

# APPROVED

4 - 05 - 2017

## BOARD OF RECREATION AND PARK COMMISSIONERS

BOARD REPORT

NO. 17-087

DATE April 05, 2017

C.D. 6

### BOARD OF RECREATION AND PARK COMMISSIONERS

SUBJECT: STRATHERN PARK NORTH BASEBALL FIELD LIGHTING (PRJ21028)  
(W.O. #E170414F) PROJECT – APPROVAL OF FINAL PLANS

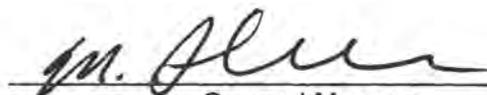
AP Diaz

V. Israel

R. Barajas

N. Williams

H. Fujita

  
General Manager

Approved

Disapproved

Withdrawn

### RECOMMENDATIONS

Approve the final plans and specifications substantially in the form on file with the Board Office, for the Strathern Park North Baseball Field Lighting (PRJ21028) (W.O. #E170414F) Project;

### SUMMARY

Strathern Park North is located at 8041 Whitsett Avenue in the Sun Valley community of the City. This 12.74 acre facility provides four (4) ball diamonds for the use of the surrounding community. An estimated Three Thousand Three Hundred Seventy Six (3,376) City residents live within a one-half (1/2) mile walking distance of Strathern Park North. Due to the facilities and programs it provides, Strathern Park North meets the standard for a Community Park, as defined in the City's Public Recreation Plan.

The Strathern Park North Baseball Field Lighting Project (Project) is a Proposition K 8<sup>th</sup> Cycle Competitive grant project.

The Project scope of work consists of constructing new sports field lighting for Baseball Field No. 3 and No. 4, located at the southern area of the site. The work includes installation of nine (9) light poles that are approximately seventy (70) feet in height, the removal of one tree and planting trees as discussed in the Trees and Shade section of this report, and related landscape and irrigation.

The Department of Public Works, Bureau of Engineering (BOE) Architectural Division prepared the plans and specifications, and obtained all the necessary approvals for the Project. As required by Proposition K, the project was presented to the community. The first Local Volunteer Neighborhood Oversight Committee (LVNOC) meeting was conducted on September 30, 2014. Residents and stakeholders surrounding the park attended the meeting. The second and third LVNOC meetings were concluded on March 30, 2016. The community, the LVNOC, and Council District 6 are in support of the proposed Project.

BOARD REPORT

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PG. 2 NO. \_\_\_\_\_

After review by the Department of Recreation and Parks (RAP) and BOE, it was determined that the work can be performed by RAP's pre-qualified on call contractors. Staff recommends the Project be constructed by the on call contractors and for BOE to provide construction management services in the construction of these improvements.

The Project is partially funded with Community Development Block Grant (CDBG) funds. As a requirement of the CDBG funds, the bid process and the selected contractor on the Project must comply with CDBG requirements.

Sufficient funds are available for the construction and construction contingencies from the following fund and accounts:

<u>FUNDING SOURCE</u>	<u>FUND/DEPT./ACCT. NO.</u>
Proposition K – Year 17	44S/10/10H002
CDBG	424/43/43N469

TREES AND SHADE

Due to the installation of new light poles to achieve required illumination levels and with the approval of the RAP Forestry Division, a mature (Populous Fremontii) cottonwood tree will be removed and replaced with ten (10) 24-inch boxed (Lophostemon Confertus) Brisbane trees. If this mature cottonwood tree is not removed, two (2) additional new light poles would have to be installed to meet the same illumination requirement (Attachment A).

ENVIRONMENTAL IMPACT STATEMENT

This Project was previously evaluated for environmental impacts in accordance with California Environmental Quality Act (CEQA) based on City Council approval of the Project as part of the Proposition K Assessment in June 2012, and the completion of the required community review process for the development of final project plans. The Project involves the placement of new sports field lights that are accessory to the existing baseball field, and therefore, was determined to be categorically exempt from the provisions of CEQA pursuant to Article III, Section 1k, Class 11(6) of the City CEQA Guidelines. A Notice of Exemption (NOE) was filed with the Los Angeles City Clerk and the Los Angeles County Clerk on June 22, 2016. Staff has determined that this Project and the environmental conditions of the site have not substantially changed since the previous evaluation. Therefore, no additional CEQA determination or documentation is required.

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FISCAL IMPACT STATEMENT:

The proposed construction Project is fully funded by Proposition K and CDBG funds. When completed the Project provides lighting to existing park amenities. Therefore, approval of the plans has no immediate impact to RAP's General Fund. Any utility increases for the increased power usage will be included in the RAP's General Funds request.

This report was prepared by Erick Chang, Project Manager, Architectural Division, BOE, and reviewed by Neil Drucker, Program Manager, Architectural Division, BOE, Mahmood Karimzadeh, Division Manager, Architectural Division, BOE, Deborah Weintraub, Chief Deputy City Engineer, BOE, and Cathie Santo Domingo, Superintendent, Planning, Maintenance and Construction Branch.

LIST OF ATTACHMENTS

1. Attachment A

(01) EXISTING TREE TO BE REMOVED:



POPULUS FREMONTII  
COTTONWOOD

(10) NEW TREES TO BE PLANTED:



LOPHOSTEMON CONFERTUS  
BRISBANE BOX

WHITSETT AVE

EXISTING TREE TO  
BE REMOVED  
LOCATION OF PROPOSED  
NEW LIGHT POLE

STRATHERN ST.

10 NEW TREES  
TO BE PLANTED

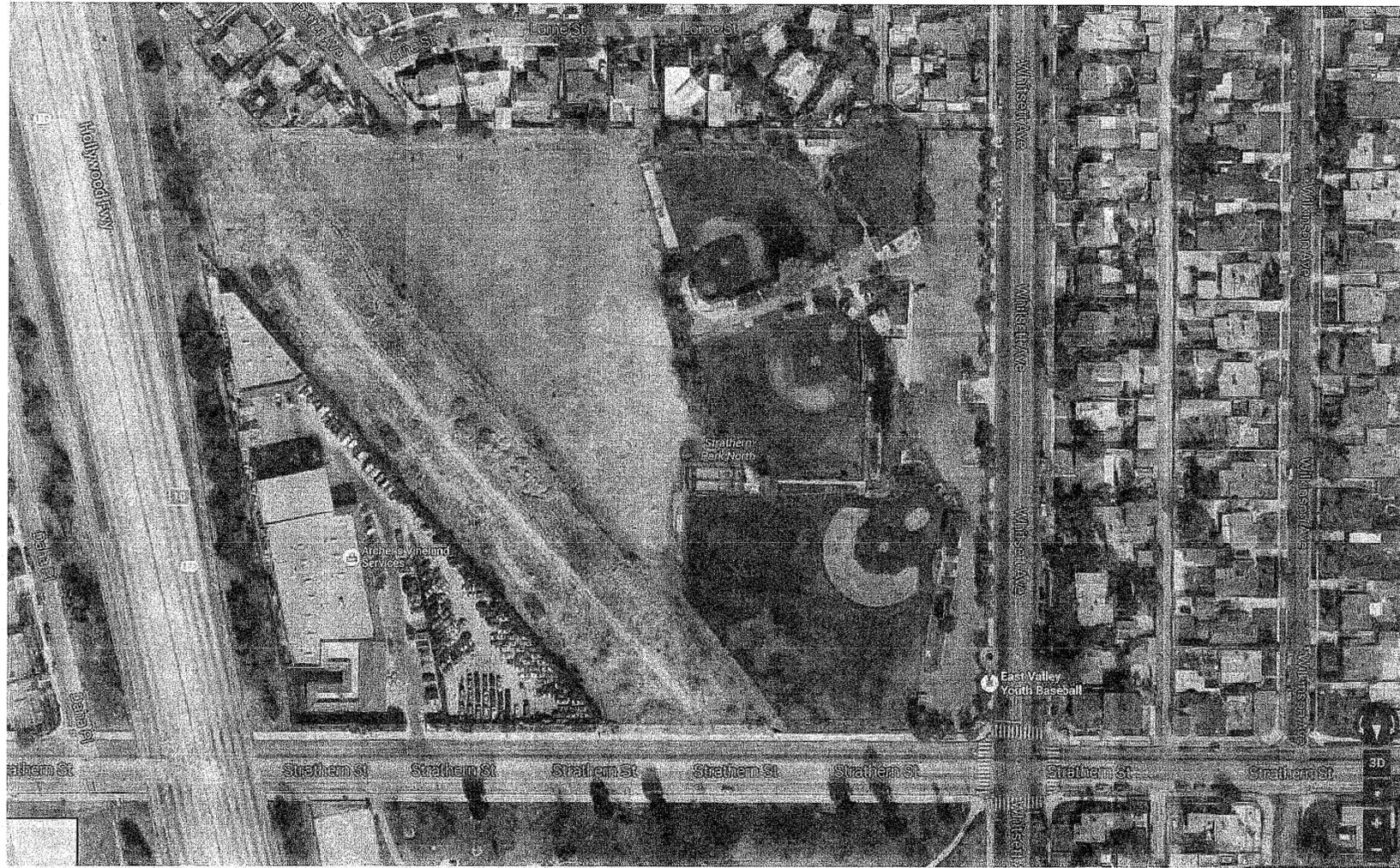


1" = 32'

# STRATHERN PARK NORTH

BUREAU OF ENGINEERING  
DEPARTMENT OF PUBLIC WORKS  
CITY OF LOS ANGELES

# STRATHERN PARK NORTH BASEBALL FIELDS LIGHTING



## PROJECT TEAM

**OWNER**  
CITY OF LOS ANGELES  
DEPARTMENT OF RECREATION AND PARKS  
221 N. FIGUEROA STREET  
LOS ANGELES, CA 90012

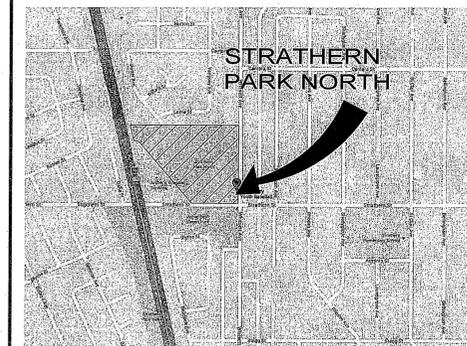
**CLIENT:** CITY OF LOS ANGELES  
DEPARTMENT OF RECREATION AND PARKS  
**MICHAEL SHULL, GENERAL MANAGER**  
221 N. FIGUEROA STREET, 3RD FLOOR, SUITE 350  
LOS ANGELES, CA 90012

**PROJECT MANAGEMENT:** BUREAU OF ENGINEERING  
RECREATION AND CULTURAL AFFAIRS PROGRAM  
MANAGEMENT GROUP

**NEIL DRUCKER**  
PROGRAM MANAGER  
**ERICK CHANG**  
PROJECT MANAGER  
(213) 847-4771 OFFICE  
(213) 847-1926 FAX

**DESIGN:** BUREAU OF ENGINEERING  
ARCHITECTURAL DIVISION  
1149 S. BROADWAY, SUITE 830  
LOS ANGELES CA 90015  
**MAHMOOD KARIMZADEH, AIA**, PRINCIPAL ARCHITECT  
**JANE ADRIAN**, LANDSCAPE ARCHITECT  
**SARO DERSAROIAN**, BUILDING ELECTRICAL ENGINEER

**SURVEY:** BUREAU OF ENGINEERING  
SURVEY DIVISION  
**JIM LANTRY**, ENGINEER OF SURVEYS  
201 N. FIGUEROA, 11TH FLOOR.  
LOS ANGELES, CA 90012



VICINITY MAP



CITY OF LOS ANGELES

DEPARTMENT OF PUBLIC WORKS

BUREAU OF ENGINEERING

REVISION DATES (DESIGN STAGE ONLY)  
 SHEET NO. 1 OF 29  
 SHEETS 1 OF 29

**G001**

SHEET 1 OF SHEETS 29

WORK ORDER NO. E170414  
 FILE NO.  
 DRAWING NO.

CLIENT: DEPARTMENT OF RECREATION AND PARKS  
 GENERAL MANAGER: JOHN KIRK MUKRI

PROJECT: STRATHERN PARK NORTH BASEBALL FIELD LIGHTING  
 ADDRESS: 8045 WHITSETT AVE. NORTH HOLLYWOOD, CA 91605

SHEET TITLE: TITLE SHEET

ACCEPTED BY:  
 GARY LEE MOORE, P.E. ENV SP CITY ENGINEER  
 DEPUTY CITY ENGINEER

DATE: 11-16-16  
 DATE: 11-17-16

INDEX NO. RP 300093

BUILDING NO.

NO. REVISIONS

DATE BY

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BUREAU OF ENGINEERING  
 ENGINEERING  
 CITY OF LOS ANGELES





3. CONCRETE

All concrete construction shall be as specified in this Section unless specified otherwise in these Landscape Construction Notes.

MATERIALS

BASE MATERIAL

Base material for Portland Cement concrete shall be (CMB) crushed miscellaneous base, (200-2.4).

CONCRETE SPECIFIED BY CLASS

Placed concrete shall be class 520-C-2500, maximum 4 inch slump. Pumped concrete shall be class 560-E-2500, maximum 6 inch slump. A complete delivery receipt shall be required for each truckload of concrete delivered. The receipt shall be given to the BCA Inspector, (201-1.1.2).

PORTLAND CEMENT

All cement shall be Type II, low alkali Portland cement conforming to ASTM C150 (201-1.2).

AGGREGATES

The aggregates for all concrete construction shall be fractured face aggregates obtained from a quarry in the San Gabriel River drainage area only and shall be certified non-reactive by an approved testing laboratory as approved by the Bureau of Contract Administration, (201-1.2.2).

COMBINED AGGREGATE GRADINGS

Combined aggregate gradings for Portland Cement shall be as specified under this section, (201-1.3.2).

EXPANSION JOINTS

Expansion joints shall use a 3/8 inch thick asphalt impregnated felt expansion joint.

JOINT URETHANE SEALANT

When specified, expansion joint material shall be urethane elastomeric sealant for concrete pavement shall be Lithoseal Trafficalk-G3 by L. M. Scofield Company, or an approved equal, (201-3). Color to match concrete.

EXPANSION JOINT PREMOLDED ASPHALTIC JOINT MATERIAL

When specified, expansion joint material shall be 1/4 inch thick asphaltic joint material as manufactured by Sealtight Co., or an approved equal, (201-3).

REINFORCING STEEL

Shall be grade 60 billet steel, (201-2.2).

DOWELS (EXPANSION AND END-OF-POUR JOINTS)

Shall be grade 60 billet steel, (201-2.2).

END OF POUR JOINTS

End of pour joints shall be 1/4 inch thick asphaltic joint material as manufactured by Sealtight Co., or an approved equal, (201-3).

COLORED CONCRETE ADMIXTURES

Admixtures for colored concrete shall be Lithochrome Color Hardener by L.M. Scofield Company (800) 800-9900, or Davis Mix-in Colors for concrete by Davis Colors, (800) 800-8856, or an approved equal.

METHODS

SUBGRADE AND BASE PREPARATION AND COMPACTION

Subgrade under all concrete shall be prepared and compacted in accordance with this section (301-1). Locations where compaction testing is required are shown on the plans with the symbol. The BCA Inspector may modify the exact location in the field, depending on

field conditions, if permission is granted from the Project Manager. The total number of compaction tests shall be no less than two (2) or the number indicated on the plans.

The Contractor shall provide compaction tests for both subgrade and base material, if applicable, at the locations indicated on the construction plans. Results of the compaction tests shall be submitted to the Project Manager for approval prior to the pouring of concrete. Minimum subgrade and base compaction shall be 90% relative compaction.

EXPANSION JOINTS

Shall be placed against previously constructed concrete structures or as indicated in the plans (303-5.4.2) and the applicable details.

CONCRETE SURFACE FINISHING

Concrete walks, pads, or mow strips shall have a medium broom finish, unless otherwise noted on the plans. The Contractor shall prepare a minimum three foot by three foot sample for approval by the Project Manager before any concrete is placed, (303-5.5.3). Any sidewalk in the public street right of way constructed as a portion of this contract shall be finished as directed by the BCA Inspector.

COLORED CONCRETE ADMIXTURES

Colored concrete admixtures shall be formulated and mixed according to manufacturer's printed instructions. Calcium chloride set-accelerators shall not be used.

PAVEMENT MARKINGS

Paint for parking stalls and game courts shall be regular dry type non-reflective paint, applied to a wet film thickness of 7 mil. Paint shall be Zone-Loc, Traffic Line Paint, as manufactured by Morton, or an approved equal, in the specified color, (310-5.6 and 210.6)

4. CHAIN LINK FENCING AND MISCELLANEOUS METAL CONSTRUCTION

MATERIALS

CHAIN LINK FENCING

Chain link fencing materials shall be as specified in the applicable details and Section (206-6).

Pipes for posts, braces and rails shall be Class 1, Schedule 40, ASTM F 1083 or, Class 1A, with a minimum 50,000 psi yield strength. Class 1 pipe shall be galvanized as indicated in this section of the Landscape Construction Notes. Class 1A pipe shall have a minimum hot dipped zinc coating of 0.9 oz./Sq. Ft., 15 micrograms of chromate per square inch and a minimum of 3 mils of acrylic coating on the exterior of the pipe. The interior coating of Class 1A pipe shall be hot dipped galvanized with .9 oz/ Sq. Ft. Zinc. Materials for chain link fence posts, rails and braces shall be sized as follows:

Table with 6 columns: NOMINAL SIZE (Inches), ACTUAL O.D. (Inches), Class 1 Pipe Wall Thickness, Class 1 Weight Lbs per lin. ft., Class 1A Pipe Wall Thickness, Class 1A Weight Lbs/L.F. (Pounds). Rows include sizes from 1 1/4" to 6".

CHAIN LINK FABRIC

Galvanized steel chain link fabric shall conform to ASTM A 392, Class 2, 1.20 Oz./Sq.Ft. zinc. Fabric shall be 9 gauge and be woven in a 2" mesh unless otherwise indicated on the plan. Top and bottom selvages shall be knuckled.

PVC coated galvanized steel fabric, when specified, shall conform to ASTM F 668, Class 2b, "fused and adhered", and meet the galvanizing requirements contained in this section of the Landscape Construction Notes, (206-6.3).

STEEL SHAPES

All structural steel shapes shall be as specified in the applicable detail.

GALVANIZING

Where called out, metal products shall be hot dipped galvanized in accordance with TABLE 210-3.2(A) of the SSPWC.

MANUFACTURER'S CERTIFICATE OF COMPLIANCE

The manufacturer of the Chain link fabric, fence posts, rails and braces shall provide the Contractor a Certificate of compliance for each shipment sent to the project site. The Certificate shall state that the materials delivered conform to the specification for materials as described in these Landscape Construction Notes. The Certificate of Compliance shall be delivered to the Project Manager and BCA Inspector before any fencing materials are installed at the project site.

REPAIRING OF DAMAGED GALVANIZED SURFACES

Galvanized surfaces which have been damaged in transport or during installation shall be re-coated using the metalizing process or zinc oxide, zinc dust paint per Section 210-3.5 of the Standard Specification.

TUBULAR STEEL SHAPES

Cold formed shapes for tubular steel fencing shall conform to ASTM A 500, Grade B, in the size and wall thickness shown on the plans and details. Unless specified on the plans all post and rails shall be 3/16" thick. All pickets for fencing shall be minimum 11 gauge.

TUBULAR STEEL WELDING

Shall conform to the AWS code for procedures, appearance and quality. All welds shall be ground smooth. All fabricated metal fencing panels shall be shop assembled and welded.

PAINTING (TUBULAR STEEL AND CHAIN LINK FENCING WHEN REQUIRED)

"Factory" coated tubular steel fencing or chain link fencing shall be exempted from this requirement. All other shop fabricated tubular steel fencing or fencing constructed on site shall be painted in accordance with the requirements for painting "Ferrous Metal (Non-galvanized) Surfaces" below. The two finish coats shall be black unless otherwise specified.

METHODS

CHAIN LINK FENCE

Chain link fence shall be installed and stretched tight between posts.

All connection bolts shall not extend more than 1/4 inch past the end of the nut and be free from burrs.

TUBULAR STEEL PAINTING

Prior to priming and painting, all steel shall be made free of loose mill scale, rust, oil and grease. Welds shall be smoothed by grinding. Damage to "factory" coated tubular steel or chain link fencing shall be repaired after installation by sanding damaged paint surfaces and by applying one coat of manufacturer specified primer and two new coats of specified color coat.

5. WOOD

MATERIALS

WOOD PRESERVATIVES

Shall be water borne ammoniacal copper arsenate (ACA), chromated copper arsenate (CCA), .40 PSF retention. Contractor to submit proof of treatment to the BCA Inspector before installation, (204-2.2).

6. PARKING STALL STRIPING

MATERIALS

PAVEMENT MARKINGS

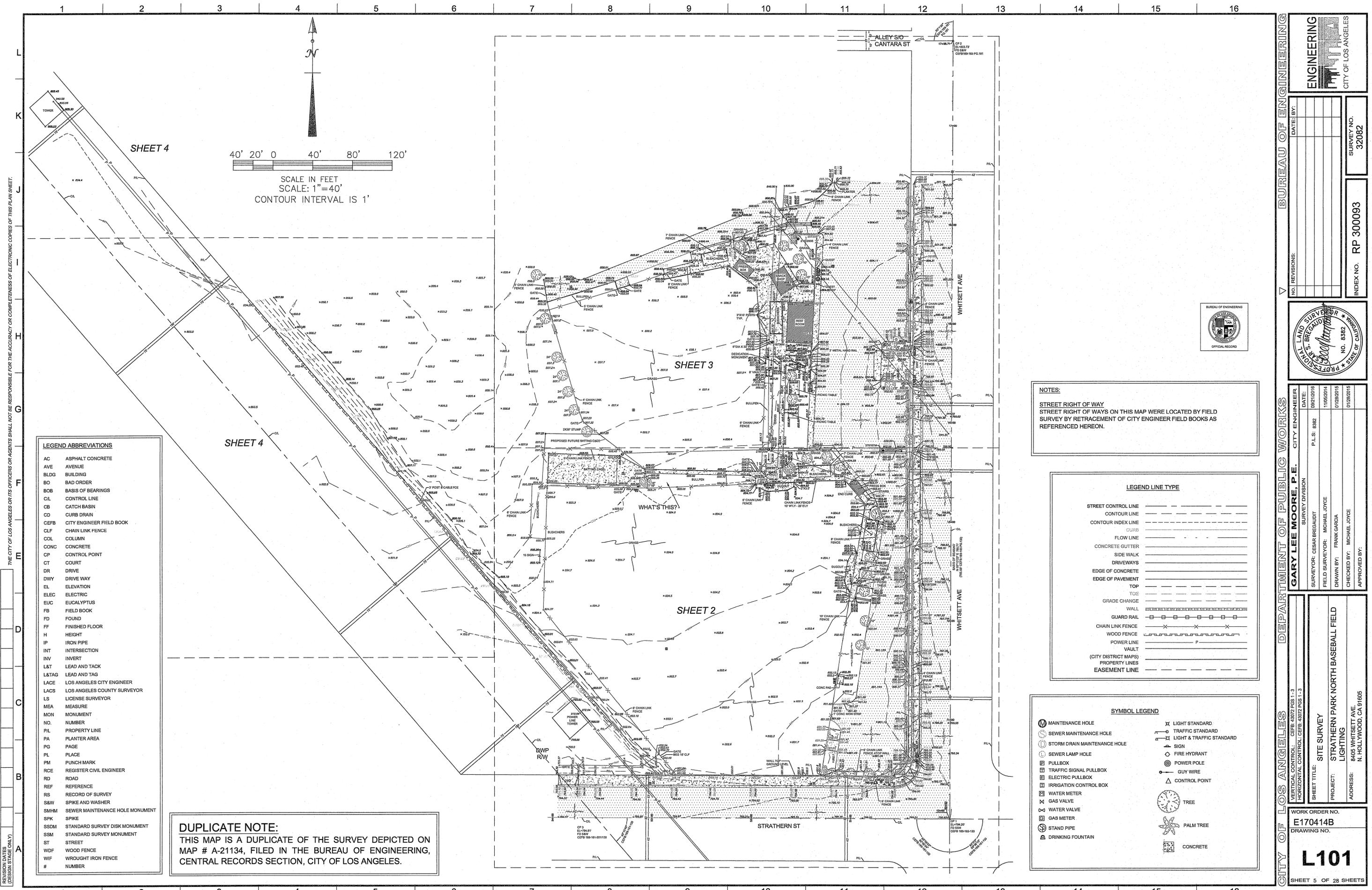
Paint for parking stalls and game courts shall be regular dry type non reflective, applied at a wet film thickness of 7 mil., 6700 On-Line flat traffic marking paint, as manufactured by Vista Paint, or an approved equal, in the specified color, per Section, (310-5.6), (210-1.6).

REVISION DATE: 9/20/16 10:11 AM FILE: CHINHOUSE\DESIGN\STRATHERN PARK NORTH\LANDSCAPE\0 CONSTRUCTION DOCUMENTS\DRAWINGS\03\_03\_WORKING DRAWINGS\SPN\_LUM\_CONSTRUCTION NOTES.DWG

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Professional Engineer information for Gary Lee Moore, P.E., Env SP, Architectural Division, License No. 3940. Includes project title 'LANDSCAPE CONSTRUCTION NOTES, SHEET 2' and sheet number '4 OF 28'. Also includes a seal for the State of California, License No. 92316, and a Building No. RP 300093.



SHEET 4

40' 20' 0 40' 80' 120'

SCALE IN FEET  
SCALE: 1" = 40'  
CONTOUR INTERVAL IS 1'

SHEET 4

SHEET 2

SHEET 3

**LEGEND ABBREVIATIONS**

AC	ASPHALT CONCRETE
AVE	AVENUE
BLDG	BUILDING
BO	BAD ORDER
BOB	BASIS OF BEARINGS
CL	CONTROL LINE
CB	CATCH BASIN
CD	CURB DRAIN
CEFB	CITY ENGINEER FIELD BOOK
CLF	CHAIN LINK FENCE
COL	COLUMN
CONC	CONCRETE
CP	CONTROL POINT
CT	COURT
DR	DRIVE
DWY	DRIVE WAY
EL	ELEVATION
ELEC	ELECTRIC
EUC	EUCALYPTUS
FB	FIELD BOOK
FD	FOUND
FF	FINISHED FLOOR
H	HEIGHT
IP	IRON PIPE
INT	INTERSECTION
INV	INVERT
L&T	LEAD AND TACK
L&TAG	LEAD AND TAG
LACE	LOS ANGELES CITY ENGINEER
LACS	LOS ANGELES COUNTY SURVEYOR
LS	LICENSE SURVEYOR
MEA	MEASURE
MON	MONUMENT
NO.	NUMBER
PL	PROPERTY LINE
PA	PLANTER AREA
PG	PAGE
PL	PLACE
PM	PUNCH MARK
RCE	REGISTER CIVIL ENGINEER
RD	ROAD
REF	REFERENCE
RS	RECORD OF SURVEY
S&W	SPIKE AND WASHER
SMHM	SEWER MAINTENANCE HOLE MONUMENT
SPK	SPIKE
SSDM	STANDARD SURVEY DISK MONUMENT
SSM	STANDARD SURVEY MONUMENT
ST	STREET
WDF	WOOD FENCE
WIF	WROUGHT IRON FENCE
#	NUMBER

**DUPLICATE NOTE:**  
THIS MAP IS A DUPLICATE OF THE SURVEY DEPICTED ON  
MAP # A-21134, FILED IN THE BUREAU OF ENGINEERING,  
CENTRAL RECORDS SECTION, CITY OF LOS ANGELES.

**NOTES:**  
STREET RIGHT OF WAY  
STREET RIGHT OF WAYS ON THIS MAP WERE LOCATED BY FIELD  
SURVEY BY RETRACEMENT OF CITY ENGINEER FIELD BOOKS AS  
REFERENCED HEREON.

