINATE: 138-1752

CONTRACTOR _____ DATE STARTED _____
INSPECTOR _____ DATE COMPLETED _____

36796-02-D

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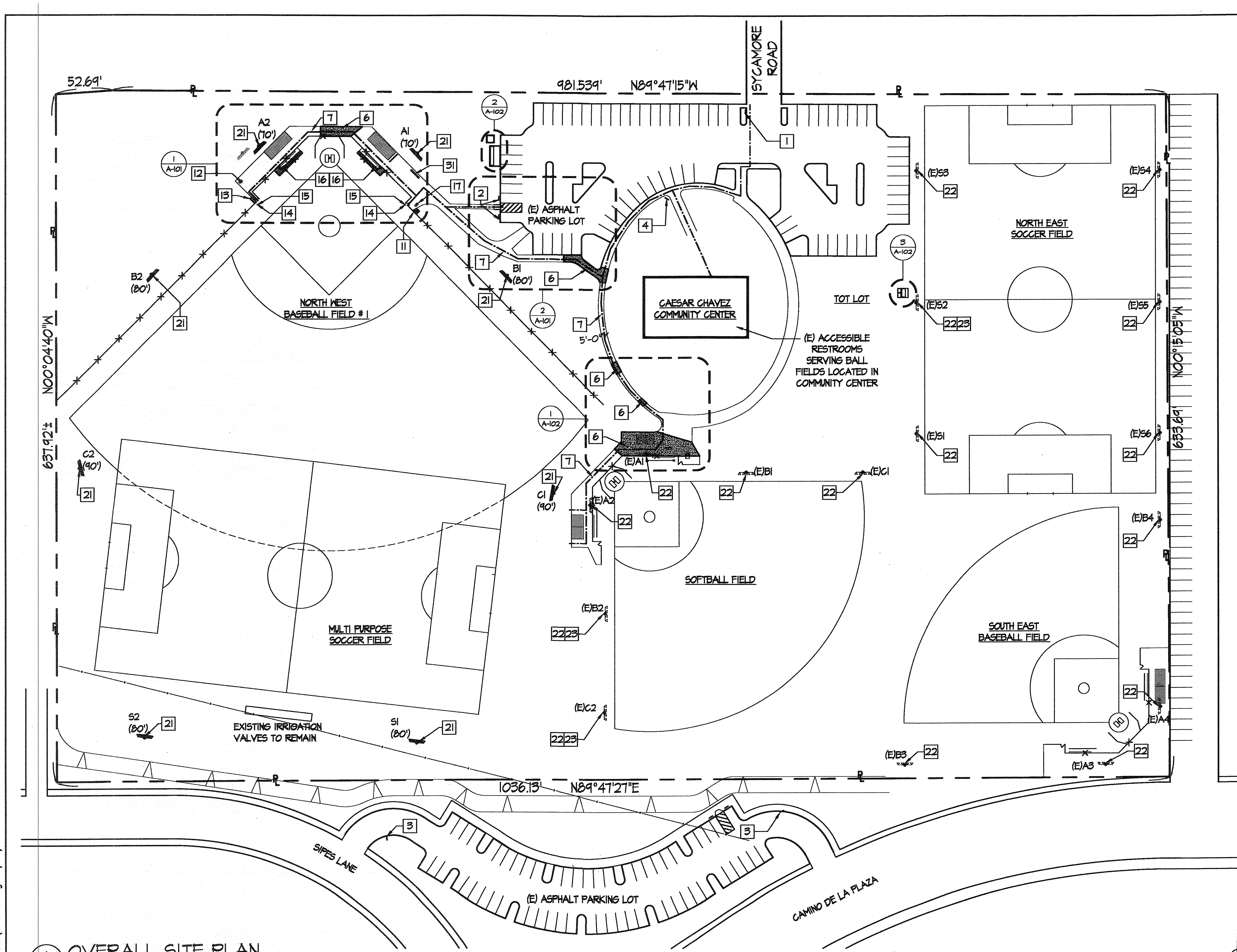
SAN YSIDRO ATHLETIC AREA / LARSEN FIELD LIGHTING



OVERALL SITE PLAN
SCALE 1" = 50'-0"

0 10' 50' 100' 250'

GENERAL NOTES

1. CONTRACTOR IS RESPONSIBLE FOR PROVIDING TESTING EVALUATIONS OF ALL IMPORTED FILL SOILS.
2. CONTRACTOR IS RESPONSIBLE FOR OBTAINING A FULL SET OF DESIGN DRAWINGS AND STRUCTURAL CALCULATIONS FROM MUSCO SPORTS LIGHTING STAMPED AND SIGNED BY A CALIFORNIA STATE LICENSED ENGINEER.
3. CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS INCLUDING, BUT NOT LIMITED TO: SDG&E, ELECTRICAL (CITY), AND BUILDING (CITY).
4. CONTRACTOR IS RESPONSIBLE FOR PROVIDING ANY TRIMMING OF EXISTING TREE CANOPIES REQUIRED TO PROVIDE ADEQUATE SEPARATION BETWEEN TREE BRANCHES AND LIGHT POLES/LUMINAIRES AS DETERMINED BY THE RESIDENT ENGINEER. ASSUME POLE #5 A1, A2 AND C2 WILL REQUIRE WORK.

SITE PLAN KEY NOTES

PATH OF TRAVEL IMPROVEMENTS

1. PROVIDE TOW-AWAY SIGNAGE PER 1/A-500
2. REMOVE (E) SIGN & POST COMPLETE - PROVIDE ACCESSIBLE PARKING SIGNAGE PER 3/A-500
3. PROVIDE PARKING LOT SIGNAGE PER 2/A-500
4. PROVIDE ACCESSIBLE DIRECTIONAL SIGNAGE SEE 10/A-500
5. NOT USED
6. REMOVE AND REPLACE CONCRETE (INTEGRAL COLOR - MATCH ADJACENT), WITH 1.5% MAX CROSS SLOPE - COORDINATE WITH CIVIL DRAWINGS AND A/C-2.1
7. ACCESSIBLE CONCRETE WALKWAY, WITH 1.5% MAX CROSS SLOPE AND 4.5% MAX SLOPE IN DIRECTION OF TRAVEL.
8. NOT USED
9. NOT USED

SITE ACCESSIBILITY IMPROVEMENTS

11. PROVIDE CONCRETE SLAB, DUAL HEIGHT DRINKING FOUNTAIN AND TIE INTO REFURBISHED DRY WELL 6/A-500
12. REMOVE DRINKING FOUNTAIN, CAP UTILITIES, PATCH CONCRETE AND INFILL DRY WELL
13. PROVIDE LEVEL CONCRETE LANDING EXTENDING 24" MIN ON STRIKE SIDE OF GATE, AND 60" MIN. DEPTH
14. PROVIDE ACCESSIBLE GATE, MAX. 48" WIDTH, WITH KICK PLATES AND LEVER HARDWARE - SEE 8&11/A-500
15. PROVIDE LEVEL TRANSITION FROM CONCRETE TO FIELD WITH STABILIZED DECOMPOSED GRANITE 60" X 60" MIN.
16. PROVIDE CONCRETE SLAB, FENCING, BENCH EXTENSION, AND WHEELCHAIR SPACE - SEE 4/A-500
17. REMOVE DRINKING FOUNTAIN, PATCH CONCRETE AND REFURBISH DRY WELL FOR NEW FOUNTAIN

SITE LIGHTING IMPROVEMENTS

21. PROVIDE POLE-MOUNTED SPORTS LIGHTING SEE SHEET E-100
22. (E) LIGHT POLES AND LIGHTING TO REMAIN - NO WORK U.O.N.
23. (E) SECURITY ON (E) LIGHT POLES TO REMAIN - RECONNECT TO NEW ELECTRICAL SERVICE PER E-200

SITE MISCELLANEOUS

31. PROVIDE 8-STALL BICYCLE RACK PER CITY OF SAN DIEGO'S JAN. 2011 ISSUE OF THE CONSULTANTS GUIDE TO PARK DESIGN AND DEVELOPMENT, INSTALL WITH (4) 3/8" S.S. HILTI TZ EXPANSION BOLTS WITH 2-1/2" EMBED INTO (E) CONC. WALK

SITE LEGEND

- ACCESSIBLE PATH OF TRAVEL
- ACCESSIBLE WALKWAY AND SPECTATOR AREA
- S1 (80') NEW 70'-90' POLE AND SPORTS LIGHTING PACKAGE ('S1' INDICATES POLE IDENTIFICATION)
- EXISTING POLE WITH (E) LIGHTING - NO WORK

EXEMPT
PLANNING AND DEVELOPMENT REVIEW
LAND DEVELOPMENT REVIEW
Plan File/Work Order No. 322976
From: CDP / ESL 126.0709/143.0110(c) Municipal Code Section
Permit Type
By Billy Church Initials
Date 10-30-13 Phone 446-5343
Any Revision To These Plans Will Require Another Stamp of Conformity
S.T. for B. Tripp

DEVELOPMENT SERVICES
322976 WALTER CAMP DATE 10-30-13
ELECTRICAL PLAN REVIEW DIVISION

BUILDING AND SAFETY DIVISION-STRUCTURAL
Date 10/24/13
Inked notes added on sheet MT1.

APPROVED
OCT 28 2013
LAND DEVELOPMENT REVIEW
DRAINAGE & GRADES

#322976
City of San Diego
Structural:
Mechanical:
WBS: (E) S.O.: 5354 Issue
By: Olabisi Opeodu Date: 10-28-13

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REGISTERED ARCHITECT ALISON M. WHITELAW C-10375 EXP 7-31-15 STATE OF CALIFORNIA

SAN YSIDRO ATHLETIC AREA / LARSEN FIELD LIGHTING

SHEET TITLE: SITE PLAN - OVERALL
SHEET NUMBER: A-100

CITY OF SAN DIEGO, CALIFORNIA
ENGINEERING AND CAPITAL PROJECTS
SHEET 3 OF 28 SHEETS
WBS #S-11015

Samir M 11/5/13 FOR CITY ENGINEER DATE
SAMIR MAHMALJI SECTION HEAD

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	SGV/JFB		6/30/15	

ALEXANDRA CORSI PROJECT MANAGER
CCS27 COORDINATE
138-1752 CCS83 COORDINATE

CONTRACTOR ______ DATE STARTED ______
INSPECTOR ______ DATE COMPLETED ______

36796-03-D

ACCESSIBILITY NOTES

THE PATH OF TRAVEL (P.O.T.) AS INDICATED IS A BARRIER FREE ACCESS ROUTE WITHOUT ANY ABRUPT VERTICAL CHANGES EXCEEDING 1/2", IF BEVELED AT 1V:2H MAXIMUM SLOPE, EXCEPT THAT LEVEL CHANGES DO NOT EXCEED 1/4" VERTICAL AND IS AT LEAST 48" WIDE.
-SURFACE SHALL BE SLIP RESISTANT, STABLE, FIRM AND SMOOTH.
-CROSS SLOPE SHALL NOT EXCEED 1.5%, AND THE SLOPE IN THE DIRECTION OF TRAVEL SHALL BE LESS THAN 4.5% UNLESS OTHERWISE INDICATED.
-THE (POT) SHALL BE MAINTAINED FREE OF OVERHANGING OBSTRUCTIONS UP TO 80" MIN. HEIGHT AND PROTRUDING OBJECTS GREATER THAN 4" FROM WALL IF THEY ARE ABOVE 27" AND LESS THAN 80" HIGH.
-THE EXISTING PATH OF TRAVEL (P.O.T.) FROM THE PUBLIC RIGHT OF WAY, AND ACCESSIBLE PARKING TO THE MAIN ENTRANCE, AND TOILETS IN THE COMMUNITY CENTER AND TO THE AREA OF SPORT ACTIVITY IS COMPLIANT TO CURRENT APPLICABLE ACCESSIBILITY REQUIREMENTS OF CALIFORNIA C.C.R. TITLE 24.

LANDSCAPE AND IRRIGATION NOTES

1. ALL DISTURBED AREAS SHALL MATCH APPEARANCE OF ADJACENT AREAS AT END OF WORK. TURF SHALL BE REPLACED WITH SOD AS APPROVED BY PARK & RECREATION DEPARTMENT. SEE GREENBOOK AND WHITEBOOK SECTION 308 - LANDSCAPE AND IRRIGATION INSTALLATION.
2. PROJECT FOREMAN TO INSPECT PROJECT SITE PRIOR TO BEGINNING WORK AND MEET WITH SITE PERSONNEL TO DETERMINE WHICH EXISTING IRRIGATION FACILITIES ARE AFFECTED BY DEMOLITION/CONSTUCTION OF SITE IMPROVEMENTS.
3. IRRIGATION MAINLINE, WIRE, VALVES AND CONTROLLERS WHICH SERVE PORTIONS OF THE CONSTRUCTION AREA OUTSIDE OF THE PROJECT SITE SHALL REMAIN OPERATIONAL.
4. EXERCISE CARE WHEN TRENCHING AROUND EXISTING LANDSCAPE AND PROTECT EXISTING LANDSCAPE DURING ALL PHASES OF WORK WHEN ENCOUNTERED, HAND TRENCH AROUND EXISTING TREE ROOTS OVER 2' DIA.
5. IT MAY BE NECESSARY TO RELOCATE AND/OR RECONNECT EXISTING IRRIGATION FACILITIES IN ORDER TO HAVE A FUNCTIONING SYSTEM. TAKE APPROPRIATE ACTION PRIOR TO DEMOLITION TO ENSURE THAT EXISTING PRESSURIZED WATER LINES, LATERAL LINES, AND IRRIGATION CONTROL WIRES ARE PROPERLY DISCONNECTED, RELOCATED AND/OR CAPPED TO PREVENT WATER SPILLAGE OR POTENTIAL HAZARDS. VERIFY EXACT LOCATION OF FACILITIES WITHIN AND ADJACENT TO WORK AREAS.
6. HAVE A PROJECT FOREMAN ON SITE DURING DEMOLITION TO DISCONNECT AND CAP EXISTING IRRIGATION FACILITIES.
7. OBTAIN APPROVAL FROM RESIDENT ENGINEER FOR RELOCATION OF EXISTING FACILITIES PRIOR TO CONSTRUCTION.
8. VERIFY EXACT LOCATIONS AND STAKE ALL DISCONNECTED, CAPPED OR RELOCATED FACILITIES IN THE FIELD AFTER DEMOLITION HAS BEEN COMPLETED.
9. VERIFY LOCATIONS OF ALL PERTINENT SITE IMPROVEMENTS INSTALLED UNDER OTHER TRADES, INCLUDING PIPING AND WIRING. IF ANY PART OF THIS PLAN CANNOT BE FOLLOWED DUE TO SITE CONDITIONS, CONTACT CITY RESIDENT ENGINEER FOR INSTRUCTIONS PRIOR TO COMMENCING WORK.

CONTRACTOR SHALL COORDINATE WITH THE CITY RESIDENT ENGINEER TO PRESERVE AND PROTECT EXISTING LANDSCAPE AND IRRIGATION SYSTEMS ADJACENT TO PROJECT SITE, AND EXISTING IRRIGATION FACILITIES WITHIN PROJECT AREA AFFECTED BY THIS WORK. ALL TREES ADJACENT TO A CONSTRUCTION AREA SHALL BE PROTECTED BY PLACING ORANGE CAUTION FENCING AROUND THE TREE AT THE TREE'S DRIPLINE. ALL WORK, EQUIPMENT AND MATERIAL TO STAY CLEAR OF THESE AREAS.

10. ANY IRRIGATION SYSTEM COMPONENTS THAT NEED TO BE REROUTED OR RELOCATED, OR ARE DAMAGED DURING CONSTRUCTION MUST BE REPAIRED OR REPLACED. ALL IRRIGATION WORK SHALL CONFORM TO THE CITY OF SAN DIEGO'S JAN. 2011 ISSUE OF THE CONSULTANT'S GUIDE TO PARK DESIGN AND DEVELOPMENT AND ALL OTHER LANDSCAPE-RELATED CITY AND REGIONAL STANDARDS.
11. ALL IRRIGATION SYSTEM ADJUSTMENTS ARE TO BE INSPECTED BY THE PARK AND RECREATION DEPARTMENT AND SHALL BE SHOWN TO OPERATE SATISFACTORILY.

SAN YSIDRO ATHLETIC AREA / LARSEN FIELD LIGHTING

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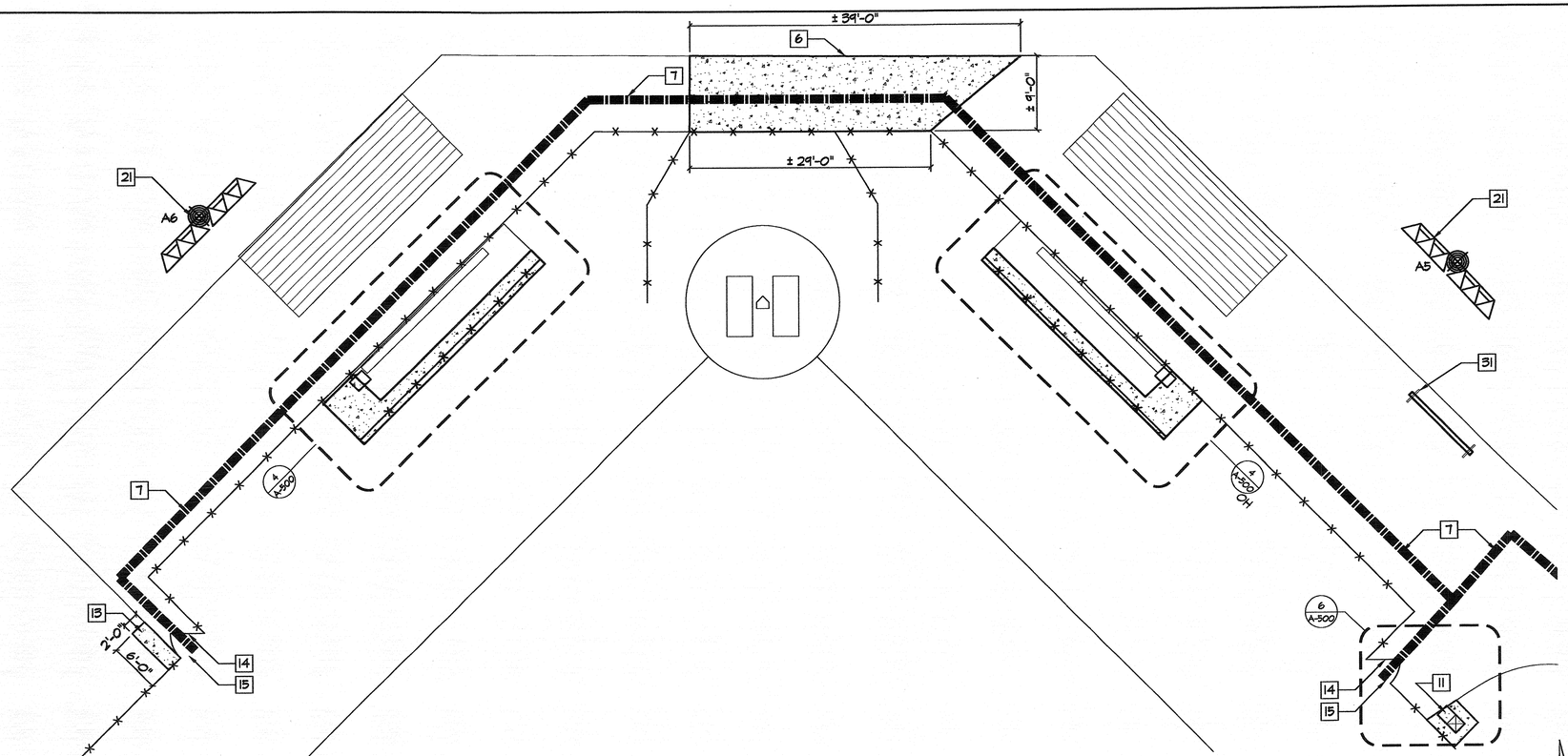
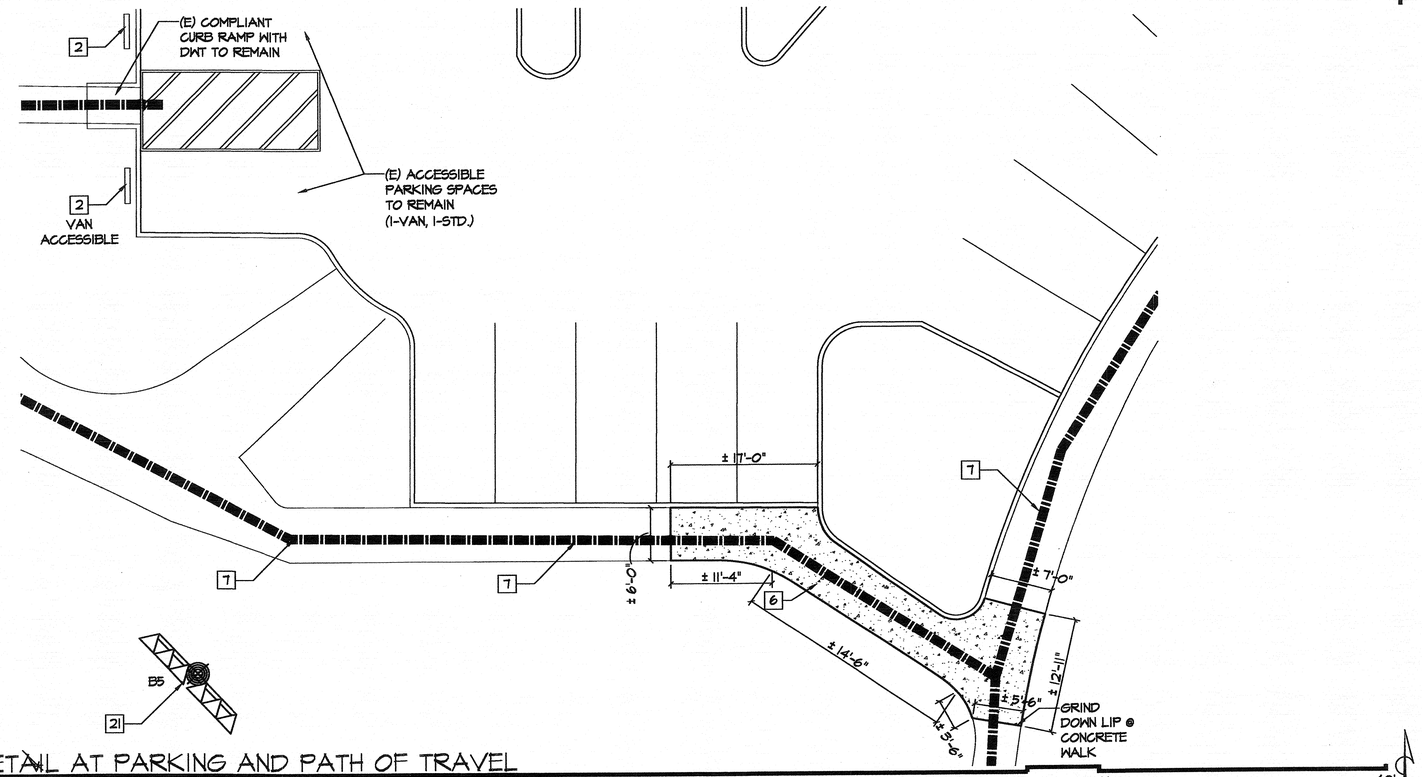


1 A-101 SITE PLAN DETAIL AT BASEBALL FIELD # 1
SCALE 1/8" = 1'-0"



2 A-101 SITE PLAN DETAIL AT PARKING AND PATH OF TRAVEL
SCALE 1/8" = 1'-0"

SITE PLAN KEY NOTES

(NOT ALL USED ON THIS DRAWING)

PATH OF TRAVEL IMPROVEMENTS

1. PROVIDE TOW-AWAY SIGNAGE PER 1/A-500
2. REMOVE (E) SIGN & POST COMPLETE - PROVIDE ACCESSIBLE PARKING SIGNAGE PER 3/A-500
3. PROVIDE PARKING LOT SIGNAGE PER 2/A-500
4. PROVIDE ACCESSIBLE DIRECTIONAL SIGNAGE SEE 10/A-500
5. NOT USED
6. REMOVE AND REPLACE CONCRETE (INTEGRAL COLOR - MATCH ADJACENT), WITH 1.5% MAX CROSS SLOPE - COORDINATE WITH CIVIL DRAWINGS AND A/C-2.1
7. ACCESSIBLE CONCRETE WALKWAY, WITH 1.5% MAX CROSS SLOPE AND 4.5% MAX SLOPE IN DIRECTION OF TRAVEL.
8. NOT USED
9. NOT USED

SITE ACCESSIBILITY IMPROVEMENTS

11. PROVIDE CONCRETE SLAB, DUAL HEIGHT DRINKING FOUNTAIN AND TIE INTO REFURBISHED DRY WELL 6/A-500
12. REMOVE DRINKING FOUNTAIN, CAP UTILITIES, PATCH CONCRETE AND INFILL DRY WELL
13. PROVIDE LEVEL CONCRETE LANDING EXTENDING 24" MIN ON STRIKE SIDE OF GATE, AND 60" MIN. DEPTH
14. PROVIDE ACCESSIBLE GATE, MAX. 48" WIDTH, WITH KICK PLATES AND LEVER HARDWARE - SEE 8&11/A-500
15. PROVIDE LEVEL TRANSITION FROM CONCRETE TO FIELD WITH STABILIZED DECOMPOSED GRANITE 60" X 60" MIN.
16. PROVIDE CONCRETE SLAB, FENCING, BENCH EXTENSION, AND WHEELCHAIR SPACE - SEE 4/A-500
17. REMOVE DRINKING FOUNTAIN, PATCH CONCRETE AND REFURBISH DRY WELL FOR NEW FOUNTAIN

SITE LIGHTING IMPROVEMENTS

21. PROVIDE POLE-MOUNTED SPORTS LIGHTING SEE SHEET E-100
22. (E) LIGHT POLES AND LIGHTING TO REMAIN - NO WORK U.O.N.
23. (E) SECURITY ON (E) LIGHT POLES TO REMAIN - RECONNECT TO NEW ELECTRICAL SERVICE PER E-200

SITE MISCELLANEOUS

31. PROVIDE 8-STALL BICYCLE RACK PER CITY OF SAN DIEGO'S JAN. 2011 ISSUE OF THE CONSULTANTS GUIDE TO PARK DESIGN AND DEVELOPMENT, INSTALL WITH (4) 3/8" S.S. HILTI TZ EXPANSION BOLTS WITH 2-1/2" EMBED INTO (E) CONC. WALK

SITE LEGEND

ACCESSIBLE PATH OF TRAVEL

ACCESSIBLE WALKWAY AND SPECTATOR AREA

NEW POLE AND SPORTS LIGHTING PACKAGE

Platt/Whitelaw Architects, Inc.
4034 30th Street, SAN DIEGO CA 92104
(619) 546-4326 FAX (619) 546-4350

REGISTERED ARCHITECT HUDSON N. WHITELAW C-10375 EXP 7-31-15 STATE OF CALIFORNIA

SAN YSIDRO ATHLETIC AREA / LARSEN FIELD LIGHTING

SHEET TITLE: SITE PLANS - ENLARGED

SHEET NUMBER: A-101

CITY OF SAN DIEGO, CALIFORNIA
ENGINEERING AND CAPITAL PROJECTS
SHEET 4 OF 28 SHEETS

WBS #S-11013

Samir M 11/5/13
FOR CITY ENGINEER DATE

SAMIR MAHMALJI
SECTION HEAD

DESCRIPTION	BY	APPROVED	DATE	FILED
ORIGINAL	SG/JPB		6/20/13	

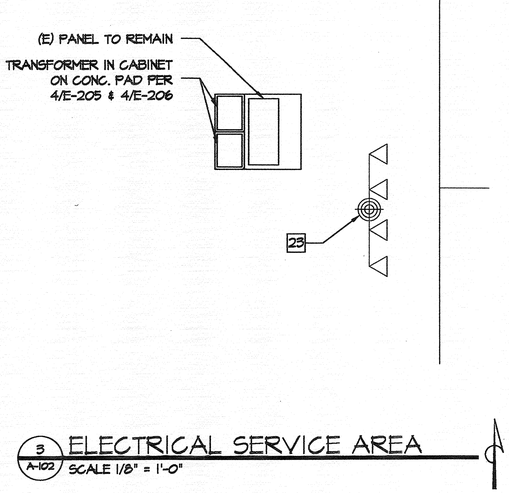
ALEXANDRA CORSI
PROJECT MANAGER

-
CCS27 COORDINATE

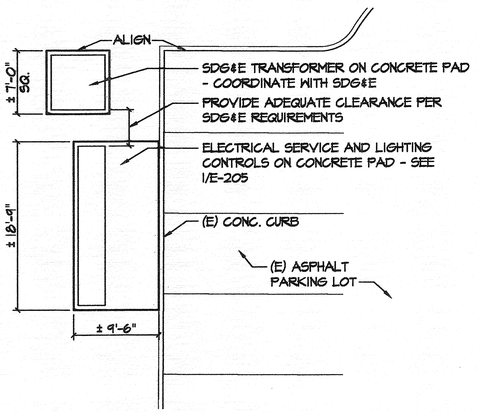
138-1752
CCS83 COORDINATE

CONTRACTOR _____ DATE STARTED _____
INSPECTOR _____ DATE COMPLETED _____

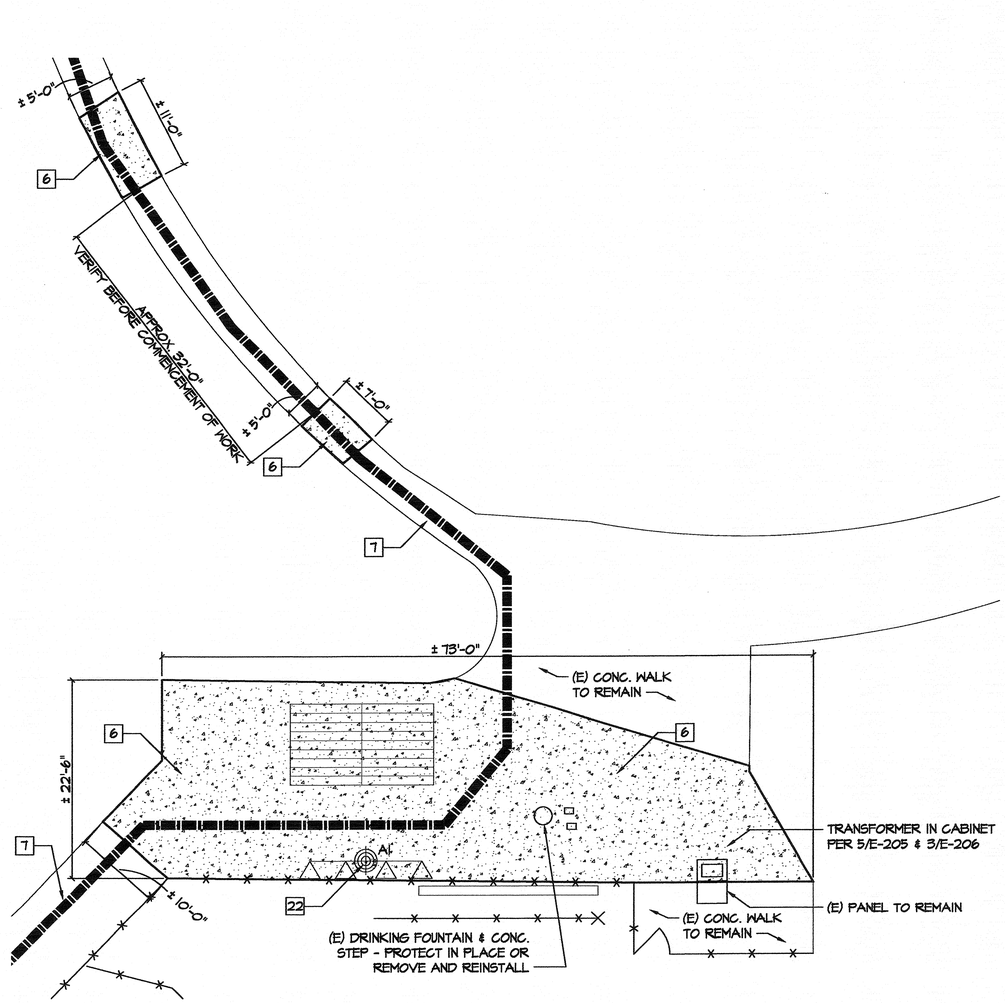
36796-04-D



3 A-102 ELECTRICAL SERVICE AREA
SCALE 1/8" = 1'-0"



2 A-102 ELECTRICAL SERVICE AREA
SCALE 1/8" = 1'-0"



1 A-102 SITE PLAN DETAIL AT SOFTBALL FIELD
SCALE 1/8" = 1'-0"
0 8' 40'

SITE PLAN KEY NOTES

(NOT ALL USED ON THIS DRAWING)

PATH OF TRAVEL IMPROVEMENTS

1. PROVIDE TOW-AWAY SIGNAGE PER 1/A-500
2. REMOVE (E) SIGN & POST COMPLETE - PROVIDE ACCESSIBLE PARKING SIGNAGE PER 3/A-500
3. PROVIDE PARKING LOT SIGNAGE PER 2/A-500
4. PROVIDE ACCESSIBLE DIRECTIONAL SIGNAGE SEE 10/A-500
5. NOT USED
6. REMOVE AND REPLACE CONCRETE (INTEGRAL COLOR - MATCH ADJACENT), WITH 1.5% MAX CROSS SLOPE - COORDINATE WITH CIVIL DRAWINGS AND A/C-2.1
7. ACCESSIBLE CONCRETE WALKWAY, WITH 1.5% MAX CROSS SLOPE AND 4.5% MAX SLOPE IN DIRECTION OF TRAVEL.
8. NOT USED
9. NOT USED

