

APPROVED

12-14-2016

BOARD OF RECREATION AND PARK COMMISSIONERS

BOARD REPORT

NO. 16-236

DATE November 16, 2016

C.D. 8

BOARD OF RECREATION AND PARK COMMISSIONERS

SUBJECT: LOREN MILLER RECREATION CENTER – SYNTHETIC SOCCER FIELD (W.O. #E170171F) PROJECT– APPROVAL OF FINAL PLANS

for AP Diaz	_____	V. Israel	_____
*R. Barajas	<u>RSB</u>	K. Regan	_____
H. Fujita	_____	N. Williams	_____



 General Manager

Approved ✓ Disapproved _____ Withdrawn _____

RECOMMENDATION

Approve the final plans and specifications, substantially in the form on file with the Board Office, for the Loren Miller Recreation Center – Synthetic Soccer Field (W.O. #E170171F) project.

SUMMARY

Loren Miller Recreation Center is located at 2717 Halldale Avenue in the Adams-Normandie area of the City. This 2.42 acre facility provides a recreation center, basketball and tennis courts, children’s play areas, a walking track, and child care center for the use of the surrounding community. Approximately Twelve Thousand One Hundred Seventy Nine (12,179) residents live within a one-half (½) mile walking distance of Loren Miller Recreation Center. Due to the facilities size, features, programs, and services it provides, Loren Miller Recreation Center meets the standard for a Community Park, as defined in the City's Public Recreation Plan

The Loren Miller Recreation Center – Synthetic Soccer Field (W.O. #E170171F) project (Project) is a Proposition K Competitive Grant (8th Cycle) funded project. The Project scope of work consists of the replacement of existing natural grass soccer field with synthetic turf and the installation of related fencing and walkways.

The Bureau of Engineering (BOE) Architectural Division prepared the plans and specifications, and obtained all the necessary permits for the Project. As required by the Proposition K, three (3) Local Voluntary Neighborhood Oversight Committee (LVNOC) meetings were conducted. The community, the LVNOC and Council District No. 8 are in full support of the project.

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.

BOARD REPORT

PG. 2

NO. 16-236

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

<u>FUNDING SOURCE</u>	<u>FUND/DEPT./ACCT. NO.</u>
Proposition K – Year 17	43K/10/10KM16
Proposition K – Year 18	43K/10/10LM16

TREES AND SHADE

The Project designers have reviewed the site and have determined that there is sufficient shade in the area of the Project. Currently, there is an existing trellis for shade over the three (3) picnic tables adjacent to the proposed synthetic soccer field. No trees will be removed from this project.

ENVIRONMENTAL IMPACT STATEMENT

This Project was previously evaluated for environmental impacts in accordance with the California Environmental Quality Act (CEQA), and was determined to be categorically exempt from the provisions of CEQA pursuant to Article III, Section 1c, Class 3(6) (new small accessory structures) and Section 1k, Class 11(3) (construction of minor structures accessory to existing institutional facilities) of the City CEQA Guidelines, per the Los Angeles City Council approval of the 2013-2014 Proposition K Assessment Report on June 5, 2013 (Council File No. 12-1670). A Notice of Exemption (NOE) was filed with the Los Angeles City Clerk and the Los Angeles County Clerk on June 20, 2013. It is recommended that the Board find that this Project scope and the environmental site conditions and circumstances of the Project have not substantially changed since the previous CEQA evaluation; therefore, no additional CEQA documentation is required.

FISCAL IMPACT STATEMENT

The proposed construction project is fully funded by Proposition K funds. When completed, the Project provides improvements to an existing soccer field. Therefore, approval of the plans has no fiscal impact to RAP's General Fund.

This Report was prepared by Erick Chang, Project Manager, Architectural Division, BOE, Reviewed by Neil Drucker, Prop K Program Manager, Architectural Division, BOE; Deborah Weintraub, Chief Deputy City Engineer, BOE; and Cathie Santo Domingo, Superintendent, Planning, Construction and Maintenance Branch.

LIST OF ATTACHMENT(S)

- 1) Final Plans for Loren Miller Recreation Center – Synthetic Soccer Field Project

BUREAU OF ENGINEERING DEPARTMENT OF PUBLIC WORKS CITY OF LOS ANGELES LOREN MILLER RECREATION CENTER SYNTHETIC SOCCER FIELD PROJECT



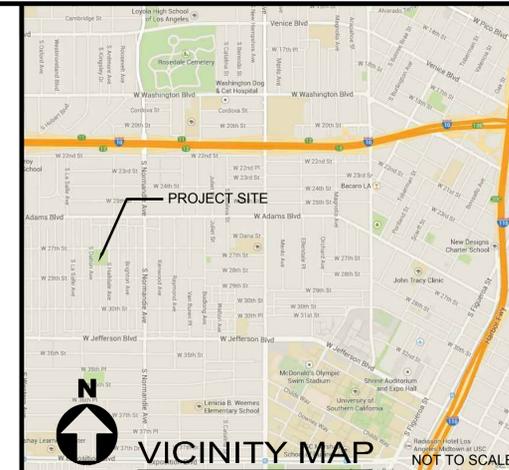
PROJECT TEAM

CLIENT: CITY OF LOS ANGELES
DEPARTMENT OF RECREATION AND PARKS
MICHAEL SHULL
GENERAL MANAGER
CATHY SANTO DOMINGO
SUPERINTENDENT

CONSTRUCTION MANAGEMENT: BUREAU OF ENGINEERING
CONSTRUCTION MANAGEMENT DIVISION
JOSE FUENTES
DIVISION ENGINEER

ARCHITECTURAL: BUREAU OF ENGINEERING
ARCHITECTURAL DIVISION
MAHMOOD KARIMZADEH, A.I.A.
PRINCIPAL ARCHITECT
GUILLERMO BARRAGAN
PROJECT MANGER/
LANDSCAPE ARCHITECT ASSOC. II
PHONE: 213.485.4348

SURVEY: SURVEY DIVISION
JIM LANTRY, PLS
ENGINEER OF SURVEYS
GEOTECHNICAL: GEOTECHNICAL ENGINEERING
GROUP
CHRISTOPHER JOHNSON, P.E., G.E.
GROUP MANAGER
AMY BI
CIVIL ENGINEERING ASSOCIATE II



BUREAU OF ENGINEERING

DEPARTMENT OF PUBLIC WORKS

CITY OF LOS ANGELES

ENGINEERING CITY OF LOS ANGELES

DATE: BY: _____

NO. REVISIONS: _____

INDEX NO. RP 300091

BUILDING NO. _____

REGISTERED PROFESSIONAL ENGINEER
GARY LEE MOORE
No. C-9486
CIVIL

ACCEPTED BY:
GARY LEE MOORE, PE, ENV SP
CITY ENGINEER

DATE: 8/29/16

DEPUTY CITY ENGINEER / PROGRAM MANAGER
Amy Lee Moore
CITY ENGINEER

DATE: 8/30/16

COVER SHEET

PROJECT: LOREN MILLER RECREATION CENTER
SYNTHETIC SOCCER FIELD PROJECT

ADDRESS: 2717 HALDALLE AVENUE
LOS ANGELES, CA 90018

WORK ORDER NO. E170171A

DRAWING NO. G001

SHEET 1 OF 24

PLOTTED: 8/22/16 10:34 AM

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REVISION DATES (DESIGN STAGE ONLY)

REVISION DATE: 8/22/2016 5:10 PM FILE: Q:\HOUSE-DESIGN\LANDSCAPE SECTION\GUILLEMOLOREN.MILLER SYN SOCCER\DCS\050002 GEN NOTES.DWG
 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.
 REVISION DATES (DESIGN STAGE ONLY)

ABBREVIATIONS

AC	ASPHALT CONCRETE	GV	GATE VALVE
AD	ATRIUM DRAIN/AREA DRAIN	HB	HOSE BIB
AMPS	AMPERES	HP	HIGH POINT
AWG	AMERICAN WIRE GAUGE	ID	INSIDE DIAMETER
BC	BOTTOM OF CURB/BEGIN CURB	IE	INVERT ELEVATION
BDRY	BOUNDARY	IRRG	IRRIGATION
BLDG	BUILDING	LA	LANDSCAPE ARCHITECT
BM	BENCH MARK	LP	LOW POINT
BOW	BACK OF WALL	LBS	POUNDS
BOC	BACK OF CURB	LS	LANDSCAPE
BS	BOTTOM OF STEP	MAX	MAXIMUM
BW	BOTTOM OF WALL	MAINT	MAINTENANCE
C	COMPACT	MFG	MANUFACTURER
CB	CATCH BASIN	MIN	MINIMUM
C-C	CENTER TO CENTER	NIC	NOT IN CONTRACT
CF	CURB FACE	OC	ON CENTER
CL	CENTER LINE	OD	OUTSIDE DIAMETER
CMU	CONCRETE MASONRY UNIT	PA	PLANTING AREA
CONC	CONCRETE	PB	PULL BOX
CONST	CONSTRUCTION/CONSTRUCT	PL	PROPERTY LINE
CONT	CONTINUOUS	PVC	POLY VINYL CHLORIDE
DD	DECK DRAIN	POB	POINT OF BEGINNING
DEMO	DEMOLITION	POC	POINT OF CONNECTION
DBL STK	DOUBLE STAKE	PP	POWER POLE
DET	DETAIL	PSI	POUNDS PER SQUARE INCH
DF	DRINKING FOUNTAIN	PW	POTABLE WATER
DIA	DIAMETER	QC	QUICK COUPLER
DIP	DUCTILE IRON PIPE	R/RAD	RADIUS "R"
DN	DOWN	RAP	RECREATION AND PARKS DEPARTMENT
DOT	DEPARTMENT OF TRANSPORTATION	RE	RIM ELEVATION
DWG	DRAWING	RCV	REMOTE CONTROL VALVE
DWP	DEPARTMENT OF WATER AND POWER	ROW	RIGHT OF WAY
DWY	DRIVEWAY	REF LINE	REFERENCE LINE
EFF	EFFLUENT WATER	REINF	REINFORCED
EL	ELEVATION	REQD	REQUIRED
ELECT	ELECTRIC/ELECTRICAL	SCH	SCHEDULE
END OF CURVE	END OF CURVE	SF	SQUARE FEET
(XXX.XX)	EX ELEVATION	SGL STK	SINGLE STAKE
XXX.XX	NEW CONSTRUCTION ELEVATION	SHT	SHEET
ENCL	ENCLOSURE	SL	SCORE LINE
EQ	EQUAL	SMH	SEWER MAINTENANCE HOLE
EXP JT	EXPANSION JOINT	SPEC	SPECIFICATION
EXIST	EXISTING	STA	STATION
EC	END OF CURB	STD	STANDARD
FL	FLOW LINE	SOV	SHUT OFF VALVE
FIN	FINISHED	SIN	SIGNAL
FOC	FACE OF CURB	TF	TOP OF FOOTING
FOW	FACE OF WALL	TYP	TYPICAL
FF	FINISHED FLOOR	TP	TOP OF PAVING
FG	FINISHED GRADE	TC	TOP OF CURB
FS	FINISHED SURFACE	TS	TOP OF STEP
FFE	FINISHED FLOOR ELEVATION	TW	TOP OF WALL
FD	FLOOR DRAIN	V	VOLTS
GA	GAUGE	W/	WITH
GALV	GALVANIZED	W/O	WITHOUT
GAL	GALLON(S)	WO	WORK ORDER
GB	GRADE BREAK	WPJ	WEAKENED PLANE JOINT
GC	GROUND COVER	YDS	YARDS
GPM	GALLONS PER MINUTE		

PROJECT DESCRIPTION

SCOPE OF WORK:
 Replacement of an existing soccer field with new synthetic turf. Improvements will include soil preparation, soil isolation fabric, underlayment materials, field and sub-base perimeter drainage system, concrete walkways, restriping of parking lot, fencing, irrigation and new trees.

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CITY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

BUREAU OF ENGINEERING

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

SHEET TITLE: ABBREVIATIONS, PROJECT DESCRIPTION AND SHEET INDEX
 PROJECT: LOREN MILLER RECREATION CENTER
 SYNTHETIC SOCCER FIELD PROJECT
 ADDRESS: 2717 HALDALE AVENUE
 LOS ANGELES, CA 90018

WORK ORDER NO.
E170171A

DRAWING NO.
G002

ARCHITECT: JANE ADRIAN
 DESIGNED BY: GUILLERMO BARRAGAN
 DRAWN BY: GUILLERMO BARRAGAN
 CHECKED BY: JANE ADRIAN
 APPROVED BY: MAHMOOD KARIMZADEH, A.I.A., PRINCIPAL ARCHITECT

DATE: 8-22-16
 LIC. NO. 3946
 8-22-16
 8-22-16
 8-22-16

INDEX NO. -
 BUILDING NO. XXXXX
 RP 300091

NO. REVISIONS:

DATE: BY:

LANDSCAPE CONSTRUCTION NOTES

GENERAL

The General Conditions and General Requirements, the latest edition and supplements of the Standard Specifications for Public Works Construction, hereinafter referred to as (SSPWC) adopted by the Board of Public Works and the City of Los Angeles including the City of Los Angeles Department of Public Works SSPWC additions and amendments (Brown Book) shall be made a part of these plans.