**LEGEND LINE TYPE**

STREET CONTROL LINE	---
CONTOUR LINE	.....
CONTOUR INDEX LINE	.....
CURB	---
FLOW LINE	---
CONCRETE GUTTER	---
SIDE WALK	---
DRIVEWAYS	---
EDGE OF CONCRETE	---
EDGE OF PAVEMENT	---
TGS	---
GRADE CHANGE	---
WALL	---
GUARD RAIL	---
CHAIN LINK FENCE	---
WOOD FENCE	---
POWER LINE	---
VAULT	---
(CITY DISTRICT MAPS) PROPERTY LINES	---
EASEMENT LINE	---

**SYMBOL LEGEND**

M	MAINTENANCE HOLE	X	LIGHT STANDARD
S	SEWER MAINTENANCE HOLE	X	TRAFFIC STANDARD
S	STORM DRAIN MAINTENANCE HOLE	X	LIGHT & TRAFFIC STANDARD
S	SEWER LAMP HOLE	O	SIGN
P	PULLBOX	O	FIRE HYDRANT
P	TRAFFIC SIGNAL PULLBOX	O	POWER POLE
P	ELECTRIC PULLBOX	O	GUY WIRE
P	IRRIGATION CONTROL BOX	O	CONTROL POINT
W	WATER METER	O	TREE
W	GAS VALVE	O	PALM TREE
W	WATER VALVE	O	CONCRETE
W	GAS METER	O	
W	STAND PIPE	O	
W	DRINKING FOUNTAIN	O	

**BUREAU OF ENGINEERING**

**CITY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS**

**GARY LEE MOORE, P.E. CITY ENGINEER**

DATE: 09/12/06  
P.L.S.: 8382

SURVEYOR: CESAR BREGADIT  
FIELD SURVEYOR: MICHAEL JOYCE  
DRAWN BY: FRANK GARCIA  
CHECKED BY: MICHAEL JOYCE  
APPROVED BY:

NO. REVISIONS: \_\_\_\_\_

DATE: \_\_\_\_\_

INDEX NO. RP 300093

SURVEY NO. 32082

**PROFESSIONAL LAND SURVEYOR**  
BREGADIT  
NO. 8382  
STATE OF CALIFORNIA

DATE: 09/12/06  
P.L.S.: 8382

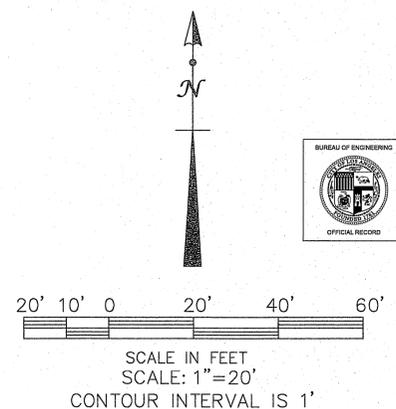
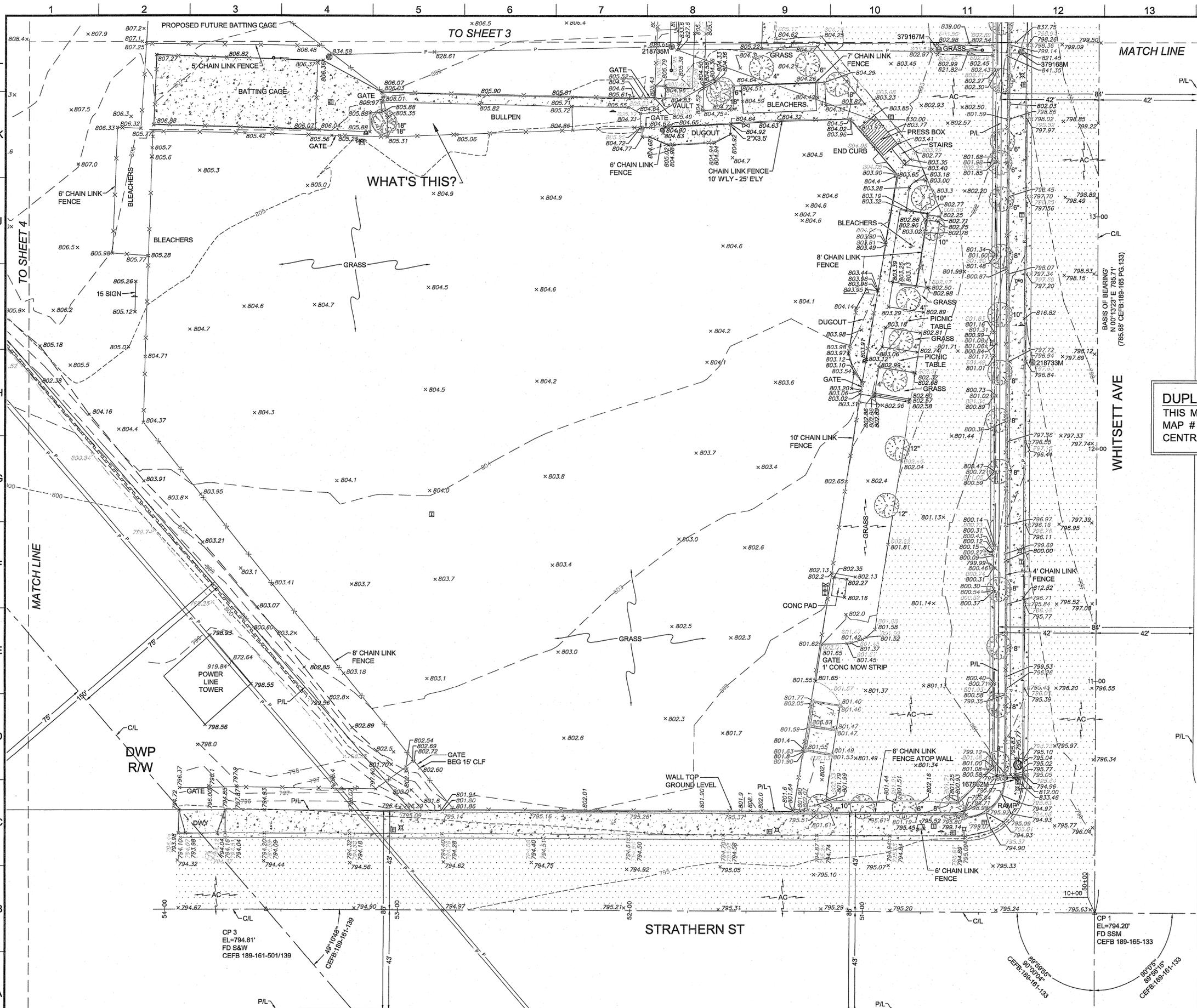
SURVEYOR: CESAR BREGADIT  
FIELD SURVEYOR: MICHAEL JOYCE  
DRAWN BY: FRANK GARCIA  
CHECKED BY: MICHAEL JOYCE  
APPROVED BY:

**SITE SURVEY**  
PROJECT: STRATHERN PARK NORTH BASEBALL FIELD LIGHTING  
ADDRESS: 8405 WHITSETT AVE, N. HOLLYWOOD, CA 91605

WORK ORDER NO. E170414B  
DRAWING NO. L101

SHEET 5 OF 28 SHEETS

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**NOTES:**  
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**LEGEND LINE TYPE**

STREET CONTROL LINE	---
CONTOUR LINE	---
CONTOUR INDEX LINE	---
CURB	---
FLOW LINE	---
CONCRETE GUTTER	---
SIDE WALK	---
DRIVEWAYS	---
EDGE OF CONCRETE	---
EDGE OF PAVEMENT	---
TOP	---
TOE	---
GRADE CHANGE	---
WALL	---
GUARD RAIL	---
CHAIN LINK FENCE	---
WOOD FENCE	---
POWER LINE	---
VAULT	---
(CITY DISTRICT MAPS)	---
PROPERTY LINES	---
EASEMENT LINE	---

**SYMBOL LEGEND**

M MAINTENANCE HOLE	X LIGHT STANDARD
S SEWER MAINTENANCE HOLE	T TRAFFIC STANDARD
SD STORM DRAIN MAINTENANCE HOLE	L LIGHT & TRAFFIC STANDARD
SLH SEWER LAMP HOLE	S SIGN
P PULLBOX	F FIRE HYDRANT
TS TRAFFIC SIGNAL PULLBOX	PP POWER POLE
EP ELECTRIC PULLBOX	G GUY WIRE
IC IRRIGATION CONTROL BOX	CP CONTROL POINT
WM WATER METER	TR TREE
GV GAS VALVE	PT PALM TREE
WV WATER VALVE	CON CONCRETE
GM GAS METER	
SP STAND PIPE	
DF DRINKING FOUNTAIN	

**BUREAU OF ENGINEERING**  
CITY OF LOS ANGELES

DATE BY: \_\_\_\_\_  
NO. REVISIONS: \_\_\_\_\_

INDEX NO. **RP 300093**  
SURVEY NO. **32082**

**PROFESSIONAL LAND SURVEYOR**  
GARY LEE MOORE, P.E.  
NO. 8382  
STATE OF CALIFORNIA

**CITY ENGINEER**  
GARY LEE MOORE, P.E.  
SURVEY DIVISION

DATE: 09/21/2016  
P.L.S.: 8382  
FIELD SURVEYOR: MICHAEL JOYCE  
DRAWN BY: FRANK GARCIA  
CHECKED BY: MICHAEL JOYCE  
APPROVED BY: \_\_\_\_\_

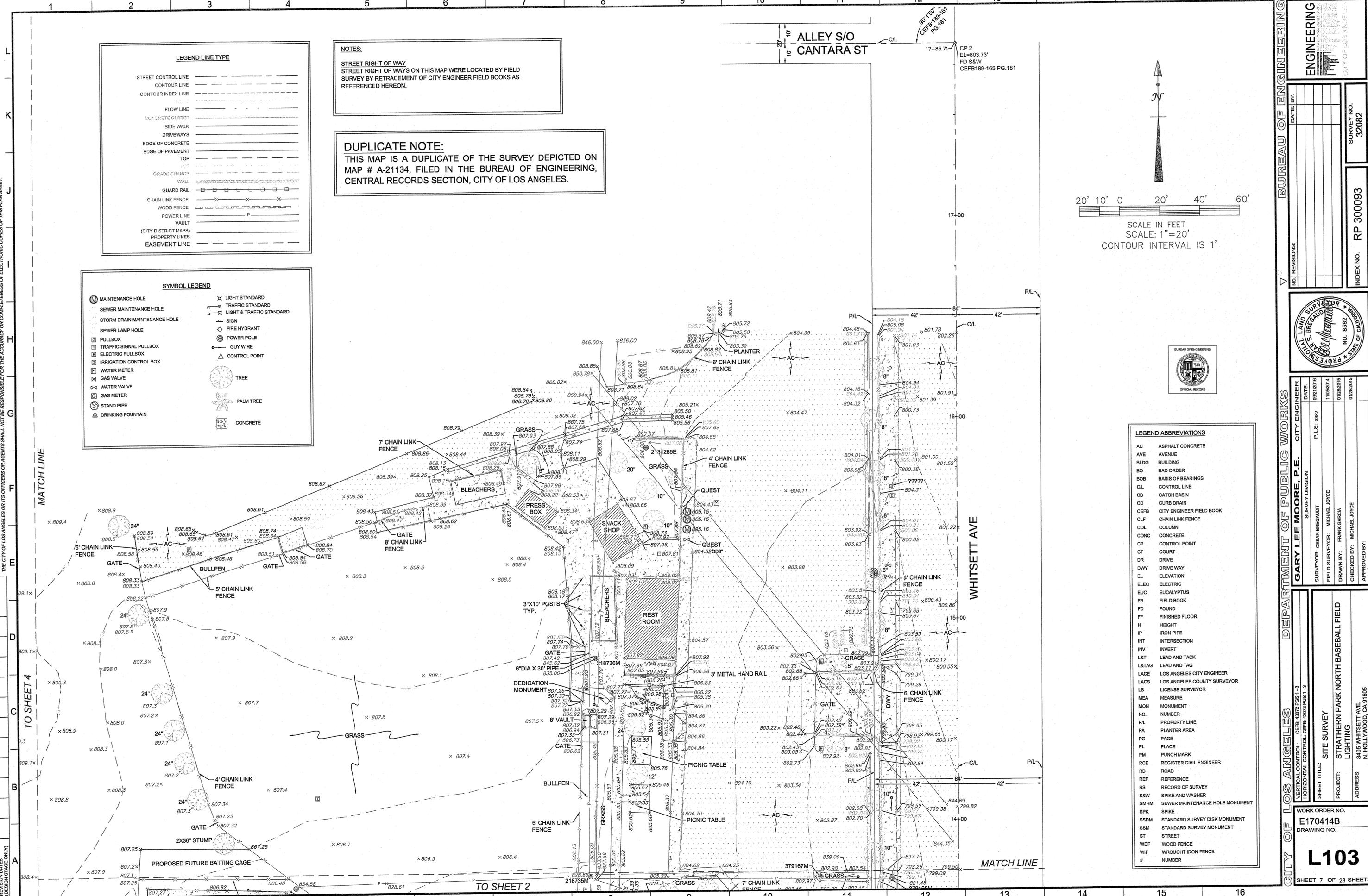
**CITY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS**

SHEET TITLE: **SITE SURVEY**  
PROJECT: **STRATHERN PARK NORTH BASEBALL FIELD LIGHTING**  
ADDRESS: **8405 WHITSETT AVE, N. HOLLYWOOD, CA 91605**

VERTICAL CONTROL: CEFB 43072 RAS 1-3  
HORIZONTAL CONTROL: CEFB 43072 RAS 1-3

WORK ORDER NO. **E170414B**  
DRAWING NO. **L102**

SHEET 6 OF 28 SHEETS



**LEGEND LINE TYPE**

STREET CONTROL LINE	---
CONTOUR LINE	---
CONTOUR INDEX LINE	---
FLOW LINE	---
CONCRETE GUTTER	---
SIDE WALK	---
DRIVEWAYS	---
EDGE OF CONCRETE	---
EDGE OF PAVEMENT	---
TOP	---
GRADE CHANGE	---
WALL	---
GUARD RAIL	---
CHAIN LINK FENCE	---
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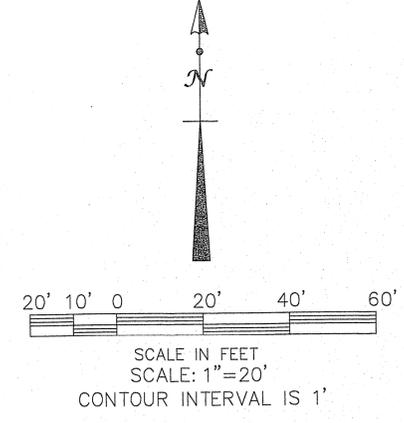
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**SYMBOL LEGEND**

M MAINTENANCE HOLE	X LIGHT STANDARD
SEWER MAINTENANCE HOLE	T TRAFFIC STANDARD
STORM DRAIN MAINTENANCE HOLE	L LIGHT & TRAFFIC STANDARD
SEWER LAMP HOLE	S SIGN
PULLBOX	F FIRE HYDRANT
TRAFFIC SIGNAL PULLBOX	P POWER POLE
ELECTRIC PULLBOX	G GUY WIRE
IRRIGATION CONTROL BOX	C CONTROL POINT
WATER METER	TREE
GAS VALVE	PALM TREE
WATER VALVE	CONCRETE
GAS METER	
STAND PIPE	
DRINKING FOUNTAIN	

**LEGEND ABBREVIATIONS**

AC	ASPHALT CONCRETE
AVE	AVENUE
BLDG	BUILDING
BO	BAD ORDER
BOB	BASIS OF BEARINGS
CL	CONTROL LINE
CB	CATCH BASIN
CD	CURB DRAIN
CEFB	CITY ENGINEER FIELD BOOK
CLF	CHAIN LINK FENCE
COL	COLUMN
CONC	CONCRETE
CP	CONTROL POINT
CR	COURT
DR	DRIVE
DWY	DRIVE WAY
EL	ELEVATION
ELEC	ELECTRIC
EUC	EUCALYPTUS
FB	FIELD BOOK
FD	FOUND
FF	FINISHED FLOOR
H	HEIGHT
IP	IRON PIPE
INT	INTERSECTION
INV	INVERT
L&T	LEAD AND TAG
L&TAG	LEAD AND TAG
LACE	LOS ANGELES CITY ENGINEER
LACS	LOS ANGELES COUNTY SURVEYOR
LS	LICENSE SURVEYOR
MEA	MEASURE
MON	MONUMENT
NO.	NUMBER
PL	PROPERTY LINE
PA	PLANTER AREA
PG	PAGE
PL	PLACE
PM	PUNCH MARK
PCE	REGISTER CIVIL ENGINEER
RD	ROAD
REF	REFERENCE
RS	RECORD OF SURVEY
SAW	SPIKE AND WASHER
SMHM	SEWER MAINTENANCE HOLE MONUMENT
SPK	SPIKE
SSDM	STANDARD SURVEY DISK MONUMENT
SSM	STANDARD SURVEY MONUMENT
ST	STREET
WDF	WOOD FENCE
WIF	WROUGHT IRON FENCE
#	NUMBER



**BUREAU OF ENGINEERING**

**ENGINEERING**

DATE: 08/21/2016

NO. REVISIONS:

**PROFESSIONAL LAND SURVEYOR**

GARY LEE MOORE, P.E. CITY ENGINEER

SURVEY DIVISION: P.L.S. 892

SURVEYOR: CESAR BRIGAUDIT

FIELD SURVEYOR: MICHAEL JOYCE

DRAWN BY: FRANK GARCIA

CHECKED BY: MICHAEL JOYCE

APPROVED BY:

WORK ORDER NO. E170414B

DRAWING NO. **L103**

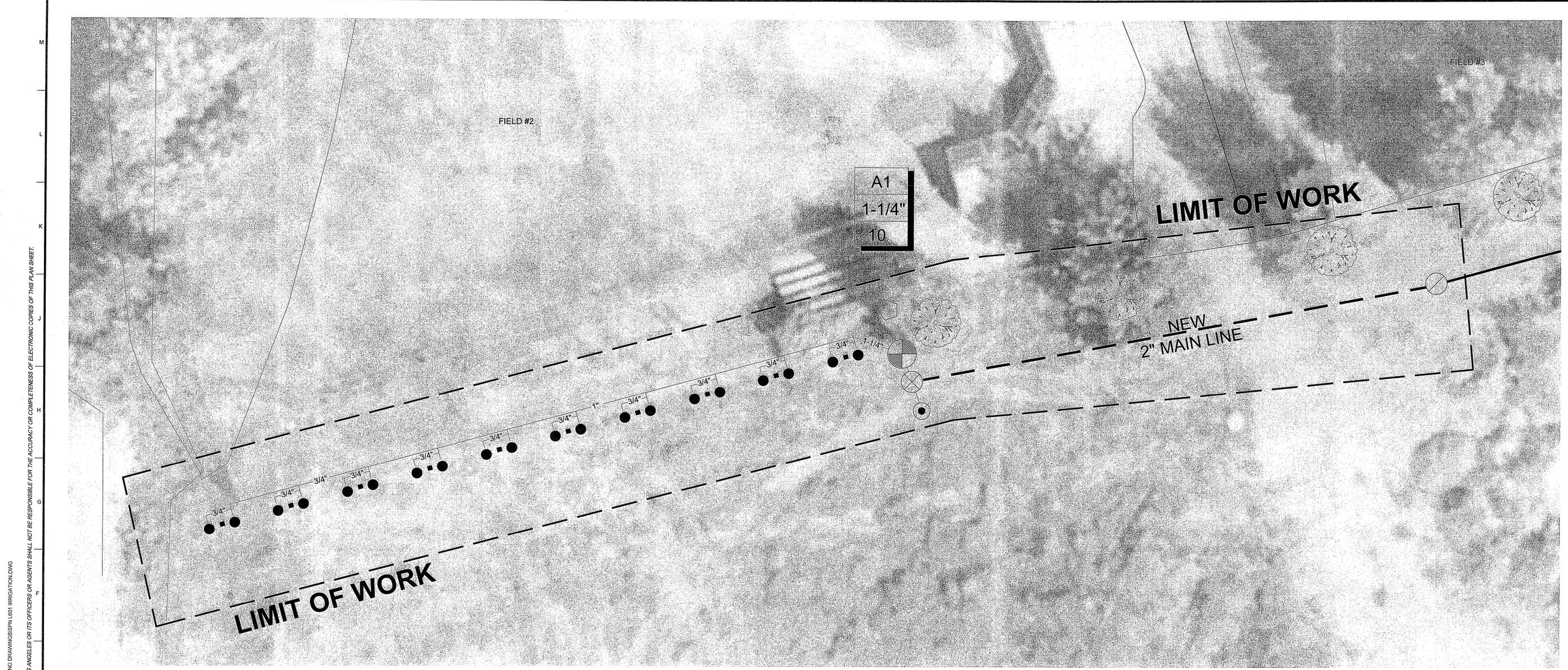
SHEET 7 OF 28 SHEETS

INDEX NO. RP 300093

SURVEY NO. 32082







A1  
1-1/4"  
10

LIMIT OF WORK

NEW  
2" MAIN LINE

LIMIT OF WORK

MANUFACTURER AND MODEL	SYMBOL	DETAIL	P.S.I.	DESIGN RADIUS	CATALOGUE RADIUS	G.P.M.	PRECIP. RATE
'RAINBIRD' RWS-M-BCG02 TREE BUBBLER ASSEMBLY	●	A5/L602	30	-	-	0.50	-

EQUIPMENT	SYMBOL	DETAIL	P.S.I.	DESIGN RADIUS	CATALOGUE RADIUS	G.P.M.	PRECIP. RATE
'TORO' CONTROL VALVE 220 SERIES IN RAINBIRD VALVE BOX PER DETAIL	⊗	A9,A13,E5/L602					
'NIBCO' GATE VALVE P-819-RW LINE SIZE RAINBIRD VALVE BOX PER DETAIL	⊗	J13/L602					
EXISTING GATE VALVE AT MAIN LINE	⊗						
QUICK COUPLER, PER DETAIL	⊙	E13/L602					
SINGLE-STATION W/ BATTERY OPERATED IRRIGATION CONTROL, PER DETAIL.	⬠	E9/L602					
NEW IRRIGATION MAIN LINE. USE SCH. 40 P.V.C. 2" OR LESS	---	A13/L602		SEE PLAN FOR SIZE			
EXISTING 2" IRRIGATION MAIN LINE.	---						
NON-PRESSURE LINE SCH. 40 P.V.C.	---	SEE PLAN FOR SIZE					

NOTE:

1. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO ADJACENT IRRIGATION SYSTEMS AND SHALL REPAIR (PER REC&PARK GUIDELINES) AT NO COST TO THE CITY. ANY DAMAGE CAUSED TO EXISTING SITE IRRIGATION SYSTEM DUE TO INSTALLATION OF FIELD LIGHTS.
2. RAP SHALL APPROVE FINAL LOCATION OF TREES.
3. ALL IRRIGATION EQUIPMENT SHALL BE PROTECTED IN PLACE UNLESS OTHERWISE NOTED. ANY IRRIGATION VALVES OR HEADS/BODIES AND VALVES TO BE REMOVED SHALL BE SALVAGED AND TURNED OVER TO RAP IRRIGATION, 310-840-2186. HEADS AND VALVES TO REMAIN SHALL BE TESTED FOR FUNCTIONALITY AND COVERAGE AND BE RE-TESTED TO FINISH GRADE.

Controller & Station No.  
Valve Size  
System GPM

A1  
1"  
20



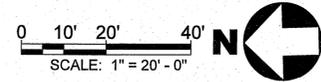
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NOTE  
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COORDINATE WITH RECREATION AND  
PARKS STAFF TO LOCATE AND  
DELINEATE THE CONSTRUCTION  
STAGING AREA. AFTER COMPLETION  
OF WORK, THE STAGING AREA SHALL  
BE RESTORED, BY CONTRACTOR, TO  
ITS ORIGINAL CONDITION AT HIS OWN  
EXPENSE.



REVISION DATE: 10/20/16 6:57 AM  
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 SHEET VERSION 2.2

**CITY OF LOS ANGELES**  
 DEPARTMENT OF PUBLIC WORKS  
 BUREAU OF ENGINEERING

CLIENT: RECREATION AND PARKS  
 GENERAL MANAGER: MICHAEL A. SHULL  
 SHEET TITLE: IRRIGATION PLAN  
 PROJECT: STRATHERN PARK NORTH BASEBALL FIELD LIGHTING  
 ADDRESS: 8405 WHITSETT AVE. NORTH HOLLYWOOD, CA 91605

ARCHITECTURAL DIVISION  
 ARCHITECT: JANE ADRIAN  
 DESIGNED BY: LORENA MATOS, A.S.I. | ENV SP  
 DRAWN BY: LORENA MATOS, A.S.I. | ENV SP  
 CHECKED BY: JANE ADRIAN  
 APPROVED BY: MAHMOOD KARIMZADEH, AIA | PRINCIPAL ARCHITECT

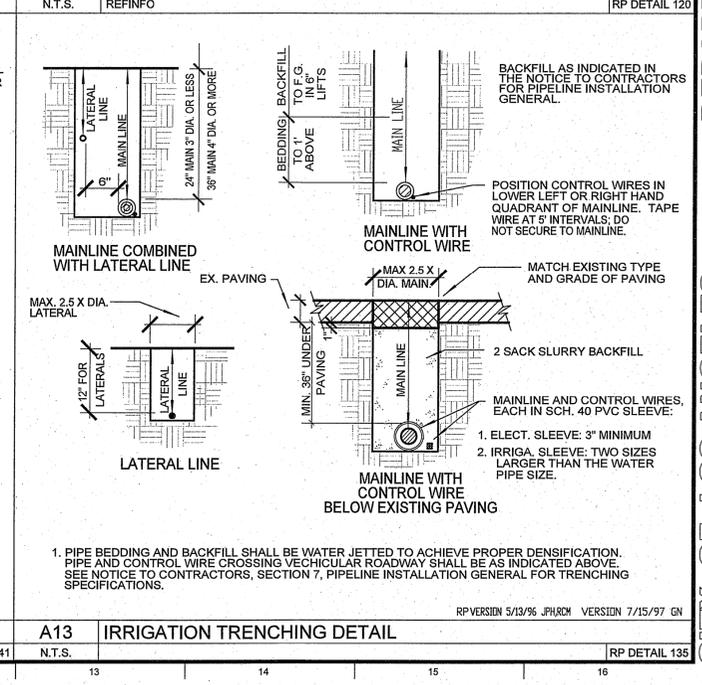
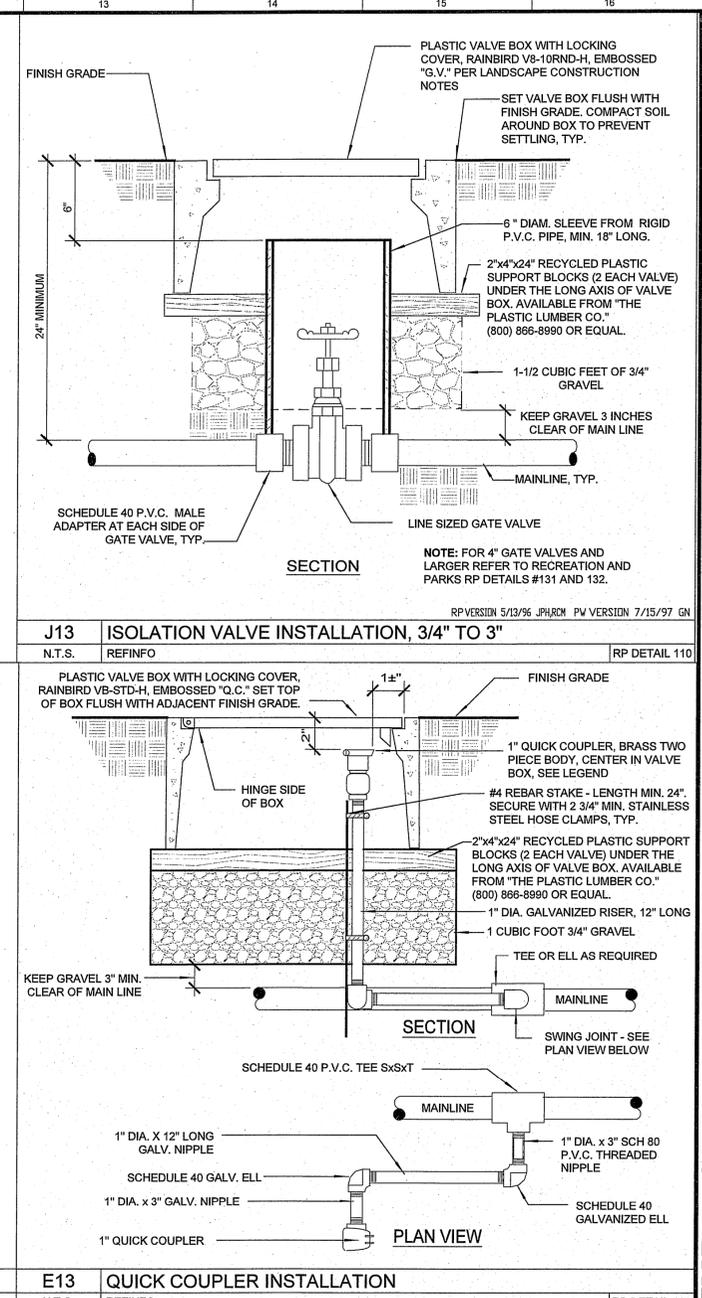
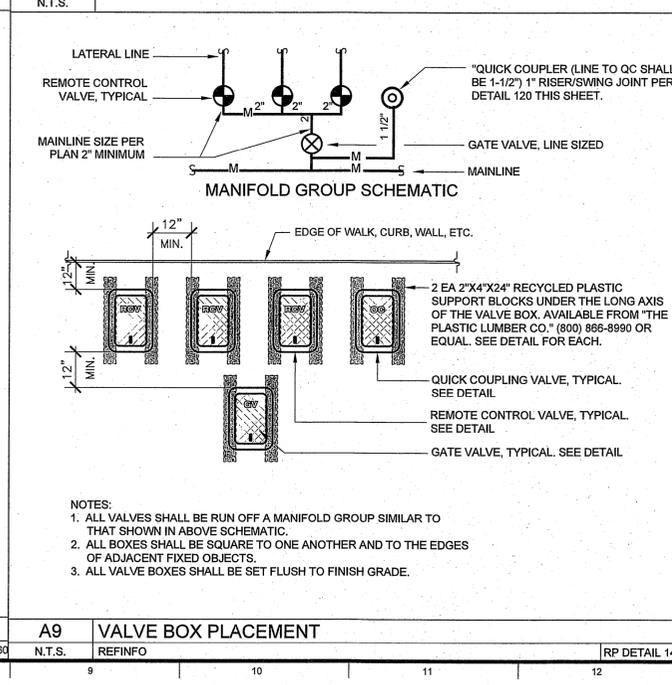
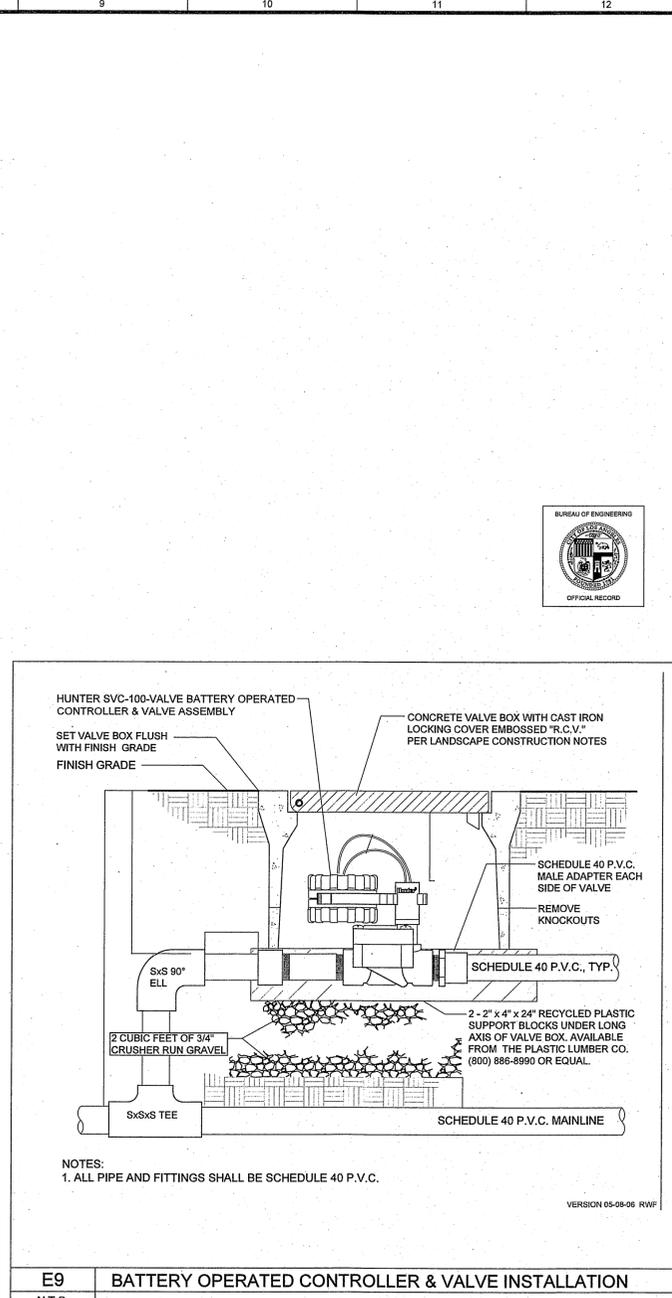
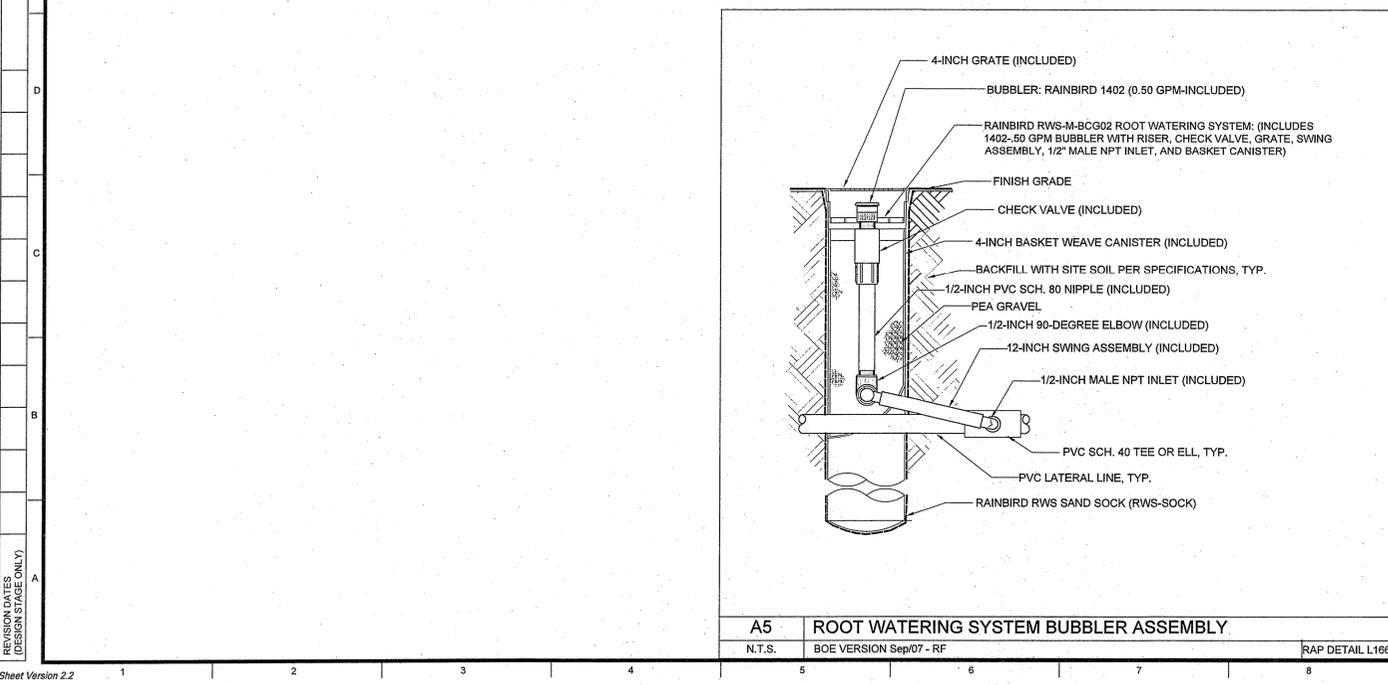
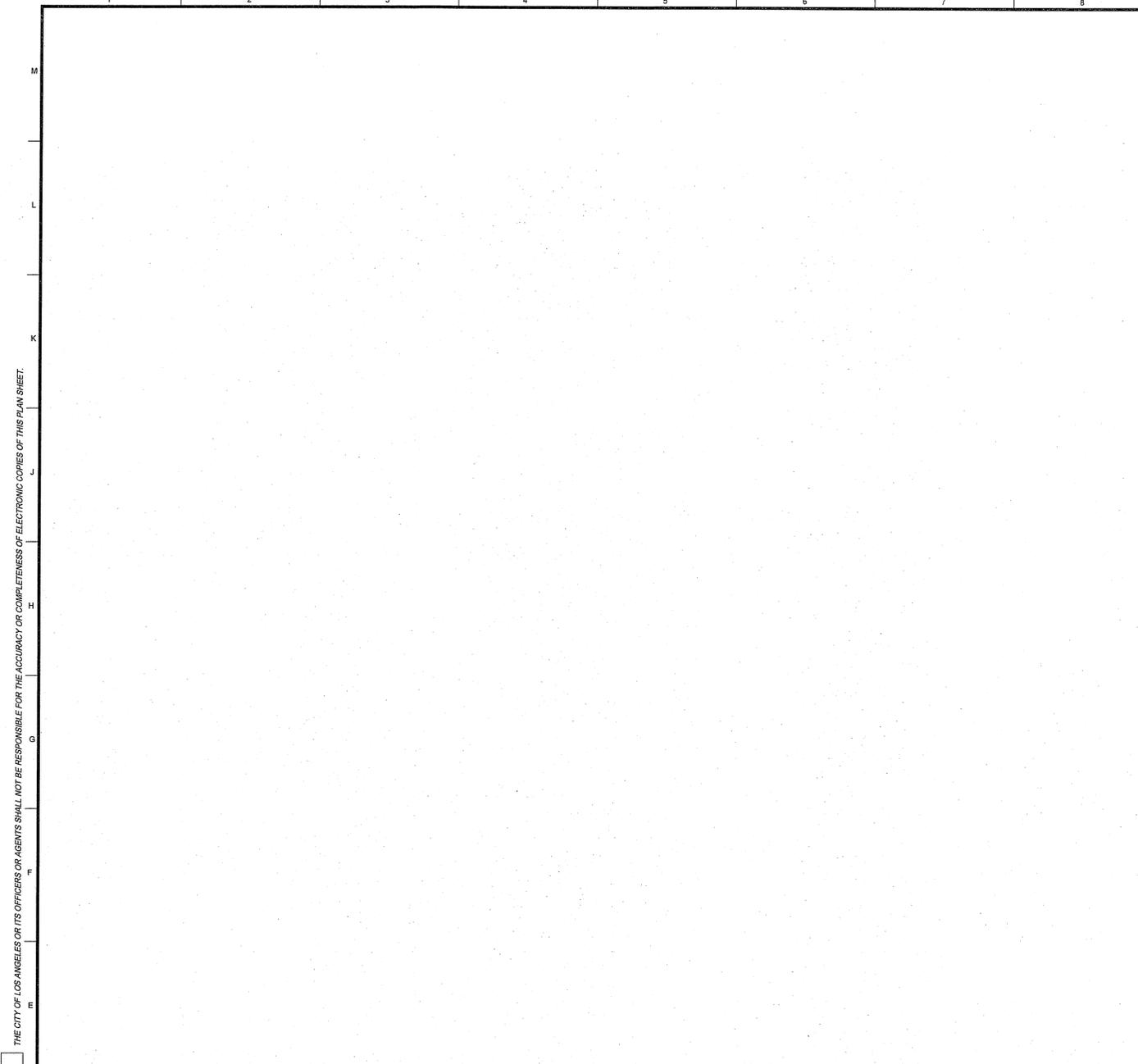
CITY ENGINEER  
 DATE: 9-25-16  
 LIC. NO. 3940  
 LIC. NO. 3940  
 9-25-16  
 9-25-16