SITE ACCESSIBILITY IMPROVEMENTS

11. PROVIDE CONCRETE SLAB, DUAL HEIGHT DRINKING FOUNTAIN AND TIE INTO REFURBISHED DRY WELL 6/A-500
12. REMOVE DRINKING FOUNTAIN, CAP UTILITIES, PATCH CONCRETE AND INFILL DRY WELL
13. PROVIDE LEVEL CONCRETE LANDING EXTENDING 24" MIN ON STRIKE SIDE OF GATE, AND 60" MIN. DEPTH
14. PROVIDE ACCESSIBLE GATE, MAX. 48" WIDTH, WITH KICK PLATES AND LEVER HARDWARE - SEE 8&11/A-500
15. PROVIDE LEVEL TRANSITION FROM CONCRETE TO FIELD WITH STABILIZED DECOMPOSED GRANITE 60" X 60" MIN.
16. PROVIDE CONCRETE SLAB, FENCING, BENCH EXTENSION, AND WHEELCHAIR SPACE - SEE 4/A-500
17. REMOVE DRINKING FOUNTAIN, PATCH CONCRETE AND REFURBISH DRY WELL FOR NEW FOUNTAIN

SITE LIGHTING IMPROVEMENTS

21. PROVIDE POLE-MOUNTED SPORTS LIGHTING SEE SHEET E-100
22. (E) LIGHT POLES AND LIGHTING TO REMAIN - NO WORK U.O.N.
25. (E) SECURITY ON (E) LIGHT POLES TO REMAIN - RECONNECT TO NEW ELECTRICAL SERVICE PER E-200

SITE MISCELLANEOUS

31. PROVIDE 8-STALL BICYCLE RACK PER CITY OF SAN DIEGO'S JAN. 2011 ISSUE OF THE CONSULTANTS GUIDE TO PARK DESIGN AND DEVELOPMENT, INSTALL WITH (4) 3/8" S.S. HILTI TZ EXPANSION BOLTS WITH 2-1/2" EMBED INTO (E) CONC. WALK

SITE LEGEND

ACCESSIBLE PATH OF TRAVEL

ACCESSIBLE WALKWAY AND SPECTATOR AREA

EXISTING POLE WITH (E) LIGHTING - NO WORK

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REGISTERED ARCHITECT ALISON M. WHITELAW C-10375 EXP 7-31-15 STATE OF CALIFORNIA

SAN YSIDRO ATHLETIC AREA / LARSEN FIELD LIGHTING

SHEET TITLE: SITE PLAN - ENLARGED

SHEET NUMBER: A-102

CITY OF SAN DIEGO, CALIFORNIA
ENGINEERING AND CAPITAL PROJECTS
SHEET 5 OF 28 SHEETS

WBS #5-11013

Samir M 11/5/13
FOR CITY ENGINEER DATE

SAMIR MAHMALJI
SECTION HEAD

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	SG/JFB		6/30/15	

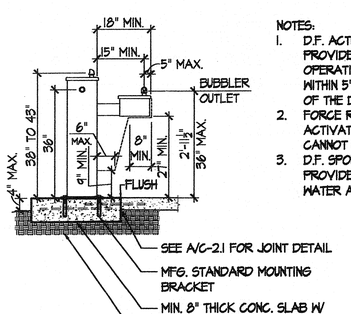
ALEXANDRA CORSI
PROJECT MANAGER

–
CCS27 COORDINATE

138-1752
CCS83 COORDINATE

CONTRACTOR _____ DATE STARTED _____
INSPECTOR _____ DATE COMPLETED _____

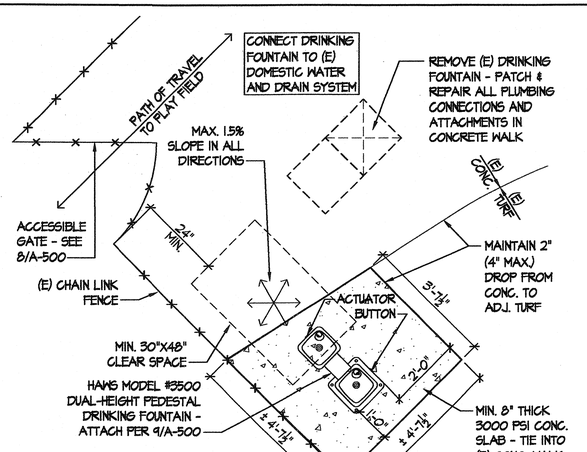
36796-05-D



NOTES:
1. D.F. ACTUATOR MUST PROVIDE ACCESSIBLE OPERATION AND BE WITHIN 5" OF FRONT EDGE OF THE D.F.
2. FORCE REQUIRED TO ACTIVATE CONTROLS CANNOT EXCEED 5 LBS.
3. D.F. SPOUT MUST PROVIDE A FLOW OF WATER AT LEAST 4" HIGH

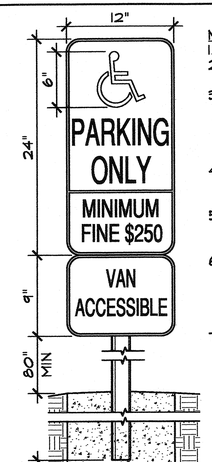
SCALE: 1/2" = 1'-0"

PEDESTAL DRINKING FOUNTAIN MOUNTING | 9



SCALE: 1/2" = 1'-0"

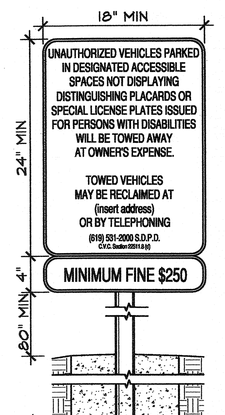
PEDESTAL DRINKING FOUNTAIN PLAN | 6



NOTES
1. SIGN PER CURRENT SDM-117.
2. SIGN SHALL BE CONSTRUCTED OF 0.08"ALUMINUM.
3. LETTERING, SYMBOL AND BORDER SHALL BE REFLECTORIZED WHITE ON BLUE BACKGROUND, COLOR 15090, FED. STD. 595B.
4. ATTACH SIGN TO POSTS WITH TWO-PIECE CAST ALUM. SIGN CLAMPS.
5. SIGNS SHALL BE MOUNTED DIRECTLY IN FRONT AND CENTERED ON PARKING SPACE.
6. PROVIDE 2" DIA. SCH 40 GALV. POST WITH 12" DIA. X 30" DEEP 2500 PSI CONC. FOOTING WITH STOPED TOP & MIN. 80" MOUNTING HEIGHT.
7. PROVIDE ADDITIONAL "VAN ACCESSIBLE" SIGN AS NOTED ON 2/A-101.

SCALE: 1-1/2" = 1'-0"

ACCESSIBLE PARKING SIGN | 3



NOTES
1. SIGN PER CURRENT SDM-117.
2. SIGN SHALL BE CONSTRUCTED OF 0.08"ALUMINUM.
3. LETTERING AND BORDER SHALL BE REFLECTORIZED WHITE ON BLUE BACKGROUND, COLOR 15090, FED. STD. 595B.
4. ATTACH SIGN TO POSTS WITH TWO-PIECE CAST ALUM. SIGN CLAMPS.
5. CONTRACTOR TO VERIFY WITH POLICE THE ADDRESS & PHONE NUMBER TO BE NOTED ON SIGN AND PROVIDE AS A PERMANENT PART OF SIGN.
6. PROVIDE 2" DIA. SCH 40 GALV. POST WITH 12" DIA. X 30" DEEP 2500 PSI CONC. FOOTING WITH SLOPED TOP & MIN. 80" MOUNTING HEIGHT.
7. POST SIGN AT ENTRANCE TO NORTH PARKING LOT IN CONSPICUOUS LOCATION - REPLACE (E) SIGNS.

SCALE: 1-1/2" = 1'-0"

TOW-AWAY SIGN | 1

NOTES
1. SIGN SHALL BE CONSTRUCTED OF 0.08"ALUMINUM.
2. SYMBOL AND BORDER SHALL BE REFLECTORIZED WHITE ON BLUE BACKGROUND, COLOR 15090, FED. STD. 595B.
3. ATTACH SIGN TO POSTS WITH TWO-PIECE CAST ALUM. SIGN CLAMPS.
4. PROVIDE 1-1/2" DIA. SCH 40 GALV. POST WITH 12" DIA. X 18" DEEP 2500 PSI CONC. FOOTING WITH SLOPED TOP.

SCALE: 1-1/2" = 1'-0"

ISA DIRECTIONAL SIGN | 10

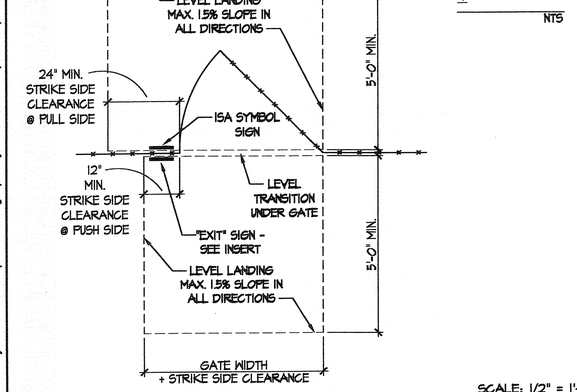
SCALE: 3/8" = 1'-0"

DUGOUT FENCING PLAN | 4

NOTES
1. SIGN PER SPECIAL CONFIGURATION - REFER TO SDM-117 FOR GENERAL REQUIREMENTS.
2. SIGN SHALL BE CONSTRUCTED OF 0.08"ALUMINUM.
3. LETTERING, SYMBOL AND BORDER SHALL BE REFLECTORIZED WHITE ON BLUE BACKGROUND, COLOR 15090, FED. STD. 595B.
4. ATTACH SIGN TO POSTS WITH TWO-PIECE CAST ALUM. SIGN CLAMPS.
5. PROVIDE 2" DIA. SCH 40 GALV. POST WITH 12" DIA. X 30" DEEP 2500 PSI CONC. FOOTING WITH SLOPED TOP & MIN. 80" MOUNTING HEIGHT.
6. POST SIGN AT ENTRANCES TO SOUTH PARKING LOT IN CONSPICUOUS LOCATION - REPLACE (E) SIGNS.

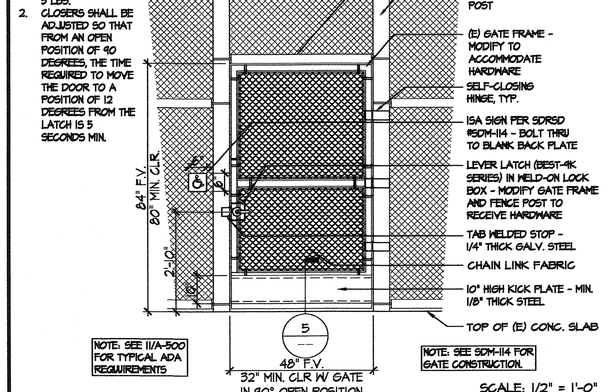
SCALE: 1-1/2" = 1'-0"

ACCESSIBLE PARKING SIGN | 2



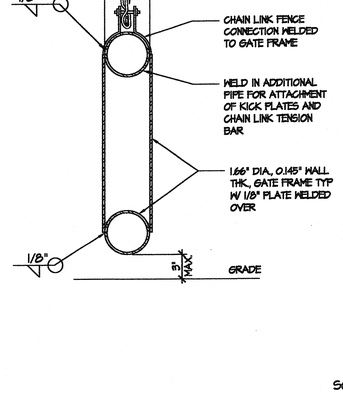
SCALE: 1/2" = 1'-0"

TYPICAL GATE ACCESSIBLE CLEARANCES | 11



SCALE: 1/2" = 1'-0"

(E) PLAY FIELD GATE RETROFIT | 8



SCALE: 3" = 1'-0"

CHAIN LINK GATE KICK PLATE | 5

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REGISTERED ARCHITECT ALISON M. WHITELAW C-10375 EXP 7-31-15 STATE OF CALIFORNIA

SAN YSIDRO ATHLETIC AREA / LARSEN FIELD LIGHTING

SHEET TITLE: DETAILS

SHEET NUMBER: A-500

CITY OF SAN DIEGO, CALIFORNIA
ENGINEERING AND CAPITAL PROJECTS
SHEET 6 OF 28 SHEETS

WBS #S-11013

Samir M 11/5/13
FOR CITY ENGINEER DATE

SAMIR MAHMALJI
SECTION HEAD

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	SGV/JPD		6/30/13	

ALEXANDRA CORSI
PROJECT MANAGER

CCS27 COORDINATE

158-1752
CCS83 COORDINATE

CONTRACTOR DATE STARTED
INSPECTOR DATE COMPLETED

36796-06-D

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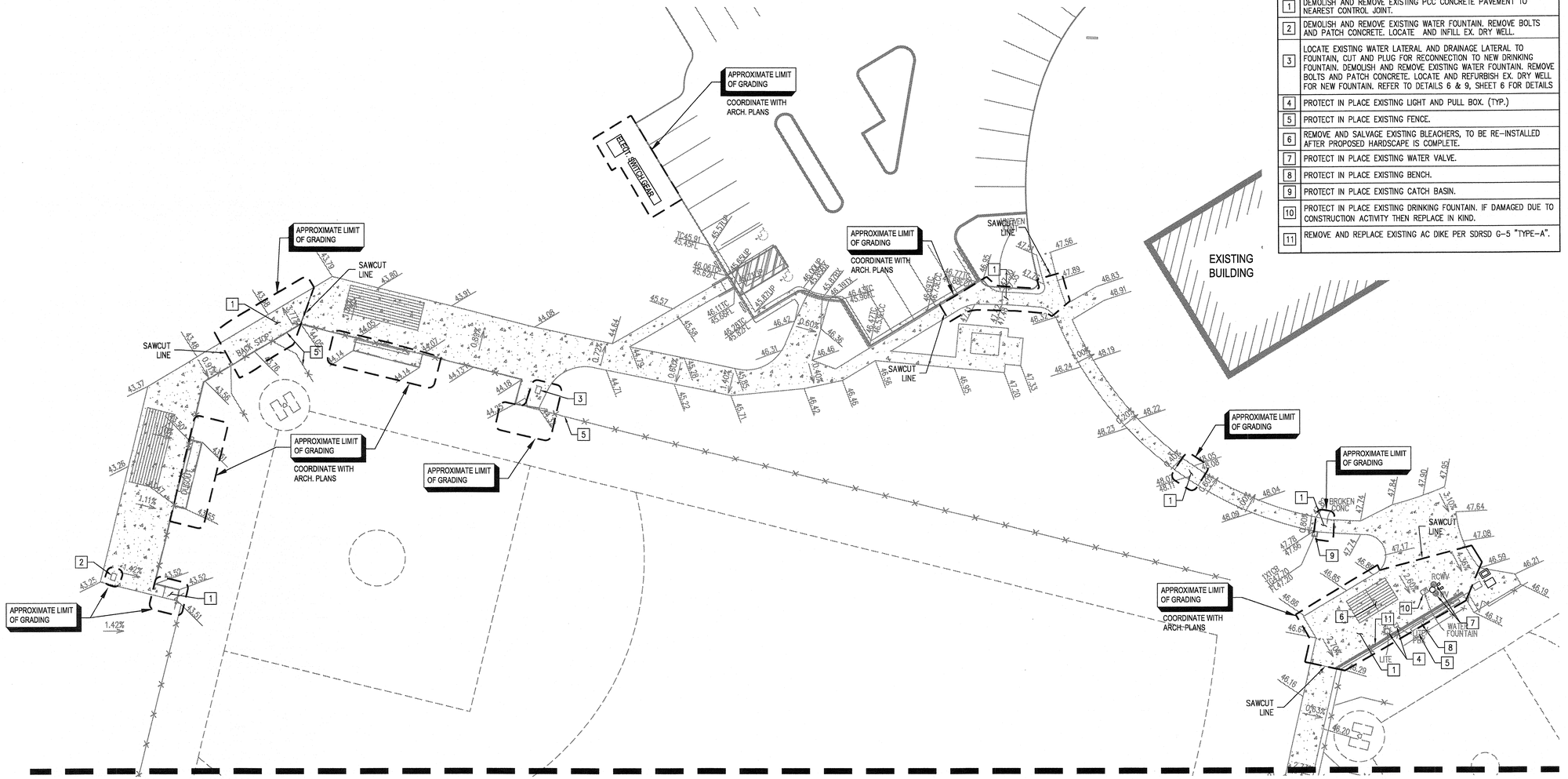


DEMOLITION KEY NOTES

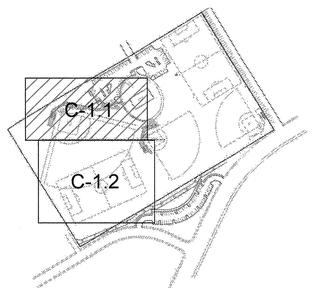
1	DEMOLISH AND REMOVE EXISTING PCC CONCRETE PAVEMENT TO NEAREST CONTROL JOINT.
2	DEMOLISH AND REMOVE EXISTING WATER FOUNTAIN. REMOVE BOLTS AND PATCH CONCRETE. LOCATE AND INFILL EX. DRY WELL.
3	LOCATE EXISTING WATER LATERAL AND DRAINAGE LATERAL TO FOUNTAIN, CUT AND PLUG FOR RECONNECTION TO NEW DRINKING FOUNTAIN. DEMOLISH AND REMOVE EXISTING WATER FOUNTAIN. REMOVE BOLTS AND PATCH CONCRETE. LOCATE AND REFURBISH EX. DRY WELL FOR NEW FOUNTAIN. REFER TO DETAILS 6 & 9, SHEET 6 FOR DETAILS
4	PROTECT IN PLACE EXISTING LIGHT AND PULL BOX. (TYP.)
5	PROTECT IN PLACE EXISTING FENCE.
6	REMOVE AND SALVAGE EXISTING BLEACHERS, TO BE RE-INSTALLED AFTER PROPOSED HARDSCAPE IS COMPLETE.
7	PROTECT IN PLACE EXISTING WATER VALVE.
8	PROTECT IN PLACE EXISTING BENCH.
9	PROTECT IN PLACE EXISTING CATCH BASIN.
10	PROTECT IN PLACE EXISTING DRINKING FOUNTAIN. IF DAMAGED DUE TO CONSTRUCTION ACTIVITY THEN REPLACE IN KIND.
11	REMOVE AND REPLACE EXISTING AC DIKE PER SDRSD G-5 "TYPE-A".

DEMOLITION LEGEND

ITEM	SYMBOL
PROPERTY LINE	
EXISTING CONTOUR	459
EXISTING TREE	
EXISTING BRUSH	
EXISTING FENCE	X
EXISTING BUILDING	
EXIST. CONCRETE	
EXISTING CURB AND GUTTER	
EXISTING CURB	
EXISTING PEDESTRIAN RAMP	
EXISTING SPOT ELEVATION	X 65.40
EXISTING SEWER LINE	S
EXISTING WATER MAIN	W
EXISTING FIRE HYDRANT	FH
EXISTING UTILITY BOX	
EXISTING LIGHT	
EXISTING ELECTRICAL LINE	E
EXISTING TELEPHONE LINE	T

GENERAL NOTES

I.	THE CONTRACTOR SHALL NOTIFY DIGALERT (1-800-227-2600) AT LEAST TWO DAYS PRIOR TO STARTING WORK AND SHALL ARRANGE FOR AND COORDINATE SHUT DOWN, DISCONNECTION AND CAPPING OF EXISTING UTILITIES WITH THE APPROPRIATE UTILITY OWNERS PRIOR TO COMMENCING THE WORK.
II.	PROTECT IN PLACE ALL EXISTING IMPROVEMENTS, STRUCTURES AND UNDERGROUND UTILITIES TO REMAIN.
III.	THE LOCATION AND EXISTENCE OF EXISTING UNDERGROUND FACILITIES SHOWN ON THE DRAWINGS WERE OBTAINED FROM A SEARCH OF AVAILABLE RECORD DRAWINGS. THE CONTRACTOR SHALL POTHOLE EXISTING UTILITIES AT POINTS OF CONNECTIONS AND ALL UTILITY CROSSINGS TO DETERMINE EXACT LOCATION PRIOR TO STARTING ANY WORK.
IV.	COORDINATE LOCATION OF ALL UNDERGROUND UTILITIES AND STORM DRAINS WITH NEW TREE LOCATIONS AND MECHANICAL/ELECTRICAL FACILITIES. REFER TO LANDSCAPE, PLUMBING AND ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.
V.	ALL EXISTING "DRY" UTILITIES SHOWN HEREON ARE FOR INFORMATION PURPOSES ONLY. REFER TO ELECTRICAL PLANS AND APPROPRIATE UTILITY COMPANY PLANS FOR ANY WORK ON OR WITH THESE UTILITIES.
VI.	REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.



KEY MAP
N.T.S.

GRAPHIC SCALE
20 0 20 40
(IN FEET)
1 INCH = 20 FT

FLC
SCALE 1" = 80'

BergerABAM
506 West Graham Avenue, Suite 104
Lake Elsinore, CA 92530 (858) 566-0626

DATE:	09/24/13
PLOTTED:	9:25 A
FLC PROJECT NO.	A120344
DESIGN BY:	AAK/SLL
DRAWN BY:	SLL
REVIEWED BY:	AAK

Platt/Whitelaw Architects, Inc.
4034 30th Street, SAN DIEGO CA 92104
(619) 546-4326 FAX (619) 546-4350

REGISTERED PROFESSIONAL ENGINEER
ARSHAD ASLAM KHAN
NO. 77283
Expires 6/30/2015
CIVIL
STATE OF CALIFORNIA

SAN YSIDRO ATHLETIC AREA / LARSEN FIELD LIGHTING

SHEET TITLE: DEMOLITION PLAN

SHEET NUMBER: C-1.1

CITY OF SAN DIEGO, CALIFORNIA
ENGINEERING AND CAPITAL PROJECTS
SHEET 7 OF 28 SHEETS

WBS #S-11013

Samir M 11/5/13
FOR CITY ENGINEER DATE

SAMIR MAHMALJI
SECTION HEAD

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	AAK/SLL		6/30/13	

ALEXANDRA CORSI
PROJECT MANAGER

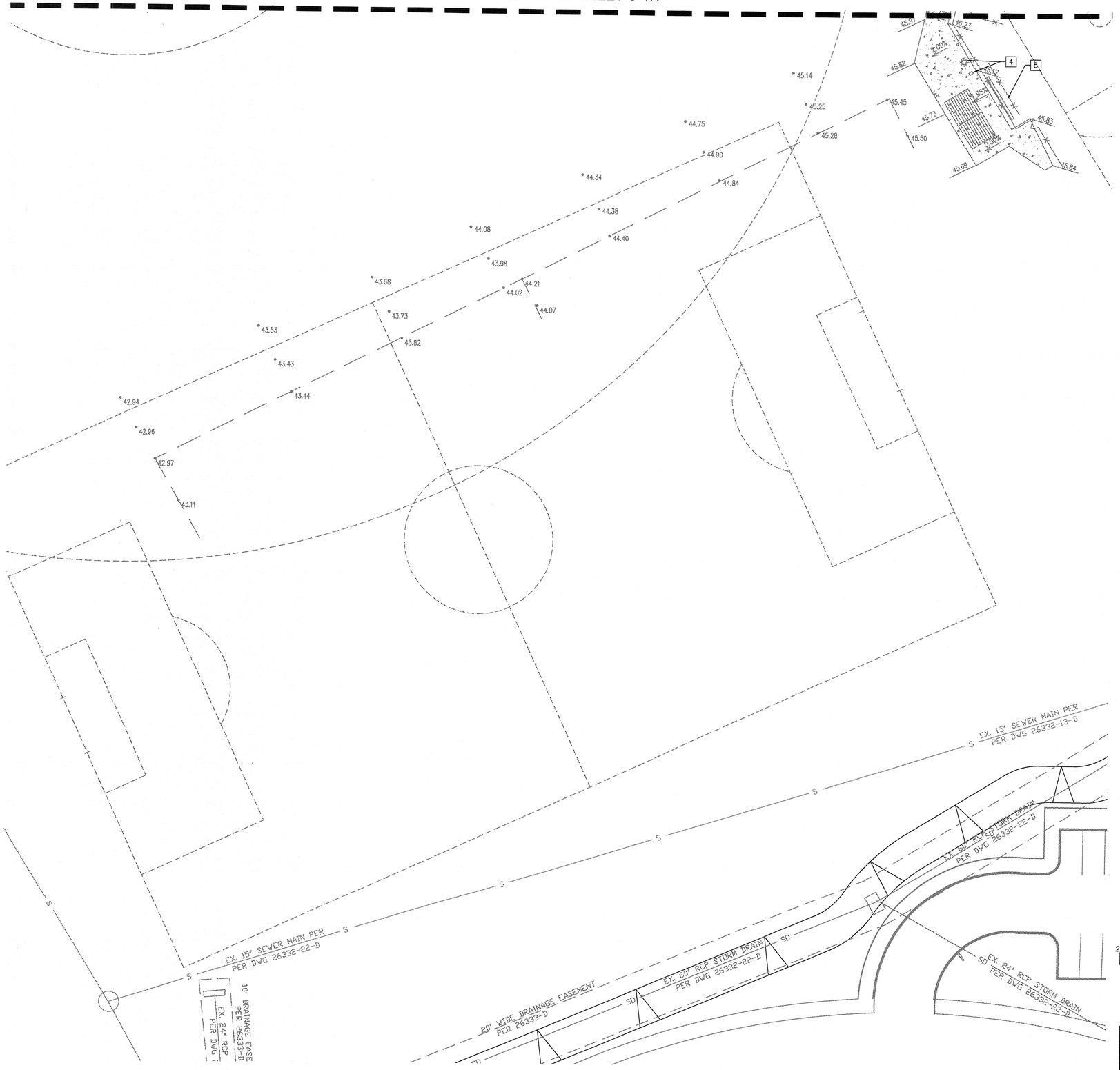
138-1752
CCS27 COORDINATE

CCS83 COORDINATE

CONTRACTOR _____ DATE STARTED _____
INSPECTOR _____ DATE COMPLETED _____

36796-7 -D

MATCHLINE SEE SHEET C-1.1



DEMOLITION KEY NOTES

4	PROTECT IN PLACE EXISTING LIGHT AND PULL BOX. (TYP.)
5	PROTECT IN PLACE EXISTING FENCE.

DEMOLITION LEGEND

ITEM	SYMBOL
PROPERTY LINE	
EXISTING CONTOUR	45
EXISTING TREE	
EXISTING BRUSH	
EXISTING FENCE	X
EXISTING BUILDING	
EXIST. CONCRETE	
EXISTING CURB AND GUTTER	
EXISTING CURB	
EXISTING PEDESTRIAN RAMP	
EXISTING SPOT ELEVATION	X 65.40
EXISTING SEWER LINE	S
EXISTING WATER MAIN	W
EXISTING FIRE HYDRANT	FH
EXISTING UTILITY BOX	
EXISTING ELECTRICAL LINE	E
EXISTING TELEPHONE LINE	T

GENERAL NOTES

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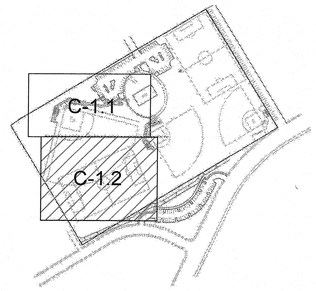

KEY MAP
N.T.S.

GRAPHIC SCALE
20 0 20 40
(IN FEET)
1 INCH = 20 FT

FLC SCALE 1" = 20'

BergerABAM
506 West Graham Avenue, Suite 104
Lake Elsinore, CA 92530 (858) 566-0626

DATE:	09/24/13
PLOTTED:	9:26 A
FLC PROJECT NO.	A120344
DESIGN BY:	AAK/SLL
DRAWN BY:	SLL
REVIEWED BY:	AAK

Platt/Whitelaw Architects, Inc.
4034 30th Street, SAN DIEGO CA 92104
(619) 546-4326 FAX (619) 546-4350

REGISTERED PROFESSIONAL ENGINEER
ARMAD ASLAM KHAN
NO. 77283
Expires 6/30/2015
CIVIL
STATE OF CALIFORNIA

SAN YSIDRO ATHLETIC AREA / LARSEN FIELD LIGHTING

SHEET TITLE: DEMOLITION PLAN

SHEET NUMBER: C-1.2

CITY OF SAN DIEGO, CALIFORNIA
ENGINEERING AND CAPITAL PROJECTS
SHEET 8 OF 28 SHEETS

WBS #S-11013

Samir M 11/5/13
FOR CITY ENGINEER DATE

SAMIR MAHMALJI
SECTION HEAD

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	AAK/SLL		6/30/13	

ALEXANDRA CORSI
PROJECT MANAGER

132-752
CCS27 COORDINATE

CCS83 COORDINATE

CONTRACTOR _____ DATE STARTED _____
INSPECTOR _____ DATE COMPLETED _____

36796-8-D

SAN YSIDRO ATHLETIC AREA / LARSEN FIELD LIGHTING

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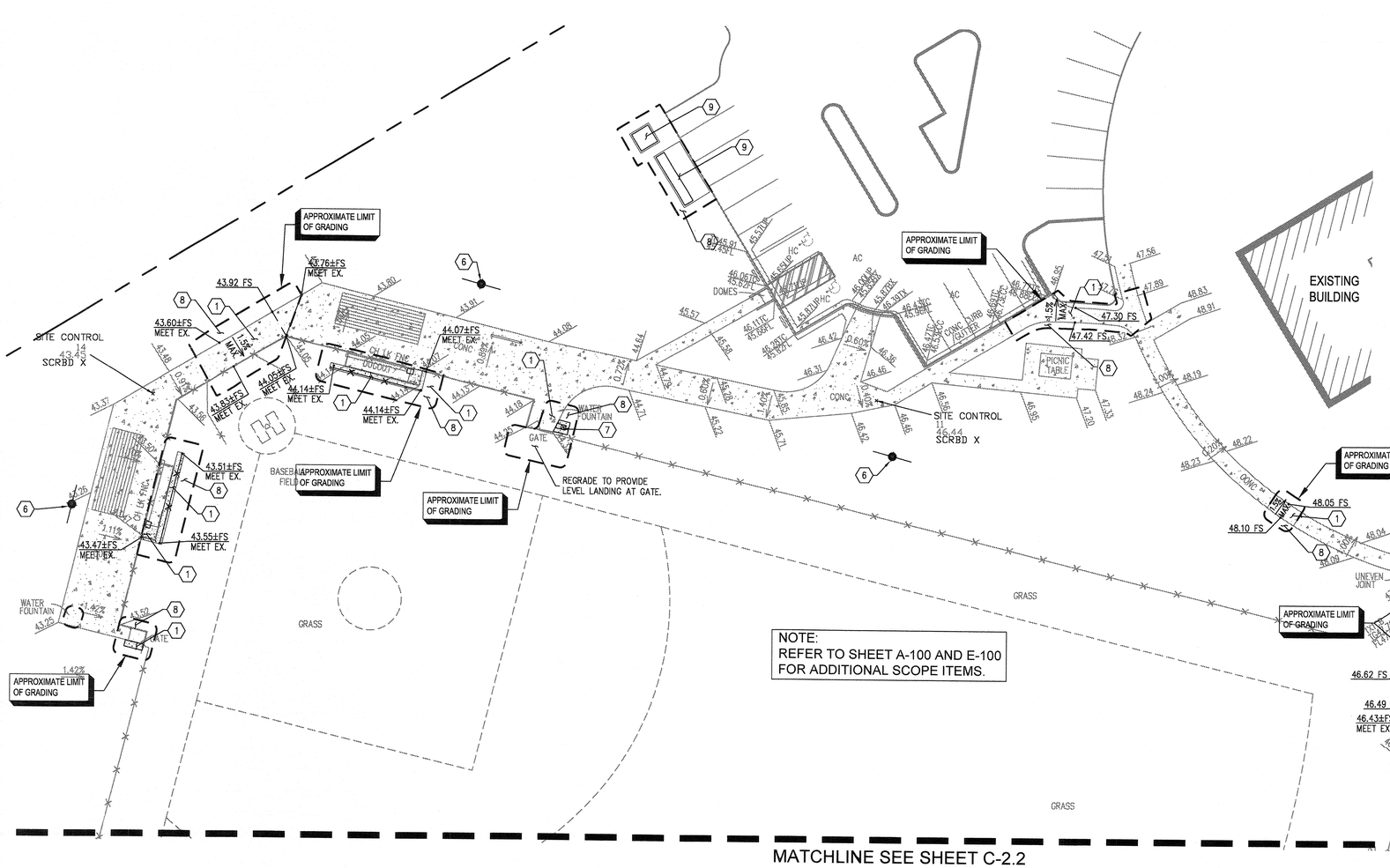

ACCESSIBILITY NOTES

A.	COMPLY WITH THE REQUIREMENTS OF THE CALIFORNIA BUILDING CODE (2010 CBC) FOR ALL SITE IMPROVEMENTS.
B.	MAXIMUM CROSS SLOPE ON WALKWAYS SHALL NOT EXCEED 1.5% WALKWAYS SHOWN TO BE REPORED SHALL MATCH FLUSH WITH ADJACENT WALKWAYS AND SHALL NOT EXCEED 2% NEW CONCRETE WALKWAYS SHALL NOT EXCEED 1.5%.
C.	NO CHANGES IN LEVEL GREATER THAN 1/2" SHALL BE ALLOWED WITHOUT A CURB RAMP. CHANGES IN LEVEL BETWEEN 1/4" AND 1/2" SHALL BE BEVELED WITH A SLOPE NO GREATER THAN 1:2.
D.	CATCH BASIN AND DRAIN INLET GRATES SHALL HAVE SPACES NO GREATER THAN 1/2" WIDE IN ONE DIRECTION. IF GRATINGS HAVE ELONGATED OPENINGS, THEY SHALL BE PLACED SO THE LONG DIMENSION IS PERPENDICULAR TO THE DOMINANT DIRECTION OF TRAVEL.
E.	CURB RAMPS SHALL BE REQUIRED WHEREVER ACCESSIBLE ACCESS ROUTES CROSS A CURB.
F.	ACCESSIBLE RAMPS AND HANDRAILS SHALL BE REQUIRED WHEREVER SLOPE EXCEEDS 4.5%. MAXIMUM SLOPE SHALL BE 8.33% LEVEL LANDINGS SHALL BE INSTALLED AT TOP AND BOTTOM OF EACH RUN EQUAL TO THE WIDTH OF THE RAMP, 60" X 60" MINIMUM, AND INTERMEDIATE LANDINGS AT INTERVALS NOT EXCEEDING 30" OF VERTICAL RISE. BOTTOM LANDINGS AND INTERMEDIATE LANDINGS WITH DIRECTION CHANGES IN EXCESS OF 30 DEGREES SHALL BE MINIMUM 72" IN THE DIRECTION OF TRAVEL. RAMPS AND LANDINGS WITH VERTICAL SIDE DROP-OFFS SHALL HAVE WALLS, RAILINGS, PROTECTIVE SURFACES OR MINIMUM 6" HIGH CURBS.
G.	ALL STAIRS SHALL HAVE A 2" WIDE SLIP RESISTANT, CONTRASTING COLOR STRIPE AND DETECTABLE WARNING, 1" MAXIMUM FROM NOSING ON ALL TREADS.
H.	ALL PAVEMENT CROSS SLOPES (SLOPES PERPENDICULAR TO THE DIRECTION OF TRAVEL) SHALL BE A MAXIMUM OF 1.5%. ALL RAMPS SHALL HAVE A MAXIMUM SLOPE OF 1 IN 13. ALL LANDINGS AT STAIRS AND RAMPS SHALL HAVE A MAXIMUM SLOPE OF 1.5% (BOTH DIRECTIONS). ALL WALKWAYS SHALL HAVE A MAXIMUM SLOPE LESS THAN 4.5% IN THE DIRECTION OF TRAVEL. ALL MAXIMUM SLOPES ARE ABSOLUTE AND SUPERSEDE CONSTRUCTION TOLERANCES STATED IN THE PROJECT SPECIFICATION OR ELSEWHERE. THE CONTRACTOR HAS THE OPTION OF ADJUSTING GRADES TO ALLOW FOR CONSTRUCTION TOLERANCE BUT SHALL NOT ADJUST GRADES TO LESS THAN 1% SLOPE OR GREATER THAN 2%. THE CONTRACTOR SHALL CONTACT THE ARCHITECT REGARDING ANY GRADE REVISIONS PRIOR TO CONSTRUCTION OF PAVEMENT AREAS. THE PAVEMENT SLOPES WILL BE REVIEWED AFTER CONSTRUCTION AND PAVEMENT OVER THE MAXIMUM SLOPES SPECIFIED ABOVE SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.