Website: http://eng.lacity.org/techdocs/stdplans/s-600/BB2006.pdf

Where conflicts occur between the General Conditions and General Requirements and the Standard Specifications for Public Works Construction, the General Conditions and General Requirements shall take precedence. Where conflicts occur between these Landscape Construction Notes and the SSPWC, these LANDSCAPE CONSTRUCTION NOTES shall take precedence.

Precedence of Contract Documents shall be in accordance with Article 7 of the General Conditions.

Subsections included within these LANDSCAPE CONSTRUCTION NOTES modify or add to the corresponding subsection (by number) of the SSPWC, latest edition with current yearly supplements; where options for materials and/or methods appear in the SSPWC, the option listed hereon shall be used.

This improvement consists only of work called for on these plans.

PLANS AND SPECIFICATIONS

The General Contractor shall be responsible for issuing a complete set of plans and specifications to all Sub-Contractors.

Indicates approvals or submittals, including items to be turned over at the pre-final. All approvals and submittals shall be transmitted to the Project Manager.

Indicates required field inspections with the Bureau of Contract Administration (BCA) Inspector and the Project Manager. Notify all party's three (3) days prior to the required inspection.

SCHEDULE OF WORK

The Contractor shall submit a Schedule of Work for approval to the Project Manager prior to the commencement of work. The Project Manager, Contractor and Department Maintenance Personnel shall coordinate the Contractor's schedule of work with ongoing Department maintenance of the facility outside the work area and the Contractor's maintenance of the area within the work area, as defined in the maintenance portion of the Landscape Planting Section. The Contractor shall schedule all work in accordance with the General Requirements Article 18. The work area shall be as defined on the Title Sheet, or as indicated on the Plans by means of a contract limit line.

JOB START MEETING

The Contractor shall schedule a Job Start Meeting with the Project Manager after receipt of the Notice To Proceed. This meeting shall include the following participants: the Project Manager, Bureau of Contract Administration (BCA) Inspector, Landscape Architect, and Region Maintenance personnel, prior to the commencement of meeting to review the content of the plans and discuss the coordination of the project with the Department's operations at the project site. The pre-construction meeting can be held at the same time as the Job Start Meeting at the Contractors discretion.

INSPECTIONS

All work and materials are subject to inspection and approval by the Project Manager. Any work done without proper inspection will be subject to rejection. As indicated in Section 2-11 of the Standard Specifications for Public Works Construction.

The Contractor shall notify the Bureau of Contract Administration (BCA) Inspector and Project Manager three (3) days prior to inspection of the following for approval:

1. ROUGH GRADING: When forms have been set, to approve alignment. Offsets or vertical controls shall be verifiable in the field, or be provided in grade sheet form, and submitted to the Project Manager for approval prior to the inspection.

2. TREE TAGGING: Tagging of 24" box or larger trees at the grower with Recreation and Parks tags. This inspection will be for compliance with the caliper, height and spread requirements given on the plant legend and general health and appearance of plants.

3. ON-SITE PLANT MATERIAL INSPECTION: The inspection of all plant materials under 24" box size at the job site. This inspection will be for compliance with the caliper, height and spread requirements given on the plant legend and to confirm the general health and appearance of plants. The Contractor shall also stake all tree planting locations at this time for approval.

4. IRRIGATION PRESSURE AND COVERAGE TESTS: The pressure test shall take place under the direction of the BCA Inspector. Following the pressure test the entire irrigation system shall be tested for coverage under the direction of the Project Manager. The coverage test shall cycle through each station of the irrigation system from the automatic controller for all new or revised irrigation systems. Existing irrigation systems shall be tested prior to new construction. The BCA Inspector, Project Manager, Contractor and Recreation and Parks Regional maintenance staff shall be notified three (3) days before the scheduled test.

5. FINISH GRADE REVIEW: For all finish grades in planting areas following rolling and prior to turf or landscape planting.

6. PRE-FINAL INSPECTION: Approximately two weeks before the Completion of the Work, the contractor shall schedule a Pre-final Inspection. The Pre-Final Inspection shall be attended by the BCA Inspector, the Project Manager, the Contractor, and invited parties associated with the Project. At this time, a list of items requiring correction or completion before the Final Inspection will be compiled. The following items shall be delivered to the appropriate Department of Recreation and Parks personnel: manufacturers' data, manuals, operating instructions, and keys. NOTE: If play equipment has been installed, the play equipment manufacturer, or a representative of the manufacturer, shall submit in writing, prior to the Pre-Final Inspection, a letter certifying that the play equipment has been installed in compliance with the manufacturer's installation procedures. See Play Equipment Safety Inspection section. The Contractor shall also arrange to have a representative present at the Pre-Final Inspection.

1. CONTRACT FINAL INSPECTION: Approximately seven (7) days prior to completion of the Pre-final Inspection Correction List Work, the Contractor shall first notify the BCA Inspector and then the Project Manager that he desires a Final Inspection of the Project. During this inspection, the BCA Inspector, the project Manager, the Contractor and other parties concerned only with the contractual requirements of the Work will compile a Final Inspection Correction List, incorporating all items of work and corrections required to complete the Project. This list must be completed with thirty (30) days of the Final Inspection, or a new Final Inspection and Correction List shall be required.

2. IN-PLANT INSPECTION: Contractor shall be responsible for scheduling all in-plant inspections with the Bureau of Contract Administration plant inspection. In-plant inspection shall be required, but not limited to, the following items: 1. Galvanizing 2. Chain link fabric 3. Grates and frames 4. Portland cement concrete & base

FORM OF MATERIALS SUBMITTAL AND SUBSTITUTIONS

The Contractor shall submit appropriate catalog cuts with a corresponding index listing all required items, including but not limited to irrigation equipment, site furnishings, chain link and tubular steel fencing materials, concrete and asphalt mixes, soil amendments, and masonry units specified in the contract plans, schedules or legends. Any proposed deviation from any specified equipment indicated in any portion of the plans and specifications shall be included in the Materials Submittal. Deviations from the specified equipment or materials shall be accompanied by a reasonable written justification for the proposed change. Substitutions are only allowed within thirty days after the Notice to Proceed date.

SUBSTITUTIONS AND "OR EQUAL" SUBMITTAL: The Contractor shall make substitution submittals in accordance with Article 11 of the General Requirements.

RECORD DRAWINGS (AS-BUILTS) SUBMITTALS: Record drawings shall reflect any changes made to the plans or specifications during the progress of the work as a result of addenda, change orders or adjustments due to field conditions or plan clarification. They shall also indicate any additional information discovered during the progress of construction that was not a part of the contract documents. All deviations from the specified depth at which materials are constructed shall be shown on the record drawings. Record all appropriate as-built information on the record drawings in red ink. As-built information shall include but not be limited to drain lines, valve locations, mainline locations and mainline wire installed separately from mainline. The record of each trade shall be made on the plan sheets for each trade as provided in the original plan set. The Contractor shall be responsible for coordinating all sub-Contractors work and shall produce a complete record of all installations, which shall be kept on the job site and updated daily during construction. The project inspector shall review the record drawings monthly before approving the Contractor's payment request and shall report any discrepancies to the Project Manager. At the completion of the Work and prior to final inspection, the Contractor shall submit signed 'as-built' blue-line prints to the Project Manager at the Operational Final Inspection, prior to the City's acceptance of the Contract Work.

DEPARTMENT OF PUBLIC WORKS STANDARD PLANS: The following Department of Public Works Standard Plans are to be included as a part of these plans:

Table with 2 columns: NUMBER, TITLE. Includes items like S-251-1 Pipe Laying in Trenches, S-351-1 Side Opening Catch Basins, S-430-1 Contraction, Expansion & Weakened Plane Joints in Concrete Pavement.

SSPWC 2006 Edition of the Additions and Amendments to the SSPWC website: http://eng.lacity.org/techdocs/stdplans/s-600/s61028.pdf

UNDERGROUND SUBSTRUCTURES: The construction plans provided to the Contractor will show existing on-site underground substructures to the extent of the Department's records. Service lines from other public utilities, including the Department of Water and Power shall be located by notifying UNDERGROUND SERVICE ALERT at 1 - (800) 422-4133 prior to commencing any excavation.

TREE PROTECTION

(a) All trees that occur within the area of work, as shown on the plans, and NOT specifically designated for removal, shall be protected by the following means:

1. ANY FAILURE BY THE CONTRACTOR TO ADHERE TO THE REQUIREMENTS SPECIFIED BELOW WILL RESULT IN THE SUSPENSION OF ALL CONSTRUCTION ACTIVITIES, TO BE DONE AT THE CONTRACTOR'S EXPENSE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACEMENT OF OR PAYMENT FOR ANY TREES DAMAGED THROUGH NON-COMPLIANCE WITH THESE SPECIFICATIONS. THE MONETARY OR REPLACEMENT VALUE OF IMPACTED TREES WILL BE DETERMINED BY A RECREATION AND PARKS (RAP) ARBORIST OR BY A RAP APPROVED ARBORIST.

- 2. Defining the Tree Protection Zone (TPZ) - The radius (not the diameter) of the TPZ, measured from the outside of the tree trunk, shall be calculated according to the following: (a) Single trunk trees - multiply the trunk diameter in inches, measured 4.5' above grade, by 1.5 feet. (b) Multi trunk trees - multiply the sum of the diameters of all trunks in inches, measured 4.5' above grade, by 1.5 feet. (c) Palm trees - 5' from the base of the trunk. 3. Beyond the TPZ, the contractor shall also be responsible for protecting all trees within the boundaries of the construction zone, including vehicular access areas, lay down areas, and any other areas impacted by construction activities. Any damage to trees in these areas shall also be subject to the same monetary or replacement requirements specified in #1 above. Any necessary root cutting in this area must be confirmed with either the RAP or other approved arborist. See also the General Conditions for any damage done by the contractor to landscaping or other park amenities that fall outside the boundaries of the construction zone. 4. Within the boundaries of the construction zone (including the TPZ), the contractor shall be responsible for mitigating construction-related dust accumulation on all trees by spraying the trunks, limbs, and foliage with water to a maximum height of 30 feet during the months of April through November, at monthly intervals. 5. Within the TPZ, the contractor shall adhere to the following requirements, including, but not limited to: (a) No stockpiling or storage of any material, debris, or soil. (b) No storage of any construction equipment. (c) No vehicular access. (d) No cutting of roots. (e) No disturbance of soil or grade changes. (f) No objects of any kind to be attached to tree trunks. 6. The contractor shall install a 5' temporary chain link fence with one pedestrian access gate along the boundary of the TPZ. See detail for temporary chain link fence on detail sheet. 7. The contractor shall provide one sign per each 20 lineal ft. of fence bordering the TPZ indicating that fencing shall not be removed. See sign detail. 8. No work is permitted within the TPZ without the approval of: 1) the project landscape architect, 2) the project manager, and 3) RAP Forestry staff. Any work authorized within the TPZ must be done in accordance with the recommendations of a RAP arborist and under the supervision of a Monitoring Arborist. A Monitoring Arborist must be: 1) an ISA Certified Arborist or a Registered Consulting Arborist, with verifiable experience in protecting trees; 2) approved by RAP Forestry. 9. Irrigation to all trees NOT specifically designated for removal shall be kept in operation for the duration of the project. Contractor shall be responsible for hand watering all impacted trees if necessitated by temporary shutdowns to existing irrigation systems. Trees are to be irrigated deeply and infrequently so that soil moisture is detectable at a minimum depth of 18" using a soil probe. 10. Upon job completion, contractor shall remove all items installed to protect trees during the construction process. 11. Any of the following Southern California native tree species fall under Ordinance No. 177404 of the Los Angeles Municipal Code: (a) Oaks, including Valley Oak (Quercus lobata), California Live Oak (Quercus agrifolia), or any other tree of the oak genus indigenous to California but excluding Scrub Oak (Quercus dumosa); (b) Southern California Black Walnut (Juglans californica var. californica); (c) Western Sycamore (Platanus racemosa); (d) California Bay (Umbellularia californica). Contractor shall comply with the requirements of the ordinance found at: http://cityplanning.lacity.org/Code_Studies/Other/ProtectedTreeOrd.pdf

TYPICAL WORK PROCEDURES

All work around any existing oak trees shall follow this work procedures program. This program has been developed to minimize the impacts to each tree and protect them from unscheduled damage.