WORK ORDER NO.  
**E170414**  
 FILE NO.  
 DRAWING NO.  
**L601**  
 SHEET 10 OF SHEETS 28

INDEX NO.  
**RP 300093**

PLOTTED: 10/20/16 7:03 AM

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 (REVISIONS TO BE MADE ONLY)  
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**BUREAU OF ENGINEERING**  
 ENGINEERING  
 CITY OF LOS ANGELES

DATE: \_\_\_\_\_  
 NO. REVISIONS: \_\_\_\_\_

**DEPARTMENT OF PUBLIC WORKS**  
 GARY LEE MOORE, P.E. ENV SP CITY ENGINEER  
 ARCHITECTURAL DIVISION LIC. NO. 3840  
 DESIGNED BY: LORENA MATOS, ASLA ENV SP  
 DRAWN BY: LORENA MATOS, ASLA ENV SP  
 CHECKED BY: JANE ADRIAN  
 APPROVED BY: MAHMOOD KARIMZADEH, AIA PRINCIPAL ARCHITECT

WORK ORDER NO. E170414  
 FILE NO. \_\_\_\_\_  
 DRAWING NO. \_\_\_\_\_

**L602**  
 SHEET 11 OF 28

PROJECT: STRATHEN PARK NORTH BASEBALL FIELD LIGHTING  
 ADDRESS: 8405 WHITSETT AVE. NORTH HOLLYWOOD, CA 91605

RP VERSION 5/13/96 JPH/RCH VERSION 7/15/97 GN  
 PLOTTED: 01/15/2016 7:40 AM

IRRIGATION SYSTEMS

MATERIALS

SOLVENT WELDED PLASTIC PIPE

Schedule 40 PVC plastic pipe shall be used for pipe sizes up to and including 2 1/2 inch diameter on both the discharge and supply side of control valves, (212-2.1.3). Class 200 PVC plastic pipe shall be used for pipe sizes from 3 inch up to and including 6 inch diameter.

REMOTE CONTROL VALVES

All remote control valves shall be electrically operated with body of cast brass or bronze construction, (212-2.2.4) and installed per details.

CONTROL WIRE

Connection between the automatic controller(s) and the remote control valves shall be made with direct burial 14 gage, AWG-UF, 600 volt, copper wire. Wires shall be provided in the following colors: red, yellow, blue, green, orange, tan, purple, pink, brown, gray, and white.

CONTROL WIRE CONNECTIONS

Control wire connections shall be made with 3-M brand of DBY or DBR Direct Burial Splice kits, or approved equal. The splice kit shall consist of a one-piece malleable plastic bulb body with internal locking fingers, filled with re-enterable gel sealant and a Scotchlok Electrical Spring Connector. Materials shall be as follows: Connector shall be a flame retardant PVC insulator with a steel spring and shell within. Connector shall be a non-crimping system. Tube material shall be clear see-through polypropylene. Gel material shall be hixotropic calcium organic complex.

Wire sizes and numbers of wires shall be as shown below:

Table with 3 columns: CONNECTOR, COLOR, NO. AND SIZE OF WIRE. Rows include 3M Model DBY (Yellow, Max. 4-12 gage UF wires) and 3M Model DBR (Red, Max. 3-14 gage UF wires).

QUICK COUPLING VALVES AND ASSEMBLIES

Quick couplers shall be 1 inch i.p.s., two piece, brass or bronze construction equipped with a cover, unless otherwise specified on plans. The Contractor shall provide one quick coupler key with hose swivel for each five quick couplers installed. Contractor shall supply a minimum of one quick coupler key with hose swivel, (212-2.2.6) and shall be installed per details.

VALVE BOXES

Valve boxes shall be plastic with locking cover.

For Remote Control Valves:

The dimensions of the box shall be 21.8 inches by 16.6 inches, Model VB-STD-H by Rainbird, or approved equal. The lid shall be permanently embossed "RCV", Paint is not acceptable. "Brand" lids with controller station number.

For Quick Couplers and Gate Valves:

The dimensions of the box shall be 13.75 inches bottom diameter and 10" top diameter. Model VB-10RND-H, by Rainbird, or approved equal. The lid shall be permanently embossed "GV" for gate valves and "QC" for quick coupler valves. Paint is not acceptable.

Boxes are to be installed per the applicable details.

METHODS

Maintain 12 inches of cover over all lateral lines and 24 inches of cover over mainlines 3" and smaller in diameter. Mainlines 4" and larger in diameter shall have 30" of cover over the top of the pipe. Reconnect existing remote control valves with approved watertight connectors, (308-5).

NEW PIPELINE INSTALLATION - GENERAL

When pipelines run parallel they shall be separated horizontally by a minimum distance of 12". When pipelines cross each other they shall be separated vertically by a minimum distance of 3".

No irrigation trenching shall pass closer than eight feet of the base of any tree. No tree root larger than 2" diameter shall be cut without approval of the Project Manager.

COVER OVER MAINLINES:

Maintain 24 inches of cover over mainlines 2" and smaller in diameter. Mainlines 3" and larger in diameter shall have 30" of cover over the top of the pipe, (308-5.2). All trenching shall be per details.

COVER OVER LATERAL LINES:

Maintain 12 inches of cover over all lateral lines.

Pipe bedding and backfill: bedding shall surround the pipe to one foot above the top of the pipe. Bedding shall be placed in 6 inch lifts. All bedding shall be densified by water jetting. Water jetting shall be sufficient to thoroughly wet bedding material around the pipe, (306-1.2.1). There shall be no rocks over 1/2" in greatest dimension and no organic matter placed in the bedding material. Backfill shall be the material placed above the bedding. Backfill shall be placed in one-foot lifts and densified by water jetting. Jetting shall be continued until backfill collapses and water is forced to the surface, (306-1.3.1). Pipe trenches thoroughly densified by water settling shall have a minimum relative compaction of 85%. There shall be no rocks over 2" in greatest dimension or organic matter in the backfill. Trench areas which exhibit insufficient densification shall be subject to compaction tests as requested by the BCA Inspector or the Project Manager. All such compaction tests shall be at the expense of the Contractor. Additional tests may be required until the 85% minimum compaction is achieved. Finished trenches shall match finish grades flush with adjacent finish grades. The Contractor shall be responsible for maintaining the trenches flush and smooth until final acceptance of the project. Trenches in existing lawn shall be repaired per method A lawn repair of the Landscape Planting Section of the Landscape Construction Notes.

The maximum trench width shall be two and a half diameters of the pipe.

PIPES AND REMOTE CONTROL WIRING CROSSING UNDER PAVING:

Where irrigation piping crosses a vehicular roadway or other paving having a width of less than 25 feet, a Schedule 40 PVC sleeve which is a minimum of two pipe sizes larger than the piping to pass through it, shall be jacked under the paving at a depth of 36 inches minimum. Where remote control wiring crosses under paving having a width of less than 25 feet, a 3 inch Schedule 40 PVC sleeve shall be jacked under the paving at a depth of 30 inches minimum. All sleeves shall extend 3 feet minimum beyond the edges of paving.

Where irrigation piping crosses a vehicular roadway or other paving having a width greater than 25 feet, a trench shall be excavated across the roadway or paving to accommodate a Schedule 40 PVC sleeve a minimum of two pipe sizes larger than the piping to pass through it, at a depth of 30 inches below the bottom of the paving, as measured from the top of the sleeve. Where remote control

below the bottom of the paving, as measured from the top of the sleeve. Where remote control wiring crosses under paving having a width greater than 25 feet, a 3 inch Schedule 40 PVC sleeve shall be installed at a depth of 30 inches below the bottom of the paving, as measured from the top of the sleeve. The backfill of the trench shall be a 2 sack cement slurry. The slurry shall extend from the bottom of the trench to within one inch of the bottom of the existing paving. The trench in the existing paving shall be repaired with a like paving material and join the existing paving both horizontally and vertically.

FITTINGS ON MAINLINES:

All outlets from a mainline shall be accomplished with line sized tees with an outlet of the specified size. No saddle tees shall be permitted.

INSTALLATION OF VALVE BOXES

Boxes shall be set flush with existing grade, including sloped areas, and all soil within 12 inches of the perimeter of the box shall be compacted by water settlement as indicated in the trench repair section of this specification. Boxes are to be positioned per details.

LAYOUT OF PIPING

Pipe layout as shown on irrigation plan is schematic. Contractor may route piping in the most expedient manner consistent with the requirements set forth herein, including avoidance of tree roots. Contractor shall adhere to As-Built requirements as shown below.

PLACEMENT OF IRRIGATION HEADS

Note: Irrigation plans are designed, as a minimum standard, for head-to-head coverage. Head locations shall be scaled from center of head symbol directly from the irrigation plan. Accuracy of placement shall be within plus or minus two feet for all rotary heads having a throw of 25 feet or greater; within plus or minus 12 inches for all head types with a throw of under 25 feet. Where heads are located adjacent to paving, the heads shall be placed within three inches of such paving.

INSTALLATION OF IRRIGATION HEADS

Sprinkler heads in lawn areas shall be set flush with finish grade at initial installation and protected during construction. All soil 12 inches from the perimeter of the head shall be compacted by water jetting as indicated in this specification, or set in sand as shown on details.

SPRINKLER HEAD RISER

All plastic sprinkler heads shall be installed on swing joint assemblies as shown on details.

AUTOMATIC CONTROL SYSTEM INSTALLATION

The foundation of the automatic controller shall be per details. Each remote control valve shall have a separate 24 volt control wire from the automatic irrigation controller.

LOW VOLTAGE WIRE CONNECTIONS

Connectors shall be DBY or DBR as manufactured by 3M Corp. Control wires shall be stripped of 1/2 inch insulation, inserted into the electrical spring connector, and the connector twisted in a clockwise direction until the wires are tight. Insert the completed splice into the gel-filled tube, and check visually to confirm that the wire nut has been pushed past the fingers and is seated in the bottom of the tube. Position wires in wire channels and close insulator cover.

CONTROL WIRE

Connection between the automatic controller(s) and the remote control valves shall be made with direct burial 14 gage, AWG-UF, 600 volt, copper wire. Wires shall be color coded as follows:

Table with 5 columns: CONTROLLER WIRE COLOR, CONTROLLER STATION, CONTROLLER STATIONS, CONTROLLER STATIONS, CONTROLLER STATIONS. Rows include RED (1, 11, 21, 31), YELLOW (2, 12, 22, 32), BLUE (3, 13, 23, 33), GREEN (4, 14, 24, 34), ORANGE (5, 15, 25, 35), TAN (6, 16, 26, 36), PURPLE (7, 17, 27, 37), PINK (8, 18, 28, 38), BROWN (9, 19, 29, 39), GRAY (10, 20, 30, 40).

Table with 2 columns: CONTROLLER, TAPE BUNDLE COLOR. Rows include A (RED), B (YELLOW), C (BLUE), D (GREEN), E (WHITE), F (BLACK).

INSTALLATION OF IRRIGATION CONTROL WIRING

Wire bundles shall be taped at 5' o.c. Lay bundles in the mainline trench. Do not tape bundles to the mainline piping.

The Contractor shall run two extra black control wires from the automatic controller to the farthest valve on the system, or to the farthest valve at each end of the controller area, if the farthest area extends in two directions from the controller.

Each controller shall have a separate 14 gage, AWG-UF, 600 volt, WHITE common wire for each 10 consecutive stations on each irrigation controller.

- Common 1, stations 1-10
Common 2, stations 11-20
Common 3, stations 21-30
Common 4, stations 31-40

Each exterior controller enclosure shall have a ground rod installed if detailed on controller installation detail.

Wire shall not be taped to mainline (308-5.5). If control wires run in same trench as lateral lines, or are dead headed, wire depth shall be maintained at 24". For installation, see details.

IRRIGATION SYSTEM FLUSHING AND TESTING

The irrigation system shall be flushed in the presence of the BCA Inspector. Flushing shall start with the valve closest to the point of connection and proceed with each consecutive valve toward the valve farthest from the point of connection. Each lateral system shall have each riser capped during the flushing commencing with the riser closest to the valve and proceeding to the farthest riser. After the entire irrigation system has been flushed the system shall be pressure tested in accordance with section 308-5.6 of the SSPWC.

The irrigation system mainlines shall be pressure tested following the flushing of the complete system. The mainlines shall be tested for 24 hours at 125 p.s.i. with all control valves in place and closed. During the test, the Contractor shall provide pressure gauges downstream from the backflow device and upstream from the farthest remote control valve in the system. Air pressure testing of the irrigation system is acceptable if approved by the Project Manager. Placement, quantity and color coding of controller wires shall be verified before mainline trenches are backfilled.

RECORD DRAWINGS (AS-BUILTS) AND CONTROLLER CHARTS

As built plans shall be maintained throughout the construction period and turned over to the Project Manager at the Operational Final Inspection, in accordance with Article 8 of the General Requirements.

The Contractor shall provide two copies of a controller chart showing the irrigation system installed. The chart shall be done on a half size photographic reproduction of the irrigation plan and shall reflect the as-built data. Each station shall be shown in a different color and control wire locations shall be indicated. The complete plan shall be laminated on each side with a 20 mil acrylic plastic sheet. A 3/4" brass grommet shall be placed in each top corner. The Contractor shall obtain approval of the controller chart from the Project Manager, before proceeding with the plastic lamination.

WARRANTY FOR IRRIGATION SYSTEM WORK

The entire sprinkler irrigation system shall be warranted to be free from defects in materials and workmanship, and installed in accordance with these Landscape Construction Notes and the SSPWC. The Contractor shall be required to repair or replace any defects in material or workmanship which may develop within one (1) calendar year from the date of acceptance, ordinary wear and tear and unusual abuse or neglect excepted. Further, the Contractor shall be required to make any necessary repairs within 24 hours of notification at no cost to the Department. If the Contractor or his agent fail to make such repairs within the stipulated time, the Department shall make such repairs or have repairs made by a third party and bill the Contractor for all expenses that accrue from making such repairs.

GUARANTEE AGAINST SETTLEMENT

If, within one (1) calendar year from the date of acceptance, settlement occurs along mainlines, lateral lines, at valve boxes, or other irrigation related appurtenances, and adjustments in pipes valves and sprinkler heads are required to bring the system, sod, or paving to the level of the permanent grades, the Contractor shall make all adjustments without additional cost to the Department, including complete restoration of any planting, paving, or other improvements damaged as a result of settlement.

PLASTIC PIPELINE-SOLVENT WELDED OR THREADED ENDS

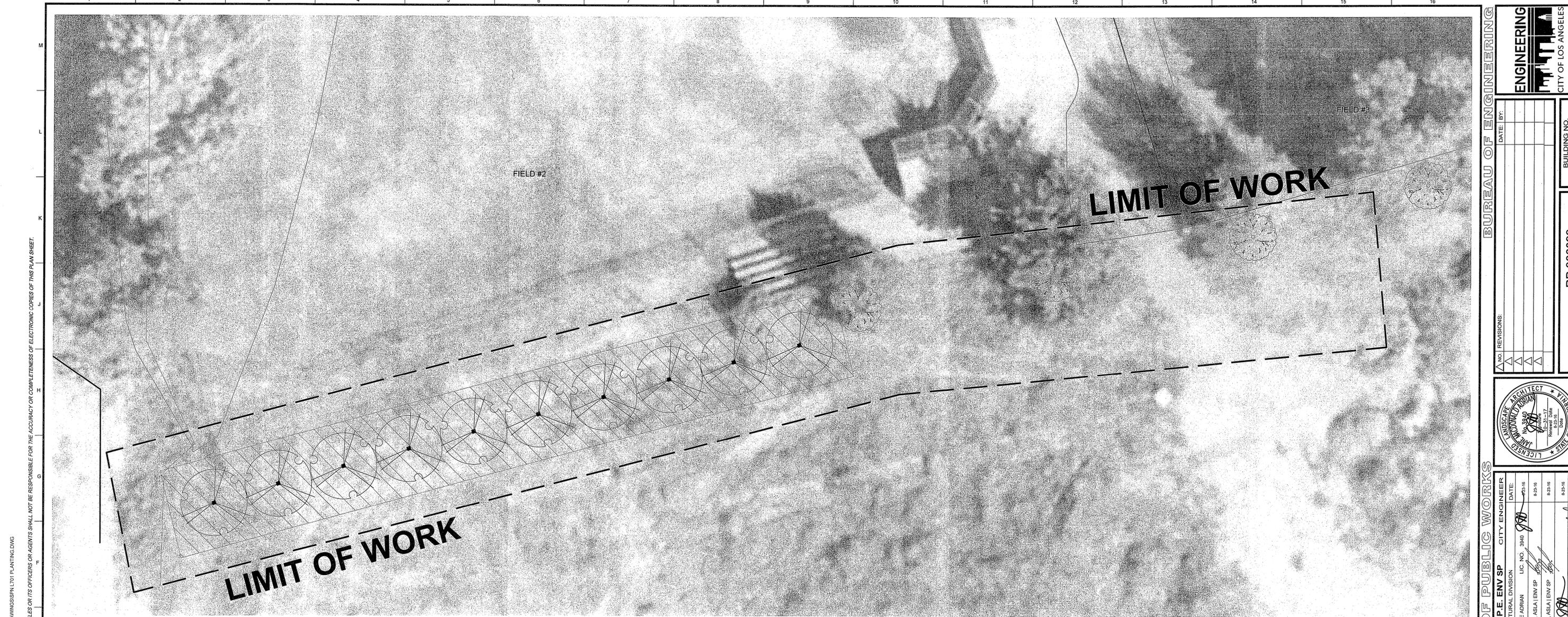
Prior to the application of the P.V.C. solvent cement, prepare all surfaces to be solvent welded with tetrahydrofuran primer tinted purple. Teflon tape shall be used on all plastic male pipe threads, (308-5.2.3).

REVISION DATE: 9/15/2016 7:27 AM FILE: CHIN-HOUSE-DESIGN\STRATHERN PARK NORTH\LANDSCAPE\4.0 CONSTRUCTION DOCUMENTS\DRAWINGS\4.0 WORKING DRAWINGS\SPN L603 IRRIGATION NOTES.DWG SHEET 12 OF 28

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Vertical title block containing: BUREAU OF ENGINEERING, ENGINEERING, CITY OF LOS ANGELES, DEPARTMENT OF PUBLIC WORKS, GARY LEE MOORE, P.E., ENV SP ARCHITECTURAL DIVISION, LANDSCAPE ARCHITECT: JANE ADRIAN, L.C. NO. 3840, DESIGNED BY: LORENA MATOS, ASLA ENV SP, DRAWN BY: LORENA MATOS, ASLA ENV SP, CHECKED BY: JANE ADRIAN, APPROVED BY: MAHMOOD KARIMZADEH, AA PRINCIPAL ARCHITECT, IRRIGATION NOTES, STRATHERN PARK NORTH BASEBALL FIELD LIGHTING, ADDRESS: 8405 WHITSETT AVE, NORTH HOLLYWOOD, CA 91605, WORK ORDER NO. E170414, FILE NO., DRAWING NO. L603, SHEET 12 OF 28, PLOTTED: 9/15/2016 7:41 AM



REVISION DATE: 10/05/2016 6:57 AM  
 FILE: C:\IN-HOUSE-DESIGN\STRATHGREN PARK NORTH\LANDSCAPE\LOU CONSTRUCTION DOCUMENTS\DRAWINGS\A.D.3\_WORKING DRAWINGS\SPN L701\_PLANTING.DWG  
 SHEET NO. 13 OF 28  
 SHEET TITLE: PLANTING PLAN  
 PROJECT: STRATHGREN PARK NORTH BASEBALL FIELD LIGHTING  
 ADDRESS: 8405 WHITSETT AVE. NORTH HOLLYWOOD, CA 91605  
 PLOTTED: 10/05/2016 7:03 AM

**PLANT LEGEND**

SYM	BOTANICAL NAME/Common Name	SIZE	QTY THIS SHEET	TOTAL QTY	REMARKS
	LOPHOSTEMON CONFERTUS/ BRISBANE BOX	24" BOX	10	10	PLANT AND STAKE PER DETAILS A13 SHEET L702
	MULCH	STD.	3,200 SF	3,200 SF	160 LF x 20 LF

- NOTE:**
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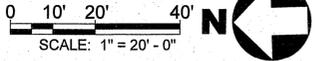
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of Southern California

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**CITY OF LOS ANGELES**

DEPARTMENT OF PUBLIC WORKS

BUREAU OF ENGINEERING

---

CLIENT: RECREATION AND PARKS  
 GENERAL MANAGER: MICHAEL A. SHULL

SHEET TITLE: PLANTING PLAN

PROJECT: STRATHGREN PARK NORTH BASEBALL FIELD LIGHTING

ADDRESS: 8405 WHITSETT AVE. NORTH HOLLYWOOD, CA 91605

---

WORK ORDER NO. E170414

FILE NO.

DRAWING NO. **L701**

SHEET 13 OF SHEETS 28

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DESIGNED BY: LORENA MATOS, ASLA | ENV SP  
 DRAWN BY: LORENA MATOS, ASLA | ENV SP  
 CHECKED BY: JANE ADRIAN  
 APPROVED BY: MAHMOOD KARIMZADEH, AIA | PRINCIPAL ARCHITECT

DATE: 8-23-16

CITY ENGINEER: GARY LEE MOORE, P.E. | ENV SP

ARCHITECTURAL DIVISION

LANDSCAPE ARCHITECT: JANE ADRIAN  
 LIC. NO. 3840

DESIGNED BY: LORENA MATOS, ASLA | ENV SP  
 DRAWN BY: LORENA MATOS, ASLA | ENV SP  
 CHECKED BY: JANE ADRIAN  
 APPROVED BY: MAHMOOD KARIMZADEH, AIA | PRINCIPAL ARCHITECT

DATE: 8-23-16

INDEX NO. RP 300093

BUILDING NO.

NO. REVISIONS

DATE BY

ENGINEERING  
CITY OF LOS ANGELES

LANDSCAPE PLANTING

MATERIALS

ORGANIC AMENDMENT

"Type 1" organic soil amendment shall be a relatively dry and friable fine-textured organic composite that is well-composted and nitrogen stabilized, derived primarily from composted greenwaste or processed wood products, and free of foreign matter including any viable plant, tree or weed seed. 99% of material shall pass through a 1/2" screen. Salinity: material shall have a maximum saturation extract conductivity of 2.50 millisiemens per centimeter.

Contractor shall submit a sample of the organic soil amendment to the Project Manager/BCA Inspector for approval prior to installation.

GRO-POWER PLUS - GENERAL PURPOSE FERTILIZER

Shall have a minimum analysis of 5-3-1 (N-P-K) derived from ammonium phosphate, urea, sulfate of potash, compost and sulfides and oxides of iron, manganese and zinc, with 1.00% Alkyl Naphthalene Sodium Sulfonate soil penetrant as manufactured by Gro-Power Inc., 5065 Telephone Avenue, Chino, CA 91710 (909) 393-3744, or an approved equal.

TOP DRESSING MULCH

Shall be seasoned tree chip mulch, free all foreign matter including weed and tree seeds. Mulch chip size shall be minimum one (1) inch in diameter and not more than two (2) inches in diameter. Submit sample of mulch and source to the Project Manager or BCA Inspector for approval prior to application.

PLANT MATERIALS:

a. ALL PLANTS: The plant names shown or listed on the Contract Drawings shall conform to the "Sunset Western Garden Book," latest edition unless otherwise specified. In all cases, botanical names take precedence over common names.

b. QUALITY: All plants shall have a growth habit normal to the species in accordance with U.S.A. Standards for Nursery Stocks, latest editions; shall be sound, healthy, vigorous and free from insect pests, plant disease, sun scalds, fresh bark abrasions, excessive abrasions or other objectionable disfigurements. Tree trunks shall have normal well-developed branch systems, and vigorous and fibrous root system, not root bound and shall be free of kinked or girdling roots.

c. TYPE AND SIZE: Plant materials shall be as listed on the Contract Drawings, unless otherwise instructed by the Project Manager. In case of conflict between the plant schedule totals and total plant count of the contract documents, the Contractor shall the higher number of plants.

d. DELIVERY OF PLANT MATERIAL: shall begin only when it is ready for the work and after the inspections are made and any required soil samples and tests have been reviewed by the Project Manager. All materials furnished for the work shall be not less than the reviewed sample. Upon delivery, Contractor shall tag one plant of each variety for identifying purposes.

e. PRUNING: Other than normal side pruning during the growth period, no pruning shall be done prior to the inspection at the nursery.

METHODS

PLANTING BACKFILL MIX - GENERAL

75% Site Soil
25% Compost/Planting mix well blended.

TOPSOIL PREPARATION

The soil preparation materials shall be uniformly cultivated into the soil to a depth of 6 inches minimum and thoroughly watered, (308-2.3.1).

WEED SUPPRESSION (NON-HERBICIDE WEED REMOVAL)

Weed suppression, shall apply to all turf and planting areas. The suppression operation shall be commenced only after removals, grading, hardscape construction, installation of irrigation system, soil preparation, and fine grading of turf and planting areas have been completed. Contractor shall thoroughly water all turf and planting areas for a period of two weeks minimum prior to commencing removal. Contractor shall clear site of all dead vegetation and living weeds by hand or mechanical means. All removed vegetation shall be properly disposed of off site.

PLANT MATERIAL INSPECTION

All plant materials, including plants previously approved at the nursery, shall be inspected by the Project Manager or BCA Inspector prior to planting. The Contractor shall be responsible for the condition of all plants, planted or otherwise, until final acceptance by the City and termination of maintenance period. Contractor shall be obligated to honor all requirements of warranty as indicated herein. Contractor shall perform planting with materials and equipment according to procedures favorable to the optimum growth of the plant. Do not plant during windy conditions. Except as noted for specimen planting, do not start planting operations until the completion of weed suppression and completion and acceptance of the irrigation system.

Plant pits for all 1 gallon, 5 gallon, 15 gallon, and all boxed size trees, shall be twice the width and equal to the depth of the container rootball. Note that this requirement differs from the SSPWC (308-4.5).

PLANT PROTECTION AND STORAGE

Keep all plant materials delivered to the job site in a healthy condition for planting. Do not allow plants to dry out or suffer physical damage from other construction activities.

PLANTING LAYOUT

Plant locations indicated on the Contract Drawings are approximate. Contractor shall make a detailed layout of plants, etc., in the planting areas and obtain approval of the Project Manager or BCA Inspector prior to actual planting operations. Plants may be re-spotted prior to planting as directed by the Project Manager and BCA Inspector without additional compensation to the Contractor.

Locate the first row of plants in areas designated for on center spacing at one-half the designated spacing from the edge of the area. Do not stretch the maximum specified spacing for each species shown on the plans.

PLANTING BACKFILL MIX

Unless specified otherwise or required by an agricultural suitability and fertility analysis, container plants shall be backfilled with thoroughly amended site soil per the following specification.

Unless otherwise specified, the backfill mix for all plants shall be 60% percent on site soil and 40% percent Type I organic soil amendment and 1 lb. of "Establish," general purpose fertilizer per gallon of container, or 1 lb. per each 4" of box size.

Unless otherwise specified, planting tablets shall not be used with California native species.

PLANTING

Make planting holes approximately square with vertical sides no greater than the depth of the plant container (or such depth as needed so that the root crown has the correct relationship to adjacent finished grade per the planting details) and approximately twice the width of the plant container or rootball and larger if necessary to permit handling and planting without injury to the root system. Install root barriers if/where indicated on the Contract Drawings in accordance with the details and/or the manufacturer's recommendations. Lightly scarify native soil at the bottom of planting holes.

Specimen Planting: When in close proximity to irrigation lines, plants in boxes (24 inches or larger) may be planted before installation of lateral irrigation lines. Re-route irrigation lines in conflict with specimen plant locations to clear the rootball.

Do not plant plants with a broken or cracked rootball. Such plants shall be considered defective and rejected.

Open and remove plant containers in such a manner that the plant roots are not injured.

After "water settling" the bottom half of the planting hole, set the plant approximately in the center of the planting hole and adjust the root crown to the correct relationship to finish grade per the planting details. After the plant has been placed, additional backfill shall be added to the hole to cover approximately one-half the height of the rootball. At this stage, water shall be added to the top of the partly filled hole to thoroughly saturate the rootball and adjacent soil. The remainder of the hole shall be backfilled and watering repeated.

Prune or remove any broken or damaged minor limbs. Any major damage to plant material shall be brought to the attention of the Project Manager or BCA Inspector.

Immediately after planting, form a circular watering basin slightly larger than the planting hole: 6 inches high for trees and 3 inches high for shrubs. The bottom the basin shall be at the level of the surrounding finish grade.

Restore the area around the plants and watering basins to designated finish grade and dispose of excess soil.

After planting, plants shall be plumb, with the root crown at the correct relationship to finish grade per the planting details. All plants which settle more than 1 inch shall be raised by the Contractor to the correct level, as shown in the planting details, at no additional cost to the City.