LEGEND

ITEM	SYMBOL
PROPERTY LINE	
EXISTING WALL	
PROPOSED RETAINING WALL	
APPROX. LIMIT OF WORK	
PROPOSED CONTOUR	460
PROPOSED PCC PAVEMENT	
PROPOSED AC OVERLAY	
PROPOSED CURB AND GUTTER	
EXISTING WATER	W
EXISTING SEWER	S
EXISTING LIGHT POLE	
PROPOSED LIGHT POLE	
PROPOSED WATER	W
PROPOSED SEWER	S
PROPOSED STORM DRAIN (PVT)	SD
PROPOSED CLEANOUT	CO
PROPOSED POINT OF CONNECTION	
PROPOSED TOP OF CURB ELEV.	77.00 TC
PROPOSED FINISHED SURFACE/ FLOW LINE	76.50 FS/FL
PROPOSED RIM ELEV.	77.00 RIM
PROPOSED INVERT ELEV.	69.00 IE

ABBREVIATIONS

AC	ASPHALTIC CONCRETE	POC	POINT OF CONNECTION
FG	FINISH GRADE	V	UTILITY VAULT
FS	FINISH SURFACE	MH	MANHOLE (SEWER, STORM DRAIN, UTILITY)
FL	FLOW LINE	PVC	POLYVINYL CHLORIDE (PIPE MATERIAL)
TC	TOP OF CURB	DWG	DRAWING
TW	TOP OF WALL	REC	RECORD/RECORDED
BFP	BACK FLOW PREVENTOR	ELEC	ELECTRIC/ELECTRICAL
PIV	POST INDICATOR VALVE	SDRSD	SAN DIEGO REGIONAL STANDARD DRAWINGS
FDC	FIRE DEPARTMENT CONNECTION	P.C.C.	PORTLAND CEMENT CONCRETE
RIM	RIM ELEVATION	SWR	SEWER
BW	BOTTOM OF WALL	EXIST	EXISTING
WTR	WATER	IE	INVERT ELEVATION
FW	FIRE WATER		

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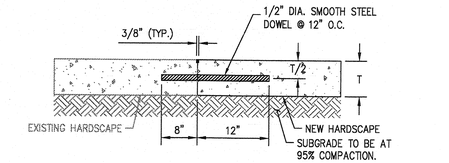
VI.	REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

KEY NOTES

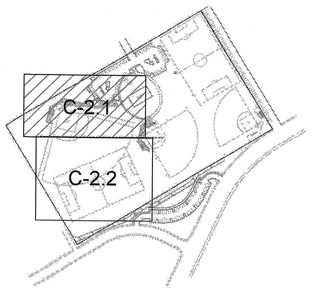
1	4" THICK P.C.C. HARDSCAPE, CROSS SLOPE AT 1.5% MAX. SLOPE, JOINTING AND SUBGRADE PER DETAIL "A", C-2.1.
2	RELOCATE EXISTING WATER FOUNTAIN TO PROPOSED SURFACE GRADES.
3	ADJUST WATER VALVE COVER TO PROPOSED SURFACE GRADES.
4	ADJUST ELECTRICAL PULL BOX COVER TO PROPOSED SURFACE GRADES. (TYP.)
6	PROPOSED LIGHT POLES PER ARCH/ELECTRICAL PLANS. REFER TO SHEET A-100 AND E-100 (TYP.)
7	PROPOSED DRINKING FOUNTAIN. REFER TO 9,10/A-500 FOR DETAILS. RECONNECT TO EXISTING WATER SERVICE AND DRAINAGE PIPE/DRYWELL. EXISTING DRYWELL TO BE CLEANED AND REPLACED WITH ¾" CRUSHED ROCK AS REFURBISHING.
8	REGRADE EXISTING LANDSCAPE AREA/DIRT AREA AROUND PROPOSED CONCRETE WORK TO FORM A SMOOTH TRANSITION. REPLACE EXISTING SURFACE IN KIND.
9	6" THICK P.C.C. SLAB OVER COMPACTED NATIVE TO 95%.



EXISTING TO NEW CONCRETE JOINT DETAIL

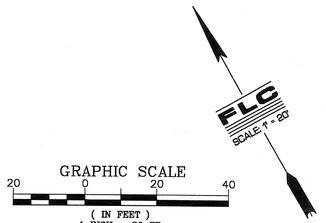
NOT TO SCALE

A



KEY MAP

N.T.S.



GRAPHIC SCALE

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(IN FEET)
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BergerABAM
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Lake Elsinore, CA 92530 (858) 566-0626

DATE:	09/24/13
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FLC PROJECT NO.	A120344
DESIGN BY:	AAK/SLL
DRAWN BY:	SLL
REVIEWED BY:	AAK

Platt/Whitelaw Architects, Inc.
4034 30th Street, SAN DIEGO CA 92104
(619) 546-4326 FAX (619) 546-4350

REGISTERED PROFESSIONAL ENGINEER — AHMAD ASLAMI KAMAL — NO. 77283 — Expires 6/30/2015 — CIVIL — STATE OF CALIFORNIA

SAN YSIDRO ATHLETIC AREA / LARSEN FIELD LIGHTING

SHEET TITLE: GRADING AND DRAINAGE PLAN

SHEET NUMBER: C-2.1

CITY OF SAN DIEGO, CALIFORNIA
ENGINEERING AND CAPITAL PROJECTS
SHEET 9 OF 28 SHEETS

WBS #S-11013

FOR CITY ENGINEER — DATE 11/5/13

SAMIR MAHMALJI
SECTION HEAD

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	AAK/SLL		6/30/13	

ALEXANDRA CORSI
PROJECT MANAGER

132-1752
CCS27 COORDINATE

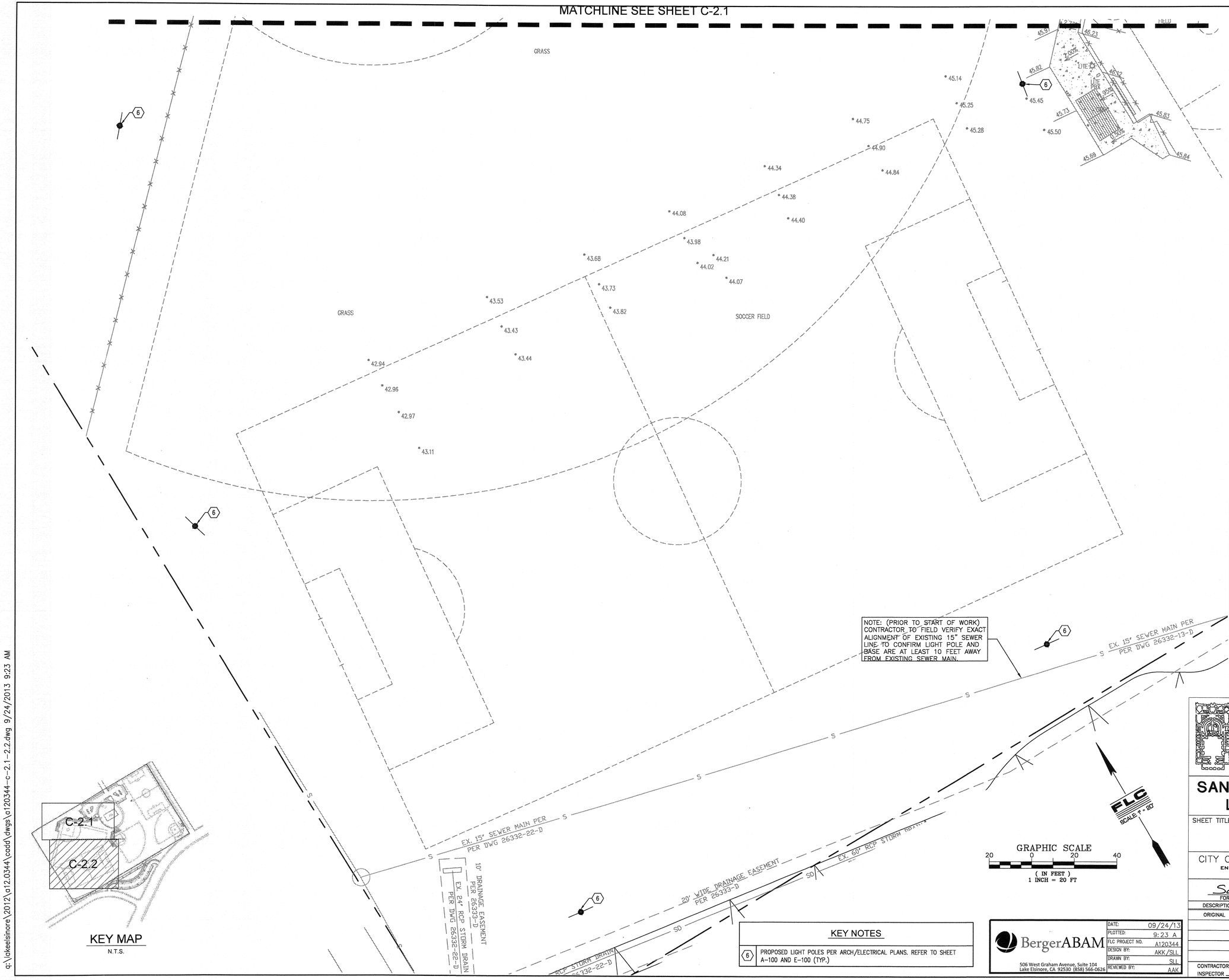
CCS83 COORDINATE

CONTRACTOR _____ DATE STARTED _____

INSPECTOR _____ DATE COMPLETED _____

36796-9 -D

MATCHLINE SEE SHEET C-2.1



LEGEND

ITEM	SYMBOL
PROPERTY LINE	
EXISTING WALL	
PROPOSED RETAINING WALL	
APPROX. LIMIT OF WORK	
PROPOSED CONTOUR	460
PROPOSED PCC PAVEMENT	
PROPOSED AC OVERLAY	
PROPOSED CURB AND GUTTER	
EXISTING WATER	W
EXISTING SEWER	S
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KEY MAP
N.T.S.

KEY NOTES

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REGISTERED PROFESSIONAL ENGINEER — MUHAMMAD ASLAM KHAN — NO. 77283 — Expires 6/30/2015 — CIVIL — STATE OF CALIFORNIA

SAN YSIDRO ATHLETIC AREA / LARSEN FIELD LIGHTING

SHEET TITLE: GRADING AND DRAINAGE PLAN

SHEET NUMBER: C-2.2

CITY OF SAN DIEGO, CALIFORNIA
ENGINEERING AND CAPITAL PROJECTS
SHEET 10 OF 28 SHEETS

WBS #S-11013

Samir M 11/5/13
FOR CITY ENGINEER DATE

SAMIR MAHMALJI
SECTION HEAD

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	AAK/SLL		6/30/13	

ALEXANDRA CORSI
PROJECT MANAGER

132-1752
CCS27 COORDINATE

CCS83 COORDINATE

CONTRACTOR _____ DATE STARTED _____
INSPECTOR _____ DATE COMPLETED _____

36796-10 -D

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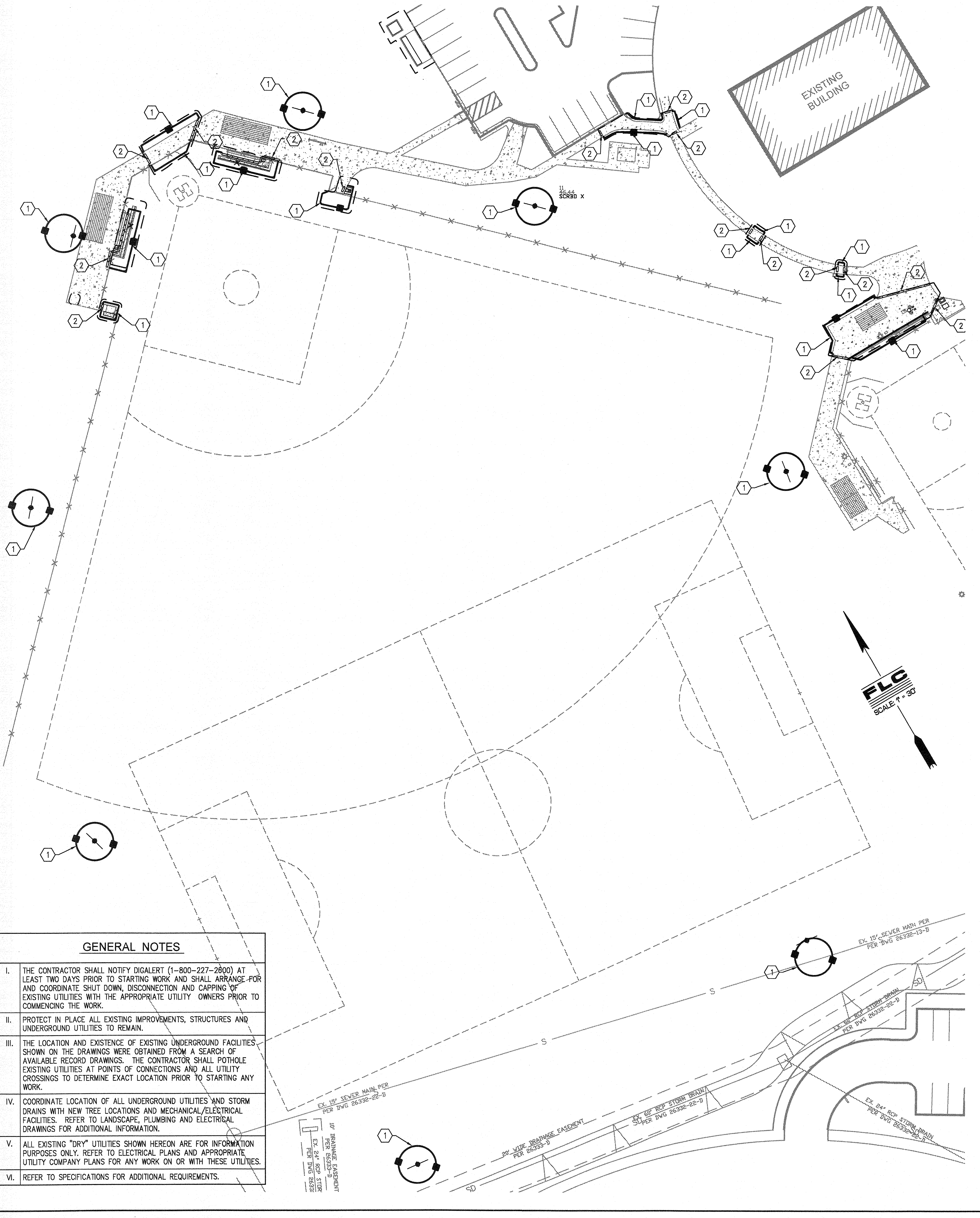

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STORM WATER QUALITY NOTES
CONSTRUCTION BMP'S

THIS PROJECT SHALL COMPLY WITH ALL REQUIREMENTS OF THE STATE PERMIT; CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD, SAN DIEGO, ORDER NO. R9-2007-0001, NPDES, HTTP://WWW.SWRCB.CA.GOV/WATER ISSUES/PROGRAMS/STORMWATER/CONSTRUCTION.SHTML) AND THE CITY OF SAN DIEGO LAND DEVELOPMENT CODE (HTTP://DOCS.SANDIEGO.GOV/MUNICODE/MUNICODECHAPTER14/CH14ART02DIVISION02.PDF AND STORM WATER MANUAL HTTP://WRVW.SANDIEGO.GOV/DEVELOPMENT-SERVICES/INDUSTRY/STORMWATER.SHTML
NOTES BELOW REPRESENT KEY MINIMUM REQUIREMENTS FOR CONSTRUCTION BMP'S

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANUP OF ALL SILT AND MUD ON ADJACENT STREET(S), DUE TO CONSTRUCTION VEHICLES OR ANY OTHER CONSTRUCTION ACTIVITY, AT THE END OF EACH WORK DAY, OR AFTER A STORM EVENT THAT CAUSES A BREECH IN INSTALLED CONSTRUCTION BMP'S WHICH MAY COMPROMISE STORM WATER QUALITY WITHIN ANY STREET(S). A STABILIZED CONSTRUCTION EXIT MAY BE REQUIRED TO PREVENT CONSTRUCTION VEHICLES OR EQUIPMENT FROM TRACKING MUD OR SILT ONTO THE STREET.
2. ALL STOCKPILES OF SOIL AND/OR BUILDING MATERIALS THAT ARE INTENDED TO BE LEFT FOR A PERIOD GREATER THAN SEVEN CALENDAR DAYS ARE TO BE COVERED. ALL REMOVABLE BMP DEVICES SHALL BE IN PLACE AT THE END OF EACH WORKING DAY WHEN FIVE DAY RAIN PROBABILITY FORECAST EXCEEDS 40%
3. A CONCRETE WASHOUT SHALL BE PROVIDED ON ALL PROJECTS WHICH PROPOSE THE CONSTRUCTION OF ANY CONCRETE IMPROVEMENTS WHICH ARE TO BE POURED IN PLACE ON SITE.
4. THE CONTRACTOR SHALL RESTORE ALL EROSION/SEDIMENT CONTROL DEVICES TO WORKING ORDER AFTER EACH RUN-OFF PRODUCING RAINFALL OR AFTER ANY MATERIAL BREACH IN EFFECTIVENESS.
5. ALL SLOPES THAT ARE CREATED OR DISTURBED BY CONSTRUCTION ACTIVITY MUST BE PROTECTED AGAINST EROSION AND SEDIMENT TRANSPORT AT ALL TIMES.
6. THE STORAGE OF ALL CONSTRUCTION MATERIALS AND-EQUIPMENT MUST BE PROTECTED AGAINST ANY POTENTIAL RELEASE OF POLLUTANTS INTO THE ENVIRONMENT.

City of San Diego
Development Services
1222 First Ave., MS-302
San Diego, CA 92101
(619) 446-5000
THE CITY OF SAN DIEGO

Storm Water Requirements Applicability Checklist

FORM DS-560
JANUARY 2011

Project Address: 455 Sycamore Road, San Ysidro, CA 92173
Project Number (for City Use Only): 322976

SECTION 1. Permanent Storm Water BMP Requirements:
Additional information for determining the requirements is found in the Storm Water Standards Manual.

Part A: Determine if Exempt from Permanent Storm Water BMP Requirements.
Projects that are considered maintenance, or are otherwise not categorized as "development projects" or "redevelopment projects" according to the Storm Water Standards manual are not required to install permanent storm water BMPs.
If "Yes" is checked for any line in Part A, proceed to Part C and check the box labeled "Exempt Project." If "No" is checked for all of the lines, continue to Part B.

1.	The project is not a Development Project as defined in the Storm Water Standards Manual for example habitat restoration projects, and construction inside an existing building.	☐ Yes ☑ No
2.	The project is only the construction of underground or overhead linear utilities.	☐ Yes ☑ No
3.	The project qualifies as routine maintenance (replaces or renews existing surface materials because of failed or deteriorating condition). This includes roof replacement, pavement spot repairs and resurfacing treatments such as asphalt overlay or slurry seal, and replacement of damaged pavement.	☐ Yes ☑ No
4.	The project only installs sidewalks, bike lanes, or pedestrian ramps on an existing road, and does not change sheet flow condition to a concentrated flow condition.	☑ Yes ☐ No

Part B: Determine if Subject to Priority Development Project Requirements.
Projects that match one of the definitions below are subject to additional requirements including preparation of a Water Quality Technical Report.
If "Yes" is checked for any line in Part B, proceed to Part C and check the box labeled "Priority Development Project." If "No" is checked for all of the lines, continue to Part C and check the box labeled "Standard Development Project."

1.	**Residential development of 10 or more units.**	☐ Yes ☑ No
2.	**Commercial development and similar non-residential development greater than one acre.** Hospitals; laboratories and other medical facilities; educational institutions; recreational facilities; municipal facilities; commercial nurseries; multi-apartment buildings; car wash facilities; mini-malls and other business complexes; shopping malls; hotels; office buildings; public warehouses; automotive dealerships; and other light industrial facilities.	☐ Yes ☑ No
3.	**Heavy industrial development greater than one acre.** Manufacturing plants, food processing plants, metal working facilities, printing plants, and fleet storage areas.	☐ Yes ☑ No
4.	**Automotive repair shop.** Facilities categorized in any one of Standard Industrial Classification (SIC) codes 5013, 5014, 5541, 7532-7534, or 7536-7539.	☐ Yes ☑ No
5.	**Restaurant.** Facilities that sells prepared foods and drinks for consumption, including stationary lunch counters and refreshment stands selling prepared foods and drinks for immediate consumption (SIC code 5812), and where the land area for development is greater than 5,000 square feet.	☐ Yes ☑ No
6.	**Hillside development greater than 5,000 square feet.** Development that creates 5,000 square feet of impervious surface and is located in an area with known erosive soil conditions and where the development will grade on any natural slope that is twenty-five percent or greater.	☐ Yes ☑ No
7.	**Water Quality Sensitive Area.** Development located within, directly adjacent to, or discharging directly to a Water Quality Sensitive Area (as depicted in Appendix C) in which the project either creates 2,500 square feet of impervious surface on a proposed project site or increases the area of imperviousness of a proposed project site to 10% or more of its naturally occurring condition. "Directly adjacent" is defined as being situated within 200 feet of the Water Quality Sensitive Area. "Discharging directly to" is defined as outflow from a drainage conveyance system that is composed entirely of flows from the subject development or redevelopment site, and not commingled with flows from adjacent lands.	☐ Yes ☑ No
8.	**Parking lot with a minimum area of 5,000 square feet or a minimum of 15 parking spaces** and potential exposure to urban runoff (unless it meets the exclusion for parking lot reconfiguration on line 11).	☐ Yes ☑ No

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DS-560 (01-25-11)

Page 2 of 2 City of San Diego • Development Services Department • Storm Water Requirements Applicability Checklist

9.	**Street, road, highway, or freeway.** New paved surface in excess of 5,000 square feet used for the transportation of automobiles, trucks, motorcycles, and other vehicles (unless it meets the exclusion for road reconfiguration on line 11).	☐ Yes ☑ No
10.	**Retail Gasoline Outlet (RGO)** that is: (a) 5,000 square feet or more or (b) has a projected Average Daily Traffic (ADT) of 100 or more vehicles per day.	☐ Yes ☑ No
11.	**Significant Redevelopment:** project installs and/or replaces 5,000 square feet or more of impervious surface and the existing site meets at least one of the categories above. The project is not considered Significant Redevelopment if reconfiguring an existing road or parking lot without a change to the footprint of an existing developed road or parking lot. The existing footprint is defined as the outside curb or the outside edge of pavement when there is no curb.	☐ Yes ☑ No
12.	**Other Pollutant Generating Project.** Any other project not covered in the categories above, that disturbs one acre or more and is not excluded by the criteria below.	☐ Yes ☑ No

Projects creating less than 5,000 sf of impervious surface and where added landscaping does not require regular use of pesticides and fertilizers, such as slope stabilization using native plants. Calculation of the square footage of impervious surface need not include linear pathways that are for infrequent vehicle use, such as emergency maintenance access or bicycle pedestrian use, if they are built with pervious surfaces or if they sheet flow to surrounding pervious surfaces.

Part C: Select the appropriate category based on the outcome of Parts A & B.

1.	If "Yes" is checked for any line in Part A, then check this box. Continue to Section 2.	☑ Exempt Project
2.	If "No" is checked for all lines in Part A, and Part B, then check this box. Continue to Section 2.	☐ Standard Development Project
3.	If "No" is checked for all lines in Part A, and "Yes" is checked for at least one of the lines in Part B, then check this box. Continue to Section 2. See the Storm Water Standards Manual for guidance on determining if Hydromodification Management Plan requirements apply.	☐ Priority Development Project

SECTION 2. Construction Storm Water BMP Requirements:
For all projects, complete Part D. If "Yes" is checked for any line in Part D, then continue to Part E.

Part D: Determine Construction Phase Storm Water Requirements.

1.	Is the project subject to California's statewide General NPDES Permit for Storm Water Discharges Associated with Construction Activities? (See State Water Resources Control Board Order No. 2009-0009-DWQ for rules on enrollment)	☐ Yes ☑ No
2.	Does the project propose grading or soil disturbance?	☑ Yes ☐ No
3.	Would storm water or urban runoff have the potential to contact any portion of the construction area, including washing and staging areas?	☑ Yes ☐ No
4.	Would the project use any construction materials that could negatively affect water quality if discharged from the site (such as, paints, solvents, concrete, and stucco)?	☑ Yes ☐ No
5.	Check this box if "Yes" is checked for line 1. Continue to Part E.	☐ SWPPP Required
6.	Check this box if "No" is checked for line 1, and "Yes is checked for any line 2-4. Continue to Part E.	☑ WPCP Required
7.	Check this box if "No" is checked for all lines 1-4. Part E does not apply.	☐ No Document Required

Part E: Determine Construction Site Priority
This prioritization must be completed with this form, noted on the plans, and included in the SWPPP or WPCP. The City reserves the right to adjust the priority of the projects both before and during construction. [Note: The construction priority does NOT change construction BMP requirements that apply to projects; rather, it determines the frequency of inspections that will be conducted by City staff].

☐ 1. **High Priority**
a) Projects where the site is 50 acres or more and grading will occur during the wet season.
b) Projects 1 acre or more and tributary to an impaired water body for sediment (e.g., Peñasquitos watershed).
c) Projects 1 acre or more within or directly adjacent to or discharging directly to a coastal lagoon or other receiving water within a Water Quality Sensitive Area.
d) Projects subject to phased grading or advanced treatment requirements.

☐ 2. **Medium Priority.** Projects 1 acre or more but not subject to a high priority designation.

☑ 3. **Low Priority.** Projects requiring a Water Pollution Control Plan but not subject to a medium or high priority designation.

Name of Owner or Agent (Please Print): AHMAD KHAN
Title: PROJECT MANAGER
Signature: [signature]
Date: 05/25/2013
Reset Button Page 2

GRAPHIC SCALE
30 0 30 60
(IN FEET)
1 INCH = 30 FT

LEGEND

ITEM	SYMBOL
PROPERTY LINE	
APPROX. LIMIT OF WORK	
PROPOSED CONTOUR	460
PROPOSED PCC PAVEMENT	
PROPOSED CURB AND GUTTER	
EXISTING FENCE	X
EXISTING WATER	W
EXISTING LIGHT POLE	
PROPOSED LIGHT POLE	

EROSION CONTROL NOTES

A.	THE CONTRACTOR SHALL OBTAIN, READ, AND IMPLEMENT ALL PORTIONS OF THE STORM WATER POLLUTION CONTROL PLAN (SWPCP).
B.	THE CONTRACTOR IS RESPONSIBLE FOR DOING WEEKLY, PRE-STORM, MID-STORM, AND POST-STORM INSPECTIONS IN ACCORDANCE WITH THE SWPCP.
C.	THE CONTRACTOR IS RESPONSIBLE FOR TRAINING SUBCONTRACTORS AT LEAST ONCE A MONTH OR AS NEW SUBCONTRACTORS MOBILIZE ONSITE. TRAINING SHALL BE RECORDED IN THE SWPCP.
D.	PRIOR TO THE START OF DEMOLITION OR EARTHMOVING ACTIVITIES, THE CONTRACTOR SHALL INSTALL ALL PERIMETER CONTROLS AND THE CONSTRUCTION ENTRANCE PER THE PLANS.
E.	THE CONTRACTOR SHALL INSTALL PROTECTION AROUND ANY EXISTING INLETS WITHIN THE PROJECT AREA AND PUBLIC RIGHT-OF-WAY.
F.	DURING THE NON-RAINY SEASON, THE CONTRACTOR SHALL STORE ADEQUATE SEDIMENT CONTROL MATERIALS ONSITE TO CONTROL DISCHARGES AT THE DOWNGRADE PERIMETER AND OPERATIONAL INLETS IN THE EVENT OF A PREDICTED STORM.
G.	EQUIPMENT AND WORKERS SHALL BE AVAILABLE FOR EMERGENCY WORK AT ALL TIMES DURING THE RAINY SEASON. ALL NECESSARY MATERIALS SHALL BE STOCKPILED ONSITE AT CONVENIENT LOCATIONS TO FACILITATE THE RAPID INSTALLATION/CONSTRUCTION OF TEMPORARY EROSION CONTROL MEASURES WHEN RAIN IS IMMINENT.
H.	CLEARING AND GRUBBING SHALL BE DONE ONLY IN AREAS WHERE EARTHWORK WILL BE PERFORMED AND ONLY IN AREAS WHERE CONSTRUCTION IS PLANNED TO COMMENCE WITHIN 14 DAYS AFTER CLEARING AND GRUBBING OPERATIONS HAVE CEASED.
I.	DISTURBED AREAS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE CEASED FOR MORE THAN 14 DAYS SHALL BE TEMPORARILY STABILIZED WITH HYDROSEEDING, HYDROMULCHING, OR WITH A BIODEGRADABLE FIBER MATRIX.
J.	THE CONTRACTOR SHALL INSTALL ADDITIONAL EROSION CONTROL MEASURES AS NEEDED OR AS REQUESTED BY A CITY OFFICIAL, THE OWNER'S ENGINEER, AND/OR REGULATORY AGENCY INSPECTOR.
K.	THE CONTRACTOR SHALL BE RESPONSIBLE AND TAKE NECESSARY PRECAUTIONS TO PREVENT PUBLIC TRESPASS INTO AREAS WHERE IMPOUNDED WATERS CREATE A HAZARDOUS CONDITION.

EROSION PROTECT FOR TRENCHING:
1. ALL LINEAR TRENCHING SHALL BE PROTECTED WITH STRAW WATTLES ON BOTH SIDES OF THE TRENCH.
2. TEMPORARY SOIL STABILIZATION SHALL BE APPLIED TO DISTURBED AREAS IMMEDIATELY AFTER TRENCH DEPTH IS REACHED ON ANY PORTION OF THE SITE.
3. NO MORE THAN 500 LINEAR FEET OF TRENCH MAY BE OPENED AT ONE TIME.
4. EXCAVATED MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF TRENCHES.
5. RESTABILIZATION SHALL BE IN ACCORDANCE WITH THE ABOVE NOTES.
6. FINAL REMOVAL OF EROSION CONTROL DEVICES SHALL NOT OCCUR UNTIL THE RESIDENT ENGINEER DEEMS THE SITE STABILIZED.

LEGEND

	SYMBOL	DESCRIPTION	BMP*	LOCATION
1		SILT FENCE	SE-1	AS INDICATED.
2		GRAVEL BAGS	SE-6	AS INDICATED.