- 1. All work within a tree's root zone shall be observed by a Recreation and Parks-approved certified Arborist, hired by the contractor. 2. The extent of all work affecting any oaks shall be staked by field survey and reviewed with the Recreation and Parks Arborist prior to construction. 3. Any approved pruning of oaks shall be done by a Recreation and Parks Arborist prior to the start of construction. 4. Hand dig vertical trench at the final cut line to final grade and cleanly cut any roots encountered and seal with approved tree seal. (This procedure will protect the root system from unnecessary damage by excavation equipment). 5. A five (5) foot high chain link fence shall be constructed at the limit of approved work to protect the trees from further unauthorized damage and remain in place until completion of construction. 6. No further work within the root zone shall be done beyond that which was approved, without obtaining written approval from the Recreation and Parks Arborist prior to proceeding. 7. The area within the chain link fence shall not be used for material or equipment storage or parking during construction.

- 8. During construction, the impacted trees should be closely monitored to further mitigate shock symptoms if they occur. The contractor should be prepared to provide temporary water to irrigate and wash the dust from foliage if needed. Contact a Recreation and Parks Arborist if a decline in tree condition is noted. 9. Recreation and Parks Arborists are available to answer any general questions regarding trees in parks.

DAMAGES

If a tree that is designated to remain is removed or caused to be irreversibly damaged as determined by the Recreation and Parks Arborist, install a replacement tree matching in size, quality and variety using an installer designated by the Recreation and Parks Arborist. If an acceptable replacement tree is not available, pay damages to the City for the value of the damaged tree as assessed by the tree value formula in the ISA Guide for Establishing Value of Trees and Other Plants.

IMPLEMENTATION

The qualifications of oak tree consultants shall also be reviewed prior to report preparation. If tree removals are requested, the Street Tree Division reviews applications and passes their recommendations to The Board of Public Works for action. If pruning is required, contact Steve Dunlap, Tree Surgeon Supervisor III, at Central Service Yard, (213) 485-6547.

1. GENERAL EARTHWORK

METHODS

The Grading Plan when approved by the District Engineer shall be on the job at all times.

All grades between contours and/or spot elevations shall be assumed to be straight grades. There shall be no localized depressions or humps, (308-2.1).

The Contractor shall verify all grades and amounts of cut and fill before commencing work.

The area to be filled shall be cleared of all vegetative material, except the existing trees to remain. Protect remaining trees during all construction.

All fill soil shall be compacted to 90% relative compaction and the Contractor shall obtain and pay for all soil compaction tests. 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 test shall be no less than the number shown by the symbol. Minimum compaction of earthwork shall be 90% relative compaction unless noted otherwise.

Prior to placing fill rip existing subgrade to a depth of 6 inches. Intermit first 6 inches of fill placed with ripped subgrade to eliminate interface lens. Place remaining fill in 8" lifts.

The source of import soil shall be approved by the Project Manager prior to any grading operations. The Contractor shall be required to provide an Agricultural Suitability soil test to establish the suitability of imported soil and that soil concentrations of boron and salinity are within agricultural limits. The Contractor shall, at his own expense, amend the soil according to the recommendations of the soils report.

Fill material 24 inches, or more, below the finish grade may contain up to 25 percent broken concrete or bituminous paving with maximum dimension of 3 inches of any piece. The top 24 inches of fill shall be Class "A" Topsoil. (212-1.1.2)

The contractor shall be responsible for removal and disposal of all excess soil and debris from the work area, (300-1.3.1, 300-2.6). No soil or debris shall be disposed of on Recreation and Parks Property without the permission of the Project Manager.

The Contractor shall conform to Section 7-8.1 of the SSPWC latest edition with the current yearly supplements for clean up and dust control.

Ground water conditions encountered during the course of the work shall be brought to the attention of the District Engineer. Geological reports shall be provided when requested by the District Engineer and Construction Division. Geology and Soils Engineering Section.

If any grading operation covered by this section shall extend into or through, or shall be commenced during the period of October 15 to April 15, the contractor shall be required to submit plans of the temporary erosion control methods and devices he proposes to use in connection with the grading operations to be performed during that period. Said plans shall be submitted to the City Engineer for approval on or before September 15 or at least 30 days before any grading is performed during said period.

DISTRICT ENGINEER _____ DATE _____

"General Specifications for all Grading Plans" - Building and Safety form B-164 is hereby made a part of these plans.

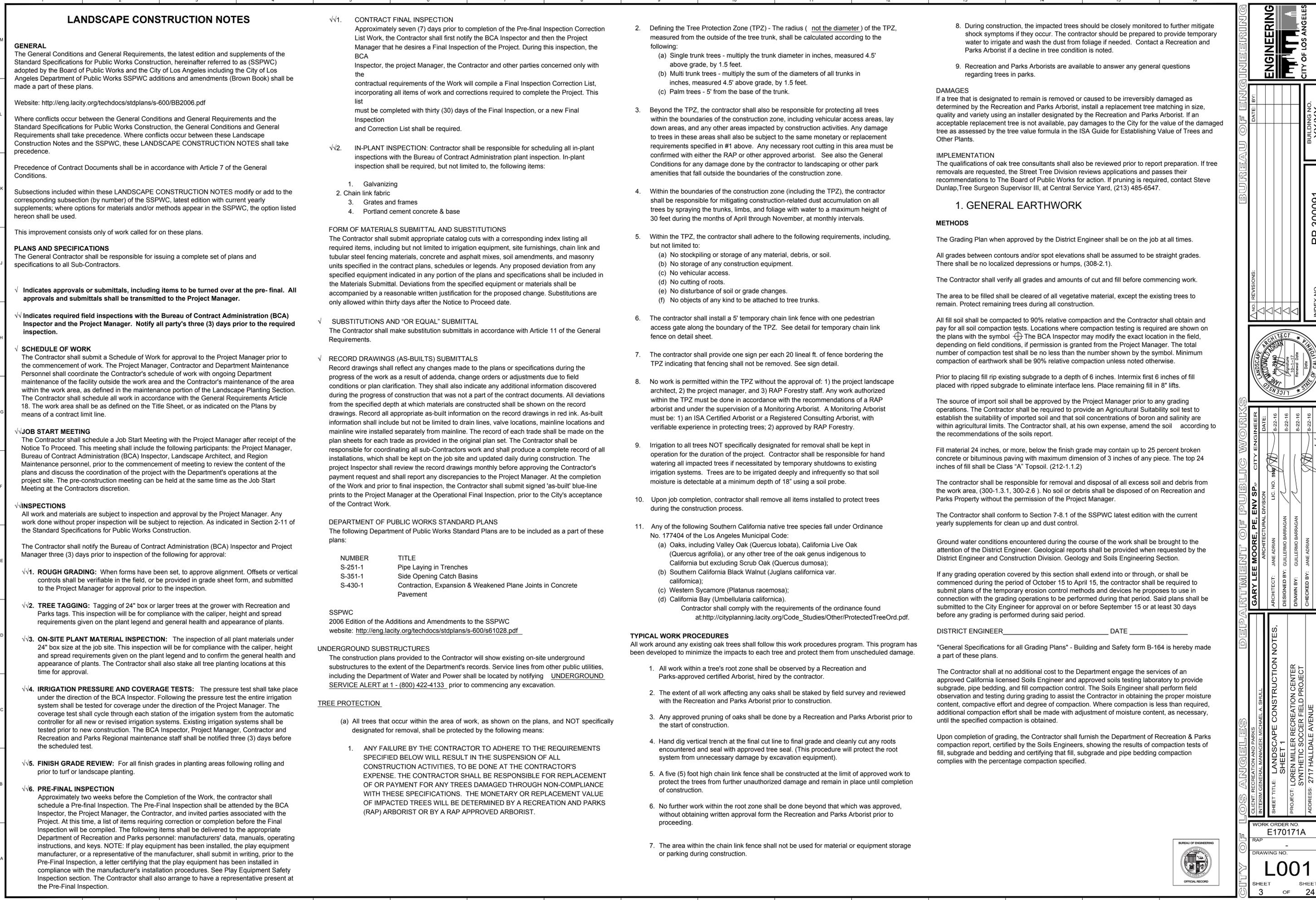
The Contractor shall at no additional cost to the Department engage the services of an approved California licensed Soils Engineer and approved soils testing laboratory to provide subgrade, pipe bedding, and fill compaction control. The Soils Engineer shall perform field observation and testing during grading to assist the Contractor in obtaining the proper moisture content, compactive effort and degree of compaction. Where compaction is less than required, additional compaction effort shall be made with adjustment of moisture content, as necessary, until the specified compaction is obtained.

Upon completion of grading, the Contractor shall furnish the Department of Recreation & Parks compaction report, certified by the Soils Engineers, showing the results of compaction tests of fill, subgrade and bedding and certifying that fill, subgrade and pipe bedding compaction complies with the percentage compaction specified.



Vertical title block containing: BUREAU OF ENGINEERING, ENGINEERING CITY OF LOS ANGELES, REVISIONS table, LICENSING ARCHITECT logo, GARY LEE MOORE, PE, ENV SP, CITY ENGINEER, ARCHITECTURAL DIVISION, ARCHITECT: JANE ADRIAN, DESIGNED BY: GUILLERMO BARRAGAN, DRAWN BY: GUILLERMO BARRAGAN, CHECKED BY: JANE ADRIAN, APPROVED BY: MAHMOOD KARIMZADEH, A.I.A., PRINCIPAL ARCHITECT, CLIENT: RECREATION AND PARKS, INTERIM GENERAL MANAGER: MICHAEL A. SHULL, SHEET TITLE: LANDSCAPE CONSTRUCTION NOTES, SHEET 1, PROJECT: LOREN MILLER RECREATION CENTER SYNTHETIC SOCCER FIELD PROJECT, ADDRESS: 2717 HALLDALE AVENUE LOS ANGELES, CA 90018, WORK ORDER NO. E170171A, DRAWING NO. L001, SHEET 3 OF 24, PLOTTED: 8/22/2016 3:13 PM

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 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.

✓ 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.

STEEL PIPELINE
 Joints shall be made with Teflon tape applied to the male threads only, (308-5.2.2).

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).

SPIGOT AND BELL JOINTS FOR 3" AND LARGER PVC MAINLINE
 Field cut pipe shall be beveled at approximately 15° and all sharp corners smoothed. Align pipe sections straight. Clean all debris from the bell areas of the fitting and install gasket so that it is completely seated in the groove with no raised areas.

Apply lubricant to the installed gasket and to beveled end of the cut pipe or to the spigot end of the pipe or fitting. Align the pipe with fitting and push together by hand or with pry bars on the end of the fitting or with two pry bars using the lugs on the fitting. Insert until the reference line mark is even with edge of the fitting bell.

✓ **BACKFLOW DEVICE INSTALLATION AND CERTIFICATION**
 The Contractor shall obtain certification of the backflow device and submit two copies of the certification to the Project Manager at the Operational Final. The backflow certification shall be made on the County Health Department standard form and filed with the County Health Department, Cross Connection Section, Room 150, 2525 Corporate Place, Monterey Park, CA, 91754. The contractor shall paint all backflow prevention devices above ground with two coats of forest green enamel. Mask all identification tags prior to painting, (308-5.3). After certification remove all test cocks, replace with threaded brass plugs, and deliver test cocks to Project Manager.

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:

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)
1 1/4"	1 5/8"	.140	2.27	.110	1.82
1 1/2"	1 7/8"	.145	2.72	.120	2.28
2"	2 3/8"	.154	3.65	.130	3.12
2 1/2"	2 7/8"	.203	5.79	.160	4.64
3"	3 1/2"	.216	7.57	.160	5.71
3 1/2"	4"	.226	9.11	.160	6.56
4"	4 1/2"	.237	10.79	NA	NA
6"	6 5/8"	.280	18.97	NA	NA

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 1" 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 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.

✓ **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.

5. LANDSCAPE PLANTING

MATERIALS
AMMONIUM PHOSPHATE
 Shall be a standard agricultural grade of ammonium phosphate having guaranteed analysis of 16-20-0.

GYPSUM
 Shall be agricultural grade.

HYDROSEED MULCH FIBER
 Shall consist of virgin wood fiber of Aspen or Alder. It shall not contain any waste paper, newsprint or straw material. The mulch shall contain a green dye to facilitate application. Fiber shall be as manufactured by Conwed Co., (Green Tag), Silva-Fiber by Weyerhaeuser Co., or an approved equal, (212-1.2 (e)).

HYDROSEED STABILIZER
 Shall consist of natural muciloid materials supplied by Ecology Controls M-binder, (805) 684-0436, no equal.

✓ **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.

ESTABLISH - GENERAL PURPOSE FERTILIZER
 Shall have a minimum analysis of 1-1.3-5,(N-P-K), derived from rock phosphate, peat moss, chicken manure, sand, sulfate of potash, gypsum, and EDDHA chelate. As manufactured by Earth Works Soil Amendment, Inc., (888) 764-5296, or an approved equal.

FERTILIZER TABLETS
 Fertilizer tablets shall be Gro-Power planting tablets, 7 gram 12-8-8 (N-P-K) 20% HUMUS, 4% HUMIC ACIDS, 3.5% Sulfur, 2% Iron, Micronutrients, as manufactured by Gro-Power Inc., 5065 Telephone Avenue, Chino, CA 91710 (909) 393-3744, or an approved equal.