MULCHING

All planting areas except lawn shall receive a minimum two (2) inch deep layer of Top Dressing Mulch per the Planting Details and the Landscape Construction Notes Materials list. Mulch shall be spread evenly throughout planting beds and tree watering basins. Do not bury plant crowns.

PLANT ESTABLISHMENT PERIOD

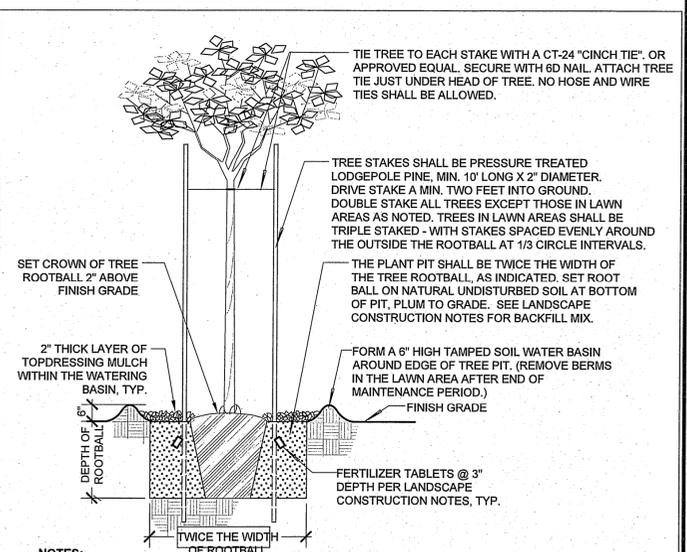
The plant establishment period shall be for a period of 90 days unless extended as described in this section. The plant establishment period shall be started when all planting and related work has been completed in accordance with the contract documents and approved by the Project Manager. The beginning of the plant establishment period shall be determined by an on site review by the Project Manager. The Contractor shall immediately replace any and all plant materials and/or grass which, for any reason dies or is damaged while under the Contractors care. Replacement shall be made with seed and/or plants as indicated or specified for the original planting.

The Contractor shall be responsible for maintenance within the area of work throughout the period of construction and the plant establishment period. Broken or vandalized trees, shrubs, or tree stakes shall be repaired/replaced to a condition as initially installed within seven (7) days of damage. The maintenance shall include continuous operations of picking up trash and emptying trash cans daily, watering, the removal of all weeds in planting areas and all broad leaf weeds in lawn areas, mowing, rolling, trimming, edging, cultivation, fertilization, spraying, control of pests, insects and rodents, reseeding, plant replacement (irrespective of cause), or any other operations necessary to assure normal plant growth and the collection and removal of all trash daily. The Contractor shall maintain the area of work at maximum seven (7) day intervals and perform any needed mowing of existing lawns within the area of work when the grass reaches a three (3) inch height maximum.

Any malfunctions of, or damage to, the irrigation system caused by the Contractor in the prosecution of his work shall be repaired within 24 hours.

The designated plant establishment period is part of the total contract time. The plant establishment period will be extended at fourteen (14) day intervals if, at the end of the plant establishment period, the planting, irrigation and other improvements do not reflect the intent of the plans and Landscape Construction Notes. All extensions of the plant establishment period shall be subject to the assessment of liquidated damages, (308-6).

All shrubs and ground covers shall be guaranteed for a period of one hundred and twenty (120) days from the end of the plant establishment period. All trees and shrubs 15 gallon size or larger shall be guaranteed for a period of one (1) year from the end of the plant establishment period.



NOTES:
1. ALL TREES PLANTED IN LAWN AREAS SHALL HAVE A 36" DIAMETER UNPLANTED MULCHED AREA AROUND EACH TREE TRUNK.
2. WHEN PLANTING TREES IN AREAS TO RECEIVE SOD, CONTRACTOR SHALL COMPENSATE FOR THE THICKNESS OF THE SOD AND SET TOP OF TREE ROOTBALL APPROPRIATELY TO AVOID A LOW AREA AND PONDING OF WATER.

Table with 2 columns: A13 TREE PLANTING AND STAKING, N.T.S. BOE VERSION Mar/08 RF, SD. Includes sheet number 14 of 28.

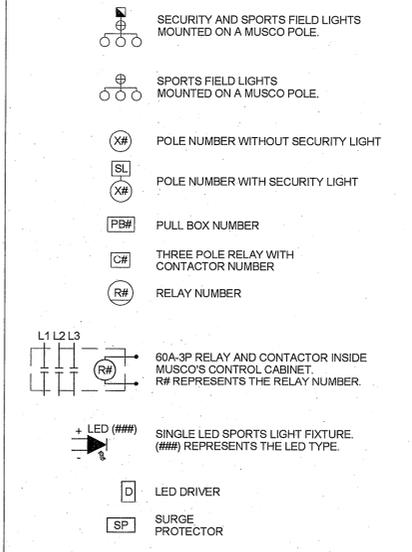
REVISION DATE: 7/12/06 11:02 AM FILE: C:\MHOUSE\DESIGN\NORTH\LANDSCAPE\04 CONSTRUCTION DOCUMENTS\DRAWINGS\A.3 WORKING DRAWINGS\SPN L702 PLANTING NOTES.DWG

Professional engineering stamp for Gary Lee Moore, P.E. Env SP, Architectural Division, License No. 3890, dated 8-23-16. Includes project details for Strathern Park North Baseball Field Lighting and contact information for the Bureau of Engineering, Department of Public Works, City of Los Angeles.

### GENERAL NOTES AND SPECIFICATIONS

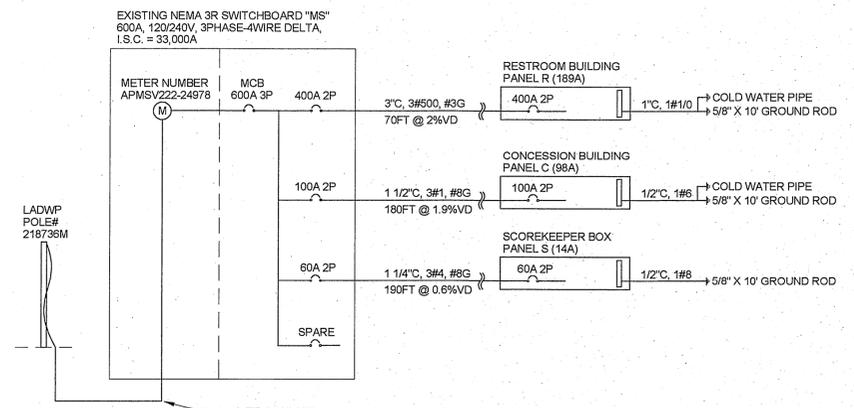
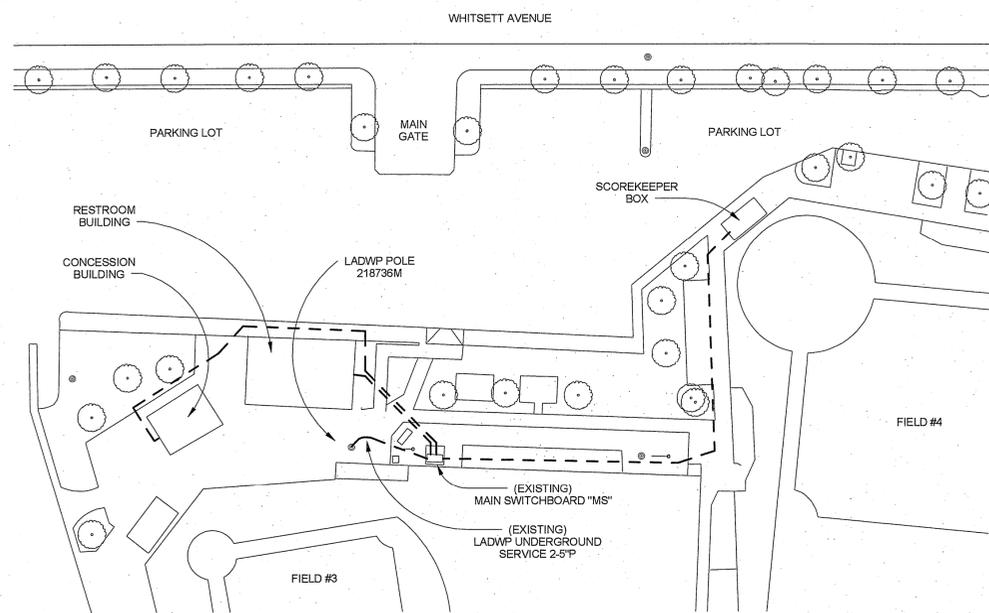
- PROVIDE ALL MATERIALS AND LABOR AS REQUIRED TO ACHIEVE A COMPLETE AND OPERATING SYSTEM.
- USE SCHEDULE 40 P.V.C. CONDUIT UNDERGROUND WITH CODE SIZED GROUND CONDUIT RISERS, STUBS ABOVE GRADE, AND UNDERGROUND CONDUIT ELBOWS SHALL BE P.V.C. COATED GALVANIZED RIGID STEEL. TRANSITION TO STEEL MUST OCCUR UNDERGROUND.
- ALL NEW WIRING SHALL BE COPPER TYPE "THHN/THWN" - U.O.N.
- ALL LIGHTING FIXTURES SHALL BE MOUNTED AND SEISMICALLY SUPPORTED IN ACCORDANCE WITH OSHA STANDARDS AND ALL NATIONAL AND LOCAL ELECTRICAL CODES.
- THESE DRAWINGS ARE DIAGRAMMATIC AND REPRESENT THE INTENT OF EQUIPMENT, DEVICES, ETC... TO BE CONNECTED AND THE CIRCUITS TO WHICH THEY ARE TO BE CONNECTED TO. CONTRACTOR SHALL INSTALL ALL CONDUIT, J-BOXES, ETC... AS REQUIRED FOR A COMPLETE AND OPERATING SYSTEM.
- ALL EXTERIOR EQUIPMENT, FIXTURES, DEVICES AND RACEWAYS SHALL BE WEATHERPROOF.
- ELECTRICAL CONTRACTOR SHALL PERFORM ALL WORK IN STRICT ACCORDANCE WITH ALL LOCAL AND NATIONAL GOVERNING CODES.
- ALL ELECTRICAL ITEMS SHALL BE NEW AND BEAR A "UL" LABEL - UNLESS OTHERWISE NOTED
- ELECTRICAL CONTRACTOR SHALL PAY FOR ALL NECESSARY ELECTRICAL PERMITS.
- COMPLETE ELECTRICAL INSTALLATION SHALL BE GUARENTEED IN WRITING FOR A PERIOD OF (1) YEAR UPON ACCEPTANCE BY THE CITY ENGINEER.
- ELECTRICAL CONTRACTOR SHALL VISIT THE PROJECT SITE PRIOR TO BID DATE, TO VERIFY ALL EXISTING CONDITIONS TO BE ENCOUNTERED IN THE INSTALLATION OF ALL NEW EQUIPMENT, FIXTURES DEVICES, FEEDERS, ETC. EXACT INSTALLATION METHOD AND REQUIREMENTS SHALL BE VERIFIED AND DETERMINED PRIOR TO BID DATE. CONTRACTORS SHALL IMMEDIATELY NOTIFY THE CITY ENGINEER OF ANY REQUIRED MODIFICATIONS OR DISCREPANCIES WHICH ARE NOT SHOWN ON THESE DRAWINGS. SUBMITTAL OF BID INDICATES CONTRACTOR IS COGNIZANT OF ALL JOB SITE CONDITIONS AND WORK TO BE PREFORMED.
- ALL EQUIPMENT ELECTRICAL CHARACTERISTICS, LOCATIONS, AND CONNECTION REQUIREMENTS SHALL BE VERIFIED PRIOR TO ANY ROUGH-IN WORK.
- ELECTRICAL CONTRACTOR SHALL FURNISH TO THE CITY ENGINEER SHOP DRAWINGS FOR REVIEW PRIOR TO INSTALLATION AND PRODUCT DELIVERY.
- COMMUNICATION CONDUIT RUNS GREATER THAN 100 FT. OR WITH MORE THAN (2) RIGHT ANGLE BENDS SHALL HAVE A PULLBOX INSTALLED AT A CONVENIENT INTERMEDIATE LOCATION.
- COMPLETE ELECTRICAL SYSTEM SHALL BE GROUNDED IN ACCORDANCE WITH THE PRESENTLY ADOPTED EDITION OF THE N.E.C. ART. 250
- PROVIDE THE CITY ENGINEER WITH ONE SET OF ELECTRICAL "AS-BUILT" DRAWINGS AT THE COMPLETION OF JOB. SHOW CONDUIT AND EQUIPMENT EXACT LOCATION AND MOUNTING DIMENSIONS ON THE DRAWINGS.
- ALL CONDUITS AND JUNCTION BOXES SHALL BE LOCATED IN CONCEALED SPACES. SURFACE MOUNTED CONDUITS AND BOXES ARE ONLY PERMITTED WHEN PREVIOUSLY DIRECTED BY THE CITY ENGINEER.
- ALL EXTERIOR COVER PLATES TO BE PAINTED TO MATCH SURROUNDING COLOR.
- NO PIPING, DUCTS OR EQUIPMENT FOREIGN TO ELECTRICAL EQUIPMENT SHALL BE PERMITTED TO BE WITHIN THE DEDICATED SPACE ABOVE THE ELECTRICAL EQUIPMENT.
- ALL FUSE HOLDERS SHALL BE REJECTION TYPE.
- ALL CONDUITS LOCATED UNDERGROUND MUST BE BURIED A MINIMUM OF 24 INCHES.
- ALL BRANCH CIRCUITS SHALL HAVE A SEPARATE NEUTRAL FOR EACH CIRCUIT.
- ANY UNDERGROUND INSTALLATIONS OF ELECTRICAL CONDUITS SHALL COMPLY WITH STRUCTURAL DRAWINGS.
- ALL REMOVED EQUIPMENT AND MATERIALS SHALL BE REMOVED FROM SITE AND DISPOSED PROPERLY.
- INCLUDE ALL NECESSARY DEMOLITION AS PART OF THE WORK.
- THE NEW LIGHTING CONTROLS SHALL MEET THE ACCEPTANCE REQUIREMENTS FOR CODE COMPLIANCE IN ACCORDANCE WITH TITLE-24 SECTION 130.4. THE ACCEPTANCE TESTING OF THE LIGHTING SYSTEM SHALL BE PERFORMED BY A CERTIFIED "LIGHTING CONTROLS ACCEPTANCE TEST TECHNICIAN" SELECTED BY THE CONTRACTOR.

### SYMBOL LIST



### SCOPE OF WORK

INSTALL NEW SPORTS FIELD AND SECURITY LIGHTS AT TWO EXISTING BASEBALL FIELDS.



1 EXISTING SITE PLAN  
E001 1/32" = 1'-0"

2 EXISTING SINGLE LINE DIAGRAM  
E001 N.T.S.

THE CITY OF LOS ANGELES OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET

BUREAU OF ENGINEERING

CITY OF LOS ANGELES

DEPARTMENT OF PUBLIC WORKS

GARY LEE MOORE, P.E., ENV SP

ARCHITECTURAL DIVISION

ENGINEER: SARO DERBAROIAN LIC. NO.: E12231

DESIGNED BY: SON YUONG

DATE: 8/23/2016

DRAWN BY: SON YUONG

LIC. NO.: E12231

CHECKED BY: SARO DERBAROIAN

EXP. 9/30/2016

APPROVED BY: MAHMOOD KARIMZADEH, A.I.A., PRINCIPAL ARCHITECT

8/23/2016

INDEX NO.

BUILDING NO.

REVISION DESCRIPTION

NO.

DATE

BY

ENGINEERING

CITY OF LOS ANGELES

OFFICIAL RECORD

WORK ORDER NO. E170414

SHEET 15 OF 28

DRAWING NO. E001

PROJECT: STRATHERN PARK NORTH BASEBALL FIELD LIGHTING

ADDRESS: 8045 WHITSETT AVENUE LOS ANGELES CA 91605

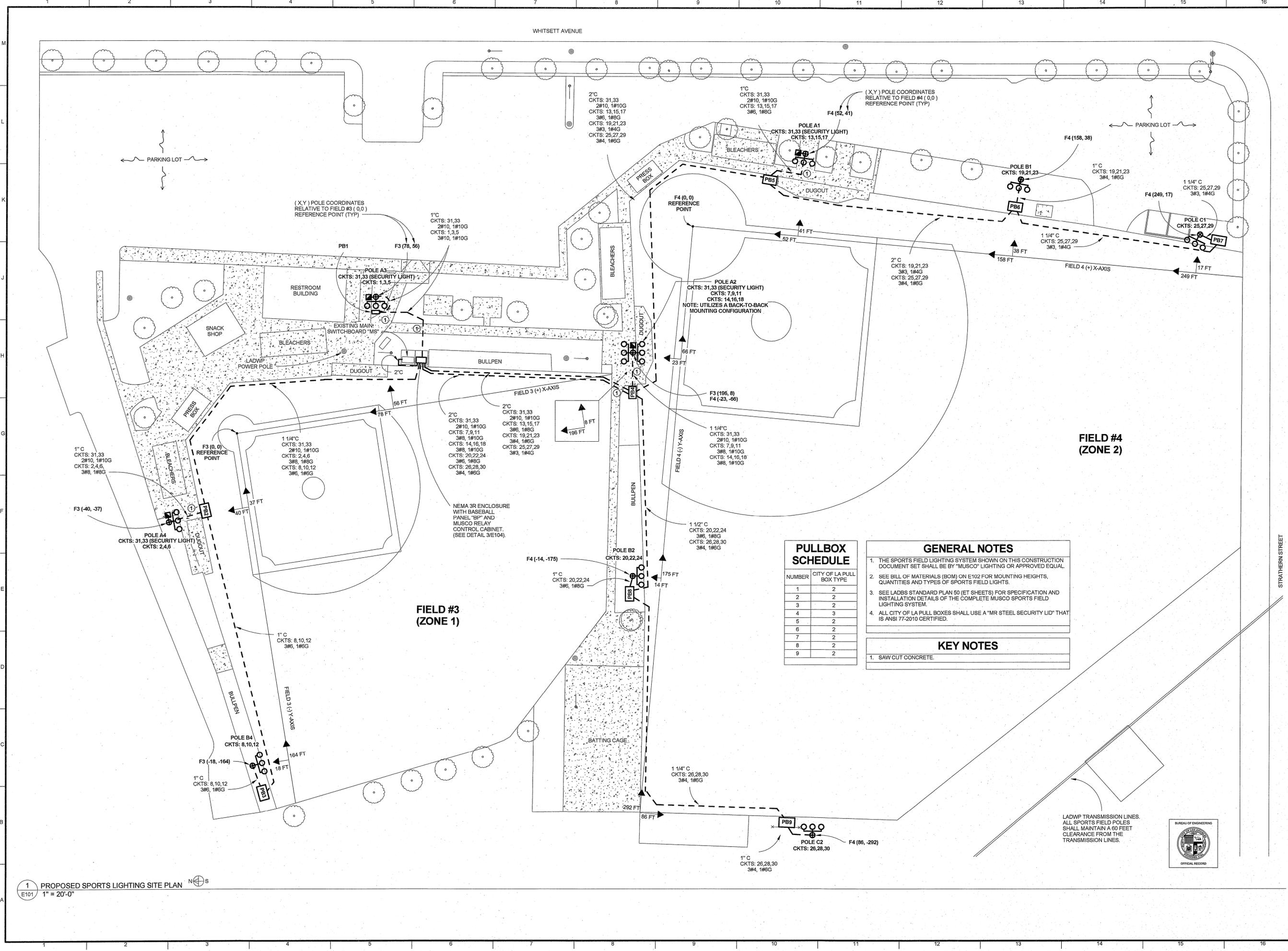
PLAN FILE NO.

RP 300093

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 SHEET ISSUE DATE: 8/16/2016

THE CITY OF LOS ANGELES OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET



**PULLBOX SCHEDULE**

NUMBER	CITY OF LA PULL BOX TYPE
1	2
2	2
3	2
4	3
5	2
6	2
7	2
8	2
9	2

- GENERAL NOTES**
- THE SPORTS FIELD LIGHTING SYSTEM SHOWN ON THIS CONSTRUCTION DOCUMENT SET SHALL BE BY "MUSCO" LIGHTING OR APPROVED EQUAL.
  - SEE BILL OF MATERIALS (BOM) ON E102 FOR MOUNTING HEIGHTS, QUANTITIES AND TYPES OF SPORTS FIELD LIGHTS.
  - SEE LADWP STANDARD PLAN 50 (ET SHEETS) FOR SPECIFICATION AND INSTALLATION DETAILS OF THE COMPLETE MUSCO SPORTS FIELD LIGHTING SYSTEM.
  - ALL CITY OF LA PULL BOXES SHALL USE A "MR STEEL SECURITY LID" THAT IS ANSI 77-2010 CERTIFIED.

- KEY NOTES**
- SAW CUT CONCRETE.

LADWP TRANSMISSION LINES. ALL SPORTS FIELD POLES SHALL MAINTAIN A 50 FEET CLEARANCE FROM THE TRANSMISSION LINES.



1 PROPOSED SPORTS LIGHTING SITE PLAN  
 E101 1" = 20'-0"

**BUREAU OF ENGINEERING**  
 ENGINEERING CITY OF LOS ANGELES

DATE: 8/23/2016  
 REVISION DESCRIPTION: [Blank]

INDEX NO. RP 300093  
 BUILDING NO. [Blank]

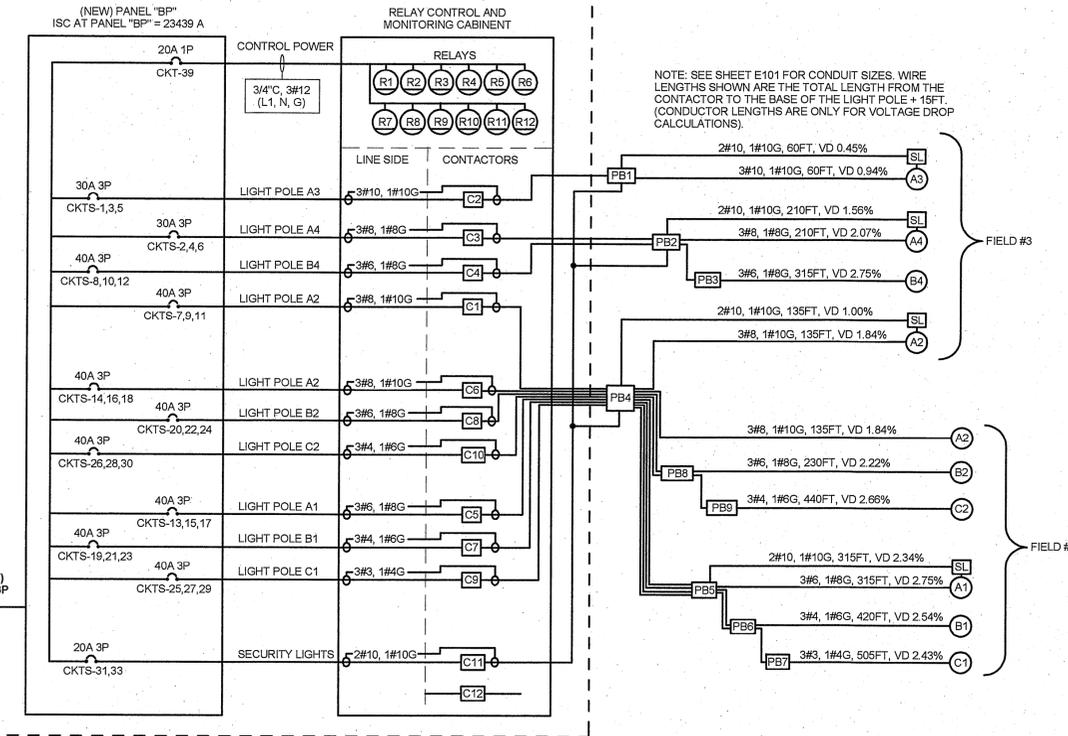
**DEPARTMENT OF PUBLIC WORKS**  
 CITY ENGINEER: GARY LEE MOORE, PE, ENV SP  
 ARCHITECTURAL DIVISION  
 ENGINEER: SARO DERBAROIAN LIC. NO.: E12231  
 DESIGNED BY: SON YUONG  
 DRAWN BY: SON YUONG  
 CHECKED BY: SARO DERBAROIAN  
 APPROVED BY: MAHMOOD KARIMZADEH, AIA, PRINCIPAL ARCHITECT

DATE: 8/23/2016  
 L.C. NO.: E12231  
 EXP. 8/23/2018

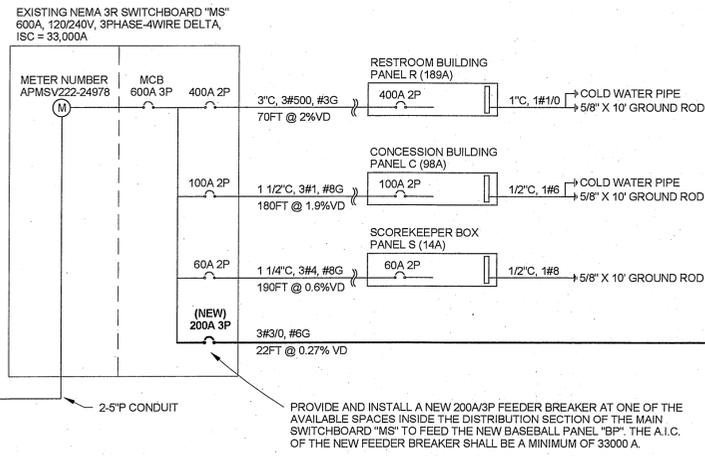
SHEET TITLE: PROPOSED SPORTS LIGHTING SITE PLAN  
 PROJECT: STRATHERN PARK NORTH BASEBALL FIELD LIGHTING  
 ADDRESS: 8045 WHITSETT AVENUE LOS ANGELES CA 91605

WORK ORDER NO. E170414  
 PLAN FILE NO.  
 DRAWING NO. E101  
 SHEET 16 OF SHEETS 28  
 PLOTTED: 9/27/2016 4:01:28 PM

NEMA 3R ENCLOSURE WITH BASEBALL PANEL "BP" AND MUSCO RELAY CONTROL AND MONITORING CABINET. SEE SHEET E104 FOR DETAILS.



NOTE: SEE SHEET E101 FOR CONDUIT SIZES, WIRE LENGTHS SHOWN ARE THE TOTAL LENGTH FROM THE CONTACTOR TO THE BASE OF THE LIGHT POLE + 15FT. (CONDUCTOR LENGTHS ARE ONLY FOR VOLTAGE DROP CALCULATIONS).



PROVIDE AND INSTALL A NEW 200A/3P FEEDER BREAKER AT ONE OF THE AVAILABLE SPACES INSIDE THE DISTRIBUTION SECTION OF THE MAIN SWITCHBOARD "MS" TO FEED THE NEW BASEBALL PANEL "BP". THE A.I.C. OF THE NEW FEEDER BREAKER SHALL BE A MINIMUM OF 33000 A.

1 PROPOSED SINGLE LINE POWER DIAGRAM  
E102 1/8" = 1'-0"

### NEW MUSCO SPORTS LIGHT BOM

POLE	HEIGHT(FT)	MOUNT(FT)	DESCRIPTION	LED TYPE	QTY	TOTAL WATTS*	MAX LINE AMP**	SIZE (AMP)	ID	ZONE
A2	70	70	SPORTS (FIELD #3)	228	8	5040	24.66	60	C1	1
					2	800				
					6	3780				
					2	800				
					5	3150				
A3	60	20***	SPORTS (FIELD #3)	228	2	800	17.86	60	C2	1
					2	800				
					2	800				
					2	800				
					2	800				
A4	60	20***	SPORTS (FIELD #3)	228	2	800	17.86	60	C3	1
					2	800				
					2	800				
					2	800				
					2	800				
B4	60	20***	SPORTS (FIELD #3)	228	2	800	24.66	60	C4	1
					2	800				
					2	800				
					2	800				
					2	800				
FIELD #3 SUBTOTAL						36	20840			
A1	70	70	SPORTS (FIELD #4)	228	7	4410	24.66	60	C5	2
					1	630				
					2	800				
					7	4410				
					2	800				
A2	70	70	SPORTS (FIELD #4)	228	1	630	24.66	60	C6	2
					2	800				
					2	800				
					2	800				
					2	800				
B1	70	70	SPORTS (FIELD #4)	228	9	5670	27.20	60	C7	2
					2	800				
					2	800				
					2	800				
					2	800				
B2	70	70	SPORTS (FIELD #4)	228	10	6300	27.20	60	C8	2
					2	800				
					2	800				
					2	800				
					2	800				
C1	70	70	SPORTS (FIELD #4)	228	5	3150	27.20	60	C9	2
					2	800				
					2	800				
					2	800				
					2	800				
C2	70	70	SPORTS (FIELD #4)	228	10	6300	27.20	60	C10	2
					2	800				
					2	800				
					2	800				
					2	800				
FIELD #4 SUBTOTAL						68	40080			
ALL FIELDS TOTAL						104	60920			

\* CALCULATIONS BASED ON LUMINAIRE WATTAGE AS FOLLOWS: 228/216 LED-630W AND 96 LED - 400W.  
 \*\* CALCULATIONS BASED ON PHASE TO PHASE LUMINAIRE WIRING WHERE THE MAXIMUM PHASE TO PHASE DRIVER CURRENT AT 240VAC IS: 228/216 LED - 6.90A AND 96 LED - 4.26A  
 \*\*\* MUSCO SPORTS LIGHTS MOUNTED AT 20 FEET ARE ORIENTED TOWARDS THE SKY.

### NEW MUSCO SECURITY LIGHT BOM

POLE	HEIGHT(FT)	MOUNT(FT)	DESCRIPTION	LED TYPE	QTY	WATT	MAX LINE AMPS	SIZE (AMP)	ID	ZONE
A1	70	30	SECURITY	96	1	400	8.52	60	C11	3
A2	70	30	SECURITY	96	1	400				
A3	60	30	SECURITY	96	1	400				
A4	60	30	SECURITY	96	1	400				
SECURITY SUBTOTAL						4	1600			
SPARE						-	-	60	C12	4

NOTE: SECURITY LIGHTS SHALL BE PROGRAMMED TO REMAIN ON FROM DUSK TO DAWN USING MUSCO'S ASTRONOMICAL CONTROLLER.