*REFERS TO CALIFORNIA STORMWATER BMP HANDBOOK - CONSTRUCTION (NOVEMBER 2009)

Platt/Whitelaw Architects, Inc.
4034 30th Street, SAN DIEGO CA 92104
(619) 546-4326 FAX (619) 546-4350

REGISTERED PROFESSIONAL ENGINEER AHMAD ASLAM KHAN NO. 77283 Expires 6/30/2015 CIVIL STATE OF CALIFORNIA

SAN YSIDRO ATHLETIC AREA / LARSEN FIELD LIGHTING

SHEET TITLE: EROSION CONTROL PLAN
SHEET NUMBER: C-6.1

CITY OF SAN DIEGO, CALIFORNIA
ENGINEERING AND CAPITAL PROJECTS
SHEET 11 OF 28 SHEETS
WBS #S-11013

[signature] 11/5/13
FOR CITY ENGINEER DATE
SAMIR MAHMALJI
SECTION HEAD

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	AAK/SLL		6/30/13	

ALEXANDRA CORSI
PROJECT MANAGER
138-1752
CCS27 COORDINATE
CCS83 COORDINATE
36796-11-D

CONTRACTOR ______ DATE STARTED ______
INSPECTOR ______ DATE COMPLETED ______

BergerABAM
506 West Graham Avenue, Suite 104
Lake Elsinore, CA 92530 (858) 566-0626

DATE:	09/24/13
PLOTTED:	9:31 A
FLC PROJECT NO.	A120344
DESIGN BY:	AAK/SLL
DRAWN BY:	SLL
REVIEWED BY:	AAK

SAN YSIDRO ATHLETIC AREA / LARSEN FIELD LIGHTING

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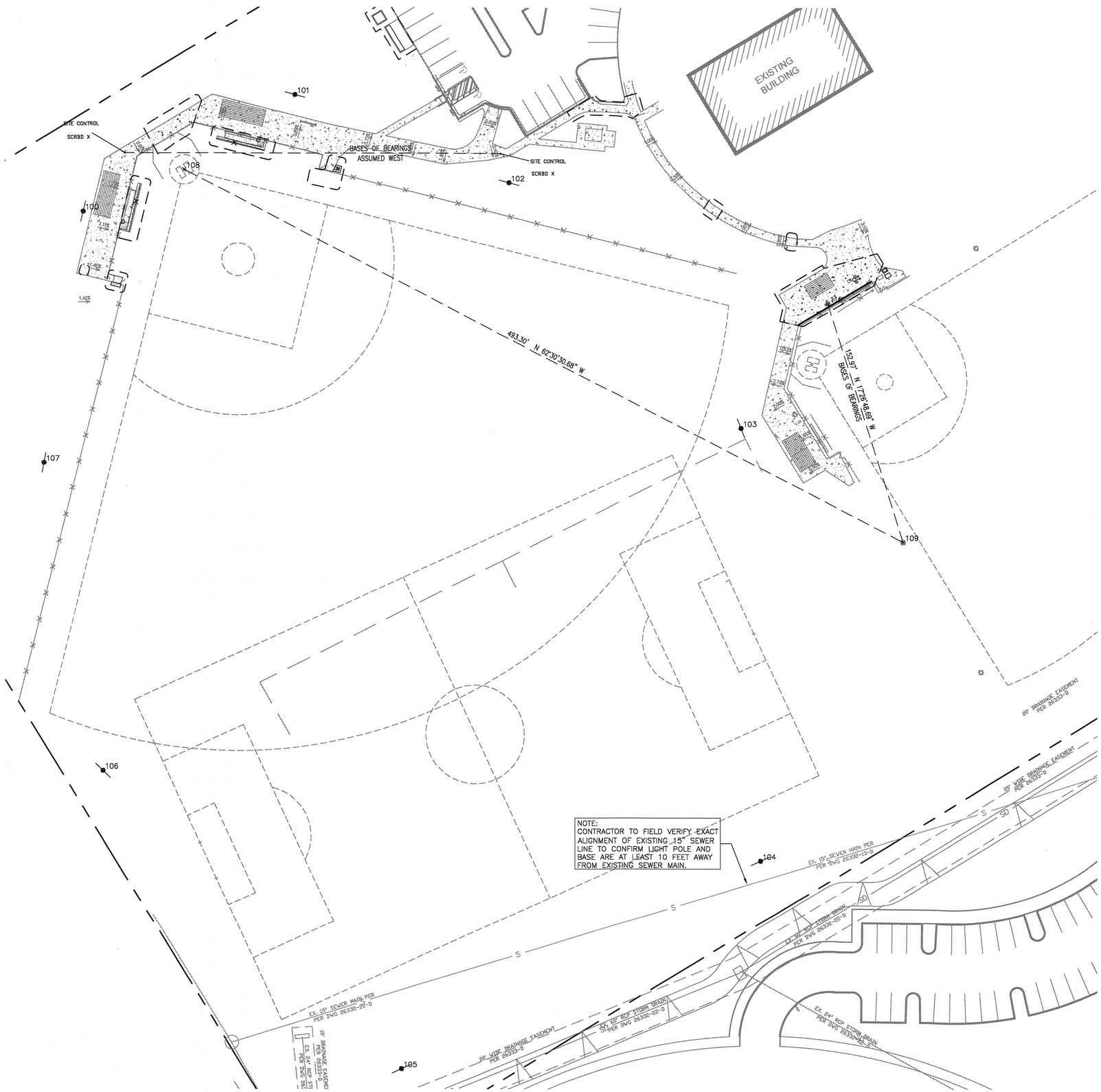

LEGEND

ITEM	SYMBOL
PROPERTY LINE	
APPROX. LIMIT OF WORK	
PROPOSED CONTOUR	460
PROPOSED PCC PAVEMENT	
PROPOSED CURB AND GUTTER	
EXISTING FENCE	—X—X—
EXISTING WATER	W
EXISTING LIGHT POLE	
PROPOSED LIGHT POLE	

COORDINATE LIST

PT. NO.	NORTHING	EASTING	DESCRIPTION
100	4964.4567	4745.6296	LIGHT POLE
101	5035.6820	4874.6475	LIGHT POLE
102	4982.2009	5005.1310	LIGHT POLE
103	4832.5458	5146.5047	LIGHT POLE
104	4568.5593	5158.2301	LIGHT POLE
105	4441.1307	4939.3902	LIGHT POLE
106	4623.2687	4757.7755	LIGHT POLE
107	4811.3054	4721.8830	LIGHT POLE
108	4989.9417	4807.2825	HOME PLATE CENTER
109	4762.9894	5245.2772	EX. LIGHT POLE
110	4908.9196	5199.4144	EX. LIGHT POLE

FLC SCALE 1" = 90'

TRUE NORTH

FLC SCALE 1" = 30'

ASSUMED NORTH

GRAPHIC SCALE

30 0 30 60

(IN FEET)
1 INCH = 30 FT

Platt/Whitelaw Architects, Inc.
4034 30th Street, SAN DIEGO CA 92104
(619) 546-4326 FAX (619) 546-4350

REGISTERED PROFESSIONAL ENGINEER
ASLAM KHAN
NO. 77283
Expires 6/30/2015
CIVIL
STATE OF CALIFORNIA

SAN YSIDRO ATHLETIC AREA / LARSEN FIELD LIGHTING

SHEET TITLE: HORIZONTAL CONTROL PLAN

SHEET NUMBER: C-7.1

CITY OF SAN DIEGO, CALIFORNIA
ENGINEERING AND CAPITAL PROJECTS
SHEET 12 OF 28 SHEETS

WBS #S-11013

Samir M 11/5/13
FOR CITY ENGINEER DATE

SAMIR MAHMALJI
SECTION HEAD

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	AAK/SLL		6/30/13	

ALEXANDRA CORSI
PROJECT MANAGER

138-1752
CCS27 COORDINATE

CCS83 COORDINATE

CONTRACTOR _____ DATE STARTED _____
INSPECTOR _____ DATE COMPLETED _____

36796-12 -D

BergerABAM
506 West Graham Avenue, Suite 104
Lake Elsinore, CA 92530 (858) 566-0626

DATE:	09/24/13
PLOTTED:	9:27 A
FLC PROJECT NO.	A120344
DESIGN BY:	AAK/SLL
DRAWN BY:	SLL
REVIEWED BY:	AAK

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SYMBOL LIST

- DASHED SYMBOL INDICATES EXISTING FIXTURE, OUTLET, DEVICE OR EQUIPMENT TO BE REMOVED.
- FINE-LINED SYMBOL INDICATES EXISTING FIXTURE, OUTLET, DEVICE OR EQUIPMENT TO REMAIN.
- —EX— EXISTING CONDUIT TO REMAIN.
- —R— EXISTING CONDUIT TO BE REMOVED IF IN AN ACCESSIBLE AREA OR TO BE ABANDONED IF IN AN INACCESSIBLE AREA.
- (A) INDICATES FIXTURE TYPE. SEE FIXTURE SCHEDULE FOR LAMP, WATTAGE, AND MOUNTING INFORMATION. TYPICAL FOR ROOM INDICATED, UNLESS OTHERWISE NOTED.
- 11c INDICATES CONTROLLING SWITCH LEG. DENOTES BRANCH CIRCUIT NUMBER SUPPLYING FIXTURE.
- SPORTS OR AREA LIGHTING FIXTURES, POLE MOUNTED. REFER TO FIXTURE SCHEDULE FOR EXACT NUMBER OF LAMPS AND HEIGHT OF POLE.
- SURFACE MOUNTED PANELBOARD.
- SURFACE MOUNTED CABINET, AS NOTED.
- CONDUIT CONCEALED UNDERFLOOR SLAB OR UNDERGROUND.
- GRADE MOUNTED PULLBOX.
- ELECTRICAL HANDHOLE
- COPPER CLAD GROUND ROD, U.O.N.
- COPPER CLAD GROUND ROD IN A YARD BOX.
- M MANHOLE (MH)
- HA-1,3,5 HOMERUN TO INDICATED PANELBOARD ('A'). NUMBERS (1,3,5) INDICATE BRANCH CIRCUIT NUMBERS.
- 4 ELECTRICAL NOTE REFERENCE
- 1 / E-6 INDICATES DETAIL '1' ON SHEET E-6

SINGLE LINE DIAGRAM SYMBOLS

- CURRENT TRANSFORMER, RATIO AS INDICATED.
- M METER SOCKET OR MOTOR CONTACTOR.
- GROUND CONNECTION.
- POWER TRANSFORMER.
- NORMALLY OPEN POWER OR RELAY CONTACT.
- 60A / 3P — SWITCH SIZE; NO. OF POLES
- 60A — FUSE SIZE
- 100AT / 225AF / 3P — TRIP SETTING; FRAME SIZE; NO. OF POLES
- TLB FEEDER DESIGNATION REFER TO SCHEDULE ON SHEET E-201

ABBREVIATIONS

A, AMP	AMPERE
AIC	AMPERE INTERRUPTING CAPACITY
CEC	CALIFORNIA ELECTRICAL CODE (TITLE 24, PART 3).
CU	COPPER
EA.	EACH
EG	EQUIPMENT GROUND, OR EQUIPMENT GROUNDING CONDUCTOR.
EX	EXISTING
GFCI	GROUND-FAULT CIRCUIT INTERRUPTER
GND	GROUND
K	KELVIN TEMPERATURE
KCM	1000 CIRCULAR MIL (kcmil)
KVA	KILOVOLTAMPS (kVA)
KW	KILOWATT (kW)
LTG	LIGHTING, OR LIGHT
MH	METAL HALIDE
SPD	SURGE PROTECTION DEVICE
U.O.N.	UNLESS OTHERWISE NOTED
WP	WEATHERPROOF

GENERAL NOTES

1. ALL WIRING ON THIS PROJECT SHALL BE COPPER AND SHALL BE INSTALLED IN CONDUIT.
2. INSTALL A PULL ROPE IN ALL CONDUITS LABELED "CONDUIT ONLY". PULL ROPE TO BE 200 POUND TENSILE STRENGTH MINIMUM.
3. VERIFY ALL EXISTING CONDITIONS AND ASSUME THE RESPONSIBILITY OF FITTINGS, EQUIPMENT, RACEWAYS, ETC. IN THE EXISTING SPACE ALLOWED. ALL NEW INSTALLATIONS SHALL BE AT NEAT RIGHT ANGLES.
4. ALL WORK SHALL BE IN COMPLIANCE WITH NFPA 70-2008 WITH CALIFORNIA AMENDMENTS (2010 CEC) AND WHERE APPLICABLE AS AMENDED BY LOCAL ORDINANCES AND CODES OF GOVERNING MUNICIPALITIES.
5. ALL ELECTRICAL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE PROJECT SPECIFICATIONS AND ALL OTHER RELATED CONTRACT DRAWINGS.
6. CAREFULLY EXAMINE ALL CONTRACT DRAWINGS/SPECIFICATIONS AND BE RESPONSIBLE FOR THE PROPER FITTING OF MATERIALS AND EQUIPMENT AT EACH LOCATION AS INDICATED WITHOUT SUBSTANTIAL ALTERATION. IN AS MUCH AS THE DRAWINGS ARE GENERALLY DIAGRAMMATIC AND BECAUSE OF THE SMALL SCALE OF THE DRAWINGS, IT IS NOT POSSIBLE TO INDICATE ALL OFFSETS, FITTINGS AND ACCESSORIES WHICH MAY BE REQUIRED. FURNISHING FITTINGS REQUIRED TO MEET SUCH CONDITIONS SHALL BE AT NO COST TO THE CLIENT.
7. CONDUIT RUNS ARE SHOWN DIAGRAMMATICALLY ONLY AND SHALL BE INSTALLED IN A MANNER TO PREVENT CONFLICTS WITH EQUIPMENT AND STRUCTURAL CONDITIONS. EXPOSED CONDUITS SHALL BE INSTALLED PARALLEL TO BEAMS AND WALLS.
8. ALL CIRCUIT PROTECTIVE DEVICES SHALL HAVE THE REQUIRED RATINGS AND INTERRUPTING CAPACITY EQUAL TO OR GREATER THAN THE AVAILABLE SHORT CIRCUIT CURRENT AT ITS SUPPLY TERMINAL.
9. FIELD VERIFY EXISTING CONDITIONS AND ADVISE ENGINEER OF ANY DISCREPANCIES OR DEVIATIONS BETWEEN PLANS AND ACTUAL CONDITIONS PRIOR TO SUBMITTING BID.
10. COORDINATE INSTALLATION OF SPORTS LIGHTING FIXTURES WITH EXISTING TREES AND IRRIGATION LINES. REVIEW EXISTING IRRIGATION PLANS AND TREE LOCATIONS TO INSTALL FIXTURES WITH MINIMAL DAMAGE. REVIEW INSTALLATION PLANS WITH CITY PRIOR TO MOBILIZATION. REPLACE/REPAIR ALL IRRIGATION LINES AND HEADS IN TIMELY MANNER TO MAINTAIN EXISTING LANDSCAPING AND SOD.

UTILITY CONTACT

SDG&E PLANNER:

SCOTT VALENTI

PHONE: (858) 636-6809

LIGHTING FIXTURE SCHEDULE

FIXTURE TYPE	MANUFACTURER AND CATALOG NUMBER (2)	EQUIVALENT MANUFACTURER SUBJECT TO APPROVAL OF SHOP DRAWINGS	LAMPS QTY.	LAMPS TYPE	LAMPS WATTS	LAMPS COLOR TEMP.	FIXTURE INPUT VOLTS	FIXTURE TOTAL INPUT WATTS	BALLAST TYPE (1)	MOUNTING	DESCRIPTION
(A1) (A2)	MUSCO LIGHT STRUCTURE GREEN SYSTEM	NO KNOWN EQUAL.	5	1500W MH	1500	3700° K	480	9000	ELECTRONIC	POLE	FIVE METAL HALIDE, FACTORY AIMED AND ASSEMBLED SPORTS LIGHTING FIXTURES MOUNTED ATOP A 70' TALL GALVANIZED STEEL POLE WITH PRE-CAST CONCRETE BASE. COMPLETE SYSTEM INCLUDES CONTROLLER, WIRE HARNESS, REMOTE ELECTRICAL COMPONENT ENCLOSURE AND 25 YEAR WARRANTY.
(B1) (B2)	MUSCO LIGHT STRUCTURE GREEN SYSTEM	NO KNOWN EQUAL.	11	1500W MH	1500	3700° K	480	19800	ELECTRONIC	POLE	ELEVEN METAL HALIDE, FACTORY AIMED AND ASSEMBLED SPORTS LIGHTING FIXTURES MOUNTED ATOP AN 80' TALL GALVANIZED STEEL POLE WITH PRE-CAST CONCRETE BASE. COMPLETE SYSTEM INCLUDES CONTROLLER, WIRE HARNESS, REMOTE ELECTRICAL COMPONENT ENCLOSURE AND 25 YEAR WARRANTY.
(C1) (C2)	MUSCO LIGHT STRUCTURE GREEN SYSTEM	NO KNOWN EQUAL.	12	1500W MH	1500	3700° K	480	21600	ELECTRONIC	POLE	TWELVE METAL HALIDE, FACTORY AIMED AND ASSEMBLED SPORTS LIGHTING FIXTURES MOUNTED ATOP AN 90' TALL GALVANIZED STEEL POLE WITH PRE-CAST CONCRETE BASE. COMPLETE SYSTEM INCLUDES CONTROLLER, WIRE HARNESS, REMOTE ELECTRICAL COMPONENT ENCLOSURE AND 25 YEAR WARRANTY.
(S1)	MUSCO LIGHT STRUCTURE GREEN SYSTEM	NO KNOWN EQUAL.	10	1500W MH	1500	3700° K	480	18000	ELECTRONIC	POLE	TEN METAL HALIDE, FACTORY AIMED AND ASSEMBLED SPORTS LIGHTING FIXTURES MOUNTED ATOP A 80' TALL GALVANIZED STEEL POLE WITH PRE-CAST CONCRETE BASE. COMPLETE SYSTEM INCLUDES CONTROLLER, WIRE HARNESS, REMOTE ELECTRICAL COMPONENT ENCLOSURE AND 25 YEAR WARRANTY.
(S2)	MUSCO LIGHT STRUCTURE GREEN SYSTEM	NO KNOWN EQUAL.	9	1500W MH	1500	3700° K	480	16200	ELECTRONIC	POLE	NINE METAL HALIDE, FACTORY AIMED AND ASSEMBLED SPORTS LIGHTING FIXTURES MOUNTED ATOP AN 80' TALL GALVANIZED STEEL POLE WITH PRE-CAST CONCRETE BASE. COMPLETE SYSTEM INCLUDES CONTROLLER, WIRE HARNESS, REMOTE ELECTRICAL COMPONENT ENCLOSURE AND 25 YEAR WARRANTY.

FIXTURE NOTES

(1) FIXTURE CONNECTIONS SHALL BE AS INDICATED ON THE PLANS AND SHALL COMPLY WITH THE APPLICABLE REQUIREMENTS OF TITLE 24, CALIFORNIA ENERGY EFFICIENCY REGULATIONS.

(2) CATALOG NUMBERS ARE BASED ON VENDOR INFORMATION, SALES LITERATURE AND PHOTOMETRIC DATA ON HAND AT THE TIME OF PROJECT DESIGN BY TURPIN & RATTAN AND ARE INTENDED TO CONVEY THE FEATURES/PERFORMANCE REQUIRED. EACH FIXTURE MUST BE PROVIDED COMPLETE WITH ALL FITTINGS AS APPROPRIATE FOR PROPER MOUNTING AT THE LOCATIONS INDICATED.

TURPIN & RATTAN ENGINEERING, INC.
CONSULTING ENGINEERS
4719 PALM AVENUE
LA MESA, CA 91941-5221
619 / 466 / 6224 FAX 466 / 6233
E-MAIL: ENGINEER@TREISD.COM

TREI # 11218.00

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REGISTERED PROFESSIONAL ENGINEER — DALE M. GRONCHAK — No. 11533 exp.6/30/2014 — ELECTRICAL — STATE OF CALIFORNIA

08/23/13

Platt/Whitelaw Architects, Inc.
4034 30th Street, SAN DIEGO CA 92104
(619) 546-4326 FAX (619) 546-4350

SAN YSIDRO ATHLETIC AREA / LARSEN FIELD LIGHTING

SHEET TITLE: SYMBOL LIST, FIXTURE SCHEDULE & GENERAL NOTES

SHEET NUMBER: E-001

CITY OF SAN DIEGO, CALIFORNIA
ENGINEERING AND CAPITAL PROJECTS
SHEET 13 OF 28 SHEETS

WBS #S-11013

FOR CITY ENGINEER — DATE 11/5/13

SAMIR MAHMALJI, SECTION HEAD

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	SG/JPB		6/30/13	

ALEXANDRA CORSI, PROJECT MANAGER

CCS27 COORDINATE

138-1752
CCS83 COORDINATE

CONTRACTOR _____ DATE STARTED _____
INSPECTOR _____ DATE COMPLETED _____

36796-13-D

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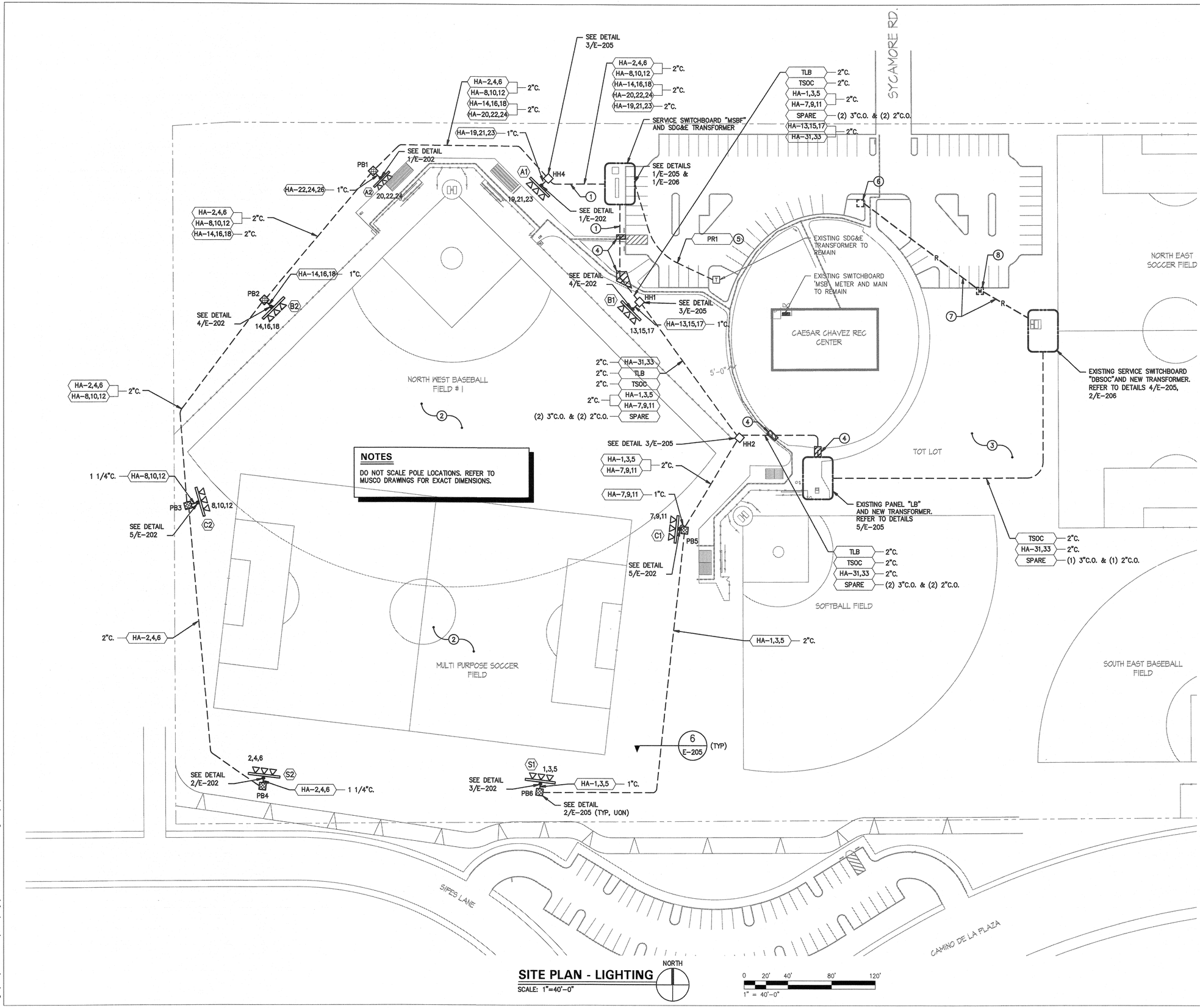

KEYNOTES

1. ROUTE CIRCUITS VIA MUSCO LIGHTING CONTROLLER/CONTACTORS REFER TO SINGLE LINE DIAGRAM.
2. DO NOT ROUTE ANY CONDUITS THROUGH BALL FIELDS.
3. ROUTE FEEDER AROUND EXISTING PLAY AREA AND EXISTING TREES.
4. REMOVE PORTION OF SIDEWALK FROM EXPANSION JOINT TO EXPANSION JOINT AND REPLACE WITH MATCHING COLOR AND MEDIUM BROOM FINISH.
5. PROVIDE TRENCH, CONDUIT, ENCASEMENT, BACKFILL AND PULL ROPE PER SDG&E STANDARDS. REPAIR PAVEMENT AND RE-STRIPE.
6. EXISTING SDG&E TRANSFORMER AND PAD TO BE REMOVED BY SDG&E.
7. EXISTING SDG&E SECONDARY FEEDER. CONDUCTORS TO BE REMOVED BY SDG&E, CONDUIT TO BE ABANDONED.
8. EXISTING SDG&E MANHOLE TO BE ABANDONED IN PLACE.

NOTES

DO NOT SCALE POLE LOCATIONS. REFER TO MUSCO DRAWINGS FOR EXACT DIMENSIONS.

NOTES

LIGHT LINE INDICATES EXISTING.
DARK LINE INDICATES NEW WORK.

SITE PLAN - LIGHTING
SCALE: 1"=40'-0"

TURPIN & RATTAN ENGINEERING, INC.
CONSULTING ENGINEERS
4719 PALM AVENUE
LA MESA, CA 91941-5221
619 / 466 / 6224 FAX 466 / 6233
E-MAIL: ENGINEER@TREIBO.COM

TREI # 11218.00

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REGISTERED PROFESSIONAL ENGINEER
DALE M. TURPIN JR.
No. 11533
exp. 6/30/2014
ELECTRICAL
STATE OF CALIFORNIA

08/23/13

Platt/Whitelaw Architects, Inc.
4034 30th Street, SAN DIEGO CA 92104
(619) 546-4326 FAX (619) 546-4360

SAN YSIDRO ATHLETIC AREA / LARSEN FIELD LIGHTING

SHEET TITLE: SITE PLAN - LIGHTING

SHEET NUMBER: E-100

CITY OF SAN DIEGO, CALIFORNIA
ENGINEERING AND CAPITAL PROJECTS
SHEET 14 OF 28 SHEETS

WBS #S-11013

Samir M — FOR CITY ENGINEER — 11/5/13 DATE

SAMIR MAHMALJI — SECTION HEAD

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	SG/JPB		6/30/13	

ALEXANDRA CORSI — PROJECT MANAGER

CCS27 COORDINATE: -

CCS83 COORDINATE: 138-1752

CONTRACTOR _____ DATE STARTED _____
INSPECTOR _____ DATE COMPLETED _____

36796-14-D

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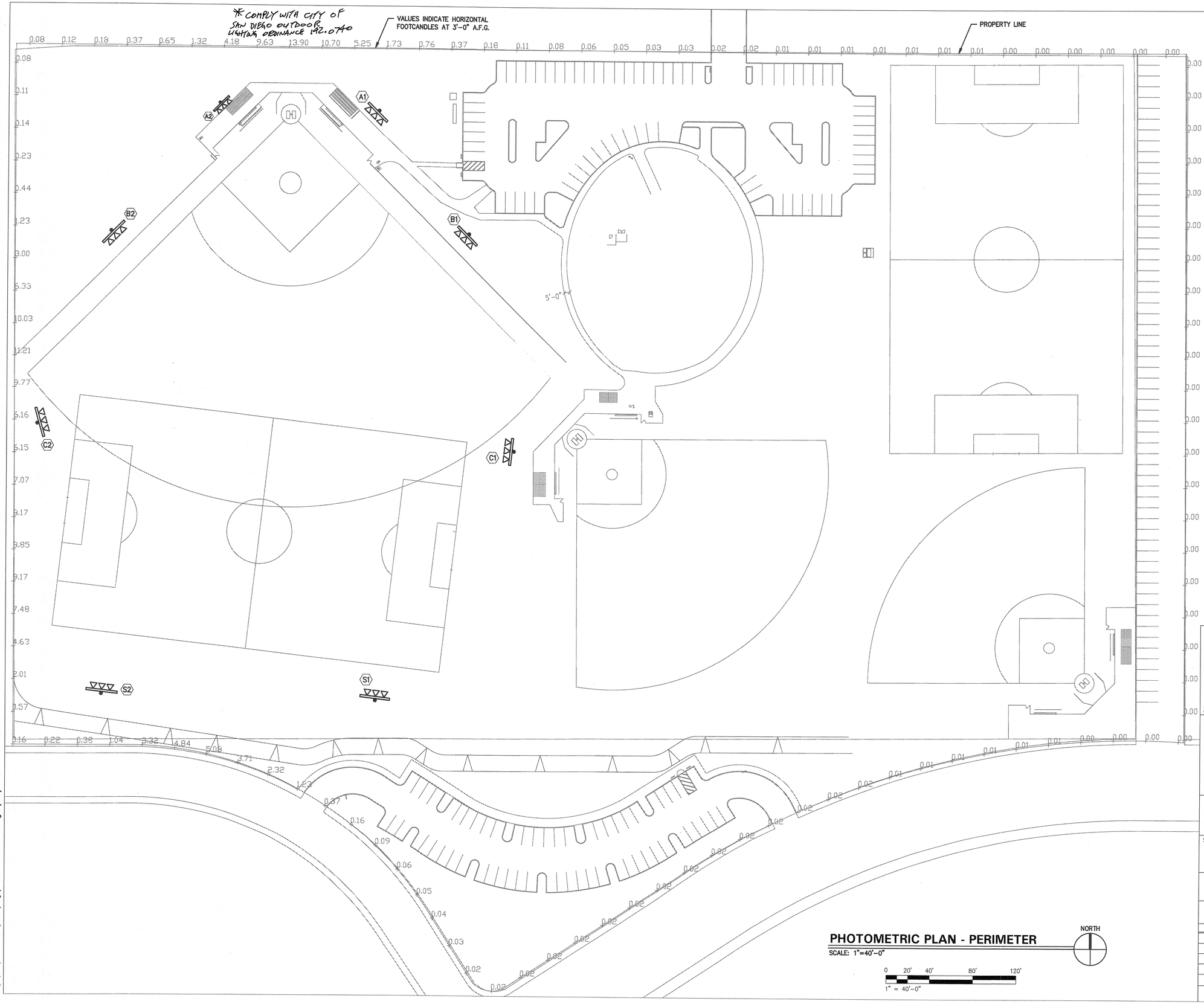
*COMPLY WITH CITY OF SAN DIEGO OUTDOOR LIGHTING ORDINANCE 142.0740

VALUES INDICATE HORIZONTAL FOOTCANDLES AT 3'-0" A.F.G.