HYDROBLEND SOIL ACTIVATOR
 Shall have a minimum analysis of 1.2-1.4-5, (N-P-K), derived from rock phosphate, peat moss, chicken manure, sulfate of potash, gypsum. As manufactured by Earth Works Inc., (888) 764-5296, or an approved equal.

FEATHER MEAL
 Shall have a minimum analysis of 12-0-0,(N-P-K), derived from feathermeal. As manufactured by Earth Works Inc., (888) 764-5296, or an approved equal.

OVERSEED TOPDRESSING, EARTH WORKS ORGANIC TOPDRESSING
 Shall be derived from composted wood products, peat moss, chicken manure and a wetting agent. As manufactured by Earth Works Inc., (888) 764-5296, or an approved equal.

Potassium sulfate
 Shall be a standard agricultural grade of potassium sulfate having guaranteed analysis of 0-0-50.

ROUNDUP
 Shall be a water-soluble herbicide for non-selective control of weeds containing 480 grams per liter of the active ingredient Isopropylamine salt of N-(phosphonomethyl) Glycine (Glyphosate) per U.S. gallon, as manufactured by Monsanto Chemical Company, or approved equal.

PRE-EMERGENT HERBICIDE
 Shall be Balan Granular, by Elanco, or an approved equal. All pre-emergent herbicides, when required, shall be specified and applied by a licensed Pest Control Advisor.

✓ **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 ESTABLISHMENT PERIOD**
 The plant establishment period shall be for a period of 49 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.

TURFGRASS SEED
 Fresh, clean, new crop seed, mechanically premixed to specified proportions; delivered to the site in original unopened containers bearing the dealer's guaranteed analysis and germination percentage and a certification or stamp of release by a County Agriculture Commissioner. All seed mix shall be in original unopened containers and be subject to inspection prior to mixing. Seed for seeding turf areas shall be as shown in the planting section.

WATER HOLDING POLYMER
 Shall be "Broadleaf P-4" or an approved equal.

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 fore 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.

f. **TREES** : All trees shall conform to types, sizes and heights noted on the Contract Drawings. All trees shall be measured for height from the root crown to the last division of the terminal leader and measured for the diameter 3 feet above the root crown. All palm trees shall be measured for height from the root crown to the brown trunk and measured for the diameter 3 feet above the root crown. Trees and plams shall stand erect without support.

All trees shall be staked as designated on the Contract Drawings. Wood tree stakes shall be 2 inches in diameter by 10 feet long, lodgepole grade, pressure treated, capable of standing in the ground at least two years.

g. **SOD** : Shall be of the type designated on the planting plan, or an approved equal. Sod shall be delivered to the jobsite within 24 hours of being cut at the nursery, and COMPLETELY installed within 12 hours of delivery to the jobsite. The sod shall be machine cut to between 1/4" and 5/8" thick, not including top growth or thatch.

METHODS

TOPSOIL PREPARATION - GENERAL
 The type and thickness of topsoil shall be as shown on the plans. If not shown, the topsoil shall be the existing class "C" on-site topsoil. Topsoil shall be scarified and cultivated to a uniform, finely divided condition to a depth of 8 inches. Remove all stones over 1 inch in greatest dimension, to a depth of 6 inches below finish grade, (308-2.3.1). Prior to planting, the top 2 inches of all areas (including slopes) shall be free of weeds, stones and other deleterious matter 1 inch in diameter and larger. Soil shall not be worked when it is so wet or dry as to cause excessive compaction or the formation of large clods or dust.

TOPSOIL PREPARATION
 If not otherwise specified, all lawn and ground cover areas shall receive the following soil preparation:

- 3 cubic yards, Type I organic soil amendment per 1,000 sq. ft., (.003 Cy/Sq.Ft.)
- 75 lbs of Establish per 1,000 sq.ft., (.075 Lbs./Sq.Ft.)
- 5 lbs. of Feathermeal, 12-0-0, per 1,000 sq. ft., (.005 Lbs./Sq.Ft.)

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).

✓ **FINISH GRADING (FOR LAWN AREAS)**
 Finish grading of lawn areas shall take place after the soil has dried out to a workable condition following the soil preparation operations. The soil shall be remodeled and smoothed to the required grades and contours, then rolled in two directions at right angles with a water ballast roller weighing 200 to 300 pounds. Any resulting irregularities in the grade after the initial rolling shall be re-raked, cut or filled, then re-rolled until the grade is free from irregularities. No heavy objects shall be taken over the areas at any time. The final finish grade shall be uniform, without abrupt changes in grade, within one-tenth of a foot of the grades shown on the plan, and approved by the Project Manger/BCA Inspector prior to seeding or sodding. (308-2.4).

WEED ABATEMENT ("GROW AND KILL")
 Weed abatement shall apply to all turf and planting areas. The abatement operation shall be commenced only after demolition, grading, hardscape, construction, installation of irrigation system, soil preparation, and fine grading of turf and planting areas have been completed.

NOTE: It is required that herbicides be applied by a licensed **PEST CONTROL APPLICATOR.**

CONTRACTOR RESPONSIBILITY DURING WEED ABATEMENT OPERATION AND APPLICATION PRECAUTIONS
 The Contractor shall abide by all laws and codes governing weed abatement operations including but not limited to CAL-OSHA requirements and The Healthy School Act which includes 72 hour notice to employees and patrons, submittal of a "Pest Control Recommendation Form" to RAP, and a completed and accurate MSDS (Material Safety Data Sheet) to be at the site of application. The area of application shall be posted as such and barricaded for public safety and information. On sites over 1/2 acre in size the contractor shall utilize a Project Manager approved plan of phasing the application.

The Contractor is responsible or any and all damage done to plant materials outside of the treatment area. Contractor shall replace, in kind and size, any plant material damaged or killed through the application of herbicide.

Any Contractor, who is obligated under contract with the Department for the construction or refurbishment of a park facility that involves the intended use of herbicides or other pesticides, must first notify the pest management supervisor of the Forestry Division (213) 485-3674. Prior to any approved pesticide applications at any recreation/child care center, the contractor is also required to notify the recreation director-in-charge at least 72 hours in advance of the date/s of application. This is to conform to the State of California Healthy Schools Act of 2000(AB2260). Also, all pest control work performed at any facility should fall within the guidelines of the Department's IPM programs. In addition, each individual project will require a written recommendation by a licensed Pest Control Advisor for any pesticide application.

Any questions regarding pesticide application and procedures at Recreation and Parks facilities shall be directed to the Project Manger/BCA Inspector and the RAP Forestry group, Vegetative Management (213) 485-4826.

In addition to the afore listed responsibilities the following precautions shall be observed in handling and applying herbicide:

1. Before applying, Contractor shall read and understand all instructions provided by the manufacturer.
2. Product shall not be used when winds are gusty or in excess of 3 miles per hour, or when any other conditions exist, which would result in drift.
3. Avoid combinations of pressure and nozzle type or adjustment that result in mist.
4. Do not apply during rain, or if rain is forecast within twelve hours. If rain occurs within twelve hour period, material must be reapplied after plant growth has dried out.
5. Contractor shall observe extreme care not to allow spray to contact desirable plant material. Use cardboard, plywood, or other appropriate material to shield plant materials outside of the treatment area from overspray.
6. Do not apply to bare ground.
7. Do not add any other products to any herbicide mix, including spreader stickers or surfactants, unless required by the label directions and approved by the Department's Pest Control Advisor (PCA).

WEED ABATEMENT: GROW AND KILL METHOD
 Contractor shall follow the "grow and kill" steps set forth below:

- Step 1. Clear site of all dead or living vegetative growth by hand or mechanical means.
- Step 2. Thoroughly water all turf and planting areas daily to keep soil evenly moist for a period of at least two weeks.
- Step 3. At the conclusion of the growth period, treat all plants within the treatment area with Roundup at an application rate of five (5) quarts of Roundup mixed in 50 gallons of clean water per acre applied by spraying. Thoroughly moisten all plant material with herbicide.
- Step 4. Do not water or otherwise disturb treated areas for a period of two (2) weeks.
- Step 5. After two week kill period, remove all dead plant growth. If any living plants are observed, entire plant, including roots, shall be removed by hand. Minimize physical disturbance of the soil.

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.

METHOD "A" LAWN PLANTING - REPAIR, SEEDING
 Irrigation trenches shall be fully compacted and the grade brought flush with the adjacent undisturbed finish grade. Irrigation trench areas and areas where equipment has damaged the existing lawn shall be seeded per this section.

Sow seed at a rate of three (3) pounds of common Bermuda per 1,000 sq. ft. and six (6) pounds of perennial ryegrass per 1,000 sq. ft. Mulch all seed with 1/4"(or 3/4 cubic yard per 1,000 sq. ft.) of Earth Works Organic Top Dressing.

Alternate method: Existing sod may be carefully cut, removed and reused to sod trenches after backfilling and densification.

If seeding of turf areas is done during cool-season (between October 1st and March 1st) mix shall be:



CITY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING

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

ARCHITECT: JANE ADRIAN
 DESIGNED BY: GUILLERMO BARRAGAN
 DRAWN BY: GUILLERMO BARRAGAN
 CHECKED BY: JANE ADRIAN
 APPROVED BY: MAHMOOD KARIMZADEH, A.I.A., PRINCIPAL ARCHITECT

CITY ENGINEER: GARY LEE MOORE, PE, ENV SP#
 ARCHITECTURAL DIVISION: JANE ADRIAN
 LIC. NO. 3947

DATE: 8-22-16
 8-22-16
 8-22-16
 8-22-16
 8-22-16

SHEET TITLE: LANDSCAPE CONSTRUCTION NOTES, SHEET 3
 PROJECT: LOREN MILLER RECREATION CENTER SYNTHETIC SOCCER FIELD PROJECT
 ADDRESS: 2717 HALLDALE AVENUE LOS ANGELES, CA 90018

WORK ORDER NO. E170171A
 DRAWING NO. L003
 SHEET 5 OF 24

BUILDING NO. XX/XX
 INDEX NO. - RP 300091

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METHOD "B" LAWN PLANTING, HYDROSEEDING

The lawn seed mix for lawn planting shall contain the following materials at the rates specified:

- A. Mulch Fiber - 1,500 lbs./acre
- B. Stabilizer - 120 lbs./acre
- C. Fertilizer - Hydroblend, at 3,000 lbs. per acre
- D. Seed by Weight
 - 280 lb./acre Stovers 'Grand Slam' ryegrass
 - 60 lb./acre Stovers 'Princess' bermuda grass
 - 60 lb./acre Stovers 'AZ-1' improved kikuyugrass

If seeding of turf areas is done during warm-season (between March 1st and October 1st) mix shall be:

METHOD "B" LAWN PLANTING, HYDROSEEDING

The lawn seed mix for lawn planting shall contain the following materials at the rates specified:

- A. Mulch Fiber - 1,500 lbs./acre
- B. Stabilizer - 120 lbs./acre
- C. Fertilizer - Hydroblend, at 3,000 lbs. per acre
- D. Seed by Weight
 - 100 lb./acre Stovers 'Grand Slam' ryegrass
 - 75 lb./acre Stovers 'Princess' bermuda grass
 - 75 lb./acre Stovers 'AZ-1' improved kikuyugrass

The Contractor shall supply a delivery receipt to the BCA Inspector certifying conformance with the specified hydroseed mix and indicating that the slurry has not been mixed for longer than two hours. Slurry which has been mixed longer than two hours shall be recharged with 50 percent more of the specified seed mix, at the Contractor's expense, (308-4.8.2(b)). Delivery tickets shall be forwarded to the Project Manger/BCA Inspector.

SOD LAWN

Sod shall be laid on a grade which has been amended and finish graded in accordance with the topsoil preparation and finish lawn grading specifications of the Landscape Construction Notes. The sod strips shall be laid tight against the adjacent strip with adjacent ends forming a running bond pattern. After laying the sod, roll with a minimum 300 lb. water ballast roller and irrigate.

The sod shall be _____
Available at _____

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 49 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. Five weeks after lawn seeding the Contractor shall apply a slow release 38-0-0 granular fertilizer at a rate of 15 pounds per 1000 sq. ft. to all lawn areas. The fertilizer shall be applied in the presence of the BCA Inspector.

All lawns shall be of the grass seed or sod specified and shall be free from all broad leaf weeds. The lawn shall not be allowed to grow higher than three (3) inches and shall be mowed to a one and one half (1-1/2) inch height. The lawn shall be mowed at least twice during the plant establishment period. All lawn areas shall have 95 percent coverage with bare areas not exceeding three square inches at the end of the plant establishment period. Trees and shrubs shall be healthy and vigorous at the completion of the plant establishment period.

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 ninety (90) 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.