### MUSCO CONTROL ZONE SCHEDULE

ZONE NUMBER	SELECTOR SWITCH	ZONE DESCRIPTION
1	1	FIELD 3
2	2	FIELD 4
3	3	SECURITY LIGHTS

### NEW BASEBALL PANEL "BP"

CKT #	BREAKER	TRIP	POLE	TOTAL LIGHTS	CIRCUIT DESCRIPTION	WATTS		
						PH A	PH B	PH C
1	30	3	3	8	FIELD #3 POLE A3	2048		
2	30	3	3	8	FIELD #3 POLE A4	1260		
3	-	-	-	-	WITH CIRCUIT #1		1260	
4	-	-	-	-	WITH CIRCUIT #2		1260	
5	-	-	-	-	WITH CIRCUIT #1			1260
6	-	-	-	-	WITH CIRCUIT #2			2048
7	40	3	10	10	FIELD #4 POLE A2	2048		
8	40	3	10	10	FIELD #3 POLE B4	1260		
9	-	-	-	-	WITH CIRCUIT #7		2520	
10	-	-	-	-	WITH CIRCUIT #8		2048	
11	-	-	-	-	WITH CIRCUIT #7			1260
12	-	-	-	-	WITH CIRCUIT #8			2520
13	40	3	10	10	FIELD #4 POLE A1	2520		
14	40	3	10	10	FIELD #3 POLE A2	2048		
15	-	-	-	-	WITH CIRCUIT #13		1260	
16	-	-	-	-	WITH CIRCUIT #14		2520	
17	-	-	-	-	WITH CIRCUIT #13			2048
18	-	-	-	-	WITH CIRCUIT #14			1260
19	40	3	12	12	FIELD #4 POLE B1	2048		
20	40	3	12	12	FIELD #4 POLE B2	2520		
21	-	-	-	-	WITH CIRCUIT #19		2520	
22	-	-	-	-	WITH CIRCUIT #20		2048	
23	-	-	-	-	WITH CIRCUIT #19			2520
24	-	-	-	-	WITH CIRCUIT #20			2520
25	40	3	12	12	FIELD #4 POLE C1	2460		
26	40	3	12	12	FIELD #4 POLE C2	2520		
27	-	-	-	-	WITH CIRCUIT #25		2018	
28	-	-	-	-	WITH CIRCUIT #26		2048	
29	-	-	-	-	WITH CIRCUIT #25			2460
30	-	-	-	-	WITH CIRCUIT #26			2520
31	20	2	4	4	SECURITY LIGHTS(POLE:A1-A4)	1576		
32	-	-	-	-	SPACE			
33	-	-	-	-	WITH CIRCUIT #31			
34	-	-	-	-	WITH CIRCUIT #32			
35	-	-	-	-	SPACE			
36	-	-	-	-	WITH CIRCUIT #32			
37	-	-	-	-	SPACE			
38	-	-	-	-	SPACE			
39	20	1	1	1	CONTROL POWER		1500	
40	-	-	-	-	SPACE			

L3(C) HOT LEG		TOTAL L-N WITH LCL		
PH C	PH A	22308	19502	20416
PH B	PH A			
L2(B)	L1(A)			
TOTAL PHASE LOAD + LCL		27885	24378	25520
TOTAL WATTS			79263	
L-N CURRENT AMPS			0	12.50
TOTAL PHASE CURRENT AMPS + LCL		116.19	101.57	106.33

PANEL LINE CURRENT = 192.77 A (SEE DELTA LOAD CALCULATION FOR PANEL "BP")

### SHORT CIRCUIT CURRENT AT PANEL "BP"

$F = \frac{1}{1 + \frac{Z_{SC}}{Z_{L}}}$  (12844 / (1 + 240)) = 0.408;  $M = 1 / (1 + F) = 0.0710$   
 ISC = (33000)(M) = 23439 A

### DELTA LOAD CALCULATION ( FOR PANEL "BP" )

LINE TO LINE CURRENT      LINE TO NEUTRAL CURRENT  
 AMP PH A = 116.19 A      AMP L1-N = 0 A  
 AMP PH B = 101.57 A      AMP L2-N = 12.50 A  
 AMP PH C = 106.33 A

AMP L1 =  $\sqrt{(\text{AMP PH A})^2 + (\text{AMP PH B} + \text{AMP L1-N})^2 + [(\text{AMP PH A}) * (\text{AMP PH B} + \text{AMP L1-N})]}$   
 AMP L1 =  $\sqrt{(116.19)^2 + (101.57 + 0)^2 + [(116.19) * (101.57 + 0)]}$  = 188.73 A

AMP L2 =  $\sqrt{(\text{AMP PH B} + \text{AMP L2-N})^2 + (\text{AMP PH C})^2 + [(\text{AMP PH B} + \text{AMP L2-N}) * (\text{AMP PH C})]}$   
 AMP L2 =  $\sqrt{(101.57 + 12.50)^2 + (106.33)^2 + [(101.57 + 12.50) * (106.33)]}$  = 190.92 A

AMP L3 =  $\sqrt{(\text{AMP PH C})^2 + (\text{AMP PH A})^2 + [(\text{AMP PH C}) * (\text{AMP PH A})]}$   
 AMP L3 =  $\sqrt{(106.33)^2 + (116.19)^2 + [(106.33) * (116.19)]}$  = 192.77 A

LARGEST LINE CURRENT = 192.77 A

### DELTA LOAD CALCULATION (FOR SERVICE SWBD "MS")

LADWP METER PEAK DEMAND FOR THE LAST 12 MONTHS (FEBRUARY 10, 2016) = 24.8 KW  
 LADWP PEAK DEMAND = 24800 / (0.8 \* 240) \* 1.25 = 161.46 A

TOTAL LINE TO LINE CURRENT      TOTAL LINE TO NEUTRAL CURRENT  
 AMP PH A = 116.19 A      AMP L1-N = 0 A  
 AMP PH B = 101.57 A (PANEL "BP") + 161.46 A (LADWP) = 263.03 A      AMP L2-N = 12.50 A  
 AMP PH C = 106.33 A

AMP L1 =  $\sqrt{(\text{AMP PH A})^2 + (\text{AMP PH B} + \text{AMP L1-N})^2 + [(\text{AMP PH A}) * (\text{AMP PH B} + \text{AMP L1-N})]}$   
 AMP L1 =  $\sqrt{(116.19)^2 + (263.03 + 0)^2 + [(116.19) * (263.03 + 0)]}$  = 336.52 A

AMP L2 =  $\sqrt{(\text{AMP PH B} + \text{AMP L2-N})^2 + (\text{AMP PH C})^2 + [(\text{AMP PH B} + \text{AMP L2-N}) * (\text{AMP PH C})]}$   
 AMP L2 =  $\sqrt{(263.03 + 12.50)^2 + (263.03)^2 + [(263.03 + 12.50) * (263.03)]}$  = 341.35 A

AMP L3 =  $\sqrt{(\text{AMP PH C})^2 + (\text{AMP PH A})^2 + [(\text{AMP PH C}) * (\text{AMP PH A})]}$   
 AMP L3 =  $\sqrt{(106.33)^2 + (116.19)^2 + [(106.33) * (116.19)]}$  = 192.77 A

LARGEST LINE CURRENT = 341.35 A

BUREAU OF ENGINEERING

CITY OF LOS ANGELES

DEPARTMENT OF PUBLIC WORKS

GARY LEE MOORE, PE, ENV SP

ARCHITECTURAL DIVISION

ENGINEER: SARO DERBAROIAN      DATE: 9/23/2016

DESIGNED BY: SON YUONG      LIC. NO.: E12321

DRAWN BY: SON YUONG      DATE: 9/23/2016

CHECKED BY: SARO DERBAROIAN      DATE: 9/23/2016

APPROVED BY: MAHMOOD KARIMZADEH, A.I.A., PRINCIPAL ARCHITECT      DATE: 9/23/2016

SHEET TITLE: PROPOSED SCHEDULES, SINGLE LINE DIAGRAM, AND LOAD CALCULATIONS

PROJECT: STRATHERN PARK NORTH BASEBALL FIELD LIGHTING

ADDRESS: 8045 WHITSETT AVENUE LOS ANGELES CA 91605

WORK ORDER NO. E170414

PLAN FILE NO.

DRAWING NO. E102

SHEET 17 OF SHEETS 28

PLOTTED: 9/27/2016 4:01:32 PM









ELECTRICAL SPECIFICATIONS

1. GENERAL SCOPE OF WORK

WORK IN THIS CONTRACT: ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY FOR THE LIGHTING AND ELECTRICAL DISTRIBUTION SYSTEM, COMPLETE AND READY FOR USE, IN ACCORDANCE WITH THESE CONTRACT DRAWINGS AND THESE SPECIFICATIONS.

2. CLEANING, INSTALLATION AND REMOVAL OF RUBBISH

BESIDES THE GENERAL CLEANING, THE CONTRACTOR SHALL BE RESPONSIBLE FOR SEEING THAT THE FOLLOWING SPECIAL CLEANING FOR ALL TRADES SHALL BE DONE AT THE COMPLETION OF THE WORK AND DURING INSTALLATION.

- A. CLEAN ALL ELECTRICAL EQUIPMENT AND DEVICES, REMOVE STAINS, DUST, DIRT, PLASTER, PAINT AND ETC.
B. REMOVE ALL SPOTS, SOILS, PLASTERS AND PAINTS FROM ALL EXISTING WORK AND CLEAN TO ORIGINAL CONDITION.
C. PROTECT AND CLEAN ALL FIXTURES AND EQUIPMENT.

3. CONSTRUCTION WATER, LIGHT AND POWER

- A. THE DEPARTMENT WILL FURNISH AT NO COST TO CONTRACTOR WATER AND ELECTRICITY AS IT EXISTS ON THE SITE. CONTRACTOR SHALL FURNISH AND MAINTAIN ALL TEMPORARY LINES, FIXTURES AND EQUIPMENT FOR WATER AND ELECTRICITY AND REMOVE SAME AT COMPLETION OF WORK AT HISHER OWN EXPENSE.
B. THE DEPARTMENT WILL NOT BE HELD RESPONSIBLE FOR FAILURE OF EXISTING SOURCES TO SUPPLY CONTINUOUS WATER OR POWER, NOR WILL THE DEPT. BE HELD RESPONSIBLE FOR THE EXISTING SOURCES TO SUPPLY ADEQUATE DEMAND AS REQUIRED BY THE CONSTRUCTION OF THIS WORK.

4. MAIN SERVICE

- A. REQUIRED:
1. UNDERGROUND SERVICE CONDUIT FOR LIGHT AND POWER FROM MAIN SWITCHBOARD TO PROPERTY LINE AS DIRECTED BY THE DEPARTMENT OF WATER AND POWER.
2. INSTALLATION OF CURRENT TRANSFORMER IN SWITCHBOARD. THE TRANSFORMER TO BE FURNISHED BY THE DEPARTMENT OF WATER AND POWER.
B. NOT INCLUDED IN CONTRACT:
1. UNDERGROUND SERVICE CONDUITS FROM PROPERTY LINE TO UTILITY SOURCE TO BE INSTALLED BY THE DEPARTMENT OF WATER AND POWER AND TO BE PAID FOR BY THE CITY.
2. MAIN SERVICE UNDERGROUND CONDUCTORS FROM UTILITY SOURCE TO MAIN SWITCHBOARD.
3. CURRENT TRANSFORMERS FOR SWITCHBOARD.
4. SERVICE CONNECTIONS TO CURRENT TRANSFORMERS AND METERS.
5. METERS.
6. EXCESS CABLE CHARGES TO BE PAID BY THE CITY.

5. MAIN SWITCHBOARD

- A. TYPE: NEMA 3R FLOOR STANDING ENCLOSURE, DEAD FRONT, DEAD REAR, WITH ALL BUSSING, WIRING AND CONNECTIONS ACCESSIBLE FROM THE FRONT, ARRANGED IN ACCORDANCE WITH WIRING DIAGRAMS AND APPROVED SHOP DRAWINGS AS MANUFACTURED BY MYERS, HOFFMAN, OR APPROVED EQUIVALENT MODEL.
B. CONSTRUCTION:
1. ALL BUSSING MATERIALS SHALL BE TIN PLATED COPPER PER NEMA STANDARDS.
2. VERTICAL SECTIONS SHALL HAVE FULL HEIGHT BUSSING AND WHERE SPACES FOR FUTURE DEVICES ARE SHOWN ON THE DRAWINGS, ALL THE NECESSARY MOUNTING HARDWARE AND PROVISIONS SHALL BE FURNISHED.
C. SERVICE SECTION:
1. SHALL CONTAIN FIXED POSITION MAIN CIRCUIT BREAKER EQUIPPED WITH PROVISIONS FOR UTILITY COMPANY METERING IN STRICT ACCORDANCE WITH THE DEPARTMENT OF WATER AND POWER REQUIREMENTS. THE MAIN CIRCUIT BREAKER SHALL BE TRIP FREE, THERMAL MAGNETIC, MOLDED CASE TYPE, BY SQUARE D, SIEMENS, OR APPROVED EQUIVALENT MODEL.
2. THERE SHALL BE MEANS TO LOCK EACH MAIN SERVICE BREAKER IN THE OPEN POSITION WITH A PADLOCK. THE DEPARTMENT OF WATER AND POWER WILL FURNISH THE LOCK AND OPEN THE MAIN BREAKER WHEN REQUIRED BY STATION MAINTENANCE OR REPAIR.
D. DISTRIBUTION SECTION: SHALL CONTAIN THERMAL-MAGNETIC MOLDED CASE CIRCUIT BREAKER OF THE REQUIRED VOLTAGE & AMPERAGE WITH A MINIMUM OF 10,000A RMS SYMMETRICAL SHORT CIRCUIT INTERRUPTING CAPACITY BY SQUARE D (TYPE QOB), SIEMENS MODEL, OR APPROVED EQUIVALENT MODEL, UNLESS NOTED OTHERWISE ON THE PLAN.
E. CURRENT AND POTENTIAL TRANSFORMERS:
SHALL BE PROVIDED BY THE DEPARTMENT OF WATER AND POWER AND SHALL BE MOUNTED IN THE SWITCHBOARD BY THE CONTRACTOR SO AS TO BE ACCESSIBLE. PROVISIONS SHALL BE FURNISHED FOR EXTERNAL TESTING OF ALL LINE CURRENTS AND VOLTAGE COMPLETE WITH TEST BLOCKS AND PLUGS.
F. IDENTIFICATION: ENGRAVED LAMINATED PLASTIC NAMEPLATES TO BE PROVIDED FOR EACH DEVICE ON THE SWITCHBOARD, NAMEPLATES TO BEAR THE DESIGNATION OF THE LOAD CONTROLLED.
G. TIGHTEN CONNECTORS AND TERMINALS, INCLUDING SCREWS AND BOLTS IN ACCORDANCE WITH EQUIPMENT MANUFACTURER'S PUBLISHED TORQUE TIGHTENING VALUES FOR EQUIPMENT CONNECTORS, WHERE MFRS. TORQUING REQUIREMENTS ARE NOT INDICATED, USE TIGHTENING TORQUES SPECIFIED IN UL STANDARD 486A.
H. MOUNTING INDOOR TYPE: SECURELY BOLTED TO FLOOR AND WALL AND PLUMB AND SQUARE. PROVIDE 4" RAISED CONCRETE SLAB FOR MOUNTING OF SWITCHGEAR LOCATED ON THE GROUND FLOOR. DIMENSION OF RAISED CONCRETE SLAB TO BE THE SAME AS THE SWITCHGEAR.
I. MOUNTING OUTDOOR TYPE: SHALL BE IN NEMA 3R, GAUGE 10 METAL ENCLOSURE UNLESS NOTED OTHERWISE ON THE PLAN.
J. SHOP DRAWINGS: BEFORE ANY FABRICATION OF SWITCHBOARD IS BEGUN, SHOP DRAWINGS INDICATING THE MATERIALS AND DETAILS OF CONSTRUCTION AND EQUIPMENT AND LISTINGS SHALL BE APPROVED BY THE DEPARTMENT OF WATER AND POWER PRIOR TO THEIR SUBMITTAL TO THE DEPT. OF RECREATION AND PARKS.
K. GROUNDING: PROVIDE AND INSTALL A DRIVEN GROUND COPPER ROD 5/8" IN DIAMETER BY 10 FT. LONG FOR SERVICE GROUNDING REQUIREMENTS LOCATED INSIDE THE ENCLOSURE. ALSO PROVIDE AND USE OTHER GROUNDING ELECTRODES AS INDICATED ON PLAN OR AS REQUIRED BY CODE. EACH ELECTRODE SHALL BE BONDED TOGETHER TO FORM THE GROUNDING ELECTRODE SYSTEM. THE BONDING JUMPER SHALL BE INSTALLED IN ACCORDANCE WITH THE APPLICABLE SECTIONS OF THE CODE, ARTICLE 250. TIGHTEN CONNECTORS TO COMPLY WITH TIGHTENING TORQUES SPECIFIED IN UL STD. 486 TO ASSURE PERMANENT AND EFFECTIVE GROUND.

6. PANELBOARDS

- A. PANELBOARDS SHALL BE CIRCUIT BREAKER TYPE WITH BOLT-ON TYPE, TRIP FREE CIRCUIT BREAKERS. PANELBOARDS SHALL BE FURNISHED WITH COPPER BUSSING AND MAIN LUGS OR MAIN BREAKER AND ALL BRANCH CIRCUIT BREAKER AS INDICATED ON THE SCHEDULES. EACH BRANCH BREAKERS SHALL HAVE PERMANENT TYPE PLASTIC OR METAL NUMBERS TO IDENTIFY THE CIRCUIT PROTECTED. MINIMUM SIZE SHALL BE 20"X 5 3/4", HEIGHT AS REQUIRED. PANELBOARD SHALL BE SQUARE D TYPE NQOD OR EQUIVALENT SIEMENS MODEL OR EQUAL.
B. IDENTIFICATION SHALL HAVE ENGRAVED LAMINATED PLASTIC NAMEPLATES. SCHEDULES SHALL BE TYPEWRITTEN AND SHALL DESIGNATE THE AREA OR EQUIPMENT SERVED BY EACH CIRCUIT MOUNTED IN A CARD HOLDER ON THE INSIDE OF THE DOOR AND COVERED WITH GLASS OR CLEAR PLASTIC.
C. SHOP DRAWINGS ARE REQUIRED. THEY SHALL INDICATE ALL THE DETAILS OF CONSTRUCTION AND EQUIPMENT. ALL ITEMS SUBMITTED FOR INSTALLATION SHALL BEAR A UL LABEL AND BE LISTED FOR THE PURPOSE.
D. CIRCUIT BREAKERS SHALL HAVE A MINIMUM OF 10,000 AMPS RMS SYMMETRICAL FOR 120/240 VOLTS AND 22,000 AMPS FOR 277/480 VOLTS SYSTEM UNLESS NOTED ON THE PLAN.
E. MOUNTING SHALL BE FLUSH WITH SURROUNDING WALLS UNLESS SPECIFICALLY NOTED TO BE SURFACE MOUNTED ON THE PLAN. MAXIMUM HEIGHT OF THE HIGHEST CIRCUIT BREAKER OR CONTROL DEVICES SHALL BE NO MORE THAN 6 FT. ABOVE THE SURROUNDING FINISH FLOOR.
F. TIGHTEN CONNECTORS AND TERMINALS INCLUDING SCREWS AND BOLTS IN ACCORDANCE WITH EQUIPMENT MANUFACTURER'S PUBLISHED TORQUE TIGHTENING VALUES FOR EQUIPMENT CONNECTORS, WHERE MANUFACTURER'S TORQUING REQUIREMENTS ARE NOT INDICATED, TIGHTEN CONNECTORS AND TERMINALS TO COMPLY WITH TIGHTENING TORQUE SPECIFIED IN UL STANDARDS 486 A & B.

7. RAINPROOF ENCLOSURES FOR SWITCHBOARD AND/OR PANELBOARDS (SEE DETAIL DRAWING)

- A. RAINPROOF ENCLOSURE FOR OUTDOOR INSTALLATION SHALL BE FREE STANDING NEMA TYPE 3R GAUGE 10 CONSTRUCTION (EXCEPT GAUGE 12 STAINLESS STEEL FOR IRRIGATION CONTROLLER SERVICE) ENCLOSURE OF SUITABLE DIMENSION. ALL BOLT HEADS EXPOSED ON THE EXTERIOR OF ENCLOSURE SHALL BE ROUND HEAD GALVANIZED TYPE OR EQUAL.
B. DOORS SHALL BE CUSTOM EQUIPPED WITH STRONG PAD LOCKABLE STEEL COVER TO PROTECT THE OPERATING HANDLES. PAD LOCKABLE COVERS SHALL ACCOMMODATE THE DEPARTMENT OF RECREATION AND PARKS LOCKS. PROVIDE TOP AND BOTTOM DOOR LOUVERS.
C. MOUNTING OUTDOOR TYPE SHALL BE SECURELY BOLTED TO A STEEL REINFORCED CEMENT CONCRETE PAD EXCEEDING 12 INCHES BEYOND THE PANEL ENCLOSURE IN BOTH LENGTH AND WIDTH DIMENSIONS AND 36 INCHES IN FRONT OF PANEL ENCLOSURE. THE PAD SHALL EXTEND 6" ABOVE AND 6" BELOW FINISHED GRADE UNLESS OTHERWISE NOTED ON THE PLANS. REINFORCING STEEL SHALL BE #4 REBAR LAID LENGTHWISE AND CROSSWISE 6" O.C., WITH 3 INCH CLEAR COVER TO SUBGRADE, AND SECURELY TIED AT EACH POINT OF CONTACT.
D. LIGHTS AND RECEPTACLES: PROVIDE AND INSTALL A SURFACE MOUNTED FLUORESCENT FIXTURE, WP WALL SWITCH AND A 20 AMP RATED GFI TYPE RECEPTACLE INSIDE THE ENCLOSURE FED FROM ONE 20A-1P CIRCUIT BREAKER WIRED WITH 2#12 THHN/THWN CU AND 1#12 GND. IN 3/4" CONDUIT.

8. CONTROLS

- A. TYPES:
1. CIRCUIT BREAKERS - SHALL BE THERMAL MAGNETIC. EACH BREAKER SHALL BE EQUIPPED WITH A DEVICE FOR INDIVIDUAL PADLOCKING.
2. ELECTRONIC TIME SWITCH - SHALL BE INTERMATIC MODEL NO. ET70215C ASTRONOMICAL ELECTRONIC TIME CONTROL WITH AUTOMATIC DAYLIGHT SAVING TIME AND LEAP YEAR ADJUSTMENTS.
3. AUTOMATIC SHUT-OFF TIMER - SHALL BE INTERMATIC MODEL NO. FF12HC. IT SHALL BE SOLID STATE WITH ADJUSTABLE TIMER RANGE FROM FIVE MINUTES TO 12 HOURS. THE CONTROL SHALL BE RATED FOR 20 AMPS, 125 VAC, 60 HZ.
4. LOCAL SWITCHES - SHALL BE SPECIFICATION GRADE, HUBBLE 1221-1 SERIES OR EQUIVALENT LEVITON MODEL OR EQUAL.
5. LIGHTING CONTROLS - AMPERE RATING, NUMBER OF POLES, LINE VOLTAGE, CONTROL VOLTAGE, MOMENTARY OR MAINTAINED CONTACT AS INDICATED ON DRAWINGS, OR AS REQUIRED, SQUARE D CLASS 8903, OR EQUIVALENT AUTOMATIC SWITCH CO. MODEL OR EQUAL.
6. PUSH BUTTON STATIONS - HEAVY DUTY CONTROL STATIONS, LOCATE IN RECREATION DIRECTORS OFFICE (UNLESS OTHERWISE INDICATED) FOR REMOTE CONTROL OF FIELD LIGHTING. SQUARE D CLASS 9001, TYPE B IN NEMA 4 ENCLOSURE FOR OUTSIDE INSTALLATIONS OR EQUIVALENT FURNAS MODEL OR EQUAL. LOCATE PUSH BUTTON AS SPECIFIED ON THE PLAN OR DETAIL.
B. IDENTIFICATION - ALL CONTROL DEVICES SHALL BE IDENTIFIED BY ENGRAVED PLATES DESIGNATING THE EQUIPMENT CONTROLLED. MOTORS AND EQUIPMENT SHALL BEAR NEAT, LEGIBLE AND PERMANENT IDENTIFICATION CORRESPONDING WITH THAT ON THE CONTROL DEVICES USING ENGRAVED LAMINATED PLASTIC NAMEPLATES AFFIXED WITH A MINIMUM OF TWO ESCUTCHEON PINS OR SCREWS.
C. LOCATIONS - FOR OUTDOOR INSTALLATION, TIME SWITCHES AND CONTACTORS SHALL BE LOCATED IN A SEPARATELY PARTITIONED SPACE INSIDE THE RAINPROOF ENCLOSURE, OR AS INDICATED IN THE PLAN.
9. BOXES
A. TYPES: WEATHERPROOF CAST BOXES: FOR OUTDOOR AND SURFACE WIRING AND WHERE INDICATED ON THE DRAWINGS BY SYMBOL "WP", CROUSE-HINDS FD OR RUSSELL-STOLL FD SERIES OUTLET BOXES OR EQUAL. CONCRETE PULL BOX SHALL BE PROVIDED WITH A "MR. STEEL SECURITY LID" FOR UNDERGROUND INSTALLATION, BROOKS PRODUCT MODEL 5PB OR EQUAL, OR AS INDICATED ON THE PLAN.
B. ACCESSORIES: WEATHERPROOF FOR CROUSE-HINDS FD SERIES OUTLET BOXES OR RUSSELL-STOLL FD SERIES OR EQUAL.
C. UNDERGROUND PULL BOXES: AVOID INSTALLATION AT THE LOWEST SPOT OF THE SURROUNDING AREAS. PULL BOX SHOULD SIT ON 2"x4" FRAMED REDWOOD AND SHALL HAVE AT LEAST 12" LAYER OF PEA GRAVEL BENEATH THE BOX.

10. RECEPTACLES

- A. TYPES: ALL RECEPTACLES SHALL BE SPECIFICATION GRADE AND SHALL MEET NEMA WD-1-1974 TESTS.
B. FLUSH WALL TYPE, HUBBLEL 52821, 15 AMPERE, 125 VOLTS OR HUBBLEL 83001-1, 20 AMPERE, 125 VOLT, OR EQUIVALENT LEVITON MODEL OR EQUAL.
C. CONNECTIONS SHALL BE SCREW - TERMINAL TYPE. NO PUSH-IN TYPE CONNECTIONS ARE PERMITTED.

11. OUTLET PLATES

- A. SHALL BE STAINLESS STEEL FOR ALL RECEPTACLE AND LIGHT SWITCH, SIGNAL AND COMMUNICATION OUTLETS.
B. SHALL BE ENGRAVED PLATES FOR SPECIAL EQUIPMENT, MOTORS, VOLTAGE OTHER THAN 120 VOLT AND GANGED SWITCHES.

12. INSTALLATION OF POLES

- A. TYPE: SHALL BE ROUND TAPERED GALVANIZED STEEL UNLESS OTHERWISE INDICATED, POLE HEIGHT SHALL BE 30' UNLESS NOTED ON THE PLAN.
B. ERECTION: IN ACCORDANCE WITH APPROVED SHOP DRAWINGS, PLUMB AND PROPERLY ALIGNED. BASE PLATES SHALL BE GROUTED USING AN APPROVED STANDARD COMMERCIAL NON-SHRINK GROUTING MORTAR WITH L.A. RESEARCH REPORT NUMBER. THE NON-SHRINK MORTAR SHALL BE HELD BACK ONE INCH FROM EDGES OF BASE PLATES, AND THE SPACE THEN FILLED WITH GROUT COMPOSED OF ONE PART LOW ALKALI PORTLAND CEMENT TO TWO PARTS WASHED SAND, BEVELED AND TROWELED SMOOTH. EXPOSED SURFACES OF MORTAR SHALL BE WATER CURED WITH WET BRUSH FOR SEVEN DAYS.
C. GROUNDING: SECURELY GROUND ALL FLOODLIGHTING POLES WITH APPROVED GROUNDING BUSHINGS AND GROUNDING CLAMPS.
D. CONDUITS ENTERING AND/OR LEAVING POLE FOOTING SHALL BE RIGID PVC COATED STEEL WITH PLASTIC BUSHING. MAKE TRANSITION FROM PVC TO METALLIC AT A MINIMUM DISTANCE OF 3'-0" FROM FOOTINGS.
E. TACK WELDING OF NUTS TO WASHER AND WASHER TO BASE PLATE AS REQUIRED.

13. CONDUIT

- A. REQUIRED: ALL WIRING SHALL BE IN RIGID OR PVC COATED STEEL CONDUIT EXCEPT AS FOLLOWS:
1. PVC MAYBE USED UNDERGROUND FROM PVC COATED STEEL CONDUIT STUBS LOCATED 3 FEET OUTSIDE FOOTING LINES.
2. EMT MAYBE USED ABOVE GROUND INSIDE BUILDINGS WHERE NOT ENCASED IN MASONRY OR CONCRETE AND NOT SUBJECT TO PHYSICAL DAMAGE.
B. TYPES:
1. RIGID STEEL CONDUIT: IN ACCORDANCE WITH USA STD C80.1 AND ASTM B-6.
2. ELECTRICAL METALLIC TUBING: IN ACCORDANCE WITH USA STD C80-3 & ASTM B-6.
3. PVC CONDUIT: SHALL CONFORM TO NEMA STANDARD TC-6-1967, WC-1094 AND UL STANDARD 651, 1974 HEAVY WALL SCHEDULE 40 BURIED NOT LESS THAN 24 INCHES BELOW GRADE.
4. PVC EXTERNALLY COATED RIGID STEEL CONDUIT, RIGID STEEL ZINC COATED WITH ADDITIONAL COATING OF PVC CONFORMING TO ANSI C-80 & NEMA RNT.
C. FITTINGS AND ACCESSORIES:
1. FOR RIGID STEEL CONDUIT: APPROVED TYPES: ERICSON COUPLING OR THREADLESS CONNECTORS FOR JOINING RUNS. GROUNDING BUSHINGS SHALL BE THOMAS & BETTS OR APPLETON MALLEABLE IRON INSULATED GROUNDING BUSHINGS, UL FILE E14814A. FACTORY ELLS SHALL NOT BE USED UNDERGROUND.
2. FOR ELECTRICAL METALLIC TUBING: COMPRESSION GLAND OR STEEL SET SCREW TYPE COUPLINGS AND CONNECTORS WITH INSULATED THROAT.
D. SIZES: MINIMUM OF 3/4" CONDUIT UNLESS NOTED ON THE PLAN
E. CONCRETE COVER: UNDERGROUND CONDUIT RUNS IN RECREATION AND PARKS PROPERTY INSTALLED WITH SCHEDULE 40 PVC SHALL HAVE A MINIMUM 3" TOP COVER OF CONCRETE OVER ITS ENTIRE LENGTH EXCEPT UNDER CONCRETE SIDEWALKS) AND SHALL HAVE AN EQUIPMENT GROUNDING CONDUIT SIZED ACCORDING TO THE PREVAILING CODE, BUT NOT LESS THAN SHOWN ON THE PLAN. CONCRETE COVER SHALL BE A MINIMUM OF 100-E-100 SLURRY MIX OR AS REQUIRED BY LADWP. SEE DETAIL #1 ON SHEET E201.

14. CONDUIT INSTALLATION

- A. ALL CONDUITS SHALL BE CONCEALED EXCEPT WHERE OTHERWISE INDICATED ON THE DRAWINGS.
B. PVC COATED STEEL CONDUIT WHICH WILL BE BURIED IN THE GROUND SHALL HAVE WATER TIGHT JOINTS. JOINTS SHALL BE ASSEMBLED WITH LEAD PLATE (ANTI-SEIZE METALLIC LEAD BASE) MIL-A-907 AS MANUFACTURED BY ARMITE LABORATORIES.
C. INSTALL EXPANSION FITTINGS IN ALL REWAYES WHENEVER EXPANSION JOINTS ARE CROSSED, FITTINGS SHALL BE EQUAL TO "OZ" TYPE "XZ" OR "TX".
D. NO HORIZONTAL CONDUIT SHALL BE INSTALLED IN CONCRETE SLABS-ON-GRADE. SLEEVES FOR CONDUIT PENETRATING FLOORS SHALL TERMINATE 3 INCH ABOVE THE FLOOR. CONDUITS SHALL BE PROTECTED FROM CORROSION BY ONE OF THE FOLLOWING METHODS. (EXTEND 3" ABOVE AND 3" BELOW TOP OF CONCRETE).
1. PVC EXTERNALLY COATED STEEL CONDUIT BY ROBROY INDUSTRIES.
2. SPIRAL WRAPS WITH 40 MIL HALF LAP PLASTIC TAPE.
3. PVC PIPE SLEEVE.
E. TOPS OF UNDERGROUND CONDUIT RUNS OUTSIDE OF BUILDING OR UNDER CONCRETE SLABS SHALL NOT BE LESS THAN 24" BELOW FINISHED GRADE, NOR LESS THAN THAT REQUIRED BY THE DEPARTMENT OF WATER AND POWER. UNDERGROUND CONDUIT SHALL NOT PASS OVER TANKS OR OTHER UNDERGROUND EQUIPMENT OR THROUGH FOOTINGS EXCEPT AS DETAILED ON THE STRUCTURAL DRAWINGS.
F. ALL CONDUIT BENDS INSTALLED UNDERGROUND SHALL BE THE LONG RADIUS TYPE WITH RADIUS NOT LESS THAN 10 TIMES THE INTERNAL DIAMETER OF THE CONDUIT AND WITH NOT MORE THAN TWO 90° BENDS AND ONE 45° SWEEP IN ANY RUN. EXCEPTION: FOR POWER AND LIGHT CONDUIT ABOVE GROUND, FACTORY ELLS ARE PERMITTED.
G. EACH RUN SHALL BE TESTED IMMEDIATELY AFTER INSTALLATION TO ASSURE FREEDOM FROM OBSTRUCTION AND EACH END PLUGGED AFTER THE TESTING IS COMPLETED. A GALVANIZED IRON PULL WIRE NO. 12 AWG OR 1/8-INCH NYLON POLYPROPYLENE CORD SHALL BE INSTALLED IMMEDIATELY AFTER CONDUIT INSTALLATION IN EACH CONDUIT IN WHICH THE CONDUCTORS WILL NOT BE IMMEDIATELY INSTALLED.
H. CONDUITS "JACK-THRU" AND/OR BORED THRU UNDERGROUND SHALL BE MINIMUM 1" RIGID STEEL CONDUIT.
I. CONDUITS IN UNDERGROUND PULL BOXES SHALL BE SEALED WITH "LHD1" OR "LHDS" DUCT SEAL AS MANUFACTURED BY DOTTIE CO. OR APPROVED EQUAL.
J. PLACE 6" WIDE, 4 MIL PLASTIC YELLOW MARKER TAPE AT 12 INCHES BELOW THE FINISHED GRADE ALONG AND ABOVE BURIED CONDUITS. LABEL TAPE "CAUTION: ELECTRIC LINE BELOW" OR SIMILAR WORDING. SEE DETAIL #1 ON SHEET E201.