PROPERTY LINE



PHOTOMETRIC PLAN - PERIMETER

SCALE: 1"=40'-0"

NORTH

0 20' 40' 80' 120'

1" = 40'-0"

TURPIN & RATTAN ENGINEERING, INC.
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4719 PALM AVENUE
LA MESA, CA 91941-5221
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E-MAIL: ENGINEER@TREISD.COM

TREI # 11218.00

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REGISTERED PROFESSIONAL ENGINEER
DALE W. GRONCHAK
No.11533
exp.6/30/2014
ELECTRICAL
STATE OF CALIFORNIA

08/23/13

Platt/Whitelaw Architects, Inc.
4034 30th Street, SAN DIEGO CA 92104
(619) 546-4326 FAX (619) 546-4350

SAN YSIDRO ATHLETIC AREA / LARSEN FIELD LIGHTING

SHEET TITLE: PHOTOMETRIC PLAN PERIMETER

SHEET NUMBER: E-101

CITY OF SAN DIEGO, CALIFORNIA
ENGINEERING AND CAPITAL PROJECTS
SHEET 15 OF 28 SHEETS

WBS #S-11013

Samir M 11/5/13
FOR CITY ENGINEER DATE

SAMIR MAHMALJI
SECTION HEAD

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	SG/JPB		6/30/13	

ALEXANDRA CORSI
PROJECT MANAGER

CCS27 COORDINATE

138-1752
CCS83 COORDINATE

CONTRACTOR DATE STARTED

INSPECTOR DATE COMPLETED

36796-15-D

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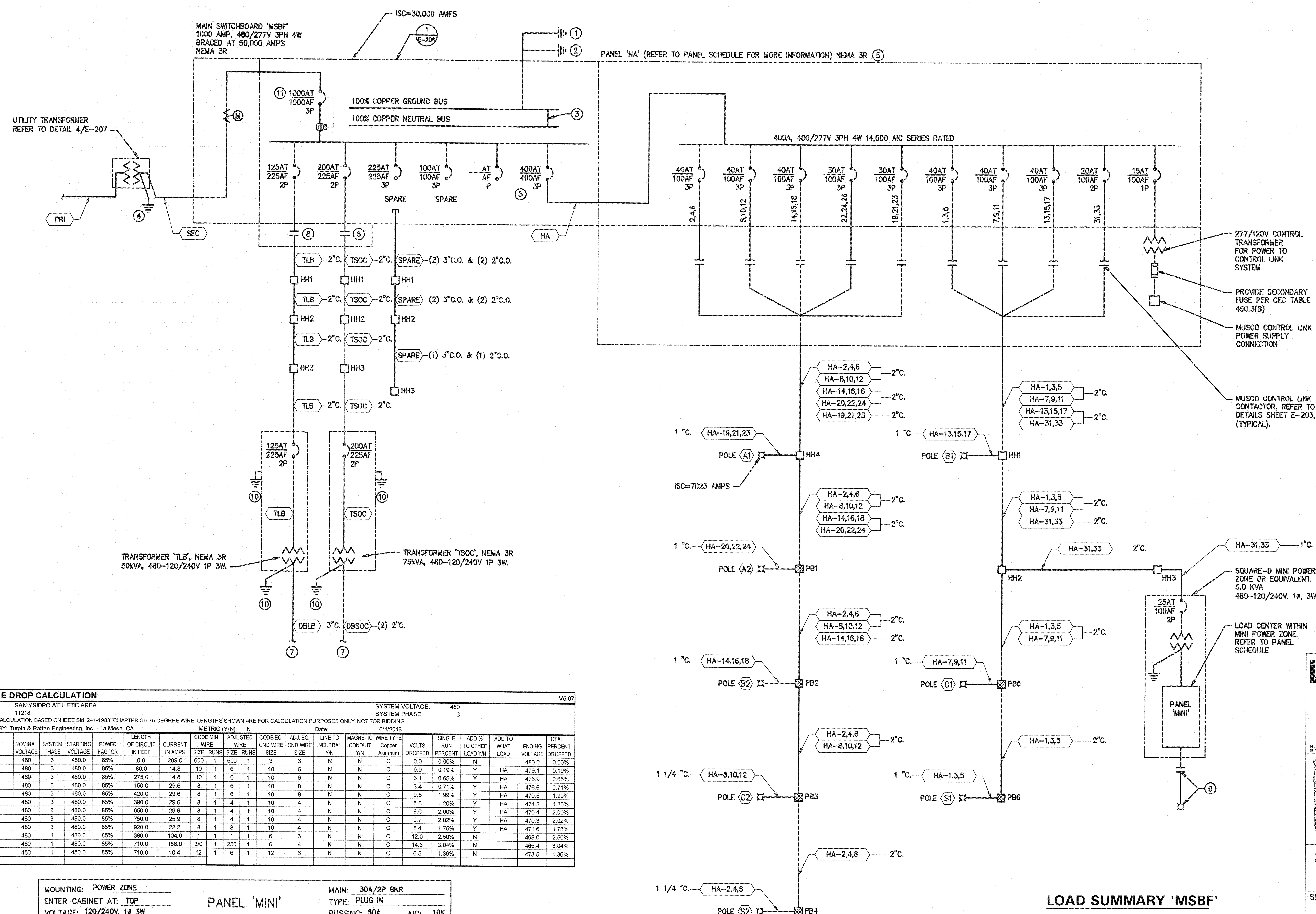
SAN YSIDRO ATHLETIC AREA / LARSEN FIELD LIGHTING



KEYNOTES

1. #4 TO UFER GROUND PER SPECIFICATIONS.
2. #3/0 BARE CU GROUND TO GROUND ROD IN YARD BOX. REFER TO DETAIL 3/E-207.
3. MAIN NEUTRAL TO GROUND LINK.
4. GROUND TO GROUND RODS PER SDG&E STANDARDS. REFER TO DETAIL 4/E-207.
5. SERIES RATE DISTRIBUTION BREAKER WITH CIRCUIT BREAKERS IN PANEL 'HA' TO LESS THAN 14,000 AIC.
6. 255 AMP-3P CONTACTOR FOR CONTROL OF EXISTING SOCCER FIELD LIGHTING. REFER TO SCHEDULES SHEET E-203.
7. REFER TO SHEET E-201 FOR CONTINUATION.
8. 100 AMP-3P CONTACTOR FOR CONTROL OF EXISTING SOFTBALL FIELD LIGHTING. REFER TO SCHEDULES SHEET E-203.
9. CONNECT TO EXISTING SECURITY LIGHTING FIXTURE AND CONTACTOR AT SWITCHBOARD 'DBSOC'
10. 3/4"-#6 EG TO GROUND ROD IN YARD BOX. REFER TO DETAIL 3/E-207.
11. PROVIDE GROUND FAULT PROTECTION PER CEC 230.95. ACCEPTANCE TESTING SHALL BE PERFORMED IN ACCORDANCE WITH CEC 230.95(C) AND SAN DIEGO AREA ELECTRICAL NEWS LETTERS.

VOLTAGE DROP CALCULATION

V5.07

PROJECT: SAN YSIDRO ATHLETIC AREA — SYSTEM VOLTAGE: 480
NUMBER: 11218 — SYSTEM PHASE: 3
VOLT DROP CALCULATION BASED ON IEEE Std. 241-1983, CHAPTER 3.6 75 DEGREE WIRE; LENGTHS SHOWN ARE FOR CALCULATION PURPOSES ONLY, NOT FOR BIDDING.
PREPARED BY: Turpin & Rattan Engineering, Inc. - La Mesa, CA — METRIC (Y/N): N — Date: 10/1/2013

LOAD DESCRIPTION	NOMINAL VOLTAGE	SYSTEM PHASE	STARTING VOLTAGE	POWER FACTOR	LENGTH OF CIRCUIT IN FEET	CURRENT IN AMPS	CODE MIN. WIRE		ADJUSTED WIRE		CODE EQ. GND WIRE SIZE	ADJ. EQ. GND WIRE SIZE	LINE TO NEUTRAL Y/N	MAGNETIC CONDUIT Y/N	WIRE TYPE Copper Aluminum	VOLTS DROPPED	SINGLE RUN PERCENT	ADD % TO OTHER LOAD Y/N	ADD TO WHAT LOAD	ENDING VOLTAGE	TOTAL PERCENT DROPPED
							SIZE	RUNS	SIZE	RUNS											
HA	480	3	480.0	85%	0.0	209.0	600	1	600	1	3	3	N	N	C	0.0	0.00%	N		480.0	0.00%
POLE A1	480	3	480.0	85%	80.0	14.8	10	1	6	1	10	6	N	N	C	0.9	0.19%	Y	HA	479.1	0.19%
POLE A2	480	3	480.0	85%	275.0	14.8	10	1	6	1	10	6	N	N	C	3.1	0.65%	Y	HA	476.9	0.65%
POLE B1	480	3	480.0	85%	150.0	29.6	8	1	6	1	10	8	N	N	C	3.4	0.71%	Y	HA	476.6	0.71%
POLE B2	480	3	480.0	85%	420.0	29.6	8	1	6	1	10	8	N	N	C	9.5	1.99%	Y	HA	470.5	1.99%
POLE C1	480	3	480.0	85%	390.0	29.6	8	1	4	1	10	4	N	N	C	5.8	1.20%	Y	HA	474.2	1.20%
POLE C2	480	3	480.0	85%	650.0	29.6	8	1	4	1	10	4	N	N	C	9.6	2.00%	Y	HA	470.4	2.00%
POLE S1	480	3	480.0	85%	750.0	25.9	8	1	4	1	10	4	N	N	C	9.7	2.02%	Y	HA	470.3	2.02%
POLE S2	480	3	480.0	85%	920.0	22.2	8	1	3	1	10	4	N	N	C	8.4	1.75%	Y	HA	471.6	1.75%
TLB	480	1	480.0	85%	380.0	104.0	1	1	1	1	6	6	N	N	C	12.0	2.50%	N		468.0	2.50%
TSOC	480	1	480.0	85%	710.0	156.0	3/0	1	250	1	6	4	N	N	C	14.6	3.04%	N		465.4	3.04%
MINI	480	1	480.0	85%	710.0	10.4	12	1	6	1	12	6	N	N	C	6.5	1.36%	N		473.5	1.36%

PANEL 'MINI'

MOUNTING: POWER ZONE — MAIN: 30A/2P BKR
ENTER CABINET AT: TOP — TYPE: PLUG IN
VOLTAGE: 120/240V. 1ø 3W — BUSSING: 60A — AIC: 10K

LOCATION	VOLT-AMPERES øA	VOLT-AMPERES øB	LTG	REC	MIS	BKR. AMP	BKR. POLE	A	B	BKR. POLE	BKR. AMP	MIS	REC	LTG	VOLT-AMPERES øA	VOLT-AMPERES øB	LOCATION
SECURITY LIGHTS	1000		·	·	·	20	2	1	2	1	20	·	·	·	180		TIME CLOCK
–		1000				–	–	3	4	·	·					·	SPACE
SPACE	·					·	·	5	6	·	·				·		SPACE
SUBTOTAL ·	1000	1000													180	·	· SUBTOTAL

TOTAL VOLT-AMPERES/PHASE øA= 1180 VA øB= 1000 VA VA

TOTAL PANEL VOLT-AMPERES: 2180 VA + LCL 500 VA= 2680 VA AMPS= 11

LOAD SUMMARY 'MSBF'

PANEL HA	174 kVA
TRANSFORMER TSOC	75 kVA
TRANSFORMER TSB	50 kVA
TOTAL	299 kVA

OR 360 AMPS @ 480Y/277V 3ø 4W

'MSBF' SINGLE LINE DIAGRAM

NO SCALE

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REGISTERED PROFESSIONAL ENGINEER No. 11533 exp.6/30/2014 ELECTRICAL STATE OF CALIFORNIA
08/23/13

SAN YSIDRO ATHLETIC AREA / LARSEN FIELD LIGHTING

SHEET TITLE: SINGLE LINE DIAGRAM AND PANEL SCHEDULE
SHEET NUMBER: E-200

CITY OF SAN DIEGO, CALIFORNIA
ENGINEERING AND CAPITAL PROJECTS
SHEET 16 OF 28 SHEETS

WBS #S-11013

FOR CITY ENGINEER — DATE 11/5/13
SAMIR MAHMALJI SECTION HEAD

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	SG/JPB		6/30/13	

ALEXANDRA CORSI PROJECT MANAGER
CCS27 COORDINATE
138-1752 CCS83 COORDINATE

CONTRACTOR — DATE STARTED
INSPECTOR — DATE COMPLETED

36796-16-D

SAN YSIDRO ATHLETIC AREA / LARSEN FIELD LIGHTING

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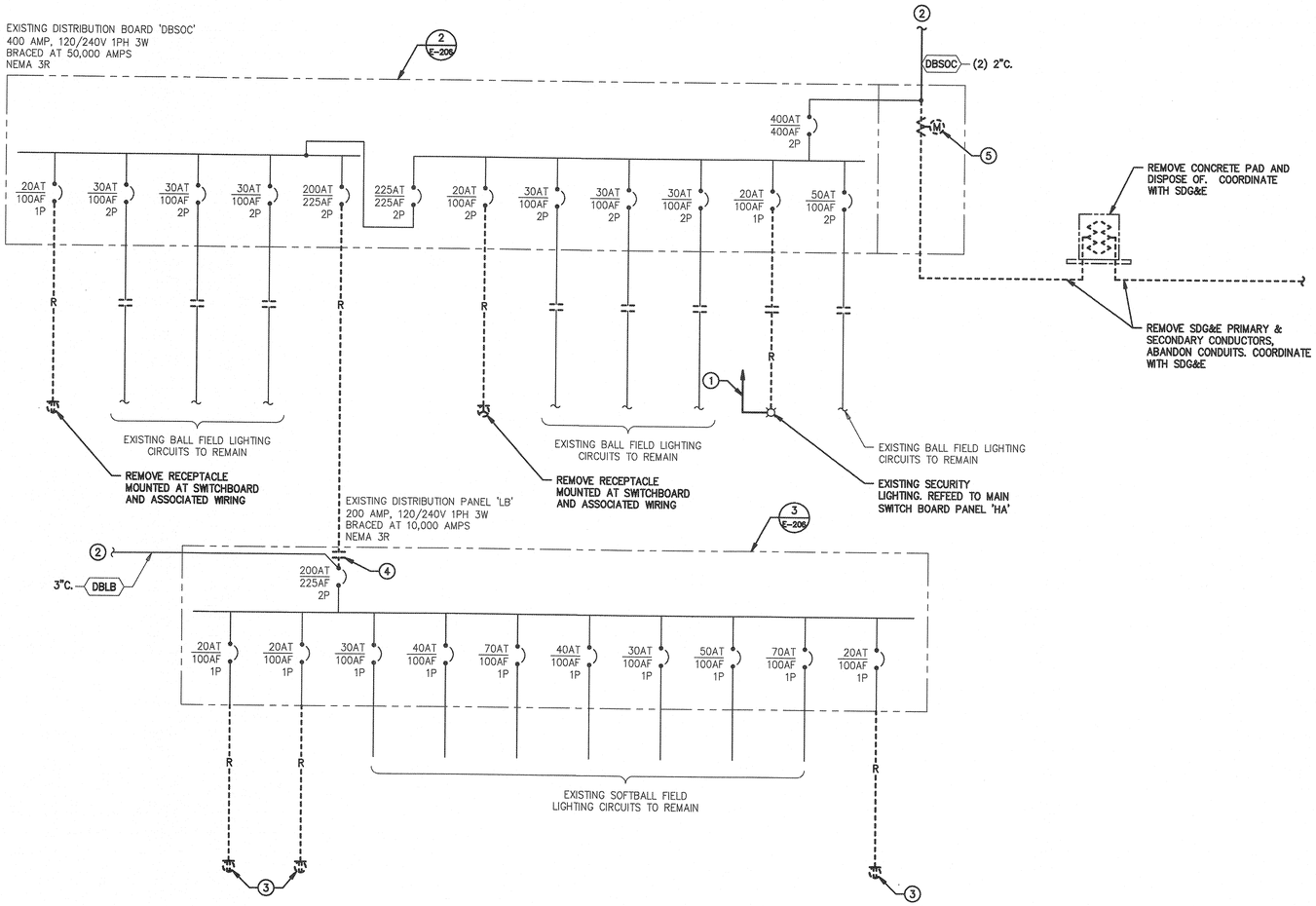

'DBSOC' & 'LB' SINGLE LINE DIAGRAM

NO SCALE

KEYNOTES

1. TO MAIN SWITCHBOARD 'MSB' FEEDER HA-31,33 CONTROLLED VIA MUSCO CONTROL LINK CONTACTOR.
2. REFER TO SHEET E-200 FOR CONTINUATION.
3. REMOVE BRANCH CIRCUITING TIMECLOCK AND 120V RECEPTACLE AT PANELBOARD ENCLOSURE.
4. REMOVE EXISTING 200AMP-3P CONTACTOR AT PANELBOARD ENCLOSURE.
5. REMOVE EXISTING METER AND CT'S PROVIDE SOLID LINKS AND BLANK COVER OVER ANY EXPOSED AREAS OF SWITCHBOARD.

MOUNTING: SWITCHBOARD
ENTER CABINET AT: SIDE
VOLTAGE: 480/277V, 3ø, 4W

PANEL 'HA'

MAIN: LUGS ONLY
TYPE: BOLT-ON
BUSSING: 400A AIC: 42K

LOCATION	VOLT-AMPERES øA	VOLT-AMPERES øB	VOLT-AMPERES øC	LTG	REC	MIS	BKR. AMP	BKR. POLE	ABC		BKR. POLE	BKR. AMP	MIS	REC	LTG	VOLT-AMPERES øA	VOLT-AMPERES øB	VOLT-AMPERES øC	LOCATION
POLE S1	6300			10	·	·	40	3	1	2	3	40	·	·	9	5400			POLE S2
–		6300					–	–	3	4	–	–					5400		–
–			5400				–	–	5	6	–	–						5400	–
POLE C1	7200			12			40	3	7	8	3	40			12	7200			POLE C2
–		7200					–	–	9	10	–	–					7200		–
–			7200				–	–	11	12	–	–						7200	–
POLE B1	6300			11			40	3	13	14	3	40			11	7200			POLE B2
–		6300					–	–	15	16	–	–					6300		–
–			7200				–	–	17	18	–	–						6300	–
POLE A1	2700			5			30	3	19	20	3	30			5	2700			POLE A2
–		3600					–	–	21	22	–	–					2700		–
–			2700				–	–	23	24	–	–						3600	–
SPARE	·						40	3	25	26	3	30			·				SPARE
–		·					–	–	27	28	–	–					·		–
–			·				–	–	29	30	–	–						·	–
SECURITY LIGHT	2000						20	2	31	32	·	·			·				SPACE
–		2000					–	–	33	34	·	·					·		SPACE
SPACE			·				·	·	35	36	·	·						·	SPACE
SPACE	·						·	·	37	38	·	·			·				SPACE
SPACE		·					·	·	39	40	·	·					·		SPACE
MUSCO CONTROLS			360			1	20	1	41	42	·	·						·	SPACE
SUBTOTAL	24500	25400	22860													22500	21600	22500	SUBTOTAL

TOTAL VOLT-AMPERES/PHASE øA= 47000 VA øB= 47000 VA øC= 45360 VA

TOTAL PANEL VOLT-AMPERES: 139360 VA + LCL 34750 VA= 174110 VA AMPS= 209

FEEDER SCHEDULE

FEEDER	CONDUCTOR/SIZE
HA-31,33	2#6+1#6 EG
HA-20,22,24	3#6+1#6 EG
HA-14,16,18	3#6+1#6 EG
HA-8,10,12	3#4+1#4 EG
HA-2,4,6	3#3+1#3 EG
HA-19,21,23	3#6+1#6 EG
HA-13,15,17	3#6+1#6 EG
HA-7,9,11	3#4+1#4 EG
HA-1,3,5	3#4+1#4 EG
PRI	(1) 4" C.O.
SEC	(3) 5" C.O.
TSOC	2 250KCM + 1 #4 EG
TLB	2#1+1#6 EG
DBSOC	(2 SETS) 3#3/0+1#1/0 EG
DBLB	3 350KCM+1#2 EG
HA	(2 SETS) 4#3/0+1#2 EG

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REGISTERED PROFESSIONAL ENGINEER DALE M. TURPIN JR. No. 11533 exp.6/30/2014 ELECTRICAL STATE OF CALIFORNIA

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SAN YSIDRO ATHLETIC AREA / LARSEN FIELD LIGHTING

SHEET TITLE: SINGLE LINE DIAGRAM AND PANEL SCHEDULE

SHEET NUMBER: E-201

CITY OF SAN DIEGO, CALIFORNIA
ENGINEERING AND CAPITAL PROJECTS
SHEET 17 OF 28 SHEETS

WBS #S-11013

FOR CITY ENGINEER — DATE 11/5/13

SAMIR MAHMALJI
SECTION HEAD

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	SG/JFB		6/30/13	

ALEXANDRA CORSI
PROJECT MANAGER

-
CCS27 COORDINATE

138-1752
CCS83 COORDINATE

CONTRACTOR _____ DATE STARTED _____
INSPECTOR _____ DATE COMPLETED _____

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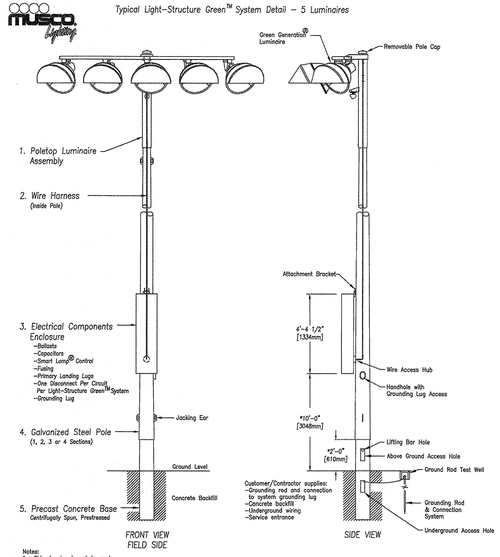
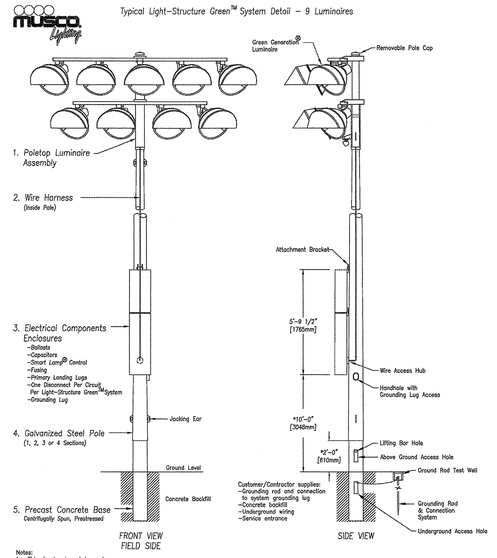
SAN YSIDRO ATHLETIC AREA / LARSEN FIELD LIGHTING



FIVE FIXTURE DETAIL

NO SCALE

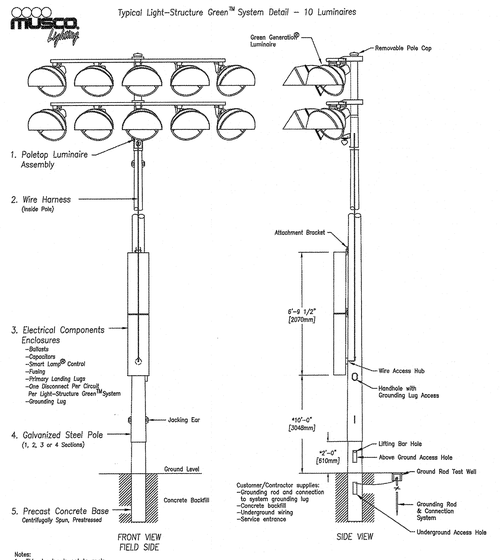
1 / E-202



NINE FIXTURE DETAIL

NO SCALE

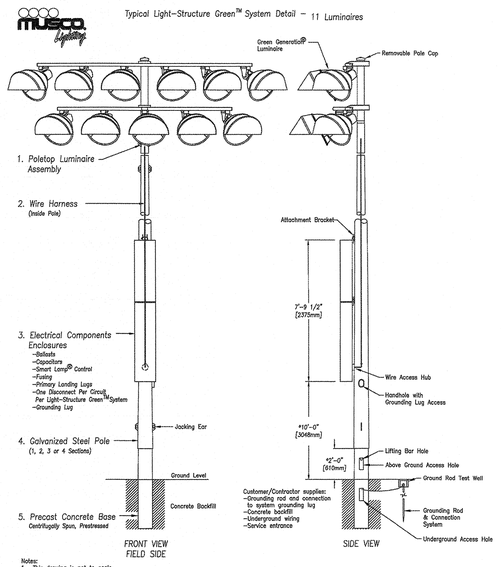
2 / E-202



TEN FIXTURE DETAIL

NO SCALE

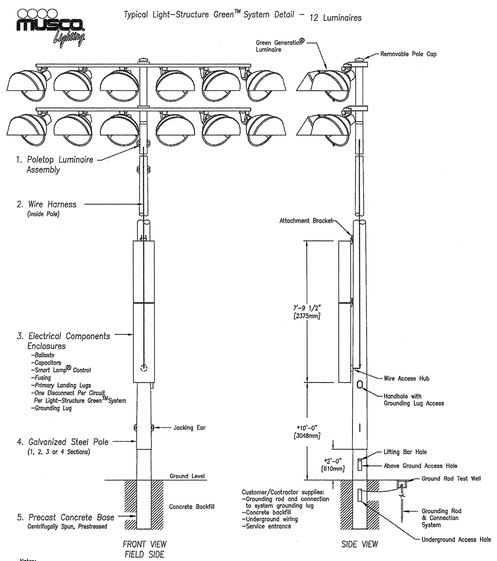
3 / E-202



ELEVEN FIXTURE DETAIL

NO SCALE

4 / E-202



TWELVE FIXTURE DETAIL

NO SCALE

5 / E-202

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SAN YSIDRO ATHLETIC AREA / LARSEN FIELD LIGHTING

SHEET TITLE: LIGHTING DETAILS

SHEET NUMBER: E-202

CITY OF SAN DIEGO, CALIFORNIA
ENGINEERING AND CAPITAL PROJECTS
SHEET 18 OF 28 SHEETS

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Samir M 11/5/13
FOR CITY ENGINEER DATE

SAMIR MAHMALJI
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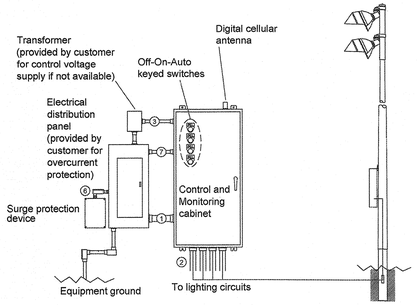
Control and Monitoring System - Digital Cellular



WIRE	DESCRIPTION	# OF WIRES	TYP. WIRE SIZE (AWG)	MAX. WIRE LENGTH (FT)	WIRE FROM MUSCO	NOTES
1	LINE POWER & GROUND TO CONTACTORS	NOTE A	NOTE B	27	NO	A–E
2	LOAD POWER TO LIGHTING CIRCUITS	NOTE A	NOTE B	N/A	NO	A–D
3	CONTROL POWER (DEDICATED, 20A)	3	12	N/A	NO	C, D
4	SURGE PROTECTION DEVICE TO DISTRIBUTION PANEL	--	--	N/A	YES	D
5	SURGE PROTECTION DEVICE MONITORING	2	14	N/A	NO	C, D

R60-25-00_C

Notes:
A. Voltage and phasing per fixture schedule.
B. Calculate per load and voltage drop.
C. All conduit diameters per code.
D. Refer to Control and Monitoring System Installation Instructions for more details on equipment information and the installation requirements.
E. Contact Musco if maximum wire length from circuit breaker to contactor exceeds value in the chart.

IMPORTANT: Control (3) and monitoring (5) wiring must be in separate conduit from line and load power wiring (1,2).

SWITCHING SCHEDULE

Field Type	Zones	Zone Description
Baseball–Softball	1,2	Baseball
Soccer	2,3	Southwest Soccer
Baseball–Softball	4	Existing Softball
Soccer	5	Existing Soccer
Security	6	Security Lights 1
Security	7	Security Lights 2

CONTROL POWER CONSUMPTION		
120V Single Phase		
VA loading of Musco Supplied Equipment	INRUSH:	3650.0
	SEALED:	396.0

BALLAST SPECIFICATIONS .90 Minimum Power Factor	VOLTAGE: 480v		THREE PHASE				
BALLAST OPERATING VOLTAGE	208	220	240	277	347	380	480
1500 Watt Metal Halide Lamp Operating line amperage per fixture– maximum	8.6	8.3	7.5	6.5	5.1	0.0	3.7
1000 Watt Metal Halide Lamp Operating line amperage per fixture– maximum	6.5	6.4	5.8	4.9	4.0	0.0	2.9

CIRCUIT SUMMARY BY ZONE

POLE	CIRCUIT DESCRIPTION	# OF FIXTURES	FULL LOAD AMPS	CONTACTOR SIZE (AMPS)	CONTACTOR ID	ZONE
A1	Baseball–Infield	5	14.8	30	C1	1
A2	Baseball–Infield	5	14.8	30	C2	1
B1	Baseball–Infield	11	29.6	60	C3	1
B2	Baseball–Infield	11	29.6	60	C4	1
C1	Baseball/Soccer	12	29.6	60	C5	2
C2	Baseball/Soccer	12	29.6	60	C6	2
S1	Soccer	10	25.9	60	C7	3
S2	Soccer	9	22.2	30	C8	3
P1	Existing Softball	0	0	100	C9	4
P2	Existing Soccer	0	0	265	C10	5
P3	Security Lights 1	0	0	30	C11	6
P4	Security Lights 2	0	0	30	C12	7

Control System Summary

PANEL SUMMARY

CABINET #	CONTROL MODULE LOCATION	CONTACTOR ID	CIRCUIT DESCRIPTION	FULL LOAD AMPS
1	1	C1	Pole A1	14.80
1	1	C2	Pole A2	14.80
1	1	C3	Pole B1	29.60
1	1	C4	Pole B2	29.60
1	1	C5	Pole C1	29.60
1	1	C6	Pole C2	29.60
1	1	C7	Pole S1	25.90
1	1	C8	Pole S2	22.20
1	1	C9	Pole P1	0.00
2	1	C10	Pole P2	0.00
2	1	C11	Pole P3	0.00
2	1	C12	Pole P4	0.00

ZONE SCHEDULE

ZONE	SELECTOR SWITCH	ZONE DESCRIPTION	CIRCUIT DESCRIPTION POLE ID	CIRCUIT DESCRIPTION CONTACTOR ID
Zone 1	1	Baseball–Infield	A1	C1
			A2	C2
			B1	C3
			B2	C4
Zone 2	2	Baseball/Soccer	C1	C5
			C2	C6
Zone 3	3	Soccer	S1	C7
			S2	C8
Zone 4	4	Existing Softball	P1	C9
Zone 5	5	Existing Soccer	P2	C10
Zone 6	6	Security Lights 1	P3	C11
Zone 7	7	Security Lights 2	P4	C12

CONTROL SYSTEM NOTES:

FIELD LIGHTING ZONES 1,2,3,4,5 SHALL BE PROGRAMMED TO AUTOMATICALLY SHUT OFF LIGHTING BETWEEN 11PM AND 6AM PER CITY OUTDOOR LIGHTING ORDINANCE 142.0740.

TURPIN & RATTAN ENGINEERING, INC.
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LA MESA, CA 91941-5221
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E-MAIL: ENGINEER@TREISO.COM
TREI # 11218.00
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REGISTERED PROFESSIONAL ENGINEER — DANIEL M. TURPIN — No. 11533 exp.6/30/2014 — ELECTRICAL — STATE OF CALIFORNIA

08/23/13

Platt/Whitelaw Architects, Inc.
4034 30th Street, SAN DIEGO CA 92104
(619) 546-4326 FAX (619) 546-4360

SAN YSIDRO ATHLETIC AREA / LARSEN FIELD LIGHTING

SHEET TITLE: LIGHTING DETAILS

SHEET NUMBER: E-203

CITY OF SAN DIEGO, CALIFORNIA
ENGINEERING AND CAPITAL PROJECTS
SHEET 19 OF 28 SHEETS

WBS #S-11013

FOR CITY ENGINEER — DATE 11/5/13

SAMIR MAHMALJI — SECTION HEAD

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	SG/JPB		6/30/13	

ALEXANDRA CORSI — PROJECT MANAGER

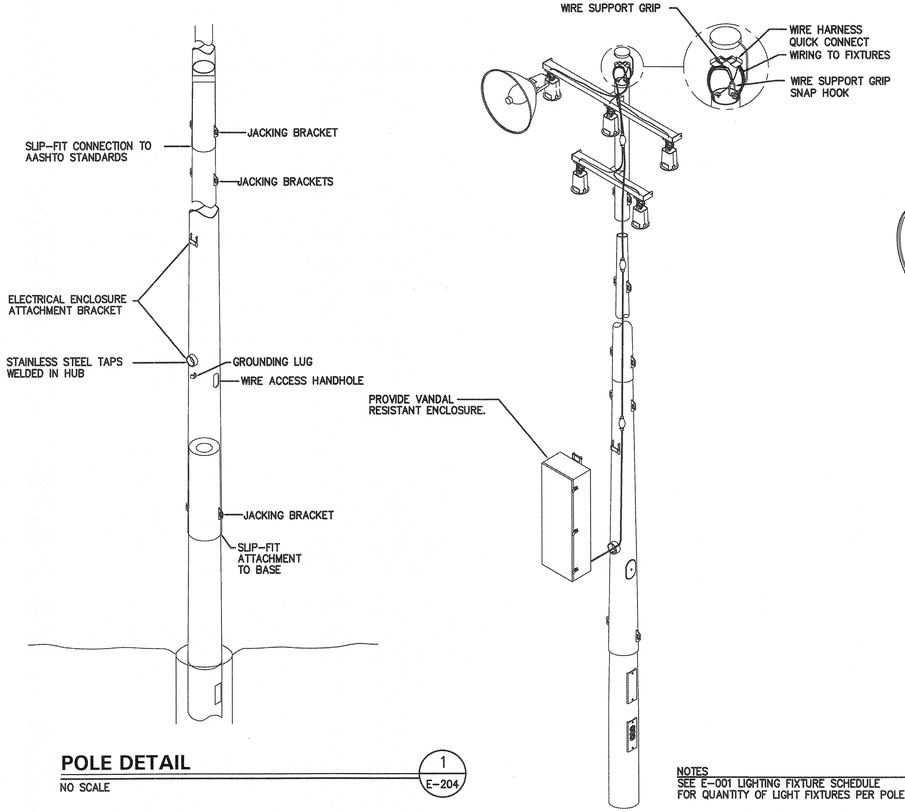
- — CCS27 COORDINATE

158-1752 — CCS83 COORDINATE

CONTRACTOR — DATE STARTED

INSPECTOR — DATE COMPLETED

36796-19-D



POLE DETAIL

NO SCALE

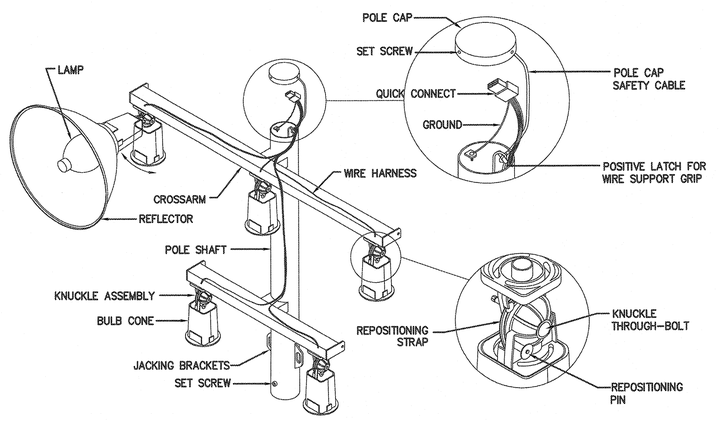
1 / E–204

NOTES
SEE E–001 LIGHTING FIXTURE SCHEDULE FOR QUANTITY OF LIGHT FIXTURES PER POLE.