BUREAU OF ENGINEERING	
ENGINEERING	CITY OF LOS ANGELES
DATE: BY:	BUILDING NO. XX/XX
NO. REVISIONS:	INDEX NO. -
DEPARTMENT OF PUBLIC WORKS	
GARY LEE MOORE, PE, ENV SP ARCHITECTURAL DIVISION LIC. NO. 39471	CITY ENGINEER
ARCHITECT: JANE ADRIAN DESIGNED BY: GUILLERMO BARRAGAN DRAWN BY: GUILLERMO BARRAGAN CHECKED BY: JANE ADRIAN APPROVED BY: MAHMOOD KARIMZADEH, A.I.A., PRINCIPAL ARCHITECT	DATE: 8-22-16 8-22-16 8-22-16 8-22-16 8-22-16
CLIENT: RECREATION AND PARKS INTERIM GENERAL MANAGER: MICHAEL A. SULLIVAN	
SHEET TITLE: LANDSCAPE CONSTRUCTION NOTES, SHEET 4 PROJECT: LOREN MILLER RECREATION CENTER SYNTHETIC SOCCER FIELD PROJECT ADDRESS: 2717 HALDALLE AVENUE LOS ANGELES, CA 90018	
WORK ORDER NO. E170171A	
DRAWING NO. -	
L004	
SHEET 6 OF 24	SHEETS 24
PLOTTED: 8/22/2016 3:14 PM	

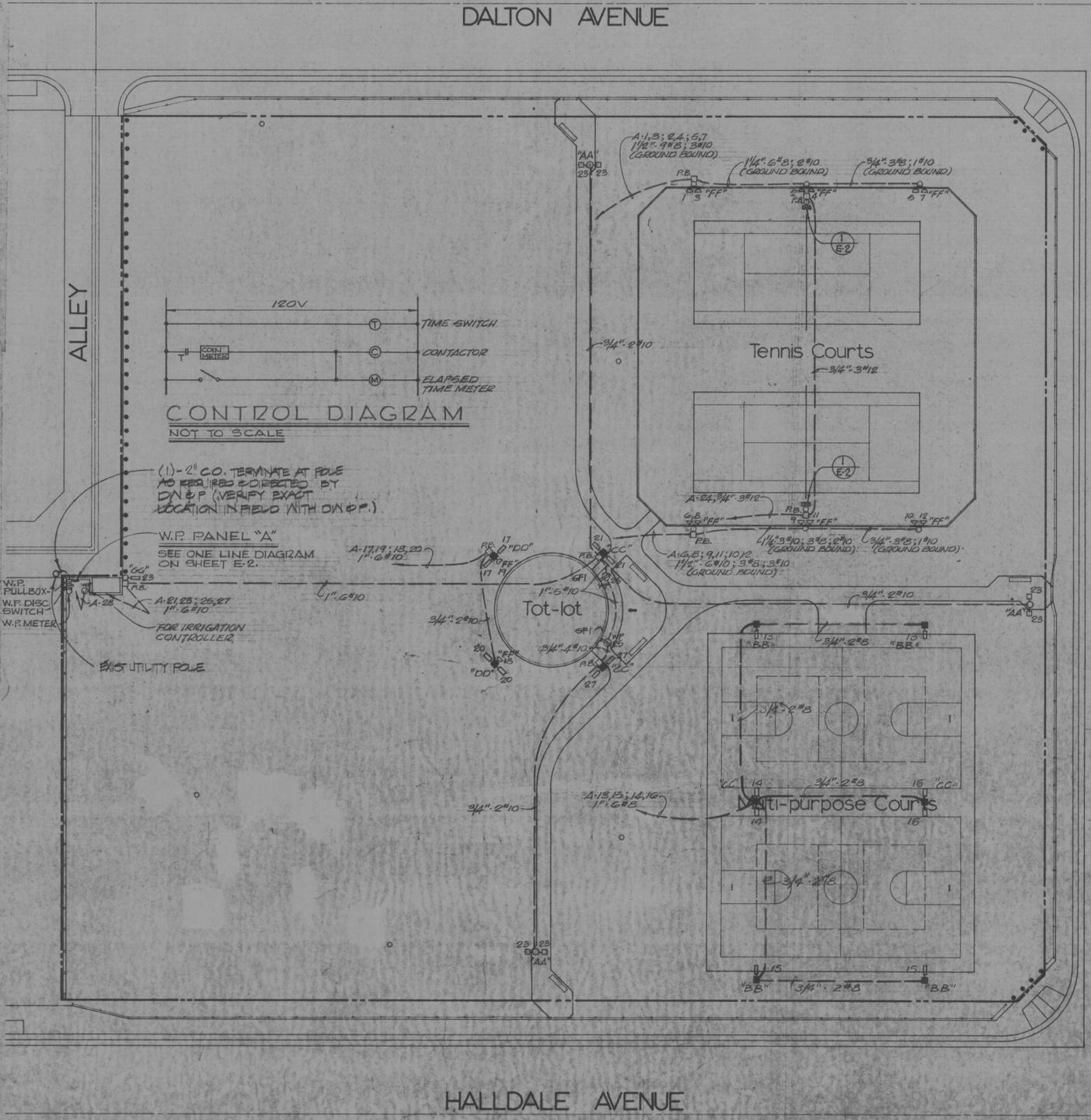
REVISION DATE: 8/22/16 3:34 PM FILE: Q:\IN-HOUSE DESIGN\LANDSCAPE SECTION\GUILLEMOUD LOREN MILLER SYN SOCCER\CD\102.L103 AS-BUILT.DWG
REVISION DATES (DESIGN STAGE ONLY)
THE CITY OF LOS ANGELES OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

LIST OF ELECTRICAL SYMBOLS:

- JUNCTION BOX - WALL MOUNTED - HEIGHT AS NOTES
 - DUPLEX RECEPTACLE, GROUNDING TYPE, +12"
 - LIGHTING PANEL
 - CONDUIT RUN CONCEALED BELOW GRADE.
 - CONDUIT HOMERUN.
 - GROUND
 - 3/4" 2#12;
 - 3/4" 3#12;
 - 3/4" 4 #12;
 - 3/4" 5#12;
 - 3/4" 6#12;
 - 3/4" 7#12
- OTHER CONDUIT AND WIRE SIZES AS NOTED ON PLANS
THE ABOVE CONDUIT AND WIRE SIZES SHALL APPLY, UNLESS SPECIFICALLY NOTED OTHERWISE.
- C.O. CONDUIT ONLY - INSTALL A POLYVINYL ROPE PULL WIRE IN ALL EMPTY CONDUITS MARKED "C.O."
W.P. WEATHERPROOF CU. = COPPER CONDUCTOR

GENERAL NOTES:

- BEFORE SUBMITTING THE BID PROPOSAL THE ELECTRICAL CONTRACTOR SHALL VISIT THE JOB SITE AND FULLY ACQUAINT HIMSELF WITH THE JOB CONDITIONS AND VERIFY SERVICE CONNECTIONS INCLUDING ALL NECESSARY PULL BOXES, SIZE AND NUMBER OF CONDUITS AND CONDUCTORS, SWITCHGEAR, METERING, CABLES, ETC. WHETHER SHOWN ON DRAWINGS OR NOT, BUT EXCLUDED TO MAKE A COMPLETE AND OPERATING ELECTRICAL SERVICE WITHOUT ADDITIONAL COST TO THE OWNER. VERIFY SERVICE WITH DEPARTMENT OF WATER AND POWER AND PACIFIC TELEPHONE COMPANY.
- ALL WORK AND MATERIAL SHALL CONFORM WITH THE REQUIREMENTS OF THE NATIONAL ELECTRIC CODE, OSHA, LOS ANGELES CITY CODE AND THE STATE OF CALIFORNIA CODES HAVING JURISDICTION.
- ELECTRICAL CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS, LICENSES, ETC. FOR THE EXECUTION OF HIS WORK AND SHALL ARRANGE FOR AND PAY FOR ALL REQUIRED TESTS AND INSPECTIONS WHICH PERTAIN TO HIS WORK.
- FIXTURES AND EQUIPMENT LOCATIONS INDICATED ARE BASED ON PRELIMINARY LAYOUTS. EXACT LOCATIONS SHALL BE VERIFIED.
- ALL WIRING SHALL BE INSTALLED IN CONDUIT.
- MINIMUM CONDUIT SIZE SHALL BE 3/4".



**NOTE:
FOR REFERENCE ONLY**



BARRIO PLANNERS INCORPORATED
5271 E. Beverly Blvd. Los Angeles Ca 90022

NORMANDIE 5 PARK
Prepared for THE COMMUNITY REDEVELOPMENT AGENCY of the CITY OF LOS ANGELES, CALIFORNIA
354 South Spring, St. Suite 800
Los Angeles, California 90013 (213) 977-1631

scale: _____
drawn by: MLC date: 4/15/16
E-1
SITE ELECT.

DEPARTMENT OF PUBLIC WORKS

CITY OF LOS ANGELES

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

SHEET TITLE: AS-BUILT ELECTRIC PLAN

PROJECT: LOREN MILLER RECREATION CENTER SYNTHETIC SOCCER FIELD PROJECT

ADDRESS: 2717 HALDALLE AVENUE LOS ANGELES, CA 90018

WORK ORDER NO. E170171A

DRAWING NO. L102

SHEET 8 OF 24

PLOTTED: 8/22/2016 3:17 PM

BUREAU OF ENGINEERING

ENGINEERING CITY OF LOS ANGELES

DATE: _____ BY: _____

REVISIONS: _____

INDEX NO. - RP 300091

BUILDING NO. XXIX

GARY LEE MOORE, PE, ENV SP ARCHITECTURAL DIVISION
ARCHITECT: JANE ADRIAN LIC. NO. 38917
DESIGNED BY: GUILLERMO BARRAGAN
DRAWN BY: GUILLERMO BARRAGAN
CHECKED BY: JANE ADRIAN
APPROVED BY: WAHMOOD KARIMZADEH, A.I.A., PRINCIPAL ARCHITECT

DATE: 8-22-16
8-22-16
8-22-16
8-22-16

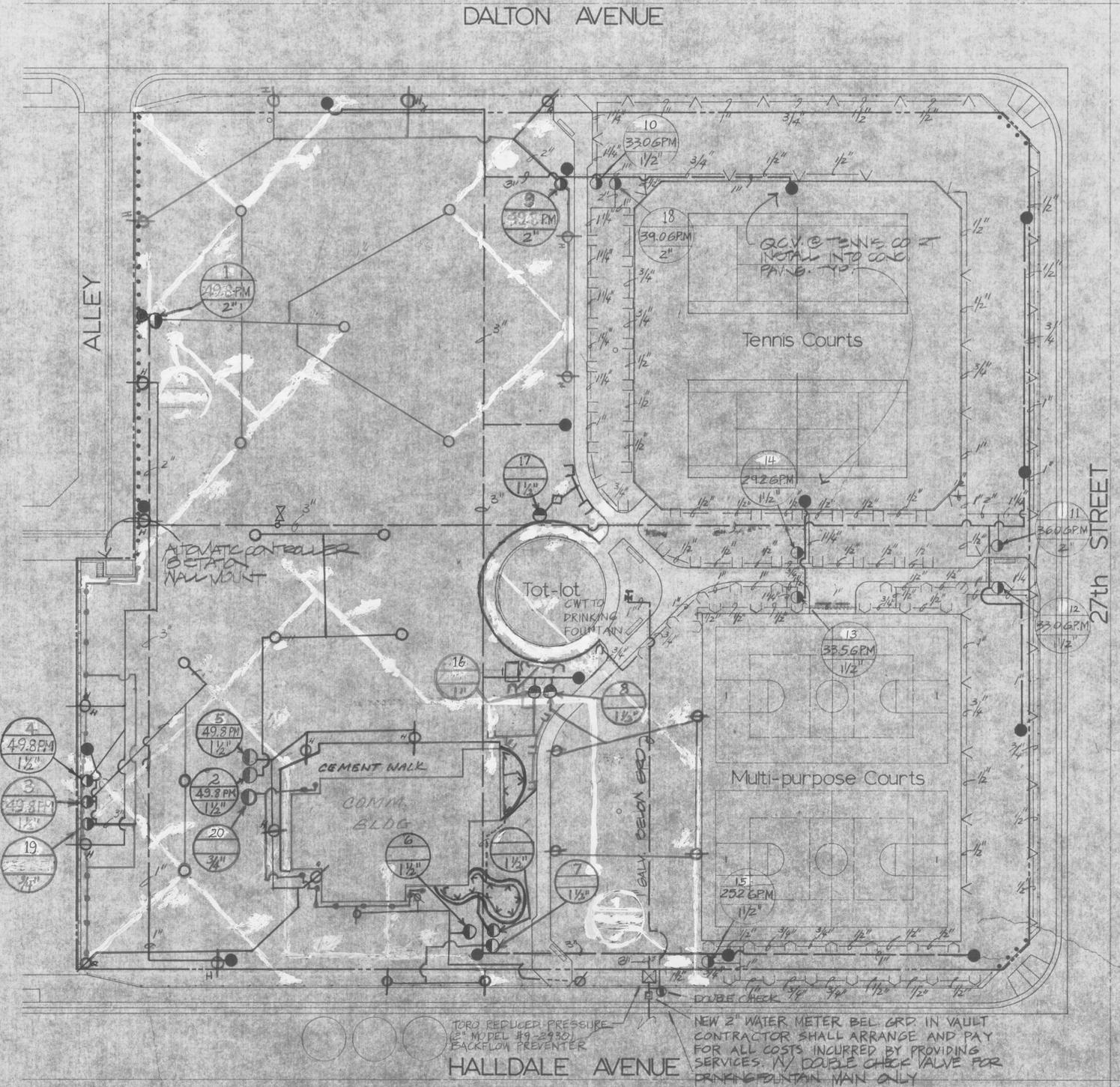
IRRIGATION LEGEND :