15. CONDUCTORS

- A. TYPE THHN/THWN, 600 VOLTS INSULATION PER UL 83 FOR ALL GENERAL WIRING SUBJECT TO TEMPERATURES AT 75° MINIMUM, WET OR DRY LOCATIONS.
B. TYPES:
1. COPPER WIRE FOR ALL CONDUCTORS.
2. FOR GENERAL WIRING USE SOLID WIRE FOR NO. 10 AWG AND SMALLER.
3. STRANDED FOR WIRES NO. 8 AWG AND LARGER OR FOR FLEXIBILITY WHERE INDICATED ON THE DRAWINGS AS FLEXIBLE CONDUIT CONNECTION.
4. NO CONDUCTORS SMALLER THAN NO 12 AWG EXCEPT FOR CONTROL WIRES WHICH SHALL BE NO 14 AWG OR AS INDICATED ON THE PLAN.
5. CONDUCTORS FROM BASE OF NEW OR EXISTING POLES UP TO LUMINAIRES SHALL BE NO. 10 AWG MINIMUM UNLESS OTHERWISE NOTED ON THE PLAN. PROVIDE APPROXIMATELY 18" SLACK IN HAND HOLE AND PULL BOXES.
6. FOR IRRIGATION CONTROL WIRES, REFER TO IRRIGATION SPECIFICATIONS.
C. SPLICES:
1. BRANCH AND FEEDER CONDUCTOR JOINTS SHALL BE LOCATED ONLY IN OUTLET BOXES, PANELBOARD GUTTERS, FIXTURES OR PULL BOXES. CONDUIT JOINTS SHALL NOT BE MADE IN CONDUIT FITTINGS.
2. ALL SPLICES IN UNDERGROUND PULL BOXES SHALL BE SCOTCH BAGGED AND WATER TIGHT.
D. COLOR CODE:
1. FOR POLYPHASE CIRCUITS, IDENTIFY EACH PHASE THROUGHOUT THE CIRCUIT WITH DESIGNATION PHASE A (BLACK), PHASE B (RED) AND PHASE C (BLUE).
2. FOR CONDUCTORS SMALLER THAN NO. 6 AWG COLOR CODING SHALL BE ACCOMPLISHED BY INHERENT INSULATION COLOR. TAGGING PAINT OR OTHER MARKINGS SHALL NOT BE USED FOR COLOR IDENTIFICATION.
E. INSPECTION: CONTRACTOR SHALL NOTIFY THE GENERAL MANAGER OR AUTHORIZED REPRESENTATIVE 48 HOURS PRIOR TO START OF PULLING WIRE THROUGH ANY OF THE UNDERGROUND CONDUIT RUNS. THE CONTRACTOR SHALL START PULLING WIRE ONLY AFTER THE AUTHORIZED REPRESENTATIVE INSPECTS AND FIND THAT THE WIRE CONTAINS NO SPLICES, THE NEUTRAL WIRE IS WHITE AND THE EQUIPMENT GROUND WIRE IS GREEN.

16. TAGGING

- REQUIRED ON BOTH HOT AND NEUTRAL WIRES OF ALL CIRCUITS IN SWITCHBOARD AND PANELBOARDS, AT PULL JOINTION AND OUTLET BOXES, AT EACH DEVICE OR LIGHTING FIXTURE. TAGGING SHALL PROVIDE POSITIVE AND PERMANENT IDENTIFICATION AND SHALL BE SCOTCH NUMERAL TAPE BY THE MINNESOTA MINING AND MANUFACTURING CO.
17. EQUIPMENT AND ELECTRICAL CONNECTIONS
A. PROVIDE ALL THE INSTRUMENTS, EQUIPMENT AND LABOR REQUIRED FOR THE SPECIFIED TESTS. CONDUCT ALL THE TESTS IN THE PRESENCE OF THE GEN. MANAGER OR AUTHORIZED REPRESENTATIVE. CONDUCT THE TEST AT SUCH TIME AS THE GEN. MANAGER MAY DIRECT OR AS SPECIFIED. TESTS FAILING TO CONFORM TO THE REQUIREMENTS OF THE DRAWING AND SPECIFICATIONS, AND ANY PIECE OF EQUIPMENT THAT FAILS THE TEST DESCRIBED HEREIN WILL BE REJECTED AND SUITABLE EQUIPMENT SHALL BE PROVIDED AND INSTALLED. TABULATE AND FORWARD TO THE PROJECT MANAGER IN TRIPPLICATE ALL THE PERTINENT TEST DATA, INCLUDE THE DATE OF THE TEST, IDENTIFICATION OF ALL THE ITEMS TESTED, READINGS FOR EACH TEST, COMMENTS WHERE REQUIRED AND THE SIGNATURES OF THE INDIVIDUAL CONDUCTING THE TEST AND OF THE GEN. MANAGER'S REPRESENTATIVE OBSERVING THE TEST. FORWARD ALL THE TEST DATA TO THE PROJECT MANAGER WITHIN 10 DAYS OF THE TEST PERFORMANCE BUT IN NO CASE LATER THAN 5 DAYS BEFORE THE SCHEDULED FINAL INSPECTION.
B. THE FOLLOWING TESTS SHALL BE PERFORMED IN THE PRESENCE OF THE DEPT. INSPECTOR OR REPRESENTATIVE. TABULATE TEST RESULTS FOR THE DEPT. OF RECREATION AND PARKS RECORDS.
1. CONDUCTORS 600-VOLT CLASS: AFTER WIRING IS COMPLETED AND CONNECTED FOR OPERATION, BUT PRIOR TO PLACING SYSTEMS IN SERVICE AND BEFORE ANY BRANCH CIRCUIT BREAKERS ARE CLOSED, PERFORM INSULATION RESISTANCE TESTS IN ALL CIRCUITS. MEASURE THE INSULATION RESISTANCE BETWEEN EACH CONDUCTORS AND GROUND. TAKE READINGS AFTER THE VOLTAGE HAS BEEN APPLIED FOR A MINIMUM OF ONE MINUTE. THE MINIMUM INSULATION RESISTANCE BASED ON THE ALLOWABLE AMPACITY OF THE CONDUCTOR AS FIXED BY NFPA 70 SHALL BE AS FOLLOWS:

Table with 2 columns: AMPERES and OHMS. Values: 25 THROUGH 50 (250000), 51 THROUGH 100 (100000), 101 THROUGH 200 (50000), 201 THROUGH 400 (25000).

18. LAMPS

- A. FLUORESCENT LAMPS: SYLVANIA "LIFELINE", G.E. WATT MISER, "EXTENDED SERVICE" COOL WHITE OR EQUAL.
B. MERCURY VAPOR LAMPS: SYLVANIA BRITE WHITE DELUXE, GENERAL ELECTRIC "DELUXE WHITE" OR WESTINGHOUSE "ECON-O-WATT" OR EQUAL.
C. METAL HALIDE LAMPS: SYLVANIA BRITE WHITE DELUX, GENERAL ELECTRIC "DELUX WHITE" OR WESTINGHOUSE "ECON-O-WATT" OR EQUAL.
D. HIGH PRESSURE SODIUM LAMPS: GENERAL ELECTRIC "LUCALOX".

19. LIGHTING FIXTURES

- A. TYPES:
1. AS INDICATED HEREINAFTER AND IN THE LIGHTING FIXTURE LIST, ALL FIXTURES MUST BE UL LISTED AND SUPPORTING MEMBERS SUCH AS RODS AND PIPES MUST BE APPROVED BY THE CITY OF LOS ANGELES ELECTRICAL TESTING LABORATORY.
2. ALL FIXTURES USED AS RACEWAYS SHALL CONFORM TO THE CODE REQUIREMENTS FOR MAXIMUM NUMBER OF CONDUCTORS PERMITTED. BOX TEMPERATURES SHALL NOT EXCEED 75 DEGREES CELCIUS ADJACENT TO THHN/THWN WIRE.
3. ALL FIXTURES SHALL BE UL LISTED FOR THE PURPOSE, WET LOCATION FOR OUTDOOR INSTALLATION, AND DAMP LOCATION FOR SHOWERS AND CANOPIES.
B. FITTINGS AND ACCESSORIES: AS NECESSARY FOR PROPER INSTALLATION AND OPERATION.
C. DEVIATION SHALL BE SUBMITTED TO THE DEPARTMENT FOR APPROVAL PRIOR TO PURCHASE AND INSTALLATION.
D. SPORTS LIGHTING FIXTURES: SUBMIT AN AIMING DIAGRAM FROM FIXTURE MANUFACTURER TO THE DEPARTMENT FOR APPROVAL PRIOR TO INSTALLATION. CONTRACTOR SHALL ENSURE THAT FIXTURES ARE INSTALLED IN ACCORDANCE TO APPROVED AIMING DIAGRAM (IF APPLICABLE).

20. RECORD DRAWINGS

- A. IMMEDIATELY AFTER WORK IS INSTALLED, CAREFULLY DRAW ON PRINTS IN RED INK ALL WORK WHICH IS INSTALLED AT VARIANCE WITH THE WORK AS INDICATED ON THE DRAWINGS. INDICATE BY MEASURED DIMENSION TO BUILDING CORNERS OR OTHER PERMANENT MONUMENTS THE EXACT LOCATION OF ALL CHANGES.
B. ACCURATE LOCATIONS OF ALL POLES, CONDUIT RUNS, WIRING, NAMES AND MODEL NUMBER OF ACCEPTED SUBSTITUTE EQUIPMENT, ELECTRICAL OUTLETS AND OTHER EQUIPMENT AS INSTALLED SHALL BE PROVIDED IN STRICT ACCORDANCE WITH THESE SPECIFICATIONS.

21. OPERATING MANUALS AND INSTRUCTIONS

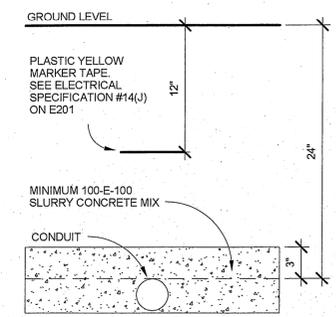
- A. THE CONTRACTOR SHALL FURNISH TO THE CITY FOUR BOUND COPIES OF OPERATING AND MAINTENANCE MANUAL FOR ALL ELECTRICAL EQUIPMENT.
B. THE CONTRACTOR SHALL EXPLAIN IN DETAIL ALL MANUALS FOR THE OPERATION AND MAINTENANCE OF ALL EQUIPMENT TO THE RECREATION AND PARKS MAINTENANCE PERSONNEL BEFORE COMPLETION AND ACCEPTANCE OF THE PROJECT.

22. ANTI-GRAFFITI COATINGS

- THE CONTRACTOR SHALL APPLY AN ANTI-GRAFFITI COATING TO ALL LIGHT POLE CONCRETE BASES. THE FOLLOWING ARE ACCEPTABLE PRODUCTS:
A. "SUPER-KOTE A-65" SEALER MANUFACTURED BY VEN-CHEM COMPANY INC. P.O. BOX 3186, SANTA BARBARA, CALIFORNIA. PHONE (805) 967-7900 OR "MONOCHEM PERMASHIELD" BY FRAZEE PAINT CO. RESEARCH REPORT NO. 29800, PHONE (800) 828-9048.
B. THE "GRAFFITI RESOR SYSTEMS" MANUFACTURED BY RAINPROOF SYSTEMS, CITY OF COMMERCE, CA 90022, RESEARCH REPORT NO. 25035, PHONE (213) 887-8761.
C. "VANDAL GUARD" BY RAINGUARD PRODUCTS CO., 821 W. HYDE PARK BLVD. INGLEWOOD, CA 90302, PHONE (310) 670-2953.
D. OR APPROVED EQUAL.

23. SUBMITTALS

SHOP DRAWINGS SHALL BE SUBMITTED IN HARD COPIES (MINIMUM OF 3), AND SHALL BE IN COMPLETED GROUPS OF MATERIALS (I.E. ALL LIGHTING FIXTURES OR ALL SWITCHGEAR, ETC.)



1 UNDERGROUND CONDUIT INSTALLATION DETAIL N.T.S.



Vertical sidebar containing: BUREAU OF ENGINEERING logo, CITY OF LOS ANGELES logo, DEPARTMENT OF PUBLIC WORKS logo, GARY LEE MOORE PE ENV SP info, ARCHITECTURAL DIVISION info, ENGINEER: SARO DERBAROIAN, LIC. NO.: E12321, DESIGNED BY: SON VUONG, DRAWN BY: SON VUONG, CHECKED BY: SARO DERBAROIAN, APPROVED BY: MAHMOOD KARIMZADEH, A.I.A., PRINCIPAL ARCHITECT, SHEET TITLE: ELECTRICAL SPECIFICATIONS, PROJECT: STRATHERN PARK NORTH BASEBALL FIELD LIGHTING, ADDRESS: 8045 WHITSETT AVENUE, LOS ANGELES, CA 91605, WORK ORDER NO. E170414, PLAN FILE NO., DRAWING NO. E201, SHEET 21 OF SHEETS 28, PLOTTED: 9/22/2016 4:01:37 PM.

**GENERAL NOTES:**

**APPLICABLE BUILDING CODE**

- All construction and workmanship shall conform to the following codes.
- 2014 Los Angeles City Building Code (LABC).
- This pole and foundation standard has been designed for lateral loads on the completed structure as follows:
- Wind - ASCE 7-10; Vult = 110 mph (Exposure C); Vasd = 85 mph (Exposure C); Risk Category = II.
- Maximum total effective area (EPA) for luminaires per pole class:
  - LSS40A - 6.0 SQ.FT.
  - LSS40B - 28.0 SQ.FT.
  - LSS50B - 12.0 SQ.FT.
  - LSS50C - 22.0 SQ.FT.
  - LSS60A - 6.0 SQ.FT.
  - LSS60B - 16.0 SQ.FT.
  - LSS60D - 26.0 SQ.FT.
  - LSS70B - 8.0 SQ.FT.
  - LSS70C - 20.0 SQ.FT.
  - LSS70D - 42.0 SQ.FT.
- Seismic:  $S_s = 2.944$ ,  $S_1 = 1.078$ ,  $S_{ms} = 1.963$ ,  $S_{m1} = 1.078$ , Risk Category = II;  $I = 1.0$ ; Site Class = D;  $R = 1.5$ ; Seismic Design Category = E;  $C_s = 0.575$  Strength Level typical (except LSS40B,  $C_s = 0.648$ ); Seismic Force Resisting System = Non-Building Structures, not similar to Buildings; Analysis Procedure = Equivalent Lateral Force Procedure.
- Maximum weight per luminaire = 40.0 pounds. (including crossarm)

**GENERAL CONSTRUCTION**

- These notes shall be used in conjunction with the plans and any discrepancies shall be brought to the attention of the Engineer.
- Contractor must check all dimensions, clearances and job conditions before starting work. Engineer shall be notified immediately of any discrepancies or possible deficiencies.
- The drawings and specifications represent the finished structure. All bracing, temporary supports, shoring, etc., is the sole responsibility of the Contractor. Observation visits to the job site by the Engineer do not include inspection of construction procedures. The Contractor is solely responsible for all construction methods and for safety conditions at the worksite. These visits shall not be construed as continuous and detailed inspections.
- Design, material, equipment, and products other than those described below or indicated on the drawings may be considered for use, provided prior approval is obtained from the City of Los Angeles.
- Installation shall comply with all applicable L.A. city zoning ordinances and its provisions.
- All changes in approved plans shall be made by addenda or change orders approved by City of Los Angeles.
- All tests and inspections shall be performed by an independent lab approved by City of Los Angeles.
- Plans shall be accompanied by a fully dimensioned plot plan showing all buildings and proposed pole locations.

**LIGHT POLE FOUNDATIONS**

(FOUNDATIONS MUST COMPLY WITH PRE-INSPECTION REPORT AS APPLICABLE)

- Reference Geotechnical Reports or LABC Sections 1806, 1807, and 1810.
- Allowable vertical bearing capacity: Reference Geotechnical Reports or 1,500 psf (LABC Table 1806.2) or 250 psf skin friction (LABC Section 1810.3.3.1.4).
- Allowable lateral soil bearing pressure: Reference Geotechnical Reports or 200 psf (LABC Table 1806.2 and Section 1806.3.4).
- Allowable design soil capacities must be verified by Geotechnical Engineer.
- If soft or questionable soil conditions are encountered during excavations, contact the Department for instructions before proceeding with the work.
- Soil formations that will require special design considerations or excavation procedures may exist. Pole foundations will need to be analyzed according to the soil conditions that exist.
- The Contractor must familiarize himself with the complete soil investigation (if any) and borings and contact the Geotechnical Engineer (as necessary) to understand the soil conditions and the possibility of ground water pumping and excavation stabilization of bracing during then pier base installation and placement of concrete backfill.
- All precast bases and concrete backfill must bear on and against firm undisturbed soil, as determined by a Geotechnical Engineer.
- All excavations must be free of debris and loose soil prior to foundation installation, and placement of concrete backfill. Casing may be required if caving occurs. In such case, approval by a Geotechnical Engineer is required. Put plywood collar around hole to prevent falling dirt from filling hole.
- All excavations must be dry or concrete shall be placed by the tremie method 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, and a maximum slump of 8 inches.
- Excavations shall be covered, fenced securely or provided with equivalent protection for hazards.

**CONCRETE BACKFILL**

- Concrete backfill shall attain a minimum compressive strength of 3000 psi at 28 days. Concrete shall attain a minimum compressive strength of 2,000 psi prior to steel pole installation.
- Concrete: Classed 560-C-3250 designed for  $F_c = 2500$  psi., continuous inspection is not required.
- Slump shall not exceed 5 inches.
- Use type II/V-Portland Cement or as recommended by the Geotechnical Engineer.
- Concrete that will be exposed to sulfate-containing solutions or soils shall comply with the maximum water-cementitious ratios and minimum compressive strengths specified in ACI 318, Section 4.3.
- Portland Cement ASTM C-150-07.
- Aggregate ASTM C-33, use 1" maximum size.
- Place concrete immediately after completion of excavation and inspection by the Geotechnical Engineer and the L.A. City approved Inspector. No excavations shall be left unprotected or open overnight.
- Concrete shall be placed in one continuous operation (no construction joint) with special equipment to prevent concrete from striking the sides of the excavation. Maximum freefall shall not exceed 5 ft.
- Vibrate concrete full length.
- All concrete reinforcing steel shall conform to ASTM A615, Grade 60

**STEEL POLE**

- Steel pole sections conform to the 2014 LABC Chapter 22, and AISC 360-10.
- All steel conforms ASTM specifications, as referenced on these drawings.
- Minimum elongation in 2 inch gauge length = 18%, and the minimum elongation in 8 inch gauge length = 20%.
- The fabricator shall provide mill tests or test data by a Los Angeles city approved testing agency showing conformance of the foregoing:
- LONGITUDINAL WELDS:**  
All longitudinal seam welding shall be done prior to cold welding.  
Weld type: Automatic high frequency resistance, automatic submerged arc or hybrid laser beam/gas metal arc welding procedure.  
Joint: Butt  
Penetration: 60% except 100% at female end of slip joint, detail H/ET-12-1(M).  
Test: 60% pen. - Visual per AWS D1.1 article 8.15  
100% pen. - Visual per AWS D1.1 article 8.15  
Certified data on seam welding from shaft manufacturer shall include:  
1. Inspection frequency and procedures; I.E.; Visual, US, Radiographic, etc.  
2. Seam welding procedures; I.E.; percent penetration and method ERW, SAW, etc.  
3. Method and length of 100 percent penetration weld at female end of slip joint.  
Welding operator: AWS certified welding operator (CWO) and shall be done by City of L.A. B&S licensed fabricator.  
Welding inspector: AWS certified welding inspector (CWI) and approved by City of L.A. B&S deputy inspector in welding.
- CIRCUMFERENTIAL WELDS**  
Circumferential welds are not allowed. Shafts shall be fabricated from continuous rolled plates or coil.
- All weldment conforms with AWS D1.1 specification for G.M.A.W. fillet utilizing E70S-X filler metal or S.A.W. fillet utilizing F7XX-EXX or F8XX-EXX filler metal. G.M.A.W. procedure conforms to AWS A5.18. S.A.W. procedure conforms to AWS 5.23
- MANUFACTURERS SHAFT MARKINGS:**  
The manufacturer shall inscribe a common I.D. number on each shaft comprising a particular factory pole assembly. (See also manufacturers gauge marks below).
- FIELD ASSEMBLY AND MANUFACTURERS GAUGE MARKS**  
The pole manufacturer shall provide and the contractor shall follow the recommended pole assembly instruction general, the pole shall be assembled on the ground and the entire structure lifted into position on the previously installed foundation. Shafts shall be connected by slip splices only, welded splices shall not be used. The manufacturer shall shop assemble the entire pole and inscribe gauge marks across each slip joint to guide the field assembly. The contractor shall assemble the pole in the presence of the Special Inspector who shall verify that each slip splice attains a minimum overlap of 1.5 x larger shaft diameter.
- GALVANIZING:**  
Pole assembly, all hardware and accessories (except for non-ferrous items) shall be hot dip galvanized per ASTM A123. All fabrication shall be done before galvanizing. Minimum weight of galvanizing shall be 2.00 oz/sq. ft. Shafts shall be galvanized by single dipping only. Double dipping is not allowed.
- SUBMITTAL:**  
Manufacturing shall furnish the department with a galvanizing weight report showing conformance foregoing by the the thickness gauge. Method of measurement per ASTM E376.
- All miscellaneous structural steel items conform to the Steel Construction Manual, 13th Edition, American Institute of Steel Construction.

**CIRCUMFERENTIAL WELDS**

Circumferential welds are not allowed. Shafts shall be fabricated from continuous rolled plates or coil.

All weldment conforms with AWS D1.1 specification for G.M.A.W. fillet utilizing E70S-X filler metal or S.A.W. fillet utilizing F7XX-EXX or F8XX-EXX filler metal. G.M.A.W. procedure conforms to AWS A5.18. S.A.W. procedure conforms to AWS 5.23

The manufacturer shall inscribe a common I.D. number on each shaft comprising a particular factory pole assembly. (See also manufacturers gauge marks below).

The pole manufacturer shall provide and the contractor shall follow the recommended pole assembly instruction general, the pole shall be assembled on the ground and the entire structure lifted into position on the previously installed foundation. Shafts shall be connected by slip splices only, welded splices shall not be used. The manufacturer shall shop assemble the entire pole and inscribe gauge marks across each slip joint to guide the field assembly. The contractor shall assemble the pole in the presence of the Special Inspector who shall verify that each slip splice attains a minimum overlap of 1.5 x larger shaft diameter.

Pole assembly, all hardware and accessories (except for non-ferrous items) shall be hot dip galvanized per ASTM A123. All fabrication shall be done before galvanizing. Minimum weight of galvanizing shall be 2.00 oz/sq. ft. Shafts shall be galvanized by single dipping only. Double dipping is not allowed.

Manufacturing shall furnish the department with a galvanizing weight report showing conformance foregoing by the the thickness gauge. Method of measurement per ASTM E376.

All miscellaneous structural steel items conform to the Steel Construction Manual, 13th Edition, American Institute of Steel Construction.

**PRECAST BASE**

- Precast pole base conforms to 2014 LABC, Chapter 19 and to Building Code Requirements for Reinforced Concrete, ACI 318-11.

**TESTING AND INSPECTION**

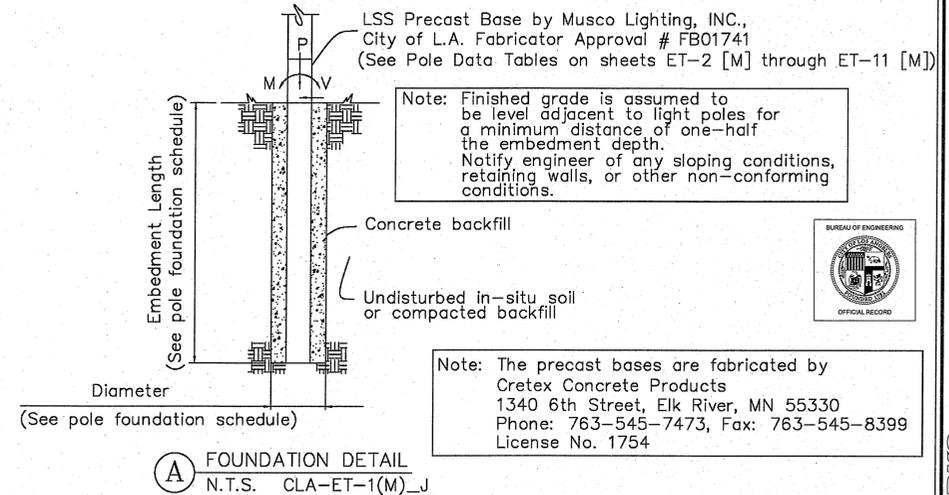
- Testing and inspections in accordance with 2014 LABC.
- Prior to pouring of concrete, the Geotechnical Engineer shall inspect and approve the footing excavations.
- All compacted fill shall be placed under the supervision and approval of the Geotechnical Engineer.

**SUBMITTALS**

- Prior to any pole fabrication, the contractor shall submit and obtain the department's approval of:
    - All pole shaft certifications.
    - All remaining certifications prior to shipping any poles to job site.
- The contractor shall furnish written certifications showing compliance with ASTM and the foregoing specification.

CROSSARMS: ASTM A500, GR.B Min  $F_y = 70$  KSI  
CAP: ASTM A48 class 30, zinc die cast (alloy no. 3).  
FIXTURE MOUNTING SECTIONS: ASTM A513,  $F_y = 38$  KSI

POLE SHAFTS: The manufacturer shall furnish certified mill reports and mechanical test results showing compliance with ASTM A595A or ASTM A572, Gr 55 or Gr 65. Each pole shaft and its mechanical and chemical data shall be traceable to its steel mill plate heat.  
PRESTRESS STRANDS: ASTM A416, GR 270 (Low relaxation).



**POLE FOUNDATION SCHEDULE**

POLE TYPE-# FIXTURES (LSS= LIGHT STRUCTURE SYSTEM)	MAX GROUNDLINE FORCES *			C.I.P. DEEP FOUNDATION	
	Moment (M) FT-LBS	Shear (V) LBS	Vertical (P) LBS**	Diameter Inches	Embedment Length
LSS40A-3 FIXTURES (MAX)	16,460	658	722	30	8'-0"
LSS40B-14 FIXTURES (MAX)	43,190	1,491	2,207	30	12'-0"
LSS50B-6 FIXTURES (MAX)	33,880	1,027	1,460	30	10'-0"
LSS50C-11 FIXTURES (MAX)	52,300	1,484	2,106	30	12'-0"
LSS60A-3 FIXTURES (MAX)	33,590	998	1,246	30	10'-0"
LSS60B-8 FIXTURES (MAX)	53,020	1,447	1,874	30	12'-0"
LSS60D-13 FIXTURES (MAX)	76,970	1,980	2,732	30	14'-0"
LSS70B-4 FIXTURES (MAX)	50,850	1,274	1,725	30	12'-0"
LSS70C-10 FIXTURES (MAX)	80,340	1,868	2,578	30	14'-0"
LSS70D-21 FIXTURES (MAX)	127,110	2,816	4,327	36	16'-0"

\* GROUNDLINE FORCES FOR LSS40A, LSS40B, LSS50B, & LSS50C INCLUDE A MOUNTING BRACKET FOR ONE ATTACHMENT AT 30°-0° AGL - REF DETAIL M/ET-13-2(M) & P/ET-13-1(M).  
GROUNDLINE FORCES FOR REMAINDER OF POLE TYPES INCLUDE A MOUNTING BRACKET FOR TWO ATTACHMENTS AT 30°-0° AGL - REF DETAIL I/ET-13-2(M) & N/ET-13-1(M).

\*\* GROUNDLINE FORCES DO NOT INCLUDE THE WEIGHT OF THE PRECAST BASE.

**STANDARD PLAN NO. 050**

THIS STANDARD PLAN IS THE PROPERTY OF THE DEPARTMENT OF RECREATION AND PARKS, CITY OF LOS ANGELES ANY CIVIL OR STRUCTURAL ENGINEER FROM THE DEPARTMENT MAY SIGN AND STAMP THESE DRAWINGS FOR THE USE OF THE DEPARTMENT OF RECREATION AND PARKS ONLY

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ET-4(M)	50B-6 POLE / FOUNDATION STANDARD
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ET-12-1(M), ET-12-2(M)	POLE DETAILS
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**APPROVAL STAMPING AREA**

LADBS STANDARD PLAN #050

CLA-ET-1(M)\_J

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Patents issued and pending.