POLE DETAIL

NO SCALE

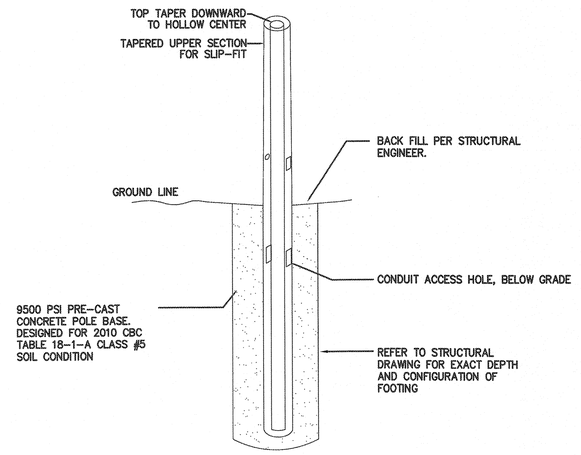
2 / E–204



POLE HEAD DETAIL

NO SCALE

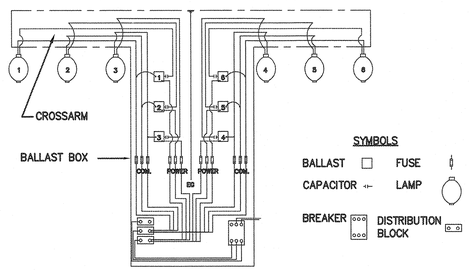
3 / E–204



POLE FOUNDATION DETAIL

NO SCALE

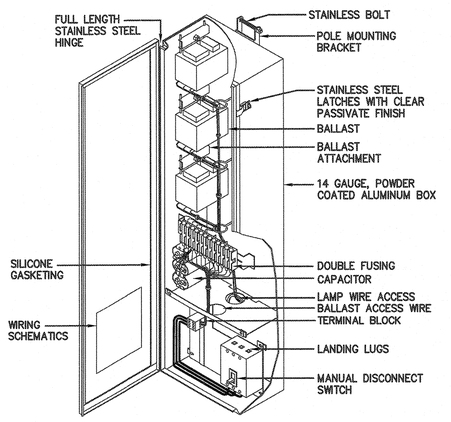
4 / E–204



WIRING SCHEMATIC

NO SCALE

5 / E–204



POLE BOX DETAIL

NO SCALE

6 / E–204

TURPIN & RATTAN ENGINEERING, INC.
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REGISTERED PROFESSIONAL ENGINEER — DALE M. TURPIN — No. 11533 exp.6/30/2014 — ELECTRICAL — STATE OF CALIFORNIA

08/23/13

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4034 30th Street, SAN DIEGO CA 92104
(619) 546-4326 FAX (619) 546-4350

SAN YSIDRO ATHLETIC AREA / LARSEN FIELD LIGHTING

SHEET TITLE: LIGHTING DETAILS

SHEET NUMBER: E–204

CITY OF SAN DIEGO, CALIFORNIA
ENGINEERING AND CAPITAL PROJECTS
SHEET 20 OF 28 SHEETS.

WBS #S-11013

Samir M 11/5/13
FOR CITY ENGINEER DATE

SAMIR MAHMALJI
SECTION HEAD

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	SS/JPB		6/30/13	

ALEXANDRA CORSI
PROJECT MANAGER

CCS27 COORDINATE

138-1752
CCS83 COORDINATE

CONTRACTOR DATE STARTED
INSPECTOR DATE COMPLETED

36796-20-D

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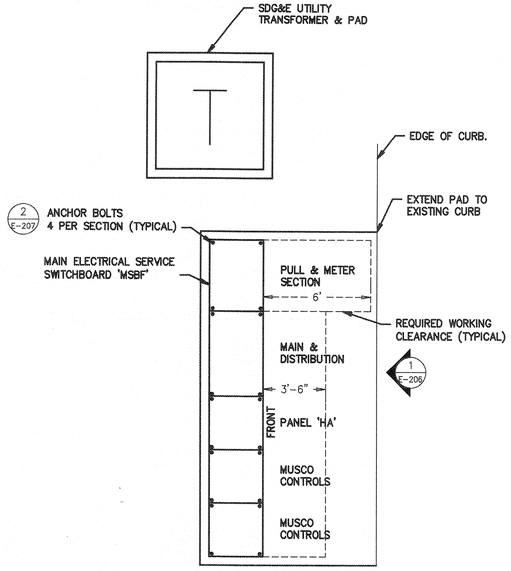
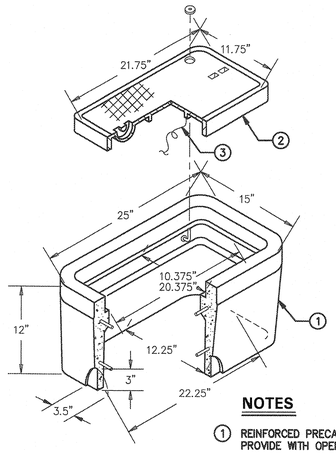


MAIN SWITCHBOARD `MSBF' ENLARGED PLAN

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

1 / E-205



NOTES

1. REINFORCED PRECAST GRADE MOUNTED JUNCTION BOX. PROVIDE WITH OPEN BOTTOM.
2. CAST IRON COVER SHALL INSTALL FLUSH IN TOP OF GRADE JUNCTION BOX. FURNISH TOP OF COVER WITH CHECKERED SURFACE, LIFTING SLOTS AND RECESSED HOLD DOWN TAMPER PROOF NUTS. BOTTOM OF COVER SHALL BE FURNISHED WITH INTEGRAL CAST REINFORCING RIBS.
3. BOND #6 AWG STRANDED COPPER EQUIPMENT GROUND TO METALLIC COVER BY MEANS OF GROUND LUG BOLTED TO COVER. PROVIDE 5'-0" SLACK WIRE TO ALLOW REMOVAL OF COVER.

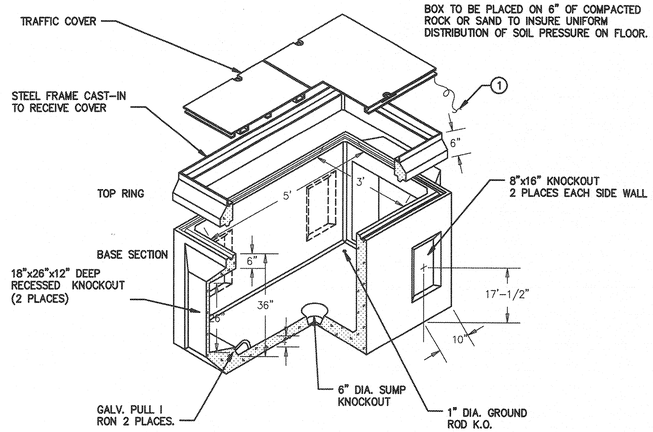
TYPICAL GRADE MOUNTED PULL BOX DETAIL

NO SCALE

2 / E-205

INSTALLATION

BOX TO BE PLACED ON 6" OF COMPACTED ROCK OR SAND TO INSURE UNIFORM DISTRIBUTION OF SOIL PRESSURE ON FLOOR.



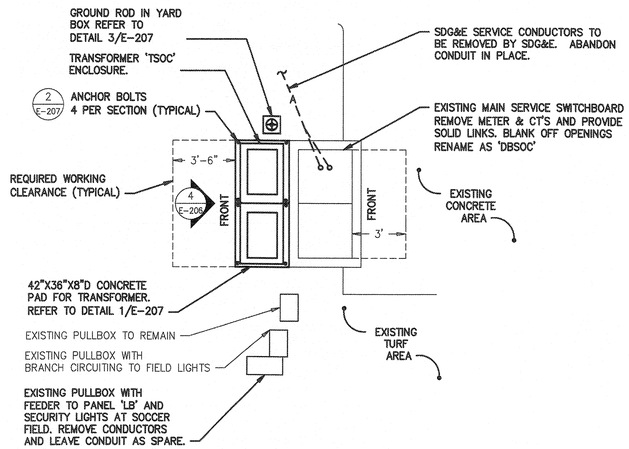
NOTES

1. BOND #6 AWG STRANDED COPPER EQUIPMENT GROUND TO METALLIC COVER BY MEANS OF GROUND LUG BOLTED TO COVER. PROVIDE 3'-0" SLACK WIRE ABOVE GRADE LEVEL TO ALLOW REMOVAL OF COVER.

ELECTRICAL HANDHOLE DETAIL

NO SCALE

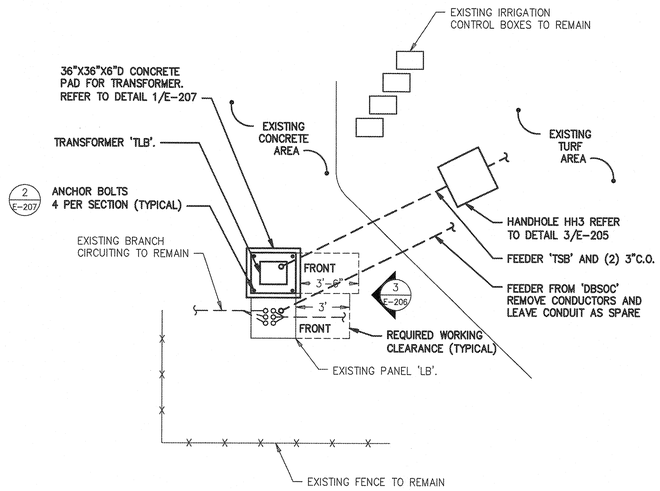
3 / E-205



SWITCHBOARD 'DBSOC' ENLARGED PLAN

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

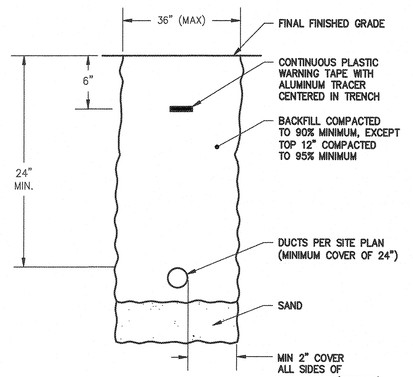
4 / E-205



EXISTING PANEL 'LB' ENLARGED PLAN

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

5 / E-205



ALL UNDERGROUND DUCTS SHALL BE PVC SCHEDULE 40 WITH PVC SCHEDULE 80 ELBOWS.

ELECTRICAL TRENCH DETAIL

NO SCALE

6 / E-205

TURPIN & RATTAN ENGINEERING, INC.
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REGISTERED PROFESSIONAL ENGINEER — DALE W. TURPIN — No.11533 exp.6/30/2014 — ELECTRICAL — STATE OF CALIFORNIA

08/23/13

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SAN YSIDRO ATHLETIC AREA / LARSEN FIELD LIGHTING

SHEET TITLE: ELECTRICAL DETAILS

SHEET NUMBER: E-205

CITY OF SAN DIEGO, CALIFORNIA
ENGINEERING AND CAPITAL PROJECTS
SHEET 21 OF 28 SHEETS

WBS #5-11018

Samir M 11/5/13
FOR CITY ENGINEER DATE

SAMIR MAHMALJI
SECTION HEAD

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	SS/JPB		6/30/13	

ALEXANDRA CORSI
PROJECT MANAGER

CCS27 COORDINATE

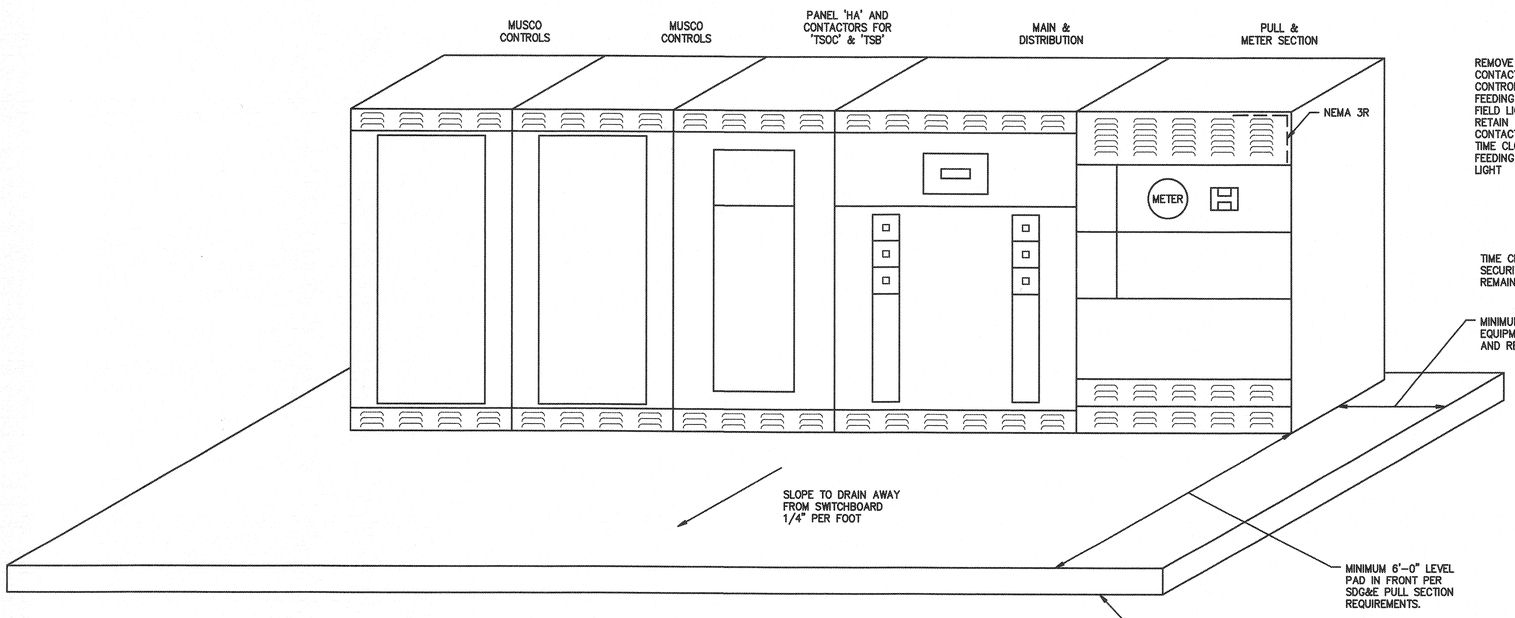
138-1752
CCS83 COORDINATE

CONTRACTOR DATE STARTED

INSPECTOR DATE COMPLETED

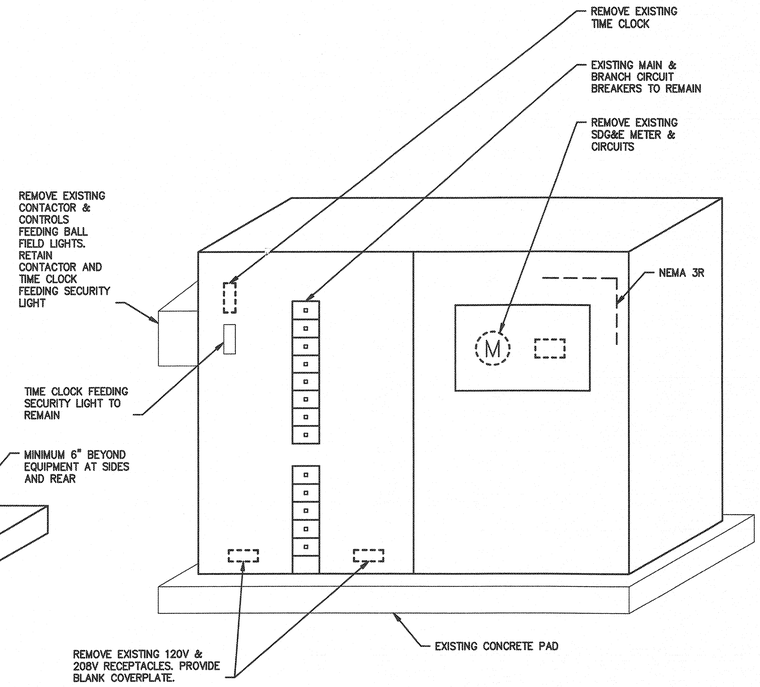
36796-21-D

SAN YSIDRO ATHLETIC AREA / LARSEN FIELD LIGHTING



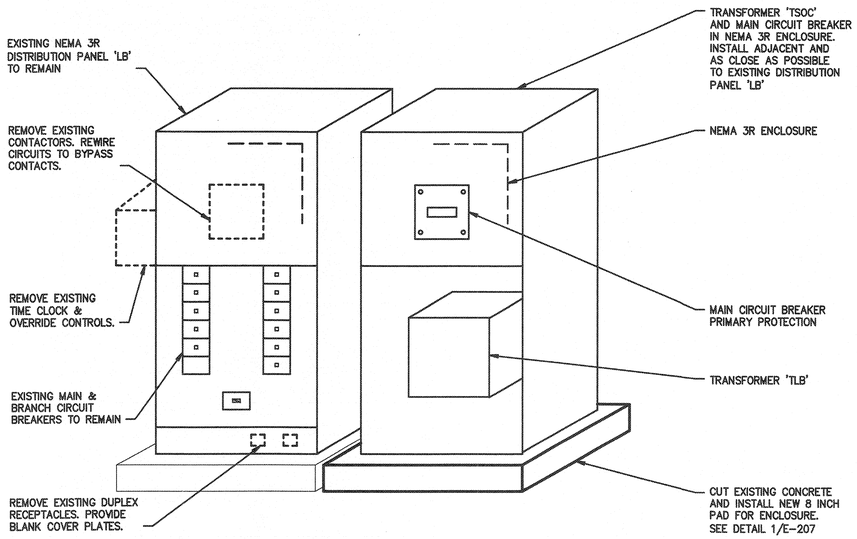
MAIN SWITCHBOARD `MSBF' ELEVATION (1 / E-206)

NO SCALE



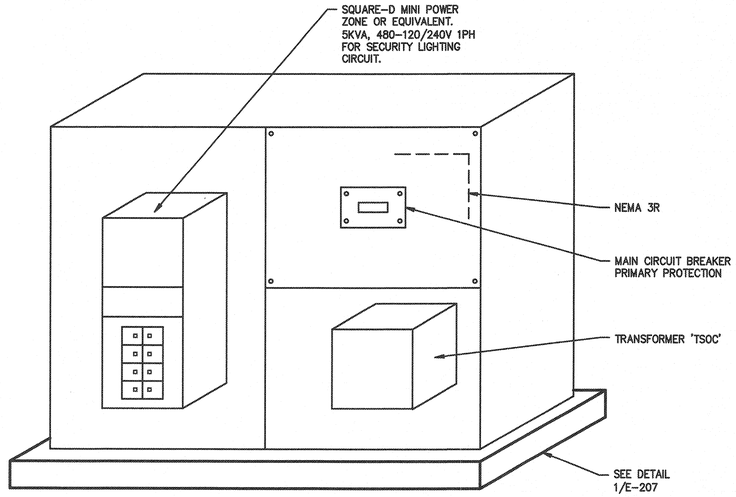
EXISTING DISTRIBUTION SWITCHBOARD `DBSOC' ELEVATION (2 / E-206)

NO SCALE



DISTRIBUTION PANEL `LB' ELEVATION (3 / E-206)

NO SCALE



DISTRIBUTION ENCLOSURE 'TSOC' ELEVATION (4 / E-206)

NO SCALE

TURPIN & RATTAN ENGINEERING, INC.
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REGISTERED PROFESSIONAL ENGINEER — No.11533 exp.6/30/2014 — ELECTRICAL — STATE OF CALIFORNIA

08/23/13

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SAN YSIDRO ATHLETIC AREA / LARSEN FIELD LIGHTING

SHEET TITLE: ELECTRICAL DETAILS

SHEET NUMBER: E-206

CITY OF SAN DIEGO, CALIFORNIA
ENGINEERING AND CAPITAL PROJECTS
SHEET 22 OF 28 SHEETS

WBS #S-11013

FOR CITY ENGINEER — DATE 11/5/13

SAMIR MAHMALJI — SECTION HEAD

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	SG/JPB		6/30/13	

ALEXANDRA CORSI — PROJECT MANAGER

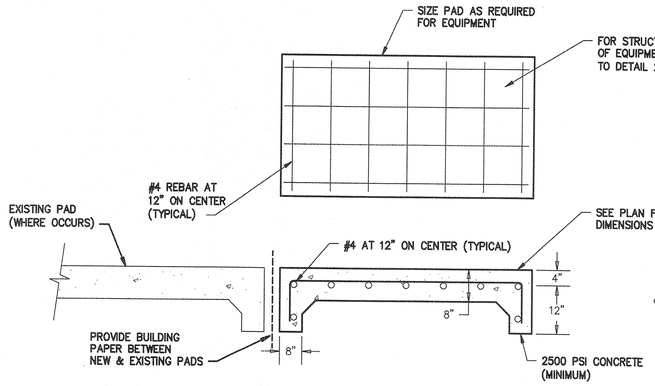
CCS27 COORDINATE: -

CCS83 COORDINATE: 158-1752

CONTRACTOR — DATE STARTED

INSPECTOR — DATE COMPLETED

36796-22-D

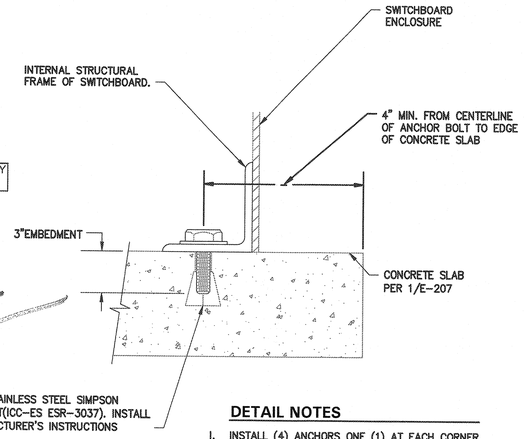


CONCRETE SWITCHBOARD PAD

NO SCALE — 1 / E-207

STRUCTURAL INFORMATION ONLY IN DETAILS 1/E-207 AND 2/E-207

REGISTERED PROFESSIONAL ENGINEER CRAIG E. VOSS No. 72097 EXP. 6-14 CIVIL STATE OF CALIFORNIA

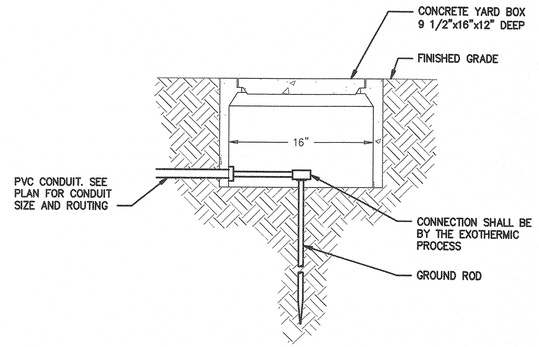


DETAIL NOTES

1. INSTALL (4) ANCHORS ONE (1) AT EACH CORNER OF EACH SECTION OF SWITCHBOARD.

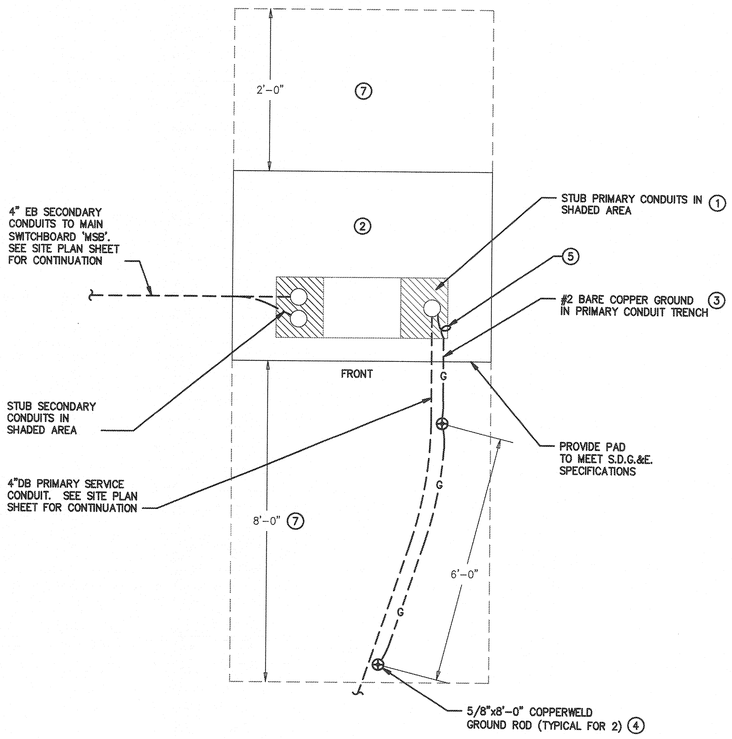
SWITCHBOARD ANCHORING DETAIL

NO SCALE — 2 / E-207



YARD BOX DETAIL

NO SCALE — 3 / E-207



SDG&E TRANSFORMER PAD #3426

NO SCALE — 4 / E-207 — NORTH

SDG&E NOTES

1. MINIMUM 36" RADIUS SWEEP FOR CONDUIT. FLUSH TO TOP OF PAD. DO NOT CUT CONDUITS IN THE CURVED PORTION OF THE SWEEPS.
2. SET PAD ON 6" INCHES OF 90% COMPACTED SOIL. PAD SHALL BE SET ON FINAL GRADE.
3. #2 SOFT DRAWN COPPER 7 STRAND BARE GROUND CONDUCTOR.
4. TERMINATE GROUND CONDUCTOR ON GROUND ROD WITH SET SCREW GROUND CLAMP PER SDG&E.
5. LEAVE 24" PIGTAIL ABOVE FINAL GRADE.
6. ALL WORK SHALL CONFORM TO SDG&E STANDARDS AND PER SDG&E CONSTRUCTION DOCUMENTS.
7. CLEAR WORKING SPACE OF 8'-0" SHALL BE MAINTAINED IN FRONT AND 2'-0" IN REAR OF TRANSFORMER PAD.

TURPIN & RATTAN ENGINEERING, INC.
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REGISTERED PROFESSIONAL ENGINEER CRAIG M. TURPIN No. 11533 exp.6/30/2014 ELECTRICAL STATE OF CALIFORNIA

08/23/13

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SAN YSIDRO ATHLETIC AREA / LARSEN FIELD LIGHTING

SHEET TITLE: ELECTRICAL DETAILS

SHEET NUMBER: E-207

CITY OF SAN DIEGO, CALIFORNIA
ENGINEERING AND CAPITAL PROJECTS
SHEET 23 OF 28 SHEETS

WBS #S-11013

Sammy M 11/5/13
FOR CITY ENGINEER — DATE

SAMIR MAHMALJI
SECTION HEAD

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	SG/JPB		6/30/13	

ALEXANDRA CORS
PROJECT MANAGER

CCS27 COORDINATE

138-1752
CCS83 COORDINATE

CONTRACTOR
INSPECTOR
DATE STARTED
DATE COMPLETED

36796-23-D

GENERAL NOTES:

GENERAL

All construction and workmanship shall conform to the California Building Code, 2010 Edition.

Wind – ASCE 7–05, 85 MPH (Exposure C)

Reference pole location drawing for actual pole placement and site location.

The Contractor is solely responsible for all construction procedures and safety conditions at the job site.

SOIL DESIGN PARAMETERS

Reference Geotechnical report prepared by Ninyo & Moore, Dated September 14, 2012; project no. 107371001.

Reference Geotechnical Report for LPILE analysis

A representative of Ninyo & Moore should be available at the time of the foundation installation to verify the soil design parameters and to provide assistance if any problems arise in foundation installation.

Encountering soil formations that will require special design considerations or excavation procedures may exist. Pole foundations may need to be reanalyzed according to the soil conditions that exist.

If any discrepancies or consistencies arise notify the engineer of such discrepancies. Foundations will then be revised accordingly.

All precast bases and concrete backfill must bear on and against firm, undisturbed soil or as approved by the Geotechnical Engineer.

All excavations must be free of loose soil and debris prior to foundation installation and placement of concrete backfill. Casing may be required if caving occurs. In such a case, Approval by the Geotechnical Engineer is required.

All excavations must be free of water or concrete shall be placed with tremie pipe in accordance with ACI Standard 336. Concrete placed by the tremie method shall have a minimum ultimate strength of 1,000 PSI greater than required under "concrete backfill" below.

CONCRETE BACKFILL

Concrete backfill shall have a minimum ultimate compressive strenght at 28 days of 4,500 PSI W/ 0.45 max water cement ratio (Concrete designed based on 2,500 PSI; continuous special inspection not required).

Concrete backfill shall attain a minimum strength of 2,000 PSI prior to steel pole erection.

Use type V portland cement or as recommended by the Geotechnical Engineer.

Mix in conformance with ASTM C–94

Aggregates per ASTM C–33. (1" Max AGG. size)

Place concrete immediately after completion of excavation and inspection by the Geotechnical Engineer. No excavations shall be left unprotected or open overnight.

Concrete shall be placed in one continuous operation (no Construction joint) to grade, with special equipment, with a maximum freefall of 5 Ft and to prevent concrete from striking the sides of the excavations. Vibrate top 5 Ft.

STEEL POLE

Steel pole sections conform to the 2010 CBC Chapter 22.

All steel conforms to the referenced ASTM specifications (See Pole Data Table for each pole type).

All weldment conforms to AWS D1.1 specifications for GMAW fillet utilizing E70S–X filler metal or SAW fillet utilizing F7XX–EXXX or F8XX–EXXX filler metal
GMAW procedure conforms to AWS A5.18.
SAW procedure conforms to AWS A5.23.

Longitudinal seam welds for pole section shall have 60% minimum penetration; Except longitudinal seam welds on the femal section of telescopic field splices shall be full penetration groove wlds for length equal to the minimum splice length plus 6 inches. See drawing number MD1 for seam weld details.

Steel pole section shall be assembled in the field by attaching two 1.5 ton "come alongs" to jacking ears, using full effort on each simultaneously, to ensure minimum overlaps as indicated on the "MS" sheet(s) and detail G/MD1.

Pole sections hot dipped galvanized to ASTM A123 latest standards.

All miscellaneous structural steel items conform to AISC 360–05.

PRECAST BASE

The precast base conforms to 2010 CBC, Chapter 19 and to building code requirements for reinforced concrete, ACI 318–08.

Precast bases are as fabricated by Cretex Concrete Products, 1340 5th Street Elk River, MN. Cretex Concrete Products is a certified plant under the PCI Plant Certifications Program.

TESTING AND INSPECTION

Testing and inspection in accordance with 2010 CBC Chapter 17. These items include concrete, steel, prestressed concrete, & Excavations.

Note: Special inspections as requried by Section 1704.2 shall not be required where the fabricator is approved in accordance with Section 1704.2.2

MISCELLANEOUS

Fixtures must be located to maintain 10'–0" minimum horizontal clearance from any obstruction.

Poles, Fixtures, Precast Bases, Electrical Items, Platforms, Specifications, and Installations per Musco Lighting, Inc.

Fixture: EPA = 2.2 Max Sq Ft; Weight = 40.0 LBS (per Musco Lighting, Inc.)

Notice to the Applicant/Owner/Owner's Agent/Architect or Engineer of Record: By using this permitted construction drawings for construction/installation of the work specified herein, you agree to comply with the requirements of City of San Diego for special inspections, structural observations, construction material testing and off–site fabrication of building components, contained in the Statement of Special Inspections and, as required by the California Construction Codes.

Notice to the Contractor/Builder/Installer/Sub–Contractor/Owner–Builder: By using this permitted construction drawings for construction/installation of the work specified herein, you acknowledge and are aware of, the requirements contained in the statement of special inspections. You agree to comply with the requirements of City of San Diego for special inspections, structural observations, constructions material testing and off–site fabrication of building components, contained in the Statement of Special Inspections and, as required by the California Construction Codes.

FABRICATOR SHALL SUBMIT AN 'APPLICATION TO PERFORM OFF-SITE FABRICATION' TO THE INSPECTION SERVICES DIVISION FOR APPROVAL PRIOR TO COMMENCEMENT OF FABRICATION

FABRICATOR SHALL SUBMIT A 'CERTIFICATE OF COMPLIANCE FOR OFF-SITE FABRICATION' TO THE INSPECTION SERVICES DIVISION PRIOR TO ERECTION OF FABRICATED ITEMS AND ASSEMBLIES.