- BUCKNER SERIES #8200 ROTARY POP-UP
- FULL CIRCLE #8260 13/64" NOZZLE 8.9 G.P.M. 46" RAD. 55 P.S.I.
- PART CIRCLE #8265 13/64" NOZZLE 8.9 G.P.M. 46" RAD. 55 P.S.I.
- BUCKNER SERIES #1300 ROTARY POP-UP
- PART CIRCLE #1300H 1/8" NOZZLE 3.0 G.P.M. 25" RAD. 40 P.S.I.
- RAINFIBR SERIES #2800 POP-UP SPRAY HEAD
- HALF CIRCLE #2800-HP STANDARD NOZZLE 2.0 G.P.M. 12 1/2" RAD. 20 P.S.I.
- HALF CIRCLE #2800-HP STANDARD NOZZLE 1.8 G.P.M. 11" RAD. 15 P.S.I.
- QUARTER CIRCLE #2800-HP STANDARD NOZZLE 1.1 G.P.M. 11" RAD. 15 P.S.I.
- GATE VALVE 2"
- DOUBLE CHECK VALVE
- 1" TORO REDUCED PRESSURE (2" MODEL #9-2930) BACKFLOW PREVENTER (24" ABOVE GRAD)
- 18 STATION AUTOMATIC CONTROLLER (RAINFIBR RC-18) OR EQUAL BY BUCKNER 1CM SERIES
- AUTOMATIC CONTROL VALVE (RAINFIBR E SERIES) OR EQUAL BY BUCKNER 50 SERIES
- QUICK COUPLER VALVE (RAINFIBR MODEL 44) OR EQUAL BY BUCKNER MODEL #44T
- MAIN LINE, 4" CPVC 40
- LATERAL LINE, 1/2" CPVC 40
- THOMPSON 186 R
- THOMPSON 180 R
- THOMPSON 90 R
- MINI 2" G-TYPE ADJUSTABLE
- BUBBLES

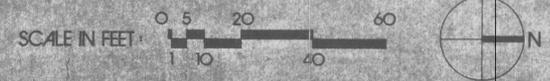
IRRIGATION NOTES :

1. SYSTEM DESIGN FOR EARLY MORNING WATERING. DESIGN FOR P.S.I. 75 MAX. @ 65 MIN.
2. CONTRACTOR SHALL INSTALL CONDUIT FOR ALL CONTROL WIRING UNDER PAVING.
3. CONTRACTOR SHALL NOT COUPLE OR CHANGE DIRECTIONS OF PIPE UNDER PAVING.
4. CONTRACTOR SHALL PROVIDE AS BUILT DRAWINGS.
5. WATER METER (SEE ENGINEERING PLANS).
6. CONTROL VALVES ARE SHOWN ON PAVING AREAS & LAWN AREAS FOR PLAN CLARIFICATION ONLY. CONTRACTOR SHALL INSTALL ALL AUTOMATIC VALVES IN GROUND COVER AREAS ONLY.
7. CONTRACTOR SHALL SUPPLY (2) TWO COUPLER KEYS.

* VANDAL PROOF BOXES
NOTE: LE MEIR MODEL 18
CONTRACTOR SHALL INSTALL VANDAL PROOF BOXES ON BOTH IRRIGATION CONTROLLER AND REDUCED PRESS BACKFLOW PREVENTER ENCLOSURES ARE AVAILABLE FROM:
LE MEIR WELDING AND MANUFACTURING CO.
LONG BEACH CALIF



NOTE:
FOR REFERENCE ONLY



BARRIO PLANNERS INCORPORATED
5271 E. Beverly Blvd. Los Angeles Ca. 90022

NORMANDIE 5 PARK
Prepared for THE COMMUNITY REDEVELOPMENT AGENCY of the CITY OF LOS ANGELES, CALIFORNIA
354 South Spring St. Suite 800
Los Angeles, California 90013 (213) 977-1631

scale: _____
drawn by: rfp date: 8/11/16



ENGINEERING
CITY OF LOS ANGELES

BUREAU OF ENGINEERING

DATE: _____
INDEX NO. - XXIX

WORK ORDER NO. E170171A
DRAWING NO. L103
SHEET 9 OF 24

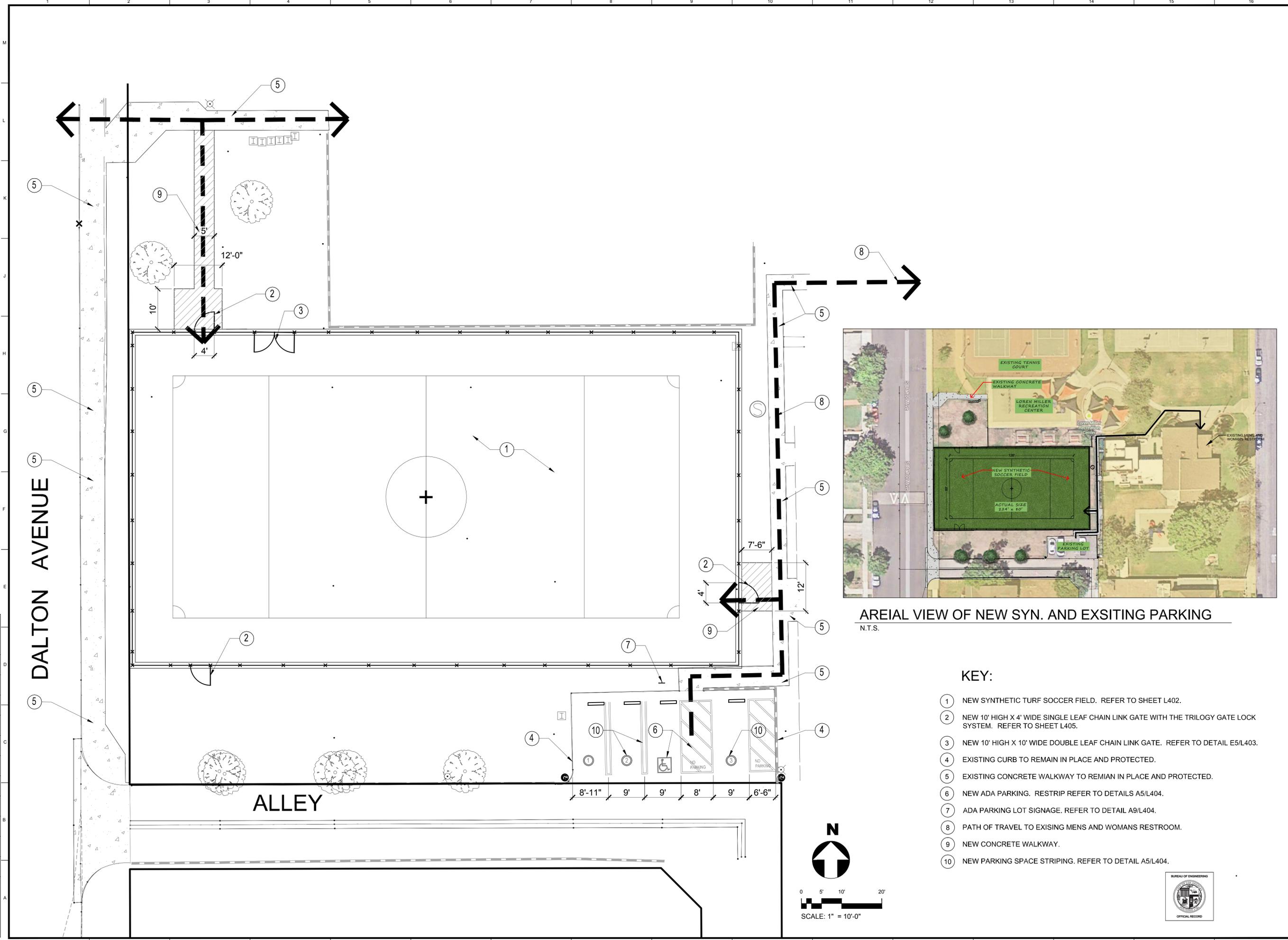
CLIENT: RECREATION AND PARKS
INTERIM GENERAL MANAGER: MICHAEL A. SHULL

SHEET TITLE: AS-BUILT IRRIGATION PLAN
PROJECT: LOREN MILLER RECREATION CENTER SYNTHETIC SOCCER FIELD PROJECT
ADDRESS: 2717 HALDALLE AVENUE LOS ANGELES, CA 90018

CITY ENGINEER: GARY LEE MOORE, PE, ENV SP
ARCHITECTURAL DIVISION
ARCHITECT: JANE ADRIAN LIC. NO. 38917
DESIGNED BY: GUILLERMO BARRAGAN
DRAWN BY: GUILLERMO BARRAGAN
CHECKED BY: JANE ADRIAN
APPROVED BY: WAHMOOD KARIMZADEH, A.I.A., PRINCIPAL ARCHITECT

DATE: 8-22-16
DATE: 8-22-16
DATE: 8-22-16
DATE: 8-22-16

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AREIAL VIEW OF NEW SYN. AND EXSITING PARKING
N.T.S.

KEY:

- ① NEW SYNTHETIC TURF SOCCER FIELD. REFER TO SHEET L402.
- ② NEW 10' HIGH X 4' WIDE SINGLE LEAF CHAIN LINK GATE WITH THE TRILOGY GATE LOCK SYSTEM. REFER TO SHEET L405.
- ③ NEW 10' HIGH X 10' WIDE DOUBLE LEAF CHAIN LINK GATE. REFER TO DETAIL E5/L403.
- ④ EXISTING CURB TO REMAIN IN PLACE AND PROTECTED.
- ⑤ EXISTING CONCRETE WALKWAY TO REMIAN IN PLACE AND PROTECTED.
- ⑥ NEW ADA PARKING. RESTRIP REFER TO DETAILS A5/L404.
- ⑦ ADA PARKING LOT SIGNAGE. REFER TO DETAIL A9/L404.
- ⑧ PATH OF TRAVEL TO EXISING MEN'S AND WOMAN'S RESTROOM.
- ⑨ NEW CONCRETE WALKWAY.
- ⑩ NEW PARKING SPACE STRIPING. REFER TO DETAIL A5/L404.

CITY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING

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

ARCHITECTURAL DIVISION
ARCHITECT: JANE ADRIAN
DESIGNED BY: GUILLERMO BARRAGAN
DRAWN BY: GUILLERMO BARRAGAN
CHECKED BY: JANE ADRIAN
APPROVED BY: HARIMOOD KARIMZADEH, A.I.A., PRINCIPAL ARCHITECT

DATE: 8-22-16
LIC. NO. 3854
8-22-16
8-22-16
8-22-16
8-22-16

PROJECT: LOREN MILLER RECREATION CENTER
SYNTHETIC SOCCER FIELD PROJECT
ADDRESS: 2717 HALDIALE AVENUE
LOS ANGELES, CA 90018