**BUREAU OF ENGINEERING**  
CITY OF LOS ANGELES

REVISION DESCRIPTION: \_\_\_\_\_ DATE: \_\_\_\_\_

NO. \_\_\_\_\_

INDEX NO. RP 300093

**DEPARTMENT OF PUBLIC WORKS**

CITY ENGINEER: \_\_\_\_\_ DATE: \_\_\_\_\_

ARCHITECTURAL DIVISION: \_\_\_\_\_

ENGINEER: GARY LEE MOORE, PE, ENV SP

DESIGNED BY: \_\_\_\_\_

DRAWN BY: \_\_\_\_\_

CHECKED BY: \_\_\_\_\_

APPROVED BY: \_\_\_\_\_

VERTICAL CONTROL: \_\_\_\_\_

HORIZONTAL CONTROL: \_\_\_\_\_

SHEET TITLE: GENERAL NOTES AND FOUNDATION DETAILS

PROJECT: STRATHERN PARK NORTH BASEBALL FIELD LIGHTING

ADDRESS: 8045 WHITSETT AVENUE LOS ANGELES CA 91605

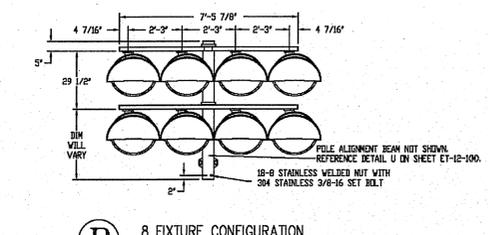
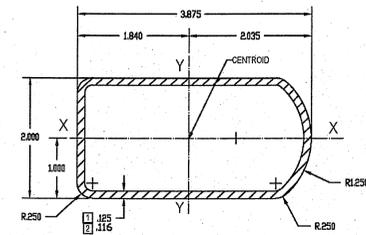
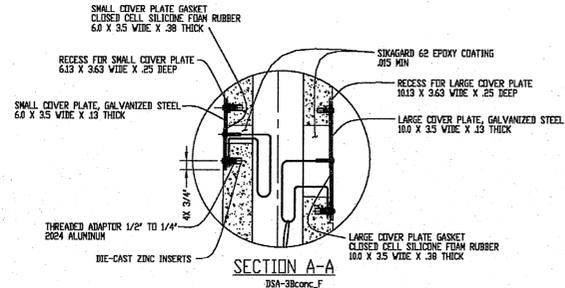
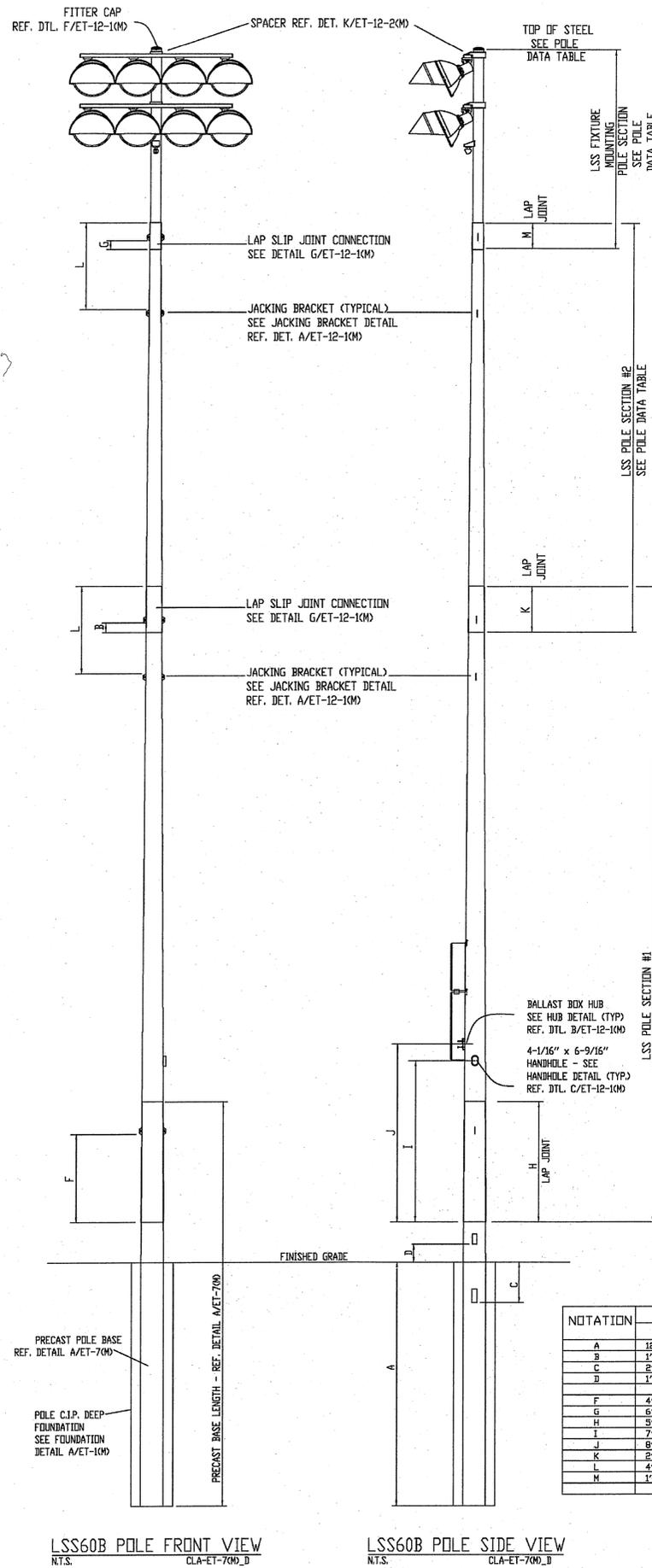
WORK ORDER NO. E170414

PLAN FILE NO. \_\_\_\_\_

DRAWING NO. ET-1(M)

SHEET 22 OF SHEETS 28

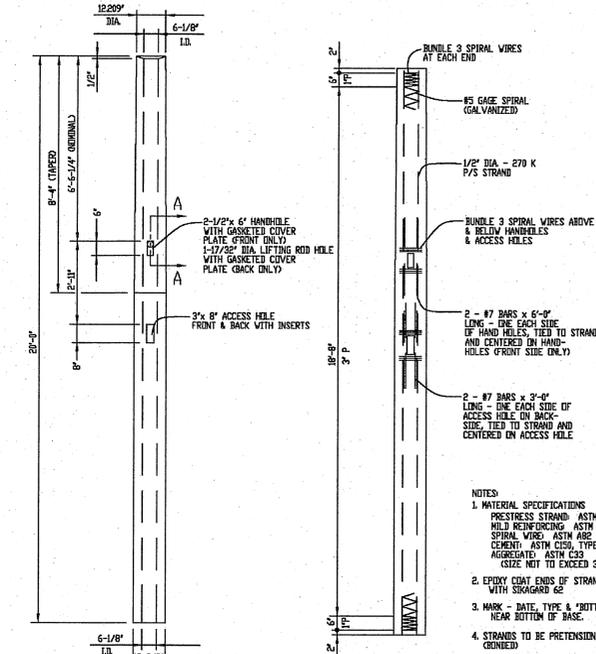
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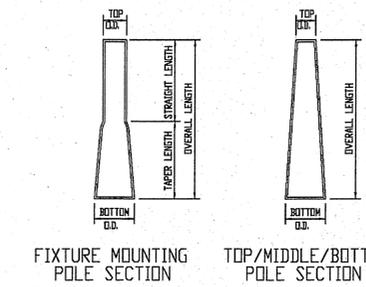
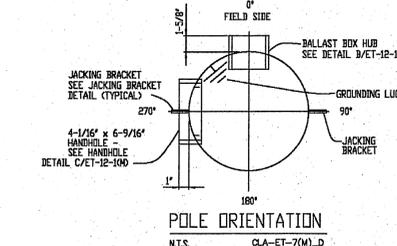
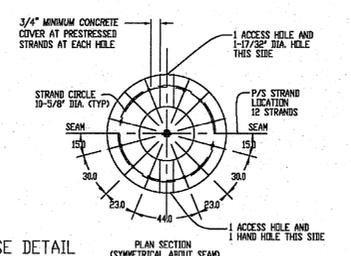
SECTION PROPERTIES BASED ON NOMINAL DIMS.  
 AREA (IN<sup>2</sup>): 1.3059  
 MOMENTS OF INERTIA ABOUT THE CENTROID (IN<sup>4</sup>): X: 8630 Y: 2.3268  
 SECTION MODULUS (IN<sup>3</sup>): X: 8630 Y: 1.1432  
 RADIUS OF GYRATION ABOUT THE CENTROID (IN): X: 8129 Y: 1.3348  
 APPROX. WT. PER FOOT (LBS): 4.45

SECTION PROPERTIES BASED ON WALL THICKNESS @ 83 % OF NOMINAL PER AISC 360 SPEC FOR STEEL TUBES.  
 AREA (IN<sup>2</sup>): 1.2177  
 MOMENTS OF INERTIA ABOUT THE CENTROID (IN<sup>4</sup>): X: 8113 Y: 2.1788  
 SECTION MODULUS (IN<sup>3</sup>): X: 8113 Y: 1.0712  
 RADIUS OF GYRATION ABOUT THE CENTROID (IN): X: 8162 Y: 1.3380

NOTE:  
 1. MATERIAL: ASTM A500, GRADE B, F<sub>y</sub> = 70 KSI MIN.  
 2. FINISH: GALVANIZED



SPECIFICATIONS	
BASE LENGTH	20'-0"
DESIGN MOMENT CAPACITY	99 FT-K
SHIPPING WEIGHT	2670 LBS
PRODUCTION WEIGHT	2470 LBS
VOLUME OF CONCRETE	0.62 CU YD
28 DAY CONC. STRENGTH	5,500 PSI
NUMBER OF STRANDS	12
INITIAL FILL 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



NOTATION	DIMENSION
A	12'-0"
B	1'-6"
C	2'-0" NDM.
D	1'-0" NDM.
E	4'-4" NDM.
F	5"
G	5'-11 3/8" NDM. 4'-8" MIN.
H	7'-7 1/2" NDM.
I	6'-9 1/2" NDM.
J	2'-3" NDM. 1'-1 3/4" MIN.
K	4'-7" NDM.
M	1'-6 1/8" NDM. 9 3/8" MIN.

POLE SCHEDULE						
SITE LOCATION	POLE MARK	REFERENCE LOCATION	POLE TYPE	FIXTURE CONFIGURATION	TOTAL EPA	BALLAST BOX REQUIREMENTS
SEE SITE PLAN (BY OTHERS)	POLE ID	SEE POLE ORIENTATION PLAN	LSS60B	8 - SEE DETAIL B/ET-700	16.0 SQ FT. MAX	SEE DETAIL G/ET-12-200

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	ASTM REFERENCE
LSS60B	LS-2009	2	FIXTURE MOUNTING	6.000"	6.505"	5'-3"	3'-5"	1'-10"	.120	59'-11 3/4" NDM. 61'-6 3/4" EXP.	A513 (F <sub>y</sub> =38ksi)
	MP-1TT-2		#2	6.054"	9.440"	24'-2 1/4"	-----	24'-2 1/4"	.120	-----	A595A (F <sub>y</sub> =55 ksi) or A572, Gr. 55 or 65
	MP-3BT		#1	8.886"	13.400"	32'-2 7/8"	-----	32'-2 7/8"	.179	-----	A595A (F <sub>y</sub> =55 ksi) or A572, Gr. 55 or 65
	MP-3B		PRECAST BASE	-----	-----	-----	-----	-----	-----	-----	-----

APPROVAL STAMPING AREA

LADBS STANDARD PLAN #050

DEPARTMENT OF PUBLIC WORKS

BUREAU OF ENGINEERING

ENGINEERING CITY OF LOS ANGELES

GARY LEE MOORE, PE, ENV SP ARCHITECTURAL DIVISION

ENGINEER: DATE: CITY ENGINEER: DATE:

DESIGNED BY: LIC. NO.: ARCHITECTURAL DIVISION

DRAWN BY: CHECKED BY: APPROVED BY: *Reza Bagherzadeh, m.e.p.*

PROJECT: STRATHERN PARK NORTH BASEBALL FIELD LIGHTING

ADDRESS: 8045 WHITSETT AVENUE LOS ANGELES CA 91605

WORK ORDER NO. E170414

PLAN FILE NO.

DRAWING NO. ET-7(M)

SHEET 23 OF SHEETS 28

PLOTTED 9/27/2016 4:01:37 PM

FILE PATH: C:\In-House-Design\Strathern Park North\Revit\Strathern Park North\_ELECTRICAL\_374704.rvt

11/16 TEMPLATE REVISION DATE: 02/21/13

SHEET ISSUE DATE: 08/23/13

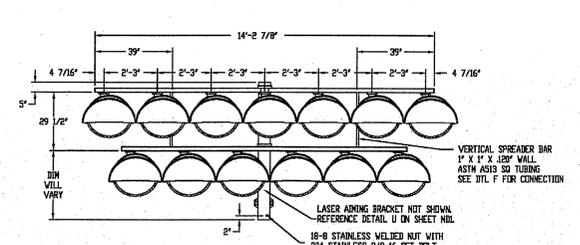
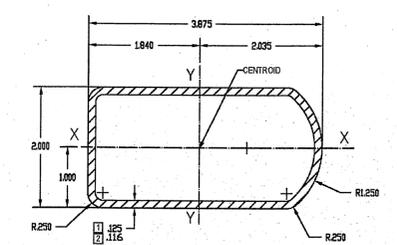
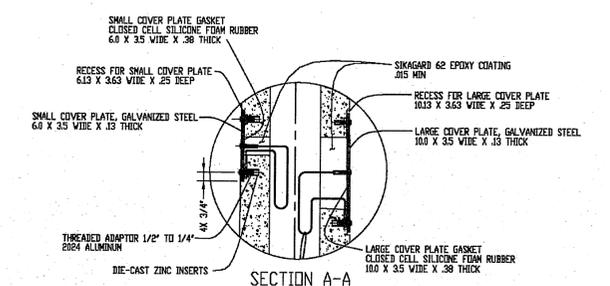
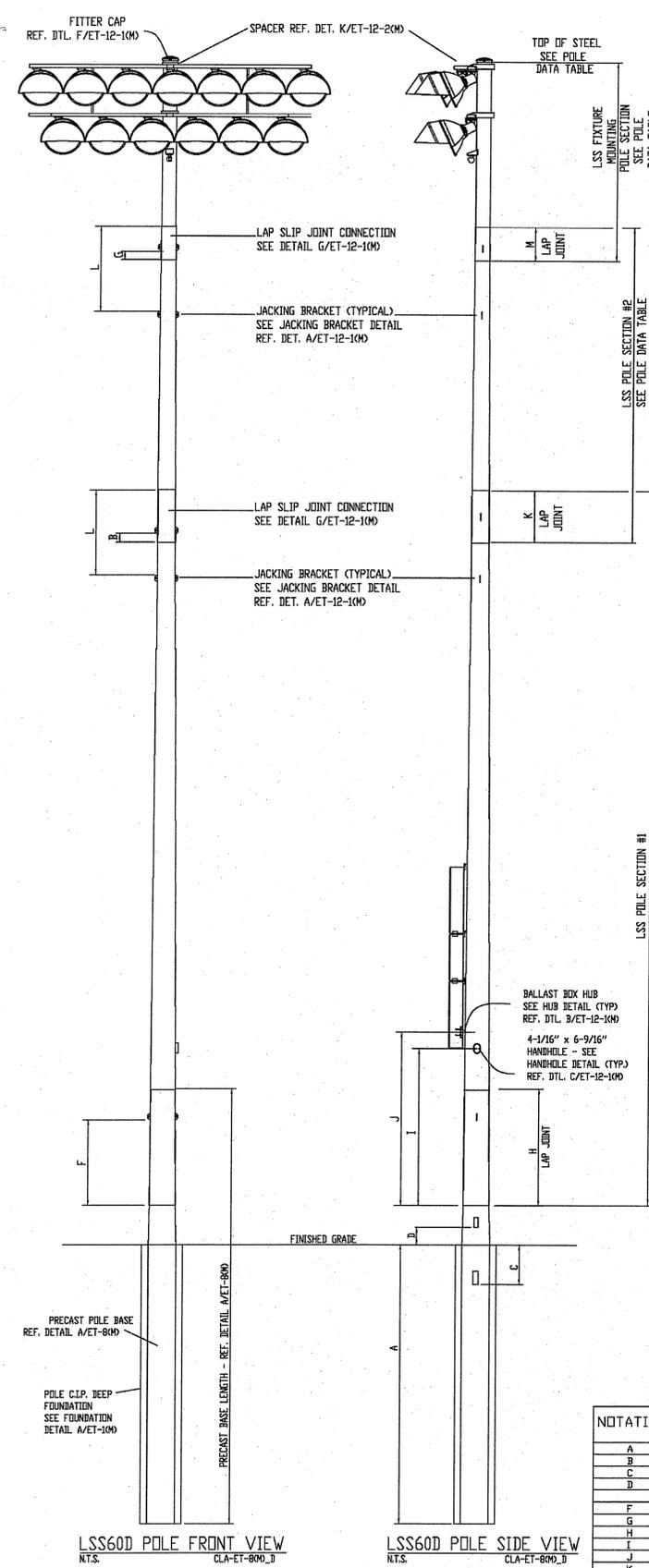
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REVISIONS (DATE)



CLA-ET-7(M)\_D

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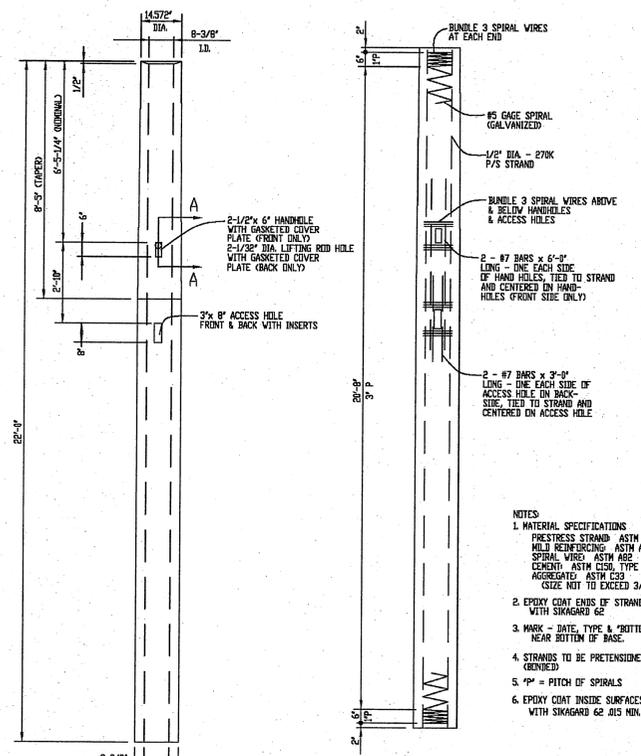


SECTION PROPERTIES BASED ON NOMINAL DIMS.  
 AREA (IN<sup>2</sup>): 1.3559  
 MOMENTS OF INERTIA ABOUT THE CENTROID (IN<sup>4</sup>): X: 80.00 Y: 2.2280  
 SECTION MODULUS (IN<sup>3</sup>): X: 8.013 Y: 1.1432  
 RADIUS OF GYRATION ABOUT THE CENTROID (IN): X: 8.129 Y: 1.3348  
 APPROX. WT. PER FOOT (LBS): 4.45

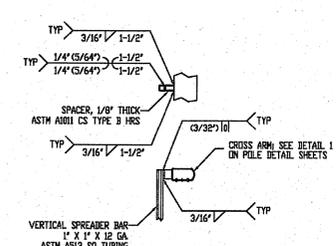
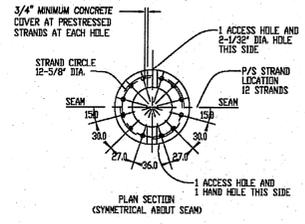
SECTION PROPERTIES BASED ON WALL THICKNESS @ 93% OF NOMINAL (DEVELOPED SPEC. FOR STEEL LSS60)  
 AREA (IN<sup>2</sup>): 1.2177  
 MOMENTS OF INERTIA ABOUT THE CENTROID (IN<sup>4</sup>): X: 81.13 Y: 2.1798  
 SECTION MODULUS (IN<sup>3</sup>): X: 8.113 Y: 1.0712  
 RADIUS OF GYRATION ABOUT THE CENTROID (IN): X: 8.162 Y: 1.3380

NOTE:  
 1. MATERIAL: ASTM A500, GRADE B, F<sub>y</sub> = 70 KSI MIN.

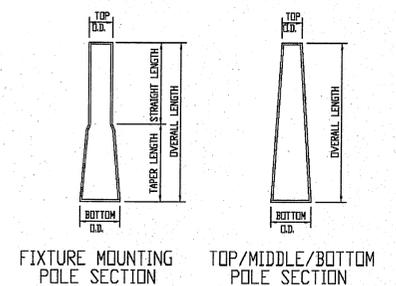
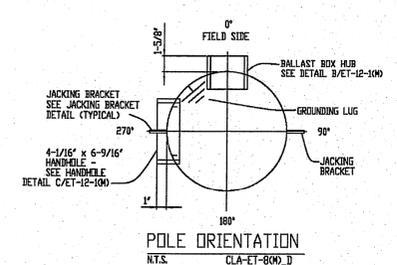
**1** FIXTURE SUPPORT CROSSARM PROPERTIES  
 N.T.S. DSA-299P\_B



SPECIFICATIONS	
BASE LENGTH	22'-0"
DESIGN MOMENT CAPACITY	145 FT-K
SHIPPING WEIGHT	3710 LBS
PRODUCTION WEIGHT	3490 LBS
VOLUME OF CONCRETE	0.88 CU YD
28 DAY CONC. STRENGTH	9,500 PSI
NUMBER OF STRANDS	12
INITIAL PULL PER STRAND	26.5 KIPS
TOP WALL THICKNESS	3-1/8"
BUTT WALL THICKNESS	3-1/16"
PRESTRESS LOSS/STRAND	4.8 KIPS
FINAL STRAND FORCE	21.7 KIPS
RELEASE STRENGTH	4,500 PSI



**F** WELD ON SPREADER BAR DETAIL  
 SCALE: N.T.S. DSA-SpreaderBarVeloDm\_A



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 <sup>1</sup>	BALLAST BOX REQUIREMENTS
SEE SITE PLAN (BY OTHERS)	POLE ID	SEE POLE ORIENTATION PLAN	LSS60D	13 - SEE DETAIL B/ET-800	26.0 SQ FT. MAX.	SEE DETAIL T/ET-12-200

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	ASTM REFERENCE
LSS60D	LS-2017	2	FIXTURE MOUNTING	8.000"	8.781"	5'-3"	3'-1"	2'-2"	.125	61'-6 3/8" NDM, 62'-11" EXP.	A513 (F <sub>y</sub> =38ksi)
	MP-3TT-4		#2	9.280"	10.790"	17'-11 1/8"	-----	17'-11 1/8"	.179	-----	A595A (F <sub>y</sub> =55 ksi) or A572, Gr 55 or 65
	MP-5BT		#1	10.096"	15.750"	40'-4 5/8"	-----	40'-4 5/8"	.179	-----	A595A (F <sub>y</sub> =55 ksi) or A572, Gr 55 or 65
	MP-4B		PRECAST BASE	-----	-----	-----	-----	-----	-----	-----	-----

FDR PRECAST MEMBER PROPERTIES SEE PRECAST BASE DETAIL A/-

NOTATION	DIMENSION
A	14'-0"
B	1'-6"
C	2'-0" NDM.
D	1'-0" NDM.
F	4'-4" NDM.
G	6"
H	5'-10 1/4" NDM, 5'-9" MIN.
I	7'-7 1/2" NDM.
J	8'-9 1/2" NDM.
K	2'-4 3/4" NDM, 1'-3 5/8" MIN.
L	4'-7" NDM.
M	1'-9 1/2" NDM, 1'-0 3/4" MIN.

APPROVAL STAMPING AREA

LADBS STANDARD PLAN #050

CLAE-ET-8(M)\_D

BUREAU OF ENGINEERING

DEPARTMENT OF PUBLIC WORKS

CITY OF LOS ANGELES

ENGINEER: GARY LEE MOORE, PE, ENV SP

DESIGNED BY: ARCHITECTURAL DIVISION

DRAWN BY: L.C. NO.

CHECKED BY: REZA BASHARZADEH, M.S.C.E.

APPROVED BY: M.S.C.E.

PROJECT: STRATHORN PARK NORTH BASEBALL FIELD LIGHTING

ADDRESS: 8045 WHITSETT AVENUE LOS ANGELES CA 91605

INDEX NO. RP 300093

BUILDING NO.

DATE

REVISION DESCRIPTION

NO.

PROFESSIONAL ENGINEER

GARY LEE MOORE, PE, ENV SP

No. 40591

3/15/11

CIVIL

STATE OF CALIFORNIA

FOR 1372517 Doc

WORK ORDER NO. E170414

PLAN FILE NO.

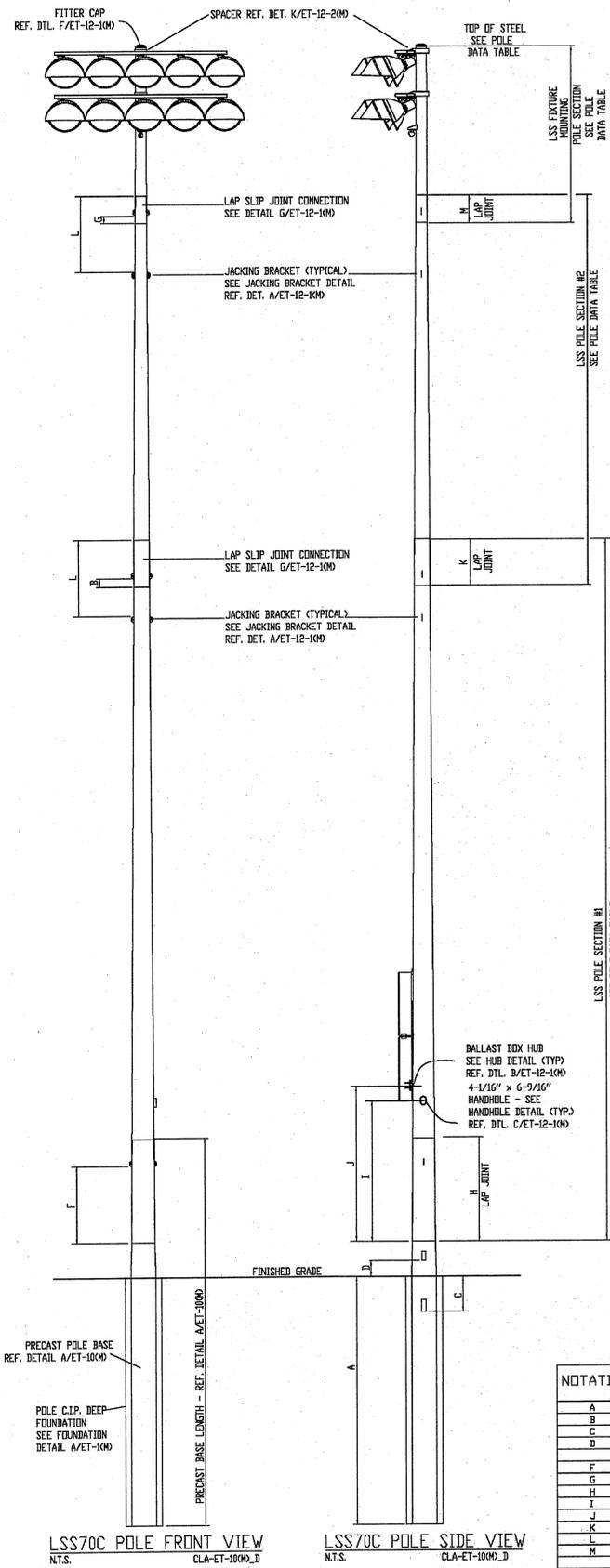
DRAWING NO.

ET-8(M)

SHEET 24 OF SHEETS 28

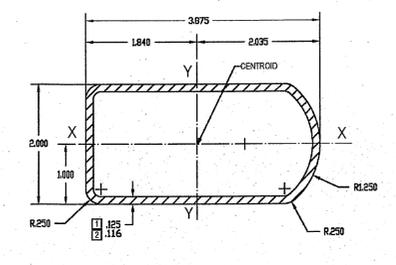
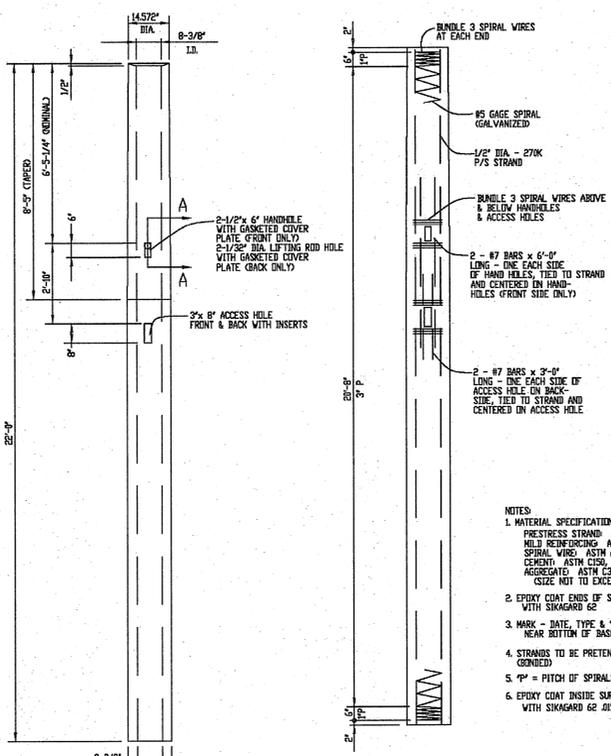
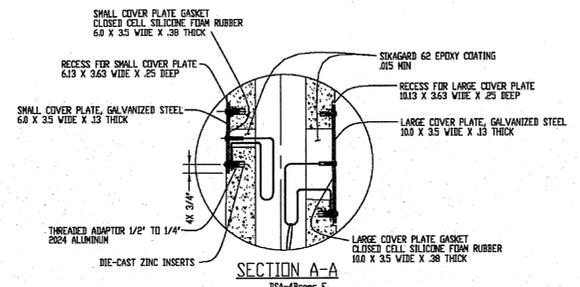
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NOTATION	DIMENSION
A	14'-0"
B	1'-6"
C	2'-0" NDM.
D	1'-0" NDM.
F	4'-4" NDM.
G	6"
H	5'-10 1/4" NDM. 5'-5" MIN.
I	7'-7 1/2" NDM.
J	8'-9 1/2" NDM.
K	2'-4 3/4" NDM. 1'-3 5/8" MIN.
L	4'-7" NDM.
M	1'-8 1/2" NDM. 10" MIN.

SPECIFICATIONS	
BASE LENGTH	22'-0"
DESIGN MOMENT CAPACITY	145 FT-K
SHIPPING WEIGHT	3710 LBS
PRODUCTION WEIGHT	3490 LBS
VOLUME OF CONCRETE	0.88 CU YD
28 DAY CONC. STRENGTH	9,500 PSI
NUMBER OF STRANDS	12
INITIAL PULL PER STRAND	26.5 KIPS
TIP WALL THICKNESS	3-1/2"
BUTT WALL THICKNESS	3-11/16"
PRESTRESS LOSS/STRAND	4.8 KIPS
FINAL STRAND FORCE	21.7 KIPS
RELEASE STRENGTH	4,500 PSI

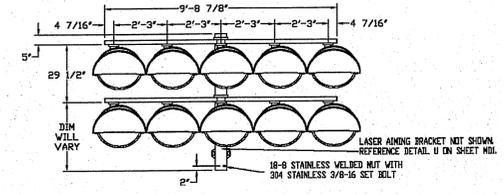


SECTION PROPERTIES BASED ON NOMINAL DIMS.  
 AREA (IN<sup>2</sup>) 1.3059  
 MOMENTS OF INERTIA ABOUT THE CENTROID (IN<sup>4</sup>): X: 8830 Y: 2,2288  
 SECTION MODULUS (IN<sup>3</sup>): X: 8113 Y: 1,6432  
 RADIUS OF GYRATION ABOUT THE CENTROID (IN): X: 8129 Y: 1,3369  
 APPROX. WT. PER FOOT (LBS): 4.45

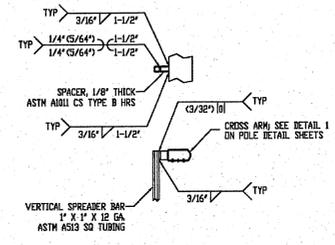
SECTION PROPERTIES BASED ON WALL THICKNESS @ 82% OF NOMINAL (PER ALSO LISTED FOR STEEL LBS).  
 AREA (IN<sup>2</sup>) 1.2177  
 MOMENTS OF INERTIA ABOUT THE CENTROID (IN<sup>4</sup>): X: 8113 Y: 2,1788  
 SECTION MODULUS (IN<sup>3</sup>): X: 8129 Y: 1,6712  
 RADIUS OF GYRATION ABOUT THE CENTROID (IN): X: 8162 Y: 1,3369

NOTE:  
 1. MATERIAL: ASTM A500, GRADE B, F<sub>y</sub> = 70 KSI MIN.