INDEX OF SHEETS

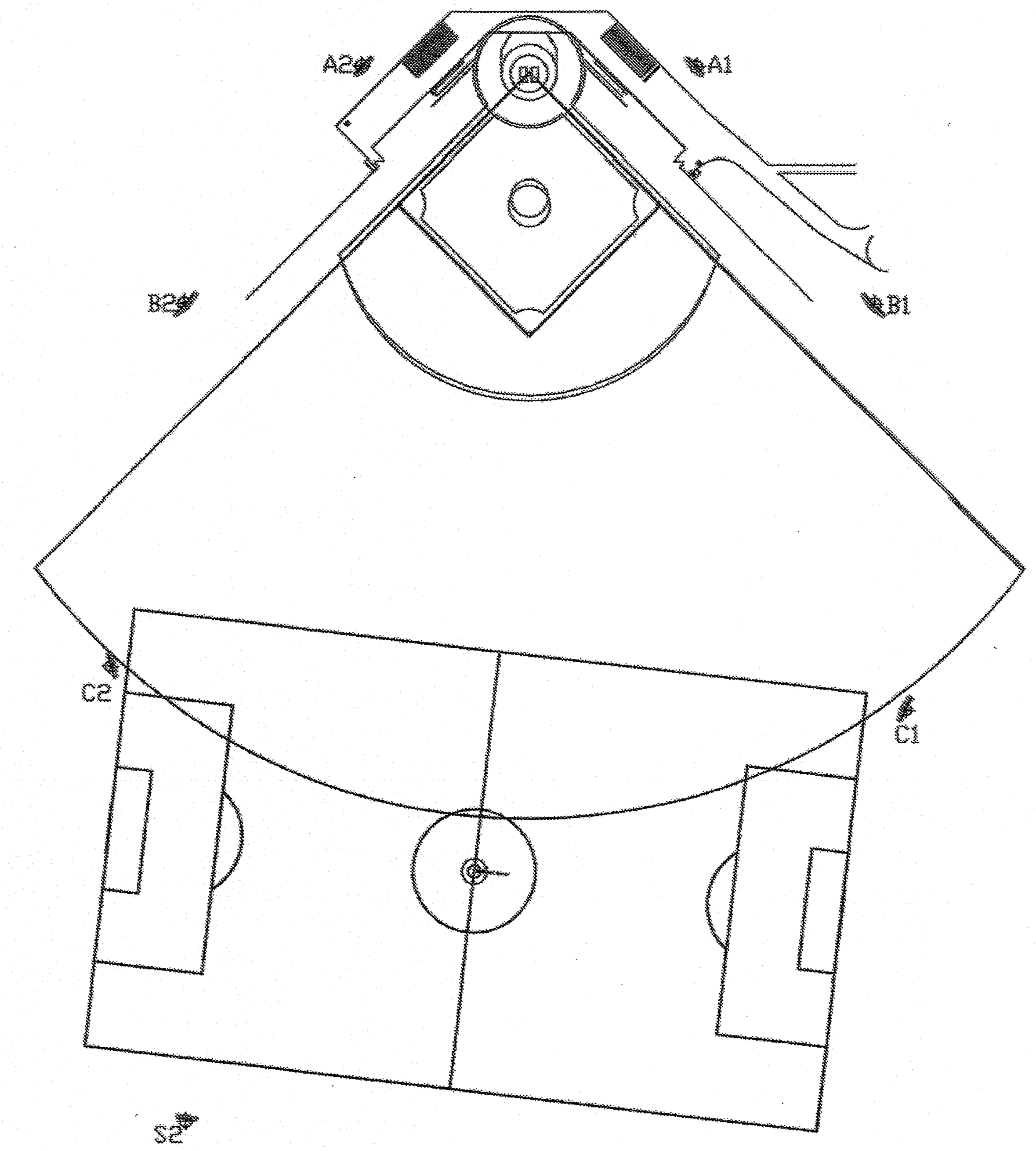
STATEMENT OF SPECIAL INSPECTION*

ITEM	CONTINUOUS /PERIODIC	SCOPE
1. Verifications & Inspection of Soils	Periodic	Perform classifications and testing of compacted fill.
	Continuous	Verify use of proper materials, densities and fill thicknesses during placement and compaction of compacted fill.
	Periodic	Prior to placement of compacted fill, observe subgrade and verify that site has been prepared properly.
2. Pier Foundations	Continuous	Inspect installations of drilled pier foundations. Verify diameter, embedment depths as scheduled, depths or fill, and bearing strata.
3. Concrete Mix Design	Periodic	Review concrete batch tickets and verify compliance with approved mix design.
4. Concrete Placement	Continuous	Inspect placement of concrete for proper application techniques. Verify that concrete conveyance and depositing avoids segregation or contamination. Verify that concrete is properly consolidated.
5. Sampling and Testing of Concrete	Continuous	At the time fresh concrete is sampled to fabricate specimens for strenght tests, perform slump and air content tests, and determine temperature of concrete.
6. Cretex Precast/ Prestressed concrete bases.	PCI Certified	Fabricator Exempt. **
7. Structural Steel	L.A. City Approved	Fabricator Exempt. ** Review certified mill test reports and identification markings.
8. Structural steel pole assembly	Periodic	Monitoring splices of steel pole shafts during jacking operations to verify minimum 1.5 x outside pole diameter of larger shaft.

* The Special Inspector shall be a qualified person who shall demonstrate competence, to the satisfaction of the Building Official, for inspection of the particular type of construction or operation requiring special inspection.

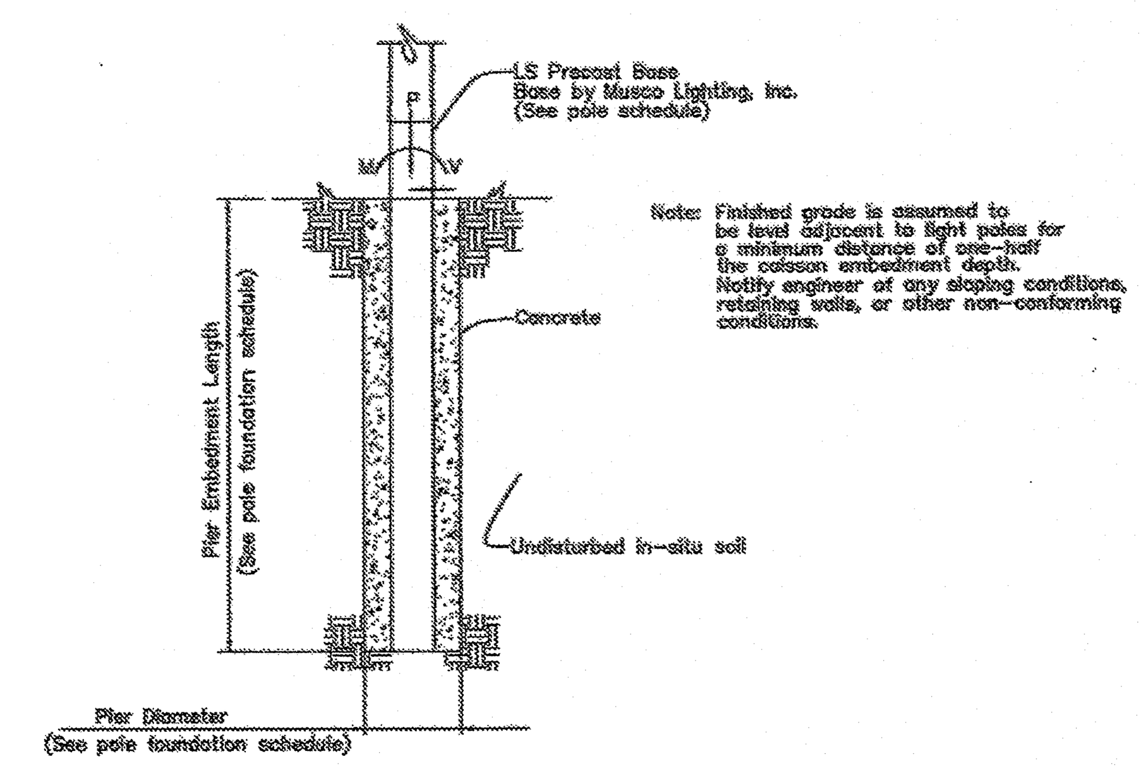
** Special inspections shall not be required when the work is done on the premises of a fabricator registered and approved by the City of San Diego to perform such work without special inspection.

RICHARD L. FOLEY, S 2407, 7/8/13, STRUCTURAL, STATE OF CALIFORNIA, Expires 06/30/15



POLE ORIENTATION PLAN
N.T.S.

NOTE: THIS PLAN IS A PICTORIAL REPRESENTATION OF THE SITE LAYOUT. REFERENCE APPROPRIATE ARCHITECTURAL SITE PLAN FOR ALL NECESSARY INFORMATION.



Note: Finished grade is assumed to be level adjacent to light poles for a minimum distance of one–half the caisson embedment depth. Notify engineer of any sloping conditions, retaining walls, or other non–conforming conditions.

(A) FOUNDATION DETAIL
N.T.S.

POLE FOUNDATION SCHEDULE

POLE TYPE–# OF FIXTURES (MAX) (LS = LIGHT STRUCTURE)	MARK (SEE POLE ORIENTATION PLAN)	FORCES (MAXIMUM)			C.I.P DEEP FOUNDATION	
		Moment (M) KIP–FT	Shear (V) KIPS	Vertical (P) KIPS*	Diameter Inches	Embedment Length
LS70A–5	A1,A2	54.04	1.242	1.533	30"	12'–0"
LS80B–11	S1,S2,B1,B2	102.15	2.057	3.462	36"	16'–0"
LS90A–12	C1,C2	133.62	2.293	3.725	36"	16'–0"

*Vertical force does not include weight of precat base see precast base identification for base weight.

Cesar Chavez Recreation Center
FIELD LIGHTING
San Ysidro, CA

R.L. FOLEY & ASSOC., INC.
25652 ASHBY WAY
LAKE FOREST, CALIFORNIA 92630
Telephone Number: 949–581–5212
Fax Number: 949–581–3212

MUSCO Lighting

CORPORATE OFFICE:
P.O. Box 808
100 1st Avenue West
Oskaloosa, Iowa 52577
800/825–6020

DRAWING TITLE: NOTES, FOUNDATION DETAIL
SCALE: SEE PLAN
REVISIONS:
REFERENCE:

PROJECT NO. 14231071
DATE: 07/02/13
DRAWN BY: TLN
DRAWING NO. MT1
1 OF 5

DCA–TITLE_E

SAN YSIDRO ATHLETIC AREA / LARSEN FIELD LIGHTING

SHEET TITLE: NOTES, FONDATION DETAIL
SHEET NUMBER: MT1

CITY OF SAN DIEGO, CALIFORNIA
ENGINEERING AND CAPITAL PROJECTS
SHEET 24 OF 28 SHEETS

WBS #S-11013

Samir M (signature) 11/5/13
FOR CITY ENGINEER — DATE

SAMIR MAHMALJI
SECTION HEAD

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	SG/JPB		6/30/13	

ALEXANDRA CORSI
PROJECT MANAGER

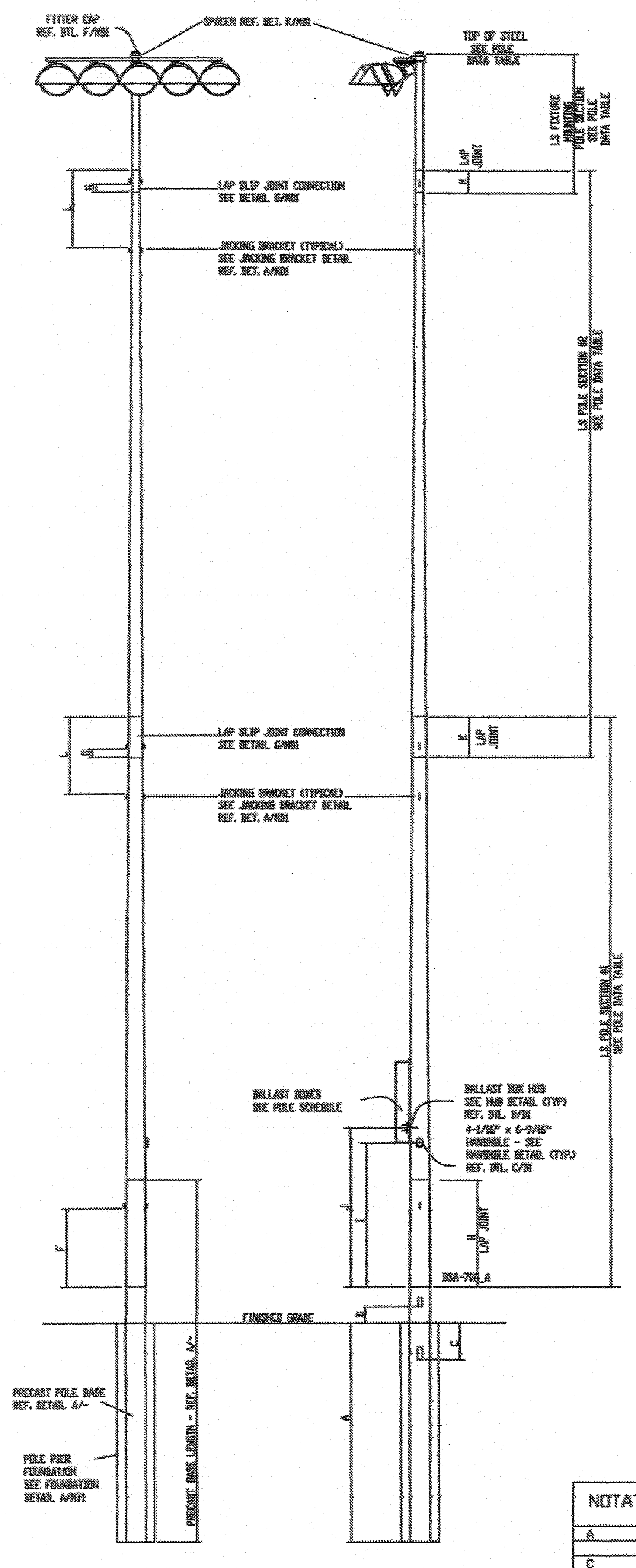
CCS27 COORDINATE
138-1752
CCS83 COORDINATE

CONTRACTOR ______ DATE STARTED ______
INSPECTOR ______ DATE COMPLETED ______

36796-24-D

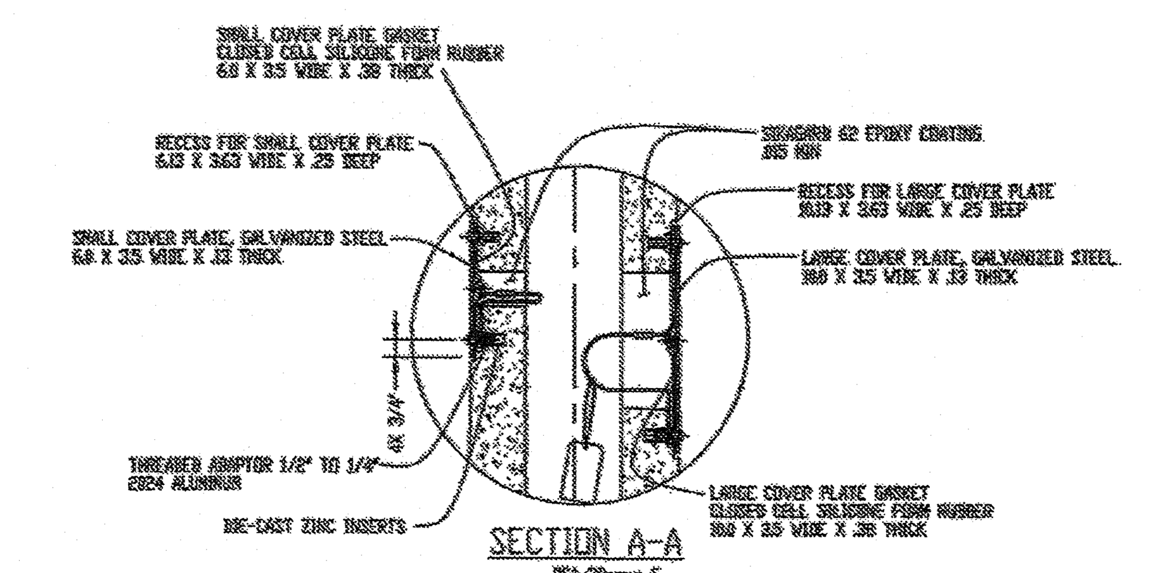
SAN YSIDRO ATHLETIC AREA / LARSEN FIELD LIGHTING

j:\0400 san ysidro athletic\03-drawings\san ysidro athletic\sheets\mt1.dwg 10/17/2013 8:43 AM

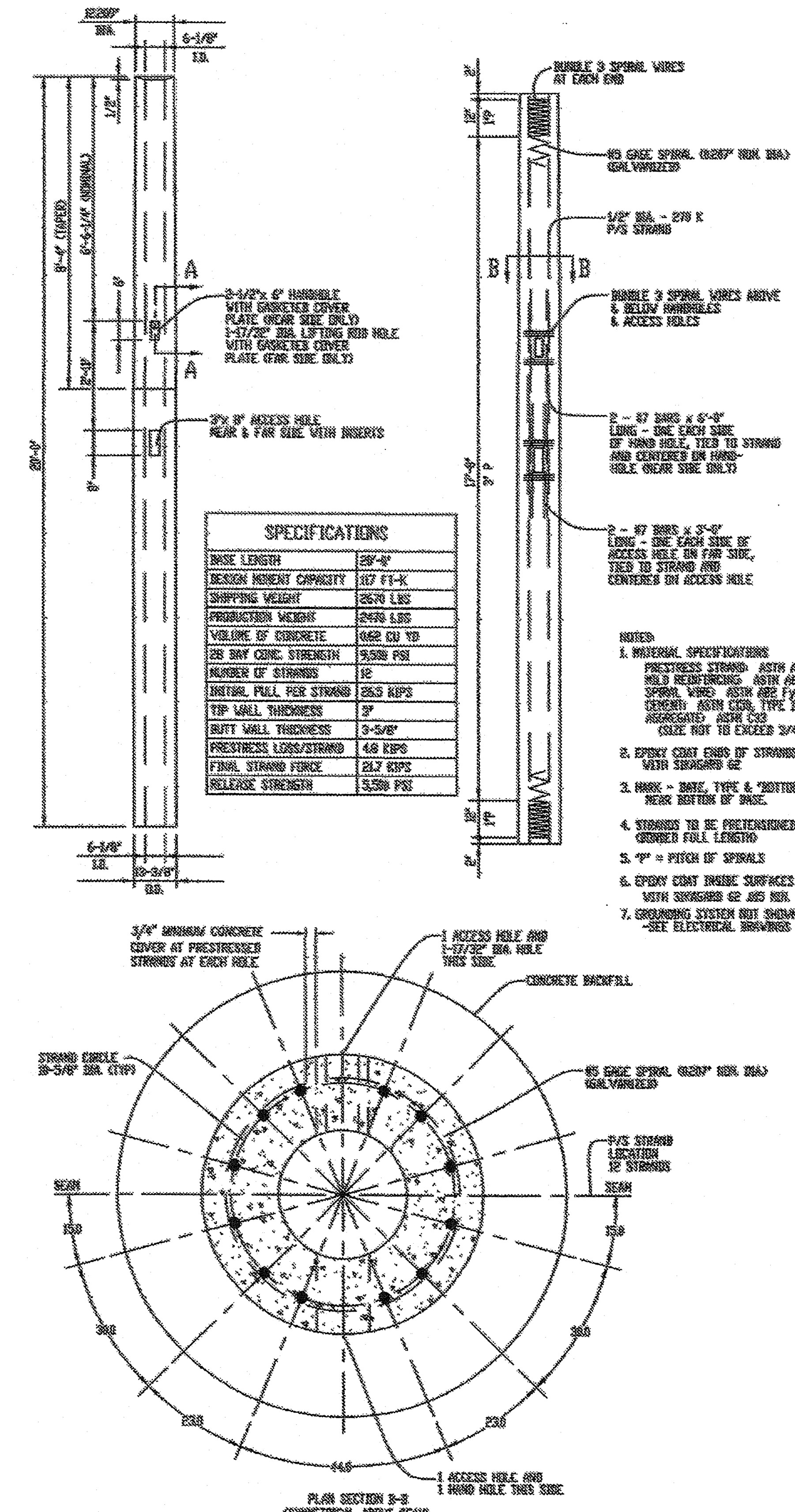


LSS70A POLE FRONT VIEW
N.T.S.

LSS70A POLE SIDE VIEW
N.T.S.



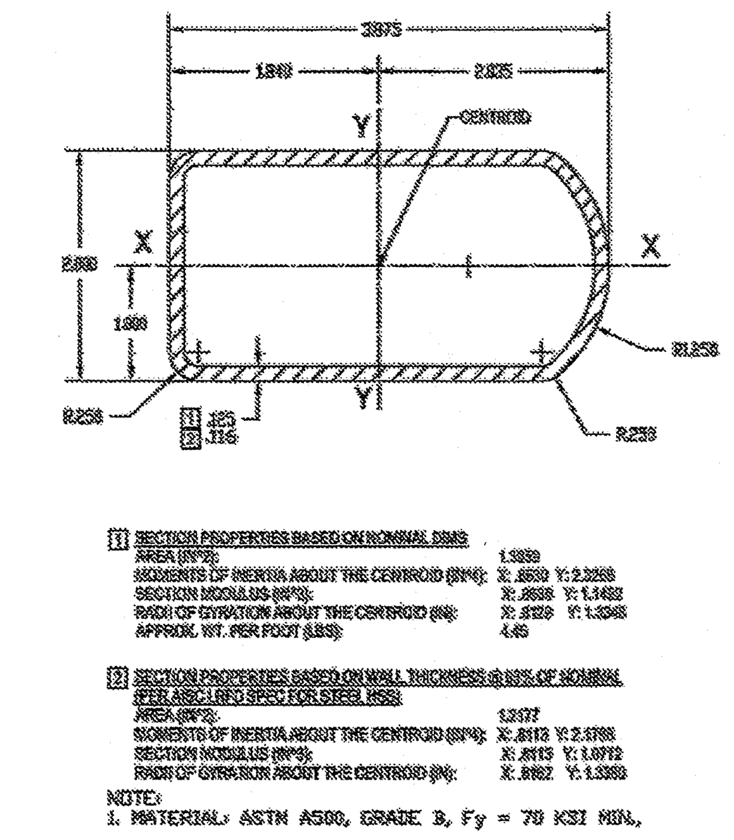
SECTION A-A



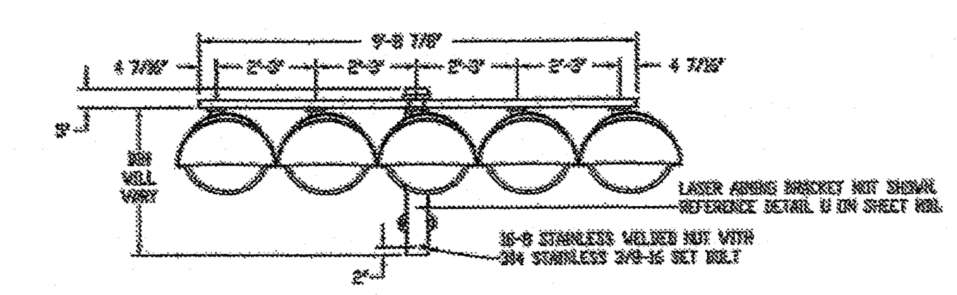
SPECIFICATIONS	
BASE LENGTH	29'-4"
DESIGN MOMENT CAPACITY	117 FT-K
SHIPPING WEIGHT	2570 LBS
PRODUCTION WEIGHT	2470 LBS
VOLUME OF CONCRETE	0.62 CU YD
28 DAY CONC. STRENGTH	9,500 PSI
NUMBER OF STRANDS	12
INITIAL PULL PER STRAND	26.5 KIPS
TIP WALL THICKNESS	3"
BUTT WALL THICKNESS	3-5/8"
PRESTRESS LOSS/STRAND	4.8 KIPS
FINAL STRAND FORCE	21.7 KIPS
RELEASE STRENGTH	5,500 PSI

NOTES:
1. MATERIAL SPECIFICATIONS
PRESTRESS STRAND: ASTM A416 GR 270 (LOW RELAXATION)
MILD REINFORCING: ASTM A615 GR 60
SPIRAL WIRE: ASTM A82 Fy=70 KSI
CEMENT: ASTM C150, TYPE III
AGGREGATE: ASTM C33
(SIZE NOT TO EXCEED 3/4")
2. EPOXY COAT ENDS OF STRANDS (T AND B) WITH SIKAGARD 62.
3. MARK - DATE, TYPE & "BOTTOM" NEAR BOTTOM OF BASE.
4. STRANDS TO BE PRETENSIONED - BONDED FULL LENGTH
5. "P" = PITCH OF SPIRALS
6. EPOXY COAT INSIDE SURFACES AT EACH HOLE WITH SIKAGARD 62 .015 MIN.
7. GROUNDING SYSTEM NOT SHOWN -SEE ELECTRICAL DRAWINGS

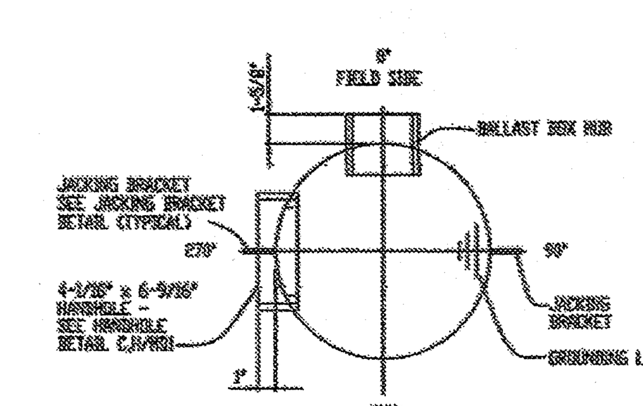
(A) TYPE 3B PRECAST BASE DETAIL
N.T.S.



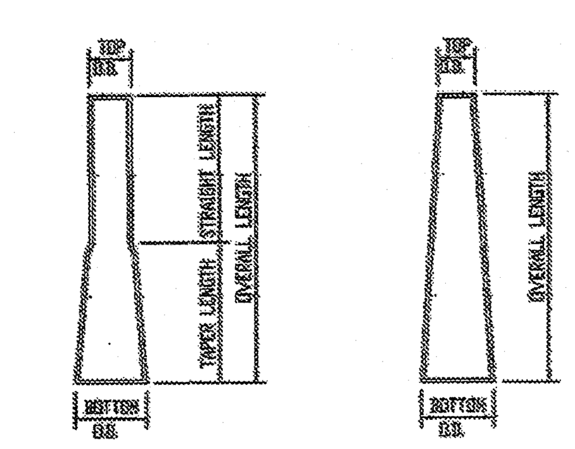
(1) FIXTURE SUPPORT CROSSARM PROPERTIES
N.T.S.



(B) 5 FIXTURE CONFIGURATION
N.T.S.



POLE ORIENTATION
N.T.S.



FIXTURE MOUNTING POLE SECTION

TOP/MIDDLE/BOTTOM POLE SECTION

NOTATION	DIMENSION LSS70A
A	12'-0"
C	2'-0" NOM.
D	1'-0" NOM.
F	4'-4" NOM.
G	1'-6"
H	5'-11 3/8" NOM. 4'-8" MIN.
I	7'-7 1/2" NOM.
J	8'-9 1/2" NOM.
K	2'-3" NOM. 1'-1 3/4" MIN.
L	4'-7" NOM.
N	1'-4 3/4" NOM. 7 1/4" MIN.

1. CONTAINS COMBINED EPA OF LIGHT FIXTURES, CROSS ARM AND MISCELLANEOUS FIXTURE MOUNTING APPARATUS.

FIXTURE WEIGHT 40 LBS. THIS INCLUDES THE WEIGHT OF FIXTURE, CROSS ARM & MISC. MOUNTING APPARATUS. ELECTRICAL BALLAST BOX WEIGHT 50 LBS PER FIXTURE SERVICED

POLE SCHEDULE

SITE LOCATION	POLE MARK	REFERENCE LOCATION	POLE TYPE	FIXTURE CONFIGURATION	TOTAL EPA[1]	BALLAST BOX REQUIREMENTS
SEE SITE PLAN (BY OTHERS)	A1,A2	SEE POLE ORIENTATION PLAN	LSS70A	5 - SEE DETAIL B/MS1	11.0	SEE DETAIL F/MS1

POLE DATA TABLE

POLE TYPE	PIECE MARK	MAX NUMBER of X-Arms	POLE SECTION	TOP O.D. (INCHES)	BTM. O.D. (INCHES)	OVERALL LENGTH	STRAIGHT LENGTH	TAPER LENGTH	THICKNESS (INCHES)	TOP OF STEEL NOMINAL	ASTM REFERENCE
LSS70A	LS-2800	2	FIXTURE MOUNTING	4.750"	5.081"	5'-3"	3'-7"	1'-8"	.120	70'-1 3/4"	A513 (Fy=38ksi)
	MP-17		#2	4.645"	9.440"	34'-3"	------	34'-3"	.120	------	A595A (Fy=55 ksi) or A572, Gr 55 or 65
	MP-38T		#1	8.886"	13.400"	32'-2 7/8"	------	32'-2 7/8"	.179	------	A595A (Fy=55 ksi) or A572, Gr 55 or 65
	MP-38		PRECAST BASE	FOR PRECAST MEMBER PROPERTIES SEE PRECAST BASE DETAIL A/-							

Cesar Chavez Recreation Center
FIELD LIGHTING
San Ysidro, CA

R.L. FOLEY & ASSOC., INC.
25652 ASHBY WAY
LAKE FOREST, CALIFORNIA 92630
TELEPHONE NUMBER: 949-581-5212
FAX NUMBER: 949-581-3212

MUSCO Lighting
CORPORATE OFFICE:
P.O. Box 808
100 1st Avenue West
Oskaloosa, Iowa 52577
800/825-6020

DRAWING TITLE: POLE DETAIL
SCALE: SEE PLAN
REVISIONS:
REFERENCE:

PROJECT NO. 14231071
DATE: 07/02/13
DRAWN BY: TLN
DRAWING NO. MS1
2 OF 5

SAN YSIDRO ATHLETIC AREA / LARSEN FIELD LIGHTING

SHEET TITLE: POLE DETAIL
SHEET NUMBER: MS1

CITY OF SAN DIEGO, CALIFORNIA
ENGINEERING AND CAPITAL PROJECTS
SHEET 25 OF 28 SHEETS

WBS #S-11013

FOR CITY ENGINEER — DATE 11/5/13
SAMIR MAHMALJI, SECTION HEAD

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	SG/JFB		6/30/13	

ALEXANDRA CORSI, PROJECT MANAGER
CCS27 COORDINATE
138-1752 CCS83 COORDINATE

CONTRACTOR ______ DATE STARTED ______
INSPECTOR ______ DATE COMPLETED ______

36796-25-D

SAN YSIDRO ATHLETIC AREA / LARSEN FIELD LIGHTING

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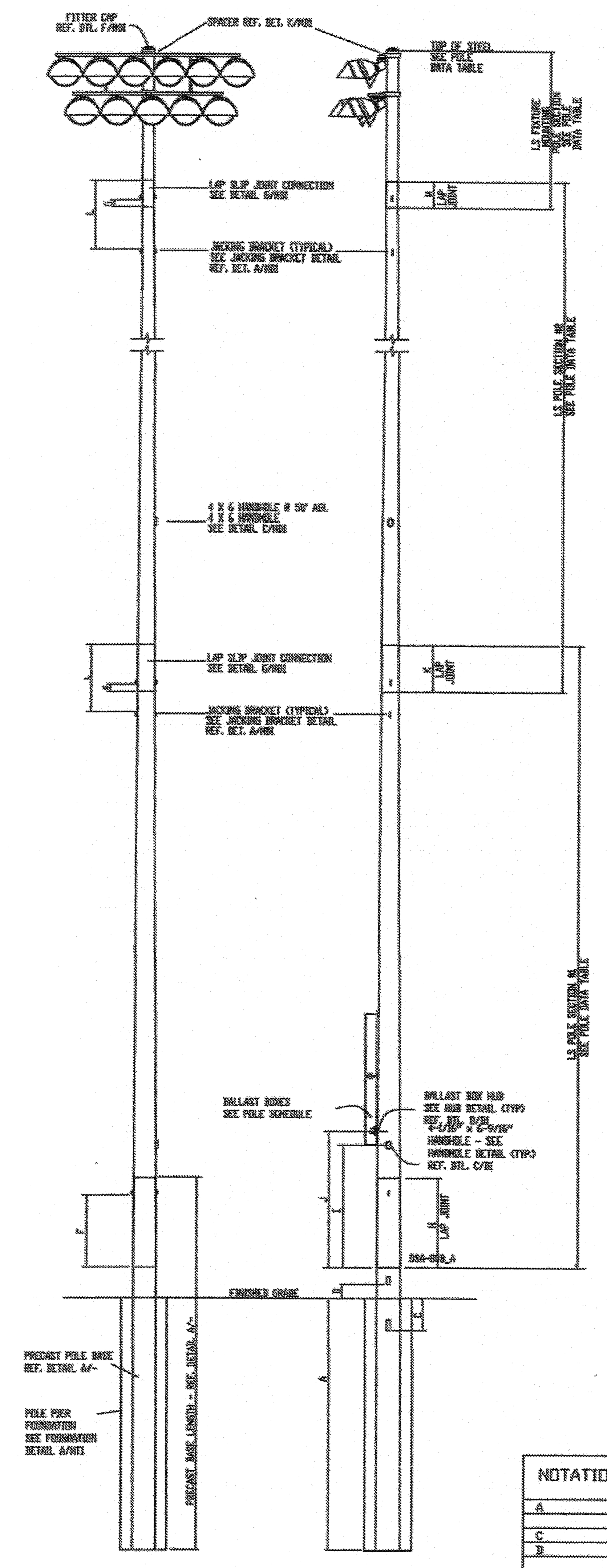
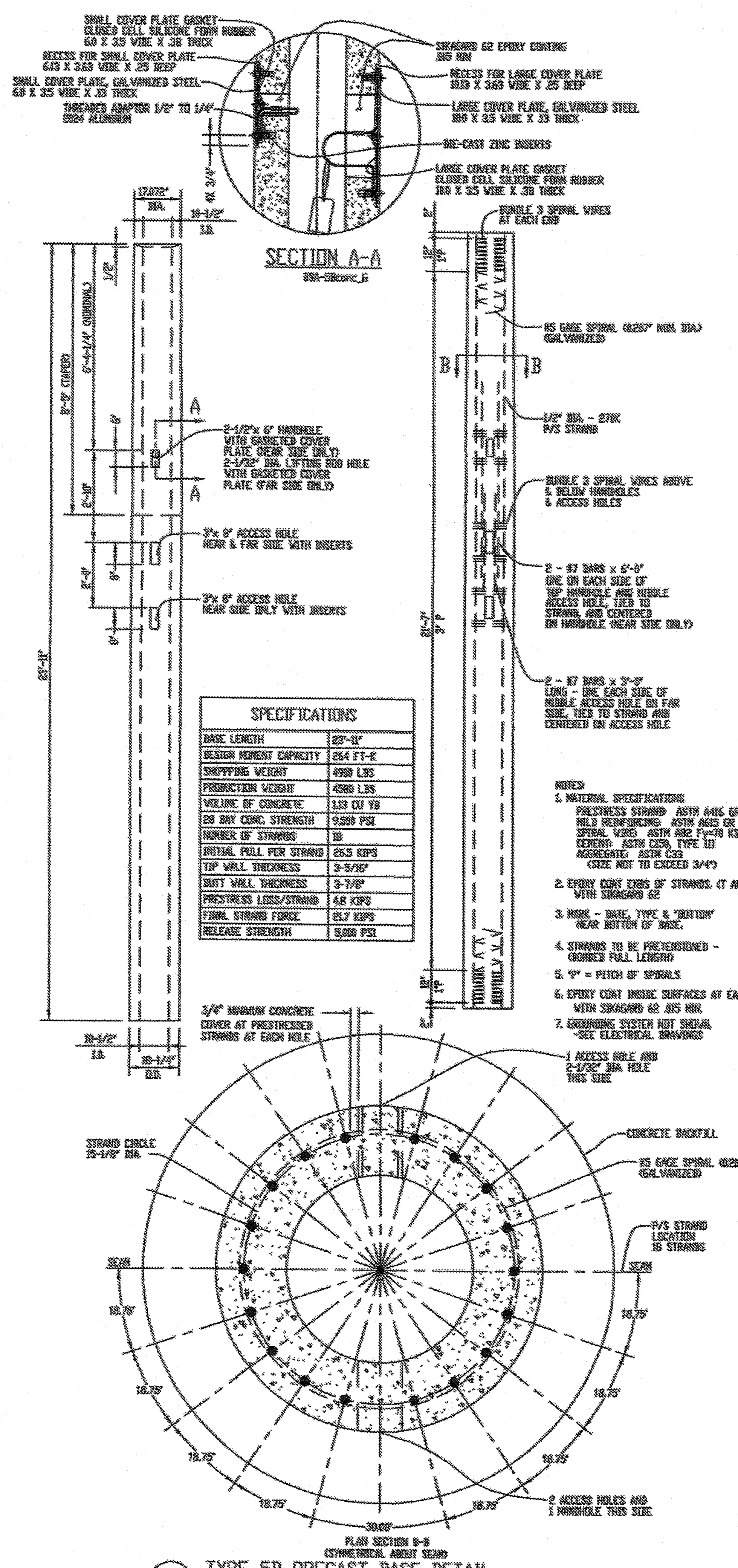


LSS80B POLE FRONT VIEW
N.T.S.

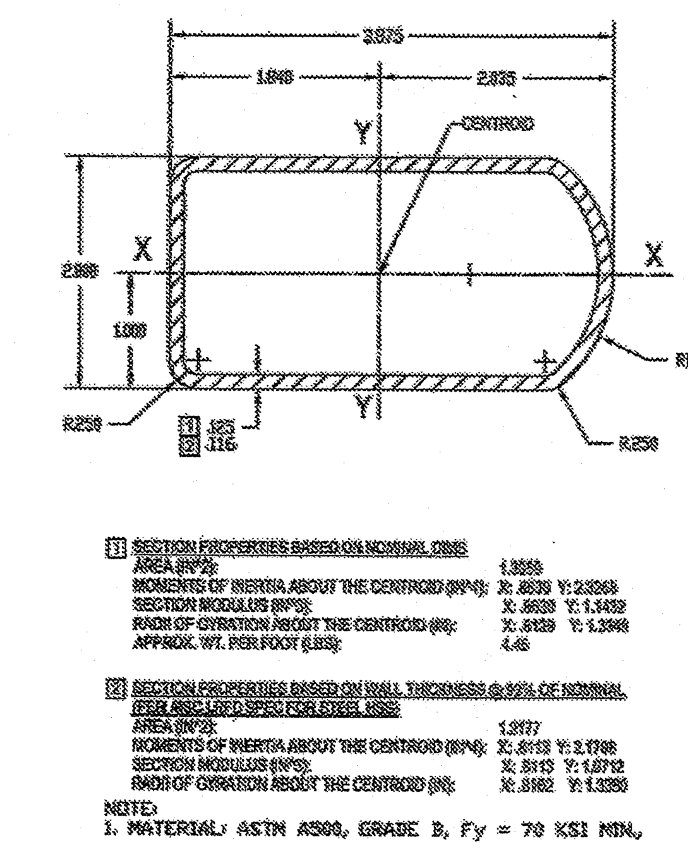
LSS80B POLE SIDE VIEW



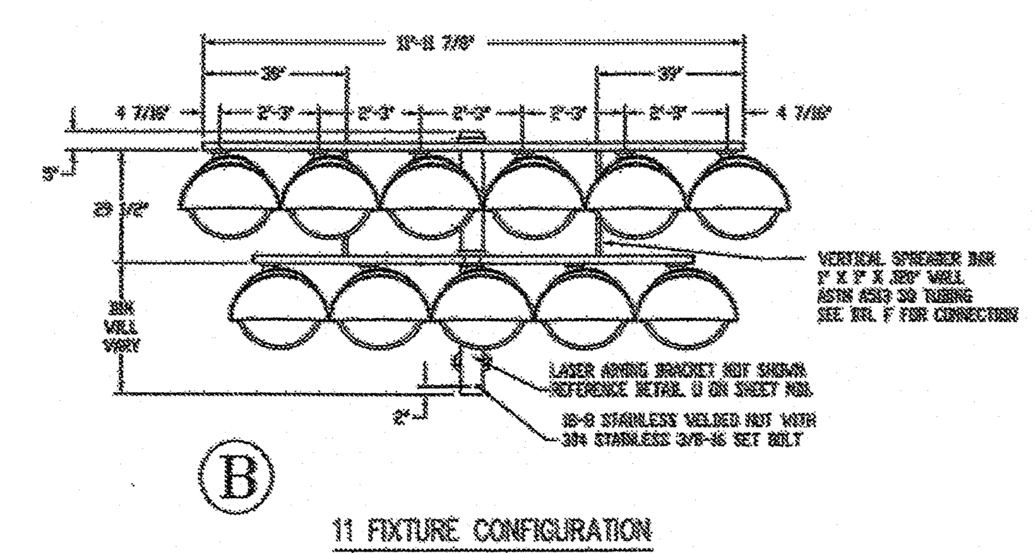
SECTION A-A

SPECIFICATIONS	
BASE LENGTH	23'-0"
DESIGN MOMENT CAPACITY	264 FT-K
SHIPPING WEIGHT	4980 LBS
PRODUCTION WEIGHT	4580 LBS
VOLUME OF CONCRETE	1.13 CU YD
28 DAY CONC. STRENGTH	9,500 PSI
NUMBER OF STRANDS	18
INITIAL PULL PER STRAND	26.5 KIPS
TIP WALL THICKNESS	3-5/16"
BUTT WALL THICKNESS	3-7/8"
PRESTRESS LOSS/STRAND	4.8 KIPS
FINAL STRAND FORCE	21.7 KIPS
RELEASE STRENGTH	5,000 PSI

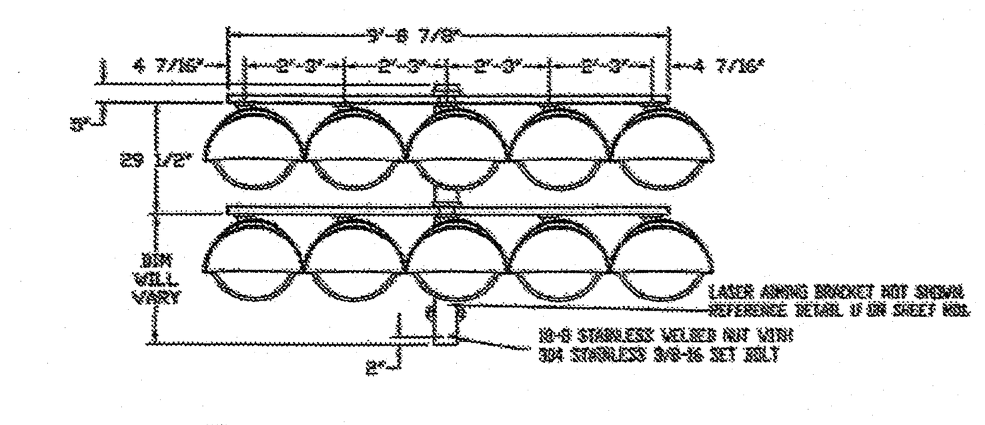
(A) TYPE 5B PRECAST BASE DETAIL
N.T.S.



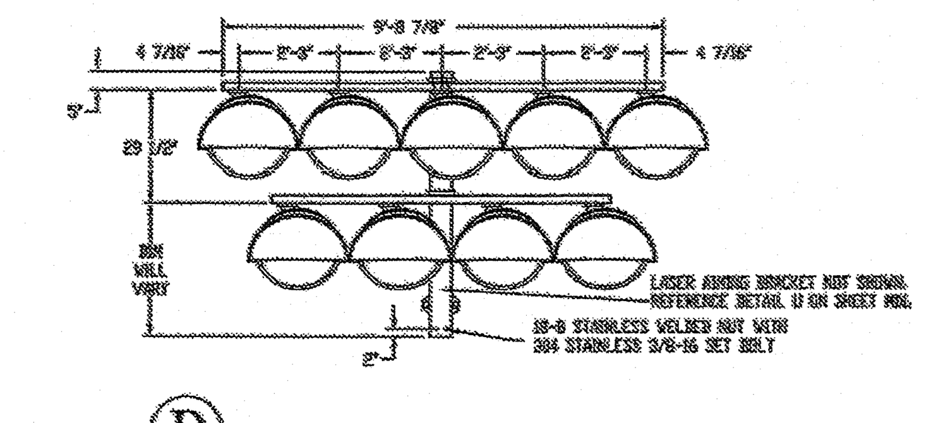
(1) FIXTURE SUPPORT CROSSARM PROPERTIES
N.T.S.



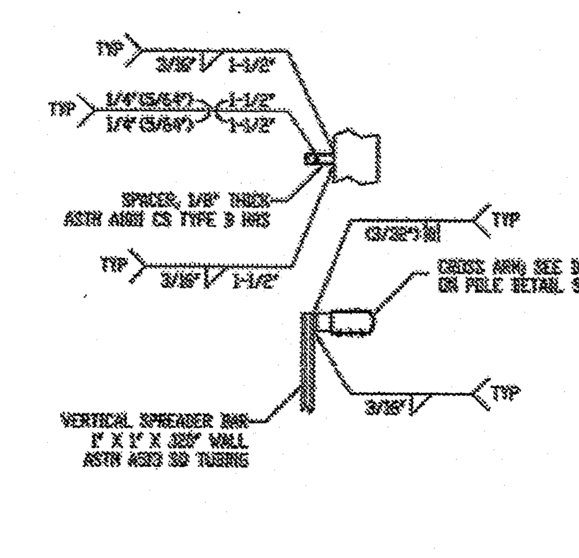
(B) 11 FIXTURE CONFIGURATION
N.T.S.



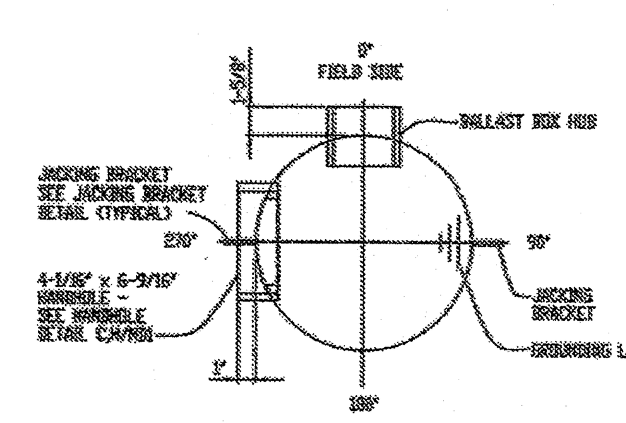
(C) 10 FIXTURE CONFIGURATION
N.T.S.



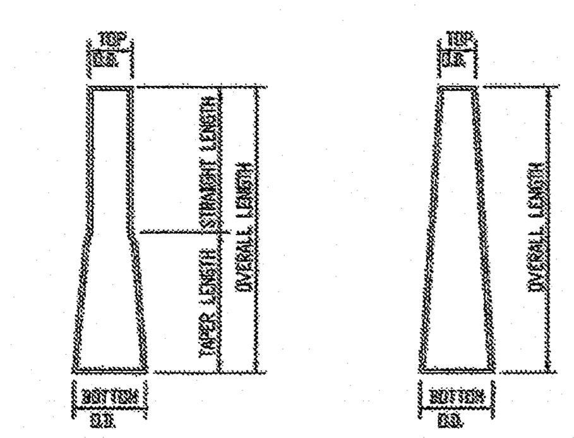
(D) 9 FIXTURE CONFIGURATION
N.T.S.



(F) WELD ON SPREADER BAR DETAIL
SCALE: N.T.S.



POLE ORIENTATION
N.T.S.



FIXTURE MOUNTING POLE SECTION

TOP/MIDDLE/BOTTOM POLE SECTION

NOTATION	DIMENSION LSS80B
A	16'-0"
C	2'-0" NOM.
D	1'-0" NOM.
F	4'-4" NOM.
G	1'-6"
H	5'-9 3/8" NOM. 5'-5" MIN.
I	7'-7 1/2" NOM.
J	8'-9 1/2" NOM.
K	2'-8 3/8" NOM. 1'-7 1/2" MIN.
L	4'-7" NOM.
M	1'-9 1/2" NOM. 1'-8 3/4" MIN.

1. CONTAINS COMBINED EPA OF LIGHT FIXTURES, CROSS ARM AND MISCELLANEOUS FIXTURE MOUNTING APPARATUS.

FIXTURE WEIGHT 40 LBS. THIS INCLUDES THE WEIGHT OF FIXTURE, CROSS ARM & MISC. MOUNTING APPARATUS. ELECTRICAL BALLAST BOX WEIGHT 51 LBS PER FIXTURE SERVICED.

POLE SCHEDULE

SITE LOCATION	POLE MARK	REFERENCE LOCATION	POLE TYPE	FIXTURE CONFIGURATION	TOTAL EPA[1]	BALLAST BOX REQUIREMENTS
SEE SITE PLAN (BY OTHERS)	S1,S2	SEE POLE ORIENTATION PLAN	LSS80B	11 - SEE DETAIL B/MS2	24.2	SEE DETAIL S/MS1
	S1	SEE POLE ORIENTATION PLAN	LSS80B	10 - SEE DETAIL C/MS2	21.8	SEE DETAIL R/MS1
	S2	SEE POLE ORIENTATION PLAN	LSS80B	9 - SEE DETAIL D/MS2	19.9	SEE DETAIL R/MS1

POLE DATA TABLE

POLE TYPE	PIECE MARK	MAX NUMBER of X-Arms	POLE SECTION	TOP O.D. (INCHES)	BTM. O.D. (INCHES)	OVERALL LENGTH	STRAIGHT LENGTH	TAPER LENGTH	THICKNESS (INCHES)	TOP OF STEEL NOMINAL	ASTM REFERENCE
LSS80B	LS-2017	2	FIXTURE MOUNTING	8.000"	8.781"	5'-3"	3'-1"	2'-2"	.125	80'-1 7/8"	A513 (Fy=38ksi)
	MP-49TT-2		#2	8.280"	13.400"	36'-6 7/8"	------	36'-6 7/8"	.179	------	A595A (Fy=55 ksi) or A572, Gr 55 or 65
	MP-68T		#1	12.660"	18.360"	40'-8 5/8"	------	40'-8 5/8"	.239	------	A595A (Fy=55 ksi) or A572, Gr 55 or 65
	MP-5B		PRECAST BASE	FOR PRECAST MEMBER PROPERTIES SEE PRECAST BASE DETAIL A/-							

Cesar Chavez Recreation Center
FIELD LIGHTING
San Ysidro, CA

R.L. FOLEY & ASSOC., INC.
25652 ASHBY WAY
LAKE FOREST, CALIFORNIA 92630
TELEPHONE NUMBER: 949-581-5212
FAX NUMBER: 949-581-3212

MUSCO Lighting
CORPORATE OFFICE:
P.O. Box 808
100 1st Avenue West
Oskaloosa, Iowa 52577
800/825-6020

DRAWING TITLE: POLE DETAIL
SCALE: SEE PLAN
REVISIONS:
REFERENCE:

PROJECT NO. 14231071
DATE: 07/02/13
DRAWN BY: TLN
DRAWING NO. MS2
3 OF 5

SAN YSIDRO ATHLETIC AREA / LARSEN FIELD LIGHTING

SHEET TITLE: POLE DETAIL	SHEET NUMBER: MS2
CITY OF SAN DIEGO, CALIFORNIA ENGINEERING AND CAPITAL PROJECTS SHEET 26 OF 28 SHEETS	WBS #S-11013
FOR CITY ENGINEER 11/5/13 DATE	SAMIR MAHMALJI SECTION HEAD

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	SG/JFB		6/30/13	

ALEXANDRA CORSI
PROJECT MANAGER

CCS27 COORDINATE
138-1752
CCS83 COORDINATE

CONTRACTOR ______ DATE STARTED ______
INSPECTOR ______ DATE COMPLETED ______

36796-26-D

SAN YSIDRO ATHLETIC AREA / LARSEN FIELD LIGHTING

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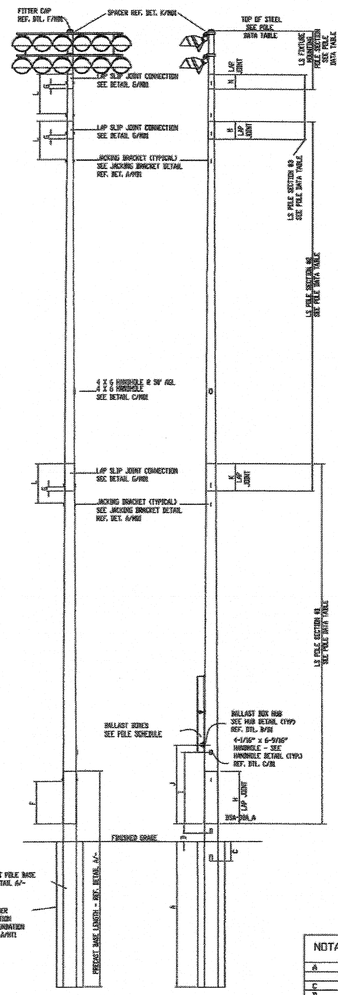
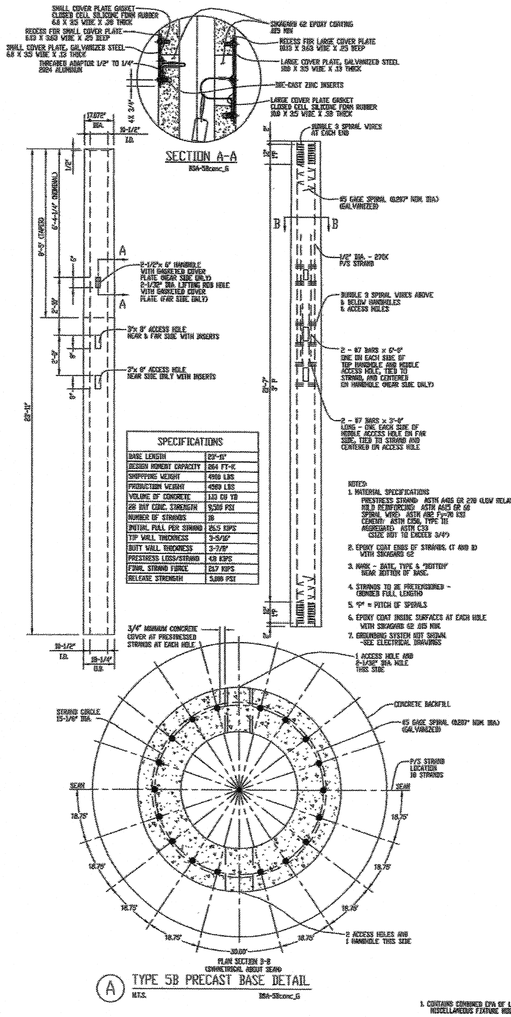


LSS90A POLE FRONT VIEW LSS90A POLE SIDE VIEW

N.T.S. DSA-MANHOLE_A



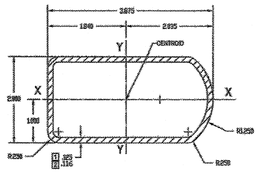
A TYPE 5B PRECAST BASE DETAIL

N.T.S. DSA-SBconc_G

SPECIFICATIONS	
BASE LENGTH	29'-6"
DESIGN MOMENT CAPACITY	864 FT-K
SHIPPING WEIGHT	4960 LBS
PRODUCTION WEIGHT	4969 LBS
VOLUME OF CONCRETE	1.13 CU YD
28 DAY CONC. STRENGTH	5,500 PSI
NUMBER OF STRANDS	18
INITIAL FULL PER STRAND	28.5 KIPS
TIP WALL THICKNESS	3-5/16"
BUTT WALL THICKNESS	5-7/16"
PRESTRESS LOSS/STRAND	4.8 KIPS
FINAL STRAND FORCE	23.7 KIPS
RELEASE STRENGTH	5,000 PSI

NOTES:
1. MATERIAL SPECIFICATIONS
PRESTRESS STRAND ASTM A416 GR 270 LOW RELAXATION
RULE REINFORCING ASTM A615 GR 60
SPIRAL WIRES ASTM A82 Fy=70 KSI
CONCRETE ASTM C094, TYPE III
AGGREGATES ASTM C33
CHUCK ASH TO CHUCKER 3/4")
2. EPOXY COAT ENDS OF STRANDS, CT AND ID
WITH STANDARD G2
3. MARK - BATE, TYPE & "SIGHTED"
NEAR BOTTOM OF BASE.
4. STRANDS TO BE PRETENSIONED -
CENTERED FULL LENGTH
5. "S" = PITCH OF SPIRALS
6. EPOXY COAT INSIDE SURFACES AT EACH HOLE
WITH STANDARD G2 DIS MIN
7. GROUNDING SYSTEM KIT SHOWN
- SEE ELECTRICAL DRAWINGS

NOTATION	DIMENSION LSS90A
A	16'-0"
C	2'-6" NOM.
D	1'-8" NOM.
F	4'-4" NOM.
G	1'-6"
H	5'-9 3/8" NOM. 5'-5" MIN.
I	7'-7 1/2" NOM.
J	8'-9 1/2" NOM.
K	2'-6 3/8" NOM. 1'-7 1/2" MIN.
L	4'-7" NOM.
M	2'-1 3/4" NOM. 1'-9 1/8" MIN.
N	1'-7 5/8" NOM. 11" MIN.



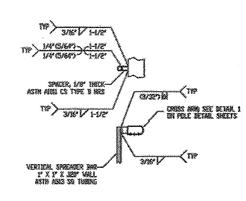
1 SECTION PROPERTIES BASED ON NOMINAL DIMS
AREA (IN^2): 1.1009
MOMENTS OF INERTIA ABOUT THE CENTROID (IN^4): X: .2810 Y: 2.3308
SECTION MODULUS (IN^3): X: .2828 Y: 1.1432
RADII OF GYRATION ABOUT THE CENTROID (IN): X: .2529 Y: 1.5260
APPROX. WT. PER FOOT (LBS): 4.45

2 SECTION PROPERTIES BASED ON FULL THICKNESS (A 93% OF NOMINAL WALL ASSUMED USED FOR STEEL LOSS)
AREA (IN^2): 1.2177
MOMENTS OF INERTIA ABOUT THE CENTROID (IN^4): X: .3113 Y: 2.5788
SECTION MODULUS (IN^3): X: .3173 Y: 1.6072
RADII OF GYRATION ABOUT THE CENTROID (IN): X: .2162 Y: 1.5369

NOTES:
1. MATERIAL: ASTM A500, GRADE B, Fy = 70 KSI MIN.

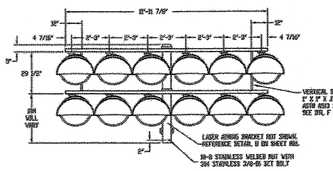
1 FIXTURE SUPPORT CROSSARM PROPERTIES

N.T.S. DSA-SPSP_B



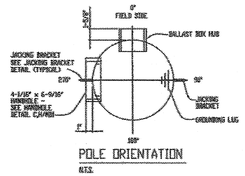
F WELD ON SPREADER BAR DETAIL

SCALE: N.T.S. DSA-SpreaderBarWeldOn_R



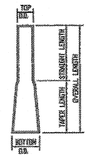
B 12 FIXTURE CONFIGURATION

N.T.S. DSA-19A_E



POLE ORIENTATION

N.T.S.



FIXTURE MOUNTING POLE SECTION

TOP/MIDDLE/BOTTOM POLE SECTION

1. CONTAINS COMBINED EPA OF LIGHT FIXTURES, CROSS ARM AND MISCELLANEOUS FIXTURE MOUNTING APPURTENANCES.

FIXTURE WEIGHT 40 LBS. THIS INCLUDES THE WEIGHT OF FIXTURE, CROSS ARM & MISC. MOUNTING APPURTENANCES, ELECTRICAL BALLAST BOX WEIGHT 50 LBS PER FIXTURE SERVICED

POLE SCHEDULE

SITE LOCATION	POLE MARK	REFERENCE LOCATION	POLE TYPE	FIXTURE CONFIGURATION	TOTAL EPA[1]	BALLAST BOX REQUIREMENTS
SEE SITE PLAN (BY OTHERS)	CS22	SEE POLE ORIENTATION PLAN	LSS90A	12 - SEE DETAIL B/M03	8.4	SEE DETAIL B/M08

DSA-POLESCHE_C

POLE DATA TABLE

POLE TYPE	PIECE MARK	MAX NUMBER OF X-ARMS	POLE SECTION	TOP O.D. (INCHES)	BTM. O.D. (INCHES)	OVERALL LENGTH	STRAIGHT LENGTH	TAPER LENGTH	THICKNESS (INCHES)	TOP OF STEEL NOMINAL	ASTM REFERENCE
LSS90A	LS-2013	2	FIXTURE MOUNTING	7.809"	7.549"	5'-3"	3'-3"	2'-0"	.123	91'-6 3/8"	A513 (Fy=38ksi)
	MP-2TT-2		#3	7.869"	8.449"	9'-9 1/2"	------	9'-9 1/2"	.179	------	A595A (Fy=55 ksi) or A572, Gr 55 or 65
	MP-4BT		#2	7.781"	13.469"	49'-1 5/8"	------	40'-1 3/8"	.179	------	A595A (Fy=55 ksi) or A572, Gr 55 or 65
	MP-6BT		#1	12.669"	18.359"	49'-8 5/8"	------	40'-8 3/8"	.239	------	A595A (Fy=55 ksi) or A572, Gr 55 or 65
	MP-5B		PRECAST BASE	FOR PRECAST MEMBER PROPERTIES SEE PRECAST BASE DETAIL A/-							

DSA-POLEDATA_E

Cesar Chavez Recreation Center
FIELD LIGHTING
San Ysidro, CA

R.L. FOLEY & ASSOC., INC.
25652 ASHBY WAY
LAKE FOREST, CALIFORNIA 92630
TELEPHONE NUMBER: 949-581-5212
FAX NUMBER: 949-581-3212

CORPORATE OFFICE:
P.O. Box 808
100 1st Avenue West
Oskaloosa, Iowa 52577
800/825-6020

DRAWING TITLE: POLE DETAIL
SCALE: SEE PLAN
REVISIONS:
REFERENCES:

PROJECT NO. 14231071
DATE: 07/02/13
DRAWN BY: TLN
DRAWING NO. 4 OF 5 MS3

SAN YSIDRO ATHLETIC AREA / LARSEN FIELD LIGHTING

SAN YSIDRO ATHLETIC AREA / LARSEN FIELD LIGHTING

SHEET TITLE: POLE DETAIL
SHEET NUMBER: MS3

CITY OF SAN DIEGO, CALIFORNIA
ENGINEERING AND CAPITAL PROJECTS
SHEET 27 OF 28 SHEETS

WBS #S-11013

FOR CITY ENGINEER 11/5/13 DATE

SAMIR MAHMALJI
SECTION HEAD

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	SS/JFB		6/30/13	

ALEXANDRA CORSI
PROJECT MANAGER

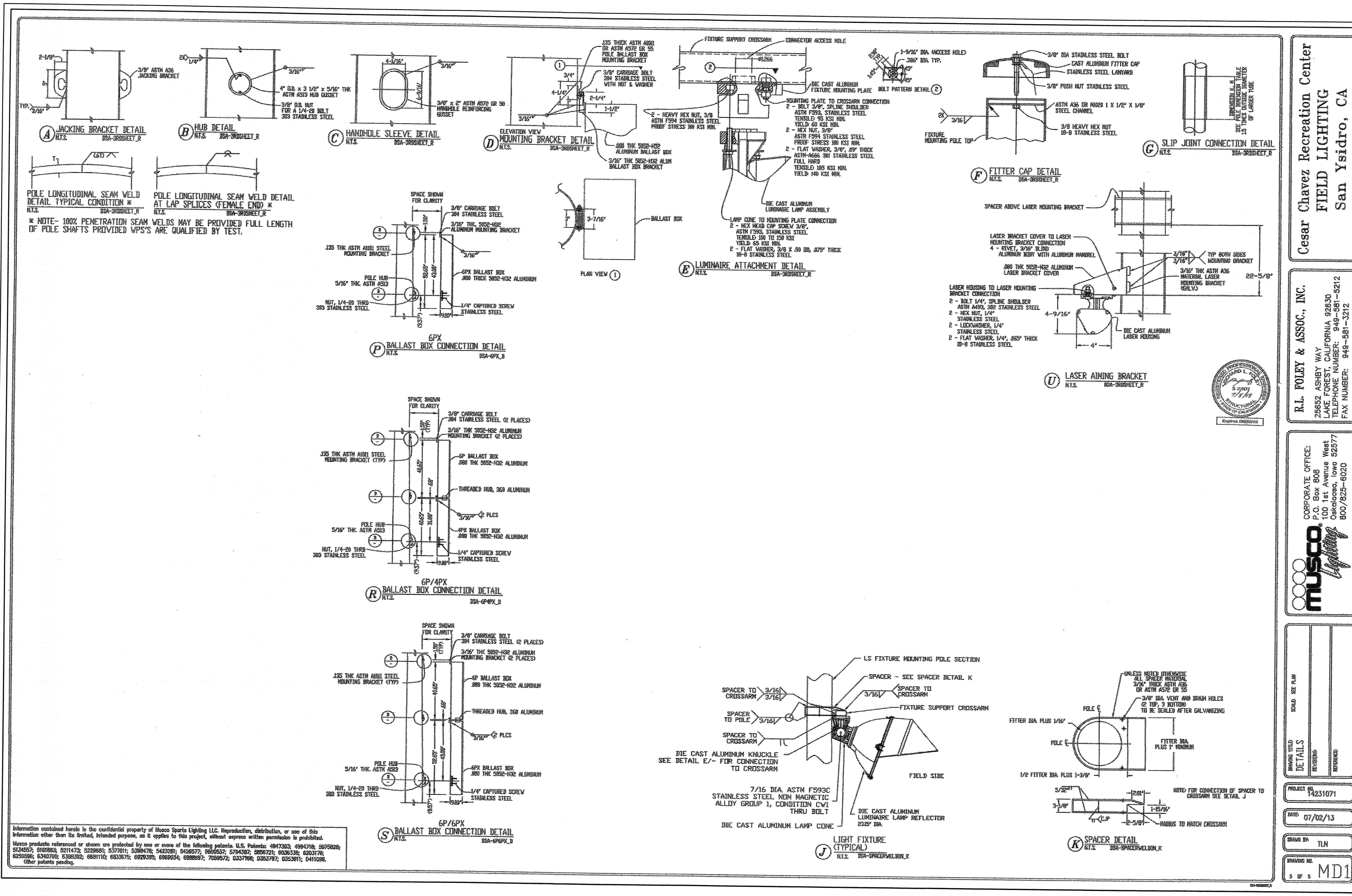
CCS27 COORDINATE

138-1752
CCS83 COORDINATE

CONTRACTOR DATE STARTED
INSPECTOR DATE COMPLETED

36796-27-D

j:\0400 san ysidro athletic\03-drawings\san ysidro athletic\sheets\ms3.dwg 10/17/2013 8:41 AM



SAN YSIDRO ATHLETIC AREA / LARSEN FIELD LIGHTING

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SAN YSIDRO ATHLETIC AREA / LARSEN FIELD LIGHTING

SHEET TITLE: DETAILS

SHEET NUMBER: MD1

CITY OF SAN DIEGO, CALIFORNIA
ENGINEERING AND CAPITAL PROJECTS
SHEET 28 OF 28 SHEETS

WBS #5-11013

Samir M. 11/5/13
FOR CITY ENGINEER DATE

SAMIR MAHMALJI
SECTION HEAD

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	SG/JFB		6/30/13	

ALEXANDRA CORSI
PROJECT MANAGER

CCS27 COORDINATE

138-1752
CCS83 COORDINATE

CONTRACTOR ______ DATE STARTED ______
INSPECTOR ______ DATE COMPLETED ______

36796-28-D