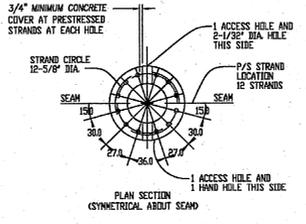
① FIXTURE SUPPORT CROSSARM PROPERTIES  
 N.T.S. DSA-2999\_B



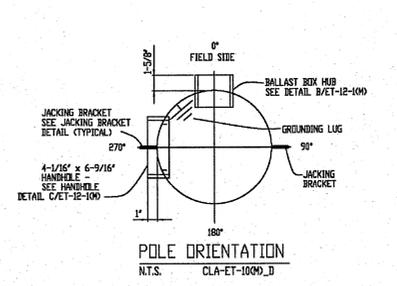
② 10 FIXTURE CONFIGURATION  
 N.T.S. DSA-10A\_D



③ WELD ON SPREADER BAR DETAIL  
 SCALE: N.T.S. DSA-SpreaderBarWeldOn\_A



④ TYPE 4B PRECAST BASE DETAIL  
 N.T.S. DSA-4Bconc\_F



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	BALLAST BOX REQUIREMENTS
SEE SITE PLAN (BY OTHERS)	POLE ID	SEE POLE ORIENTATION PLAN	LSS70C	10 - SEE DETAIL B/ET-1000	280 SQ FT. MAX	SEE DETAIL R/ET-12-200

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	ASTM REFERENCE
LSS70C	LS-2013	2	FIXTURE MOUNTING	7.000"	7.548"	5'-3"	3'-3"	2'-0"	.125	70'-4" NDM. 71'-8 3/4" EXP.	A513 (F <sub>y</sub> =38ksi)
	MP-3T	#2		7.059"	10.790"	26'-7 3/4"	-----	26'-7 3/4"	.179	-----	A595A (F <sub>y</sub> =55 ksi) or A572, Gr. 55 or 65
	MP-SBT	#1		10.096"	15.750"	40'-4 5/8"	-----	-----	.179	-----	A595A (F <sub>y</sub> =55 ksi) or A572, Gr. 55 or 65
	MP-4B	#1	PRECAST BASE								

FOR PRECAST MEMBER PROPERTIES SEE PRECAST BASE DETAIL A/-

APPROVAL STAMPING AREA

LADBS STANDARD PLAN #050

CLA-ET-10(M)\_D

**ENGINEERING**  
CITY OF LOS ANGELES

**BUREAU OF ENGINEERING**

**DEPARTMENT OF PUBLIC WORKS**

**GARY LEE MOORE, PE, ENV SP**  
ARCHITECTURAL DIVISION

ENGINEER: \_\_\_\_\_ DATE: \_\_\_\_\_  
 DESIGNED BY: \_\_\_\_\_ LIC. NO.: \_\_\_\_\_  
 DRAWN BY: \_\_\_\_\_  
 CHECKED BY: \_\_\_\_\_  
 APPROVED BY: *Reza Bagherzadeh* 11/2/17

BUILDING NO. \_\_\_\_\_  
INDEX NO. **RP 300093**

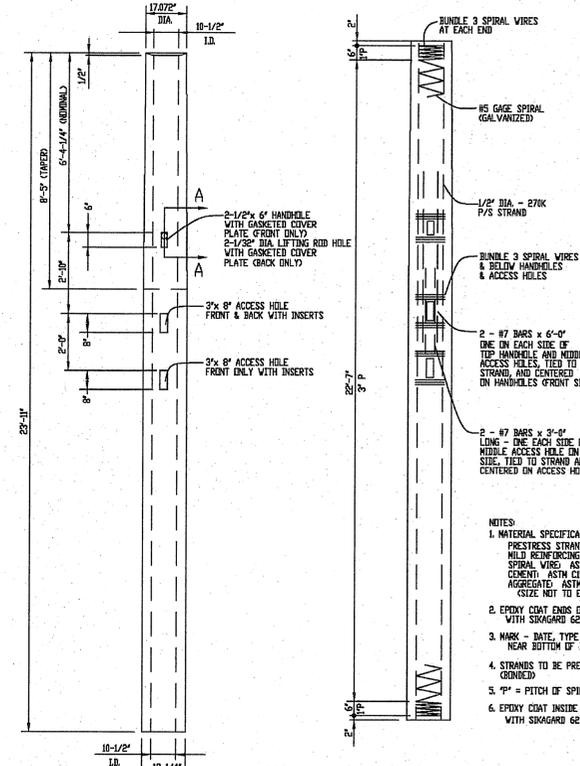
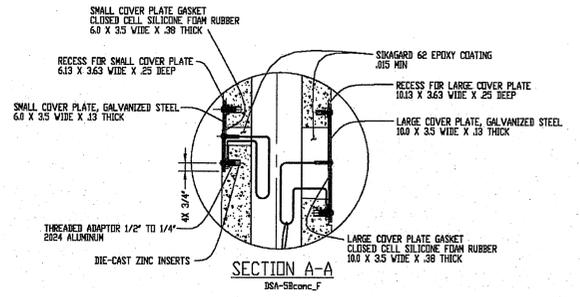
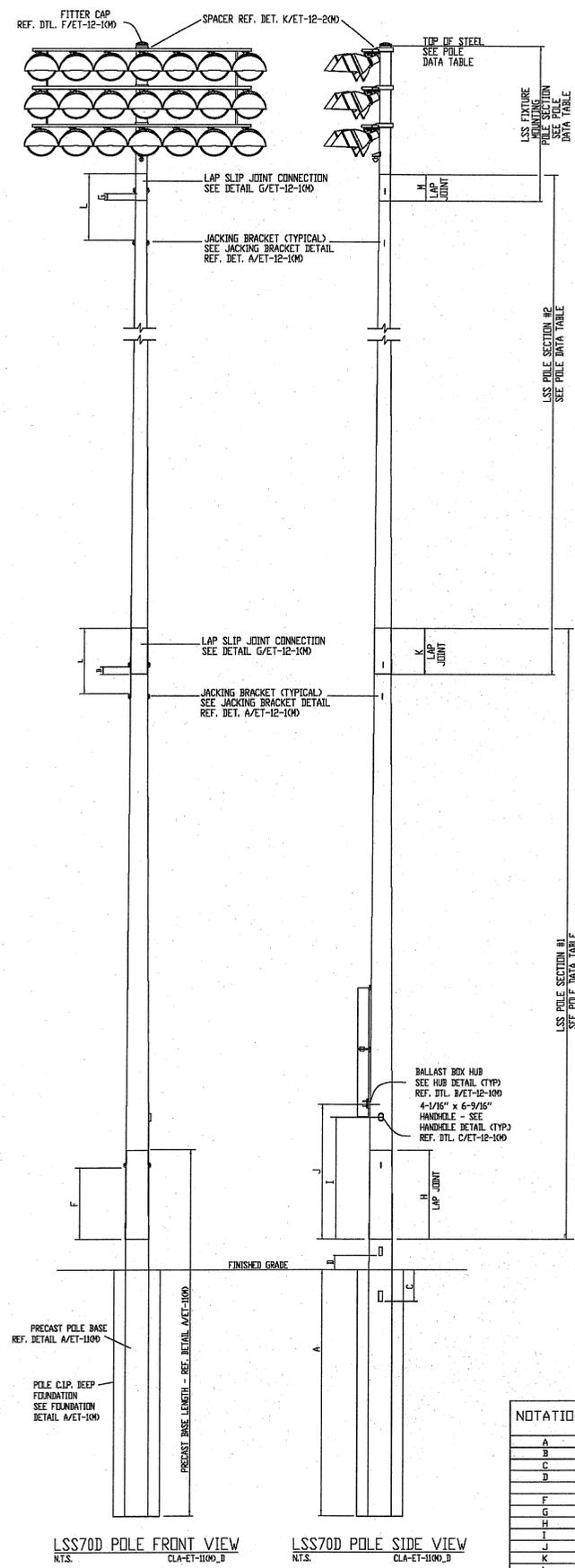
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 HORIZONTAL CONTROL: \_\_\_\_\_  
 SHEET TITLE: **70C-10 POLE / FOUNDATION STANDARD**  
 PROJECT: **STRATHERN PARK NORTH BASEBALL FIELD LIGHTING**  
 ADDRESS: **8045 WHITSETT AVENUE LOS ANGELES CA 90065**

WORK ORDER NO. **E170414**  
 PLAN FILE NO. \_\_\_\_\_  
 DRAWING NO. **ET-10(M)**  
 SHEET **25** OF **28**  
 PLOTTED: 02/27/2016 4:01:38 PM

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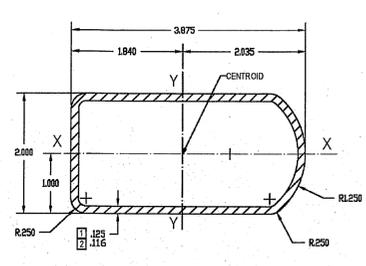
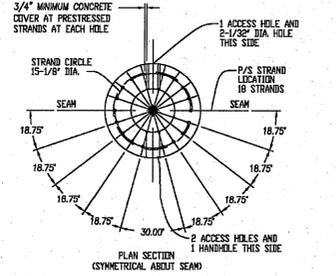
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REVISION DATES  
 (DESIGN STAGE ONLY)



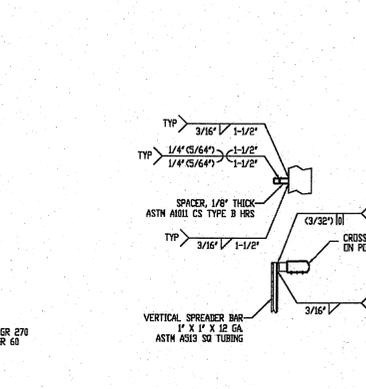
**SPECIFICATIONS**

BASE LENGTH	23'-11"
DESIGN MOMENT CAPACITY	225 FT-K
SHIPPING WEIGHT	4900 LBS
PRODUCTION WEIGHT	4580 LBS
VOLUME OF CONCRETE	113 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"
PRESSURE LOSS/STRAND	4.8 KIPS
FINAL STRAND FORCE	21.7 KIPS
RELEASE STRENGTH	5,000 PSI

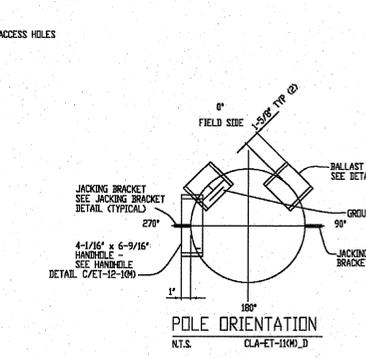


**SECTION PROPERTIES BASED ON NOMINAL DIMS.**  
 AREA (IN<sup>2</sup>): 1.3699  
 MOMENTS OF INERTIA ABOUT THE CENTROID (IN<sup>4</sup>): X: 8830 Y: 2,3288  
 SECTION MODULUS (IN<sup>3</sup>): X: 8113 Y: 1,4422  
 RADIUS OF GYRATION ABOUT THE CENTROID (IN): X: 8123 Y: 1,3368  
 APPROX. WT. PER FOOT (LBS): 4.45

**SECTION PROPERTIES BASED ON WALL THICKNESS @ 83% OF NOMINAL (PER ASSOCIATED SPEC FOR STEEL LHS).**  
 AREA (IN<sup>2</sup>): 1.2177  
 MOMENTS OF INERTIA ABOUT THE CENTROID (IN<sup>4</sup>): X: 8113 Y: 2,1788  
 SECTION MODULUS (IN<sup>3</sup>): X: 8113 Y: 1,0712  
 RADIUS OF GYRATION ABOUT THE CENTROID (IN): X: 8102 Y: 1,3389  
 NOTE:  
 1. MATERIAL: ASTM A500, GRADE B, F<sub>y</sub> = 70 KSI MIN.



**NOTES:**  
 1. MATERIAL SPECIFICATIONS  
 PRESTRESS STRAND: ASTM A416 GR 270  
 HUB REINFORCING: ASTM A615 GR 60  
 SPIRAL WIRE: ASTM A65  
 CEMENT: ASTM C150, TYPE III  
 AGGREGATE: ASTM C33  
 (SIZE NOT TO EXCEED 3/4")  
 2. EPOXY COAT ENDS OF STRANDS, C1 AND D3 WITH SIKAGARD 62  
 3. MARK - DATE, TYPE & BOTTOM NEAR BOTTOM OF BASE.  
 4. STRANDS TO BE PRETENSIONED - GONDED  
 5. P = PITCH OF SPIRALS  
 6. EPOXY COAT INSIDE SURFACES OF ACCESS HOLES WITH SIKAGARD 62 JOIS 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 30 LBS PER FIXTURE SERVICED.

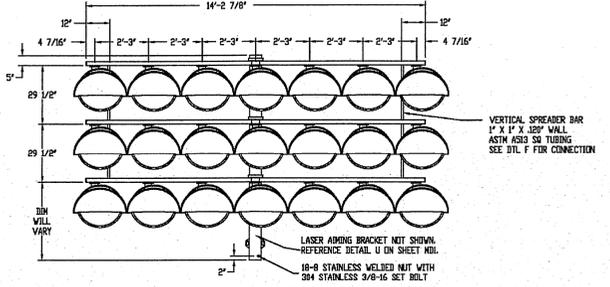
**POLE SCHEDULE**

SITE LOCATION	POLE MARK	REFERENCE LOCATION	POLE TYPE	FIXTURE CONFIGURATION	TOTAL EPA	BALLAST BOX REQUIREMENTS
SEE SITE PLAN (BY OTHERS)	POLE ID	SEE POLE ORIENTATION PLAN	LSS70D	21 - SEE DETAIL B/ET-1100	420 SQ FT. MAX	SEE DETAIL R.S./ET-12-200

**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	ASTM REFERENCE
LSS70D	LS-2022	3	FIXTURE MOUNTING	10.000"	10.555"	7'-9"	5'-10 1/4"	1'-10 3/4"	.125	69'-11 3/4" NOM 71'-4 1/2" EXP.	A513 (F <sub>y</sub> =38ksi)
	MP-38TT-2	3	#2	10.023"	13.400"	24'-1 1/2"	---	24'-1 1/2"	.179	---	A595A (F <sub>y</sub> =55 ksi) or A572, Gr. 55 or 65
	MP-58T	3	#1	12.660"	18.360"	40'-8 5/8"	---	40'-8 5/8"	.299	---	A595A (F <sub>y</sub> =55 ksi) or A572, Gr. 55 or 65
MP-5B			PRECAST BASE								

FOR PRECAST MEMBER PROPERTIES SEE PRECAST BASE DETAIL A/-  
 Standard-LSS70D\_01801\_120716



**APPROVAL STAMPING AREA**

**LADBS STANDARD PLAN #050**

**BUREAU OF ENGINEERING**  
 CITY OF LOS ANGELES

**DEPARTMENT OF PUBLIC WORKS**  
 ARCHITECTURAL DIVISION

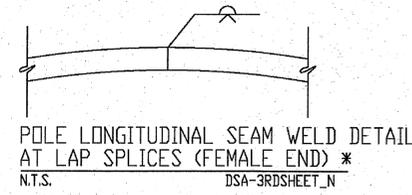
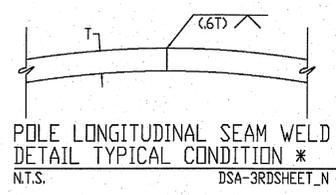
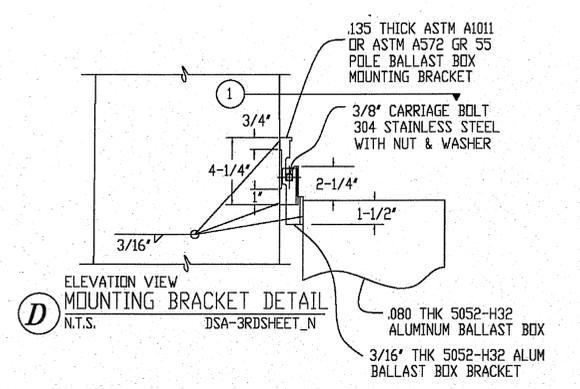
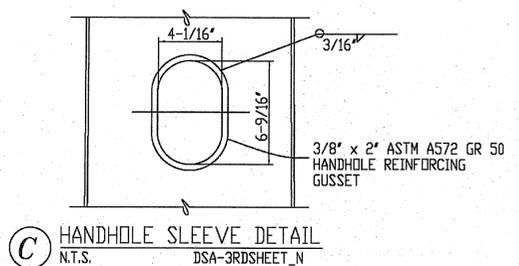
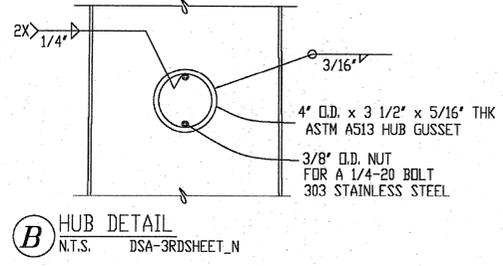
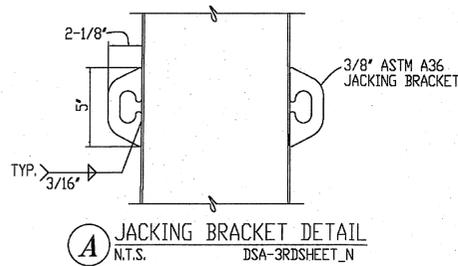
**GARY LEE MOORE, PE, ENV SP**  
 CITY ENGINEER

**ET-11(M)**  
 SHEET 26 OF 28

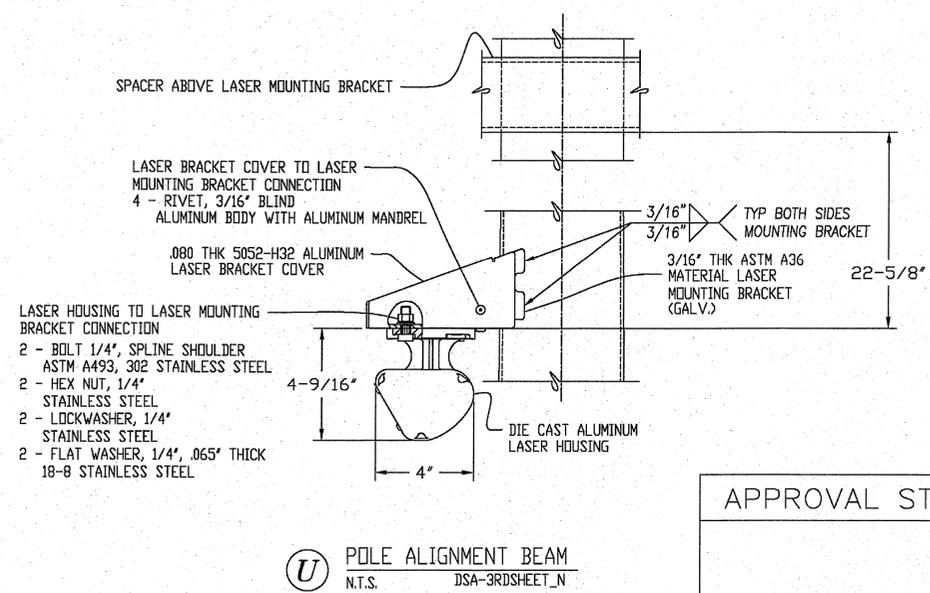
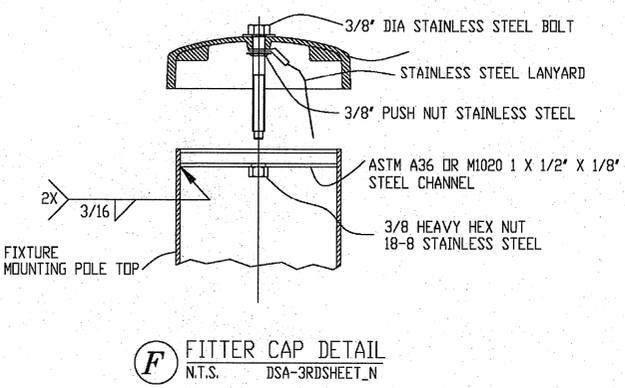
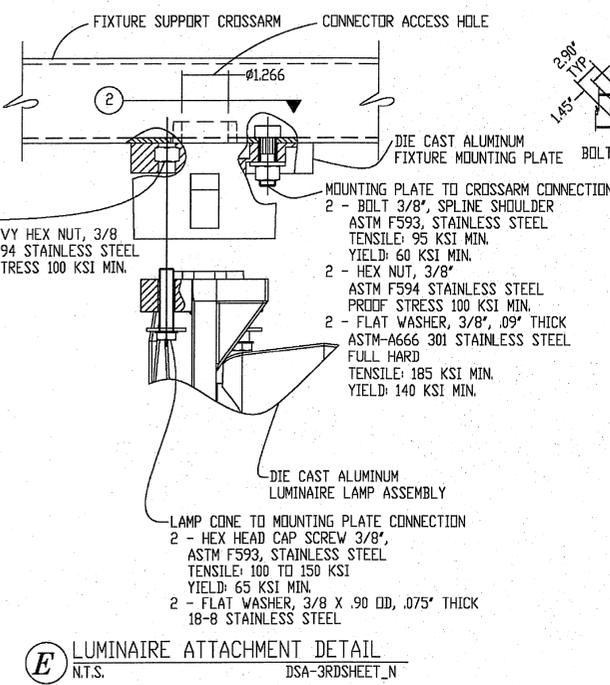
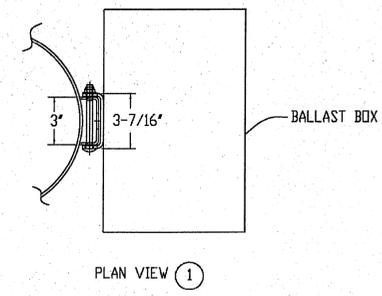
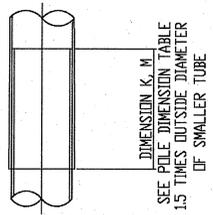
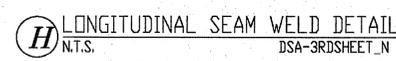
**PROJECT:** STRATHERN PARK NORTH BASEBALL FIELD LIGHTING  
**ADDRESS:** 8045 WHITSETT AVENUE LOS ANGELES CA 91605

**INDEX NO.:** RP 300093

**DESIGNED BY:** [Signature]  
**DRAWN BY:** [Signature]  
**CHECKED BY:** Reza Bazarzadeh, M.S.E.



\* NOTE - 100% PENETRATION SEAM WELDS MAY BE PROVIDED FULL LENGTH OF POLE SHAFTS PROVIDED WPS'S ARE QUALIFIED BY TEST.



APPROVAL STAMPING AREA

LADBS STANDARD PLAN #050

**BUREAU OF ENGINEERING**

**ENGINEERING**  
CITY OF LOS ANGELES

**DEPARTMENT OF PUBLIC WORKS**

**GARY LEE MOORE, PE, ENV SP**  
ARCHITECTURAL DIVISION

ENGINEER: DATE: CITY ENGINEER: DATE: L.C. NO.:

DESIGNED BY: DRAWN BY: CHECKED BY: APPROVED BY: *Reza Bagherzadeh, M.S.D.*

PROJECT: STRATHERN PARK NORTH BASEBALL FIELD LIGHTING  
ADDRESS: 8045 WHITSETT AVENUE LOS ANGELES CA 90005

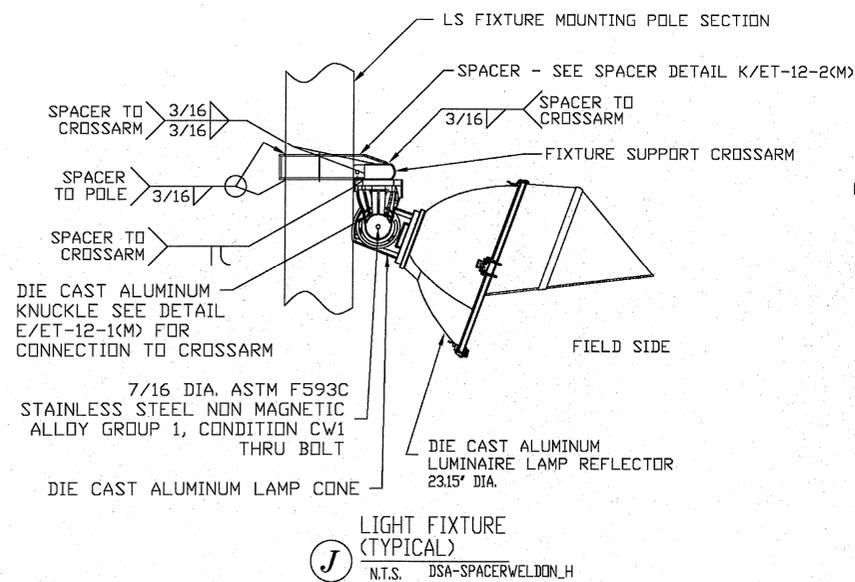
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DRAWING NO. **ET-12-1(M)**  
SHEET 27 OF SHEETS 28

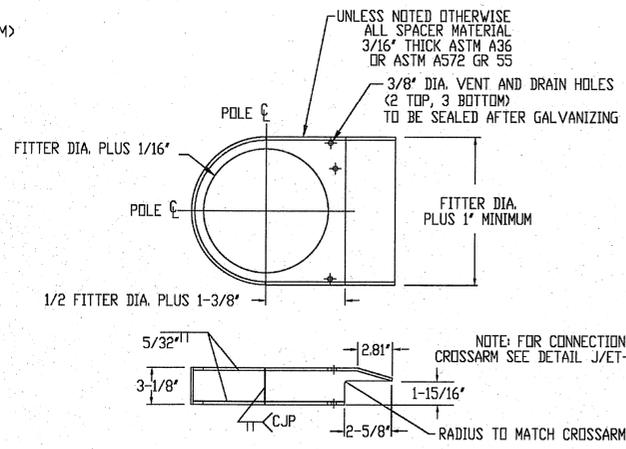
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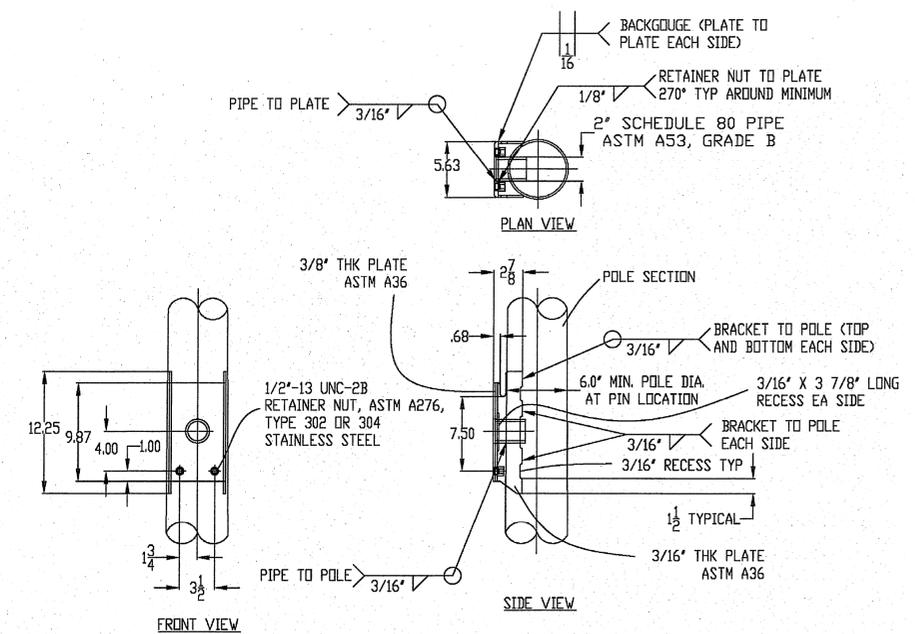
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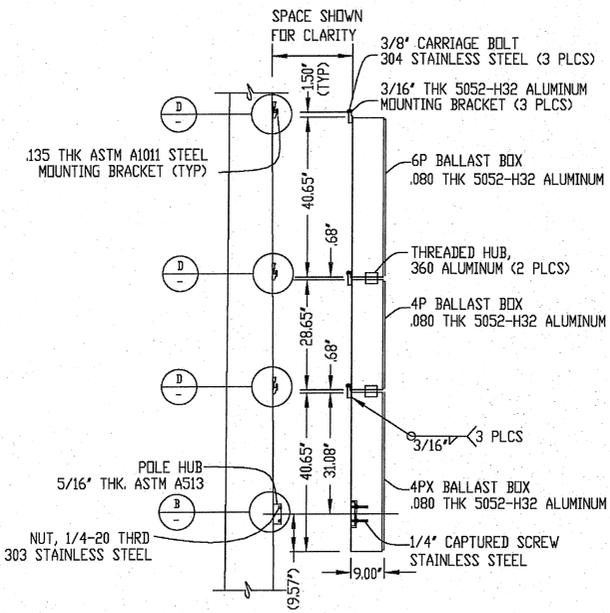
**J** LIGHT FIXTURE (TYPICAL)  
N.T.S. DSA-SPACERWELDDON\_H



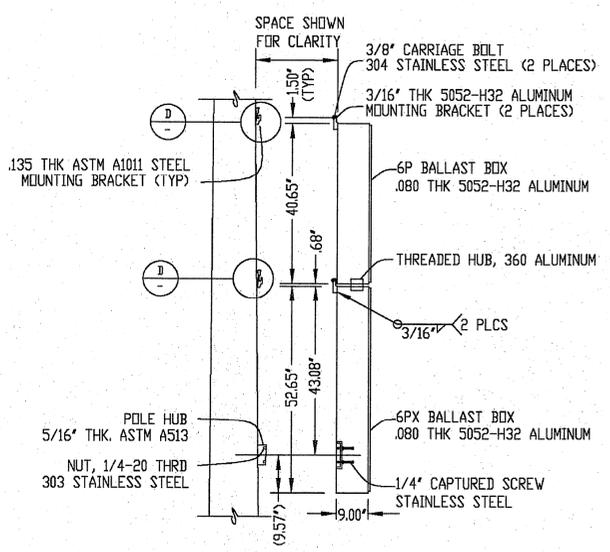
**K** SPACER DETAIL  
N.T.S. DSA-SPACERWELDDON\_H



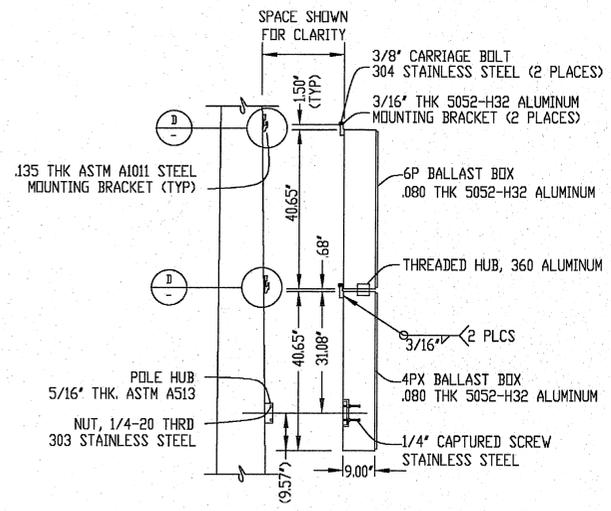
**L** BRACKET DETAIL  
N.T.S. DSA-Brk-Det-L\_A



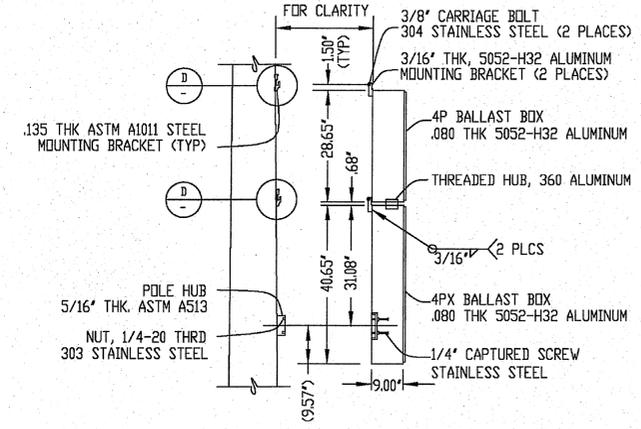
**T** 6P/4P/4PX BALLAST BOX CONNECTION DETAIL  
N.T.S. DSA-6P4P4PX\_C



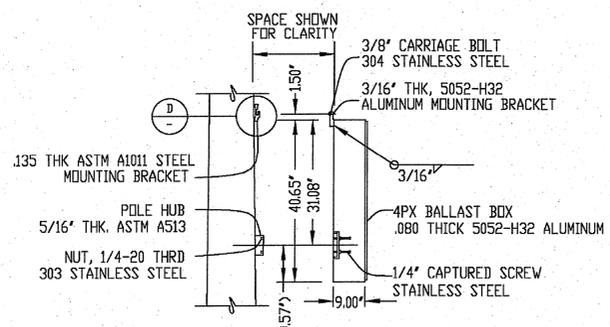
**S** 6P/6PX BALLAST BOX CONNECTION DETAIL  
N.T.S. DSA-6P6PX\_C



**R** 6P/4PX BALLAST BOX CONNECTION DETAIL  
N.T.S. DSA-6P4PX\_C



**Q** 4P/4PX BALLAST BOX CONNECTION DETAIL  
N.T.S. DSA-4P4PX\_C



**O** 4PX BALLAST BOX CONNECTION DETAIL  
N.T.S. DSA-4PX\_C

APPROVAL STAMPING AREA

LADBS STANDARD PLAN #050



**BUREAU OF ENGINEERING**  
ENGINEERING CITY OF LOS ANGELES

DATE: \_\_\_\_\_  
REVISION DESCRIPTION: \_\_\_\_\_  
INDEX NO. \_\_\_\_\_

**DEPARTMENT OF PUBLIC WORKS**  
CITY ENGINEER: \_\_\_\_\_  
ARCHITECTURAL DIVISION: \_\_\_\_\_  
L.C. NO.: \_\_\_\_\_

ENGINEER: \_\_\_\_\_  
DESIGNED BY: \_\_\_\_\_  
DRAWN BY: \_\_\_\_\_  
CHECKED BY: \_\_\_\_\_  
APPROVED BY: *Reza Bagherzadeh, M.A.S.C.E.*

PROJECT: STRATHERN PARK NORTH BASEBALL FIELD LIGHTING  
ADDRESS: 8045 WHITSETT AVENUE, LOS ANGELES CA 90005

WORK ORDER NO. E170414  
PLAN FILE NO. \_\_\_\_\_  
DRAWING NO. \_\_\_\_\_  
SHEET 28 OF 28

CLA-ET-12-2(M)\_C

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