WORK ORDER NO. E170171A
DRAWING NO. L104
SHEET 10 OF 24

INDEX NO. -
BUILDING NO. XXXIX

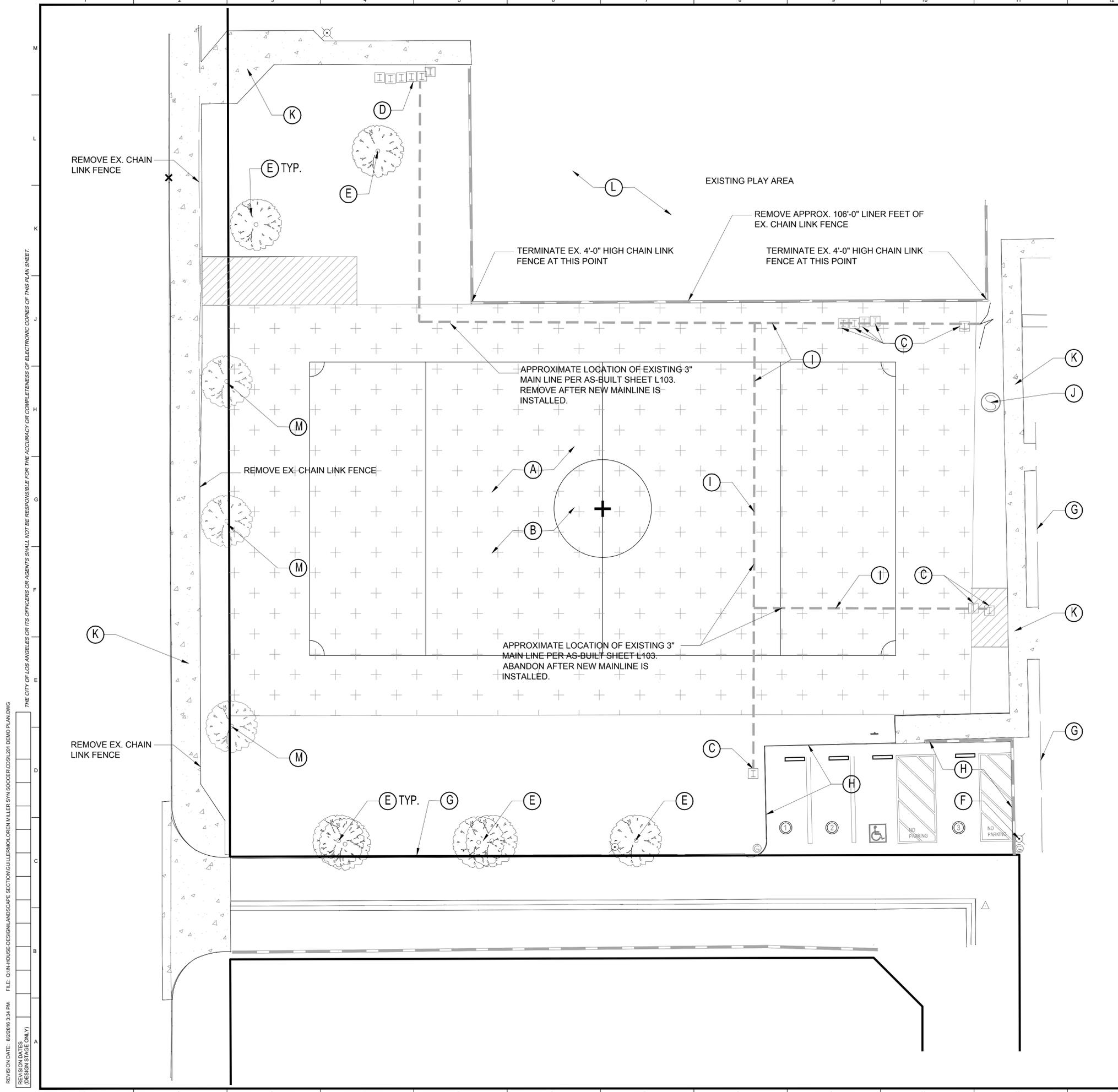
DATE BY:
REVISIONS:

ENGINEERING
CITY OF LOS ANGELES

REGISTERED PROFESSIONAL ARCHITECT
JANE ADRIAN
LIC. NO. 3854
EXPIRES 12-31-17
ISSUED DATE: 8-22-16
STATE OF CALIFORNIA

BUREAU OF ENGINEERING
OFFICIAL RECORD

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DEMOLITION NOTES:

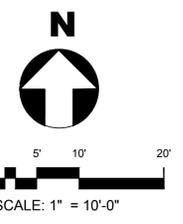
1. ANY ABANDONED MAINLINE, LATERAL LINE, OR DOMESTIC LINE WHOSE DEPTH OR LOCATION INTERFERES WITH THE INSTALLATION OF THE NEW FIELD SHALL BE REMOVED.
2. ALL REMOVALS SHALL BE PROPERLY DISPOSED OF OFF-SITE.
3. LOCATIONS OF EXISTING EQUIPMENT ARE SHOWN SCHEMATICALLY FOR THE CONVENIENCE OF THE CONTRACTOR. CONTRACTOR TO VERIFY EXACT LOCATION FROM SITE SURVEY AND IN FIELD. CONTRACTOR SHALL BRING TO THE ATTENTION OF THE PROJECT MANAGER ANY CONFLICTS.
4. AFTER EACH RCV OR VALVE IS REMOVED, FILL IN HOLE(S) WITH APPROVED FILL, COMPACT AND BRING FLUSH WITH ADJACENT GRADE.
5. ALL EXISTING TREES ARE TO REMAIN UNLESS INDICATED OTHERWISE ON THE PLAN AND SHALL BE PROTECTED PER TREE PROTECTION SECTION IN THE PROVIDED LANDSCAPE CONSTRUCTION NOTES SHEET L001.
6. COORDINATE IRRIGATION DEMOLITION WITH THE DEPARTMENT OF RECREATION AND PARKS (RAP) PACIFIC MAINTENANCE SUPERVISOR AT (310) 548-7644.
7. ALL SALVAGED IRRIGATION EQUIPMENT SHALL BE TURNED OVER TO R.A.P. IRRIGATION VALLEY MAINTENANCE SUPERVISOR. COORDINATE WITH RAP PACIFIC MAINTENANCE SUPERVISOR AT (310) 548-7644.
8. ALL COMPONENTS OF ADJACENT IRRIGATION SYSTEMS (VALVES, HEADS, LATERALS, CONTROL WIRING, ETC.) SHALL BE PRESERVED AND RETAINED. CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO ADJACENT IRRIGATION SYSTEMS AND SHALL REPAIR AT NO COST TO THE CITY.
9. ALL ADJACENT IRRIGATION SYSTEMS SHALL REMAIN OPERABLE DURING DEMOLITION AND CONSTRUCTION PHASE.
10. ALL EXISTING SITE ELEMENTS (INCLUDING CHAINLINK FENCING, DRINKING FOUNTAINS, CONCRETE PADS, AC SURFACING) NOT INDICATED ON PLAN FOR REMOVAL SHALL BE PROTECTED IN PLACE.

KEY:

- (A) CLEAR AND SCRAPE EXISTING TURF AND DISPOSE OF PROPERLY OFF SITE.
- (B) REMOVE AND SALVAGE ALL IRRIGATION HEADS IN THE HATCHED FIELD PER NOTE #7, L201.
- (C) REMOVE EXISTING IRRIGATION VALVES PER NOTE #7, L201.
- (D) EXISTING IRRIGATION VALVES TO REMAIN IN PLACE AND PROTECTED, TYP.
- (E) EXISTING TREES TO REMAIN IN PLACE AND PROTECTED, TYP. REFER TO TREE PROTECTION NOTES ON SHEET L001
- (F) EXISTING SECURITY LIGHTING FIXTURE TO REMAIN IN PLACE AND PROTECTED.
- (G) EXISTING CHAIN LINK FENCE SHALL REMAIN IN PLACE AND PROTECTED.
- (H) EXISTING CURB TO REMAIN IN PLACE AND PROTECTED.
- (I) EXISTING 3" IRRIGATION MAINLINES AND CONTROL WIRES TO BE RELOCATED PER IRRIGATION PLAN ON SHEET L601
- (J) EXISTING SEWER MAINTENANCE HOLE TO REMAIN IN PLACE AND PROTECTED.
- (K) EXISTING CONCRETE WALKWAY OR SIDEWALK TO REMAIN IN PLACE AND PROTECTED.
- (L) EXISTING PLAY AREA TO REMAIN IN PLACE AND PROTECTED.
- (M) EXISTING TREES TO BE REMOVED AND DISPOSE OF PROPERLY.

LEGEND

-  EXISTING TURF AREA TO BE SCRAPED AND CLEARED FOR NEW SYN. SOCCER FIELD
-  EXISTING CONCRETE PATH TO REMAIN IN PLACE AND PROTECTED

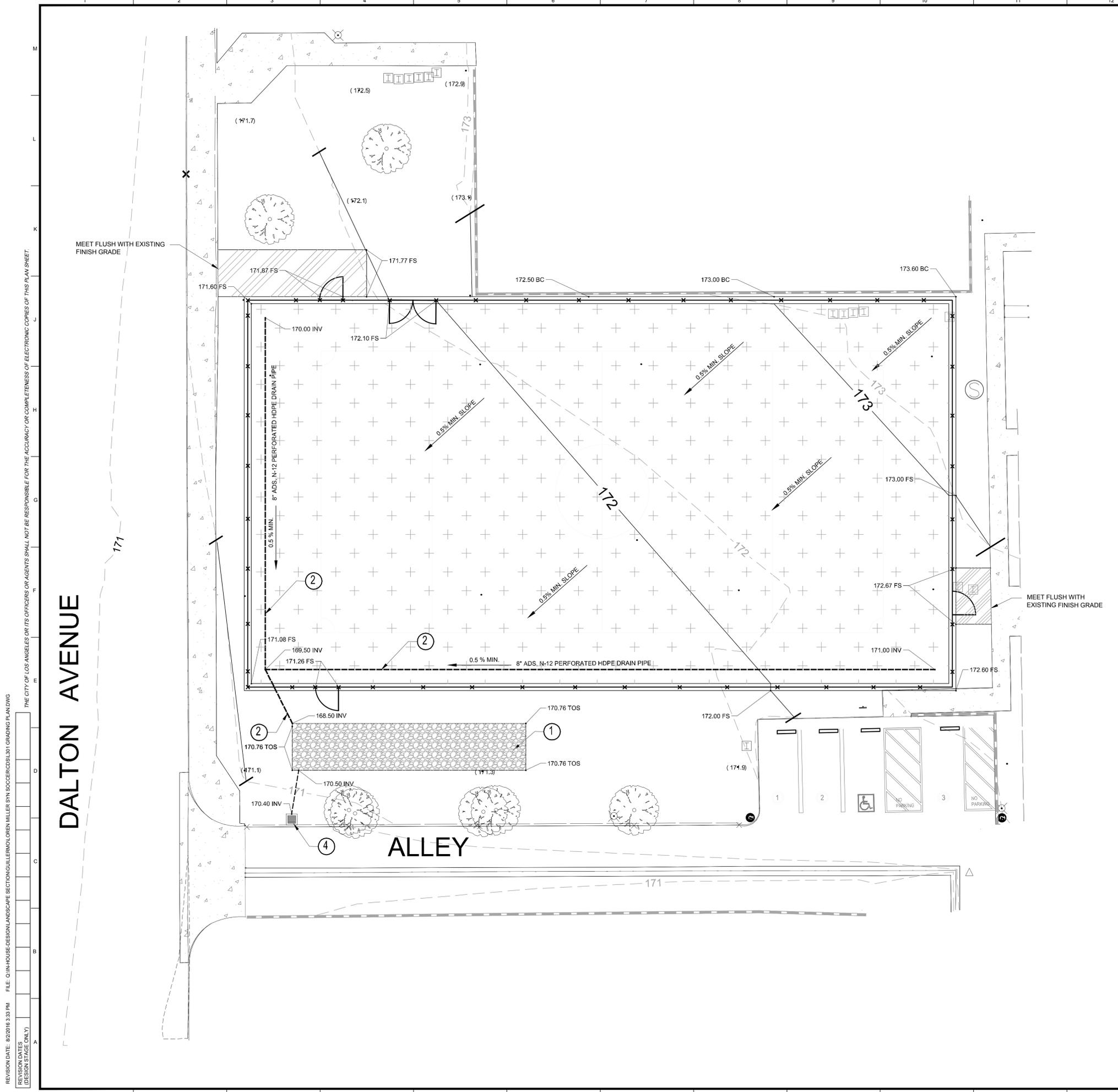


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 FILE: Q:\IN-HOUSE\DESIGN\LANDSCAPE\SECTIONS\GUILLEMOLOREN MILLER SYN SOCCER\051201 DEMO PLAN DWG
 THE CITY OF LOS ANGELES OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.
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BUREAU OF ENGINEERING
 DEPARTMENT OF PUBLIC WORKS
 CITY OF LOS ANGELES

<p>ENGINEERING CITY OF LOS ANGELES</p> <p>DATE BY: NO. REVISIONS</p>	<p>BUILDING NO. XX/XX</p> <p>INDEX NO. RP 300091</p>
<p>GARY LEE MOORE, PE, ENV SP CITY ENGINEER</p> <p>ARCHITECT: JANE ADRIAN DATE: 8-22-16 DESIGNED BY: GUILLERMO BARRAGAN LIC. NO. 39477 DRAWN BY: GUILLERMO BARRAGAN CHECKED BY: JANE ADRIAN APPROVED BY: MAHMOOD KARIMZADEH, A.I.A., PRINCIPAL ARCHITECT</p>	
<p>CLIENT: RECREATION AND PARKS INTERIM GENERAL MANAGER: MICHAEL A. SHULL</p> <p>SHEET TITLE: DEMOLITION PLAN LOREN MILLER RECREATION CENTER SYNTHETIC SOCCER FIELD PROJECT ADDRESS: 2717 HALDALLE AVENUE LOS ANGELES, CA 90018</p>	
<p>WORK ORDER NO. E170171A</p> <p>DRAWING NO. L201</p> <p>SHEET 11 OF SHEETS 24</p>	

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GRADING NOTES:

1. ALL REQUIRED FILL OR BACKFILL SHALL BE PLACED IN LOOSE LEVEL LIFTS NOT EXCEEDING 8 INCHES IN THICKNESS, MOISTURE CONDITIONED BETWEEN OPTIMUM MOISTURE CONTENT AND A FEW PERCENT ABOVE THE OPTIMUM MOISTURE CONTENT. STRUCTURAL FILL SHALL BE MECHANICALLY COMPACTED TO AT LEAST 95% OF THE MAXIMUM DENSITY OBTAINED BY THE ASTM D1557 METHOD.
2. ALL WORK SHALL COMPLY TO CITY GRADING REGULATIONS.
3. THE STAMPED SET OF PLANS SHALL BE ON THE JOB SITE AT ALL TIMES.
4. PROTECTIVE MEASURES SHALL BE TAKEN BY THE CONTRACTOR TO PROTECT ADJACENT PROPERTIES AND FIXED IMPROVEMENTS IN THE PUBLIC RIGHT-OF-WAY DURING GRADING OPERATIONS.
5. DUST SHALL BE CONTROLLED BY WATERING.
6. NO TRENCHES OR EXCAVATION 5'-0" OR MORE IN DEPTH INTO WHICH A PERSON IS REQUIRED TO DESCEND SHALL BE ALLOWED. AN EXCEPTION WILL BE MADE ONLY IF A NECESSARY PERMIT IS OBTAINED FROM THE STATE OF CALIFORNIA DIVISION OF INDUSTRY SAFETY PRIOR TO THE ISSUANCE OF A BUILDING OR GRADING PERMIT.
7. REFER TO THE CONSTRUCTION AND LAYOUT PLAN FOR ADDITIONAL DIMENSIONS, TIES, OR OTHER STAKING DATA.
8. FOR REFERENCE TO EXISTING CONDITIONS, SEE TOPOGRAPHIC SURVEY.
9. ALL GRADING SHALL BE IN ACCORDANCE WITH THE LANDSCAPE CONSTRUCTION NOTES, GENERAL EARTHWORK, SHEET L001. ALL OTHER GRADING ISSUES NOT COVERED HEREIN OR LANDSCAPE CONSTRUCTION NOTES, GENERAL EARTHWORK SHALL BE GOVERNED BY THE STANDARD SPECIFICATION FOR PUBLIC WORKS CONSTRUCTION (SSPWC), LATEST EDITION APPROVED BY THE CITY OF LOS ANGELES, DEPARTMENT OF PUBLIC WORKS.
10. STRAIGHT GRADE SHALL BE RUN BETWEEN CONTOURS AND SPOT ELEVATIONS UNLESS OTHERWISE INDICATED.
11. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY METHODS, MATERIALS, AND LABOR TO EFFECTIVELY CONTROL ANY EROSION ACTIVITY THAT MAY OCCUR DURING THE COURSE OF GRADING AND CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL OBTAIN THE APPROVAL FROM THE PROJECT ENGINEER PRIOR TO IMPLEMENTATION OF ANY EROSION CONTROL ACTIVITY.
12. SYNTHETIC TURF FIELD PERIMETER DRAINAGE PIPE SYSTEM SHALL BE INSTALLED PER DET. A1 SHEET L406.

KEY:

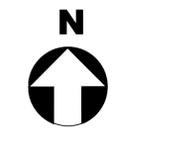
- 1 NEW GRAVEL SUMP SCHEMATIC LAYOUT, REFER TO DETAIL E13/L403.
- 2 NEW 8" DIA. ADS N-12 PERFORATED DRAIN PIPE WITH GEOTEXTILE FABRIC.
- 3 NEW 4" DIA. ADS DRAIN PIPE OVER FLOW INTO STREET, REFER TO DETAIL E13/L403.
- 4 NEW OVERFLOW 18" SQ. CATCH BASIN BY BROOKS PRODUCTS, MODEL # 1818 CB. USE 1818 T18 WITH 1818 BASE AND 1818 CAST IRON GRATE.

LEGEND

-  NEW UNDERLAYMENT PAD
-  NEW CONCRETE PAVEMENT
-  NEW GRAVEL SUMP AREA
50'-0" long x 10'-0" wide x 4'-6" deep.
-  EXISTING TREE, TYP.
-  PROPOSED CONTOUR
-  EXISTING CONTOUR

ABBREVIATIONS

- FS FINISH SURFACE
- FG FINISH GRADE
- INV INVERT ELEVATION
- HP HIGH POINT
- TC TOP OF CURB
- BC BOTTOM OF CURB
- TOS TOP OF SUMP
- (30.3) EXISTING GRADE
- 30.3 PROPOSED GRADE
- DIRECTION OF FLOW



REVISION DATE: 8/22/2016 3:33 PM FILE: Q:\IN-HOUSE-DESIGN\LANDSCAPE SECTION\GUILLEMOLOREN MILLER SYN SOCCER\CS\L301 GRADING PLAN.DWG
 REVISION DATES (DESIGN STAGE ONLY)
 Sheet Version 2.2

DALTON AVENUE

ALLEY

BUREAU OF ENGINEERING

ENGINEERING

CITY OF LOS ANGELES

DATE: BY:

NO. REVISIONS:

BUILDING NO. XX/XX

INDEX NO. RP 300091

LANDSCAPE ARCHITECT

LICENSED PROFESSIONAL ARCHITECT

CITY ENGINEER

ARCHITECT: JANE ADRIAN LIC. NO. 3947

DESIGNED BY: GUILLERMO BARRAGAN

DRAWN BY: GUILLERMO BARRAGAN

CHECKED BY: JANE ADRIAN

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

DATE: 8-22-16

DATE: 8-22-16

DATE: 8-22-16

DATE: 8-22-16

CLIENT: RECREATION AND PARKS

INTERIM GENERAL MANAGER: MICHAEL A. SHULL

SHEET TITLE: GRADING AND DRAINAGE PLAN

PROJECT: LOREN MILLER RECREATION CENTER SYNTHETIC SOCCER FIELD PROJECT

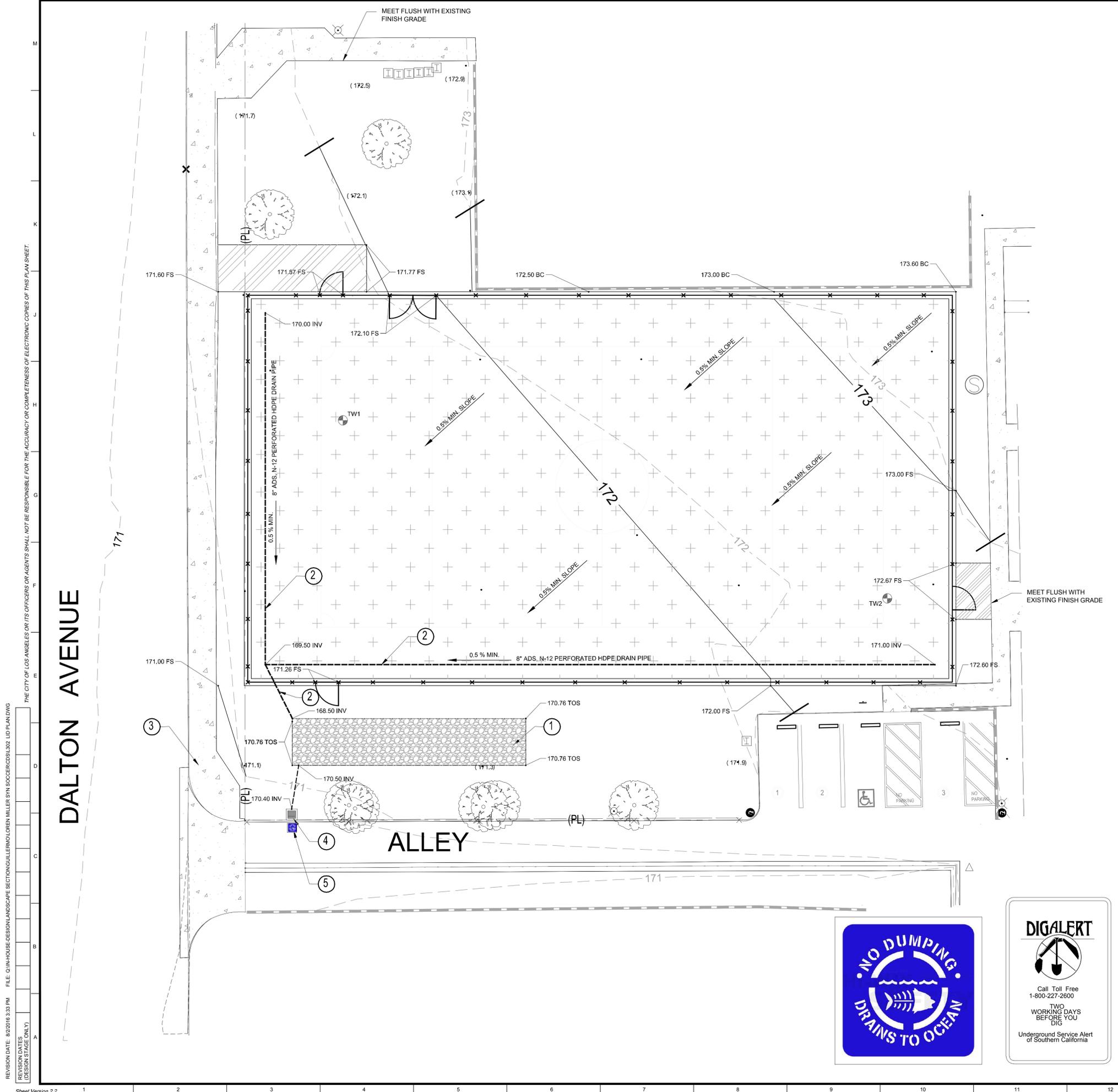
ADDRESS: 2717 HALDIALE AVENUE LOS ANGELES, CA 90018

WORK ORDER NO. E170171A

DRAWING NO. L301

SHEET 12 OF SHEETS 24

PLOTTED: 8/22/2016 3:55 PM



BMP CONSTRUCTION AREA

IMPERVIOUS AREA 13,585 S.F. 0.312 AC.

BIOFILTRATION SIZING

1. DESIGN VOLUME

CATCHMENT AREA: (IMPERVIOUS AREA x 0.9) + [(PERVIOUS AREA + UNDEVELOPED AREA) x 0.1]
 (13585 x 0.9) + (0 x 0.1) = 12,226.6 S.F.

$V_m = (1.1' / 12 \times 43,560) \times [(0.312 \times 0.9) + (0 \times 0.1)]$
 $3993.0 \times [(0.312 \times 0.9) + (0 \times 0.1)] = 1122.23$

$V_m = 1,122.23 \text{ ft}^3$

2. DESIGN INFILTRATION RATE

$K_{sat, design} = K_{sat, measure} / FS = 9 \text{ in/hr} / 3 = 3.0 \text{ in/hr}$

$K_{sar, design} = 3.0 \text{ in/hr}$

3. MINIMUM BOTTOM INFILTRATION

$A_{min} = 1,122.23 \text{ ft}^3 \times 12 \text{ in/ft} / 3.0 \text{ in/hr} \times 48 \text{ hr}$
 $A_{min} = 13466.76 / 144$

$A_{min} = 93.52 \text{ ft}^2$

4. MINIMUM STORAGE VOLUME

$V_{storage} = V_m / \text{Void ratio} = 1,122.13 \text{ ft}^3 / 0.40$
 $V_{storage} = 2,805.32 \text{ ft}^3$

SITE INFORMATION

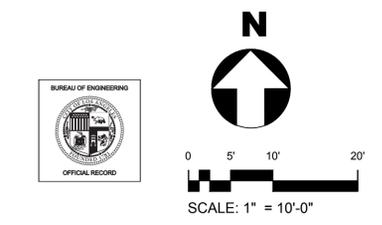
1. PARCEL NUMBER:
2. LIQUEFACTION AREA: NO
3. BH LOCATION: TW1 & TW2
4. FLOOD ZONE: NO
5. 24hr RAINFALL: 1.1"



- KEY:**
- 1 NEW GRAVEL SUMP SCHEMATIC LAYOUT, REFER TO DETAIL E13/L403.
 - 2 NEW 8" DIA. ADS N-12 PERFORATED DRAIN PIPE WITH GEOTEXTILE FABRIC.
 - 3 NEW 4" DIA. ADS DRAIN PIPE OVER FLOW INTO STREET, REFER TO DETAIL E13/L403.
 - 4 NEW OVERFLOW 18" SQ. CATCH BASIN BY BROOKS PRODUCTS, MODEL # 1818 CB. USE 1818 T18 WITH 1818 BASE AND 1818 CAST IRON GRATE.
 - 5 NEW "NO DUMPING - DRAINS TO OCEAN" SHALL BE PAINTED ON THE ASPHALT PAVEMENT NEXT TO CONCRETE CATCH BASIN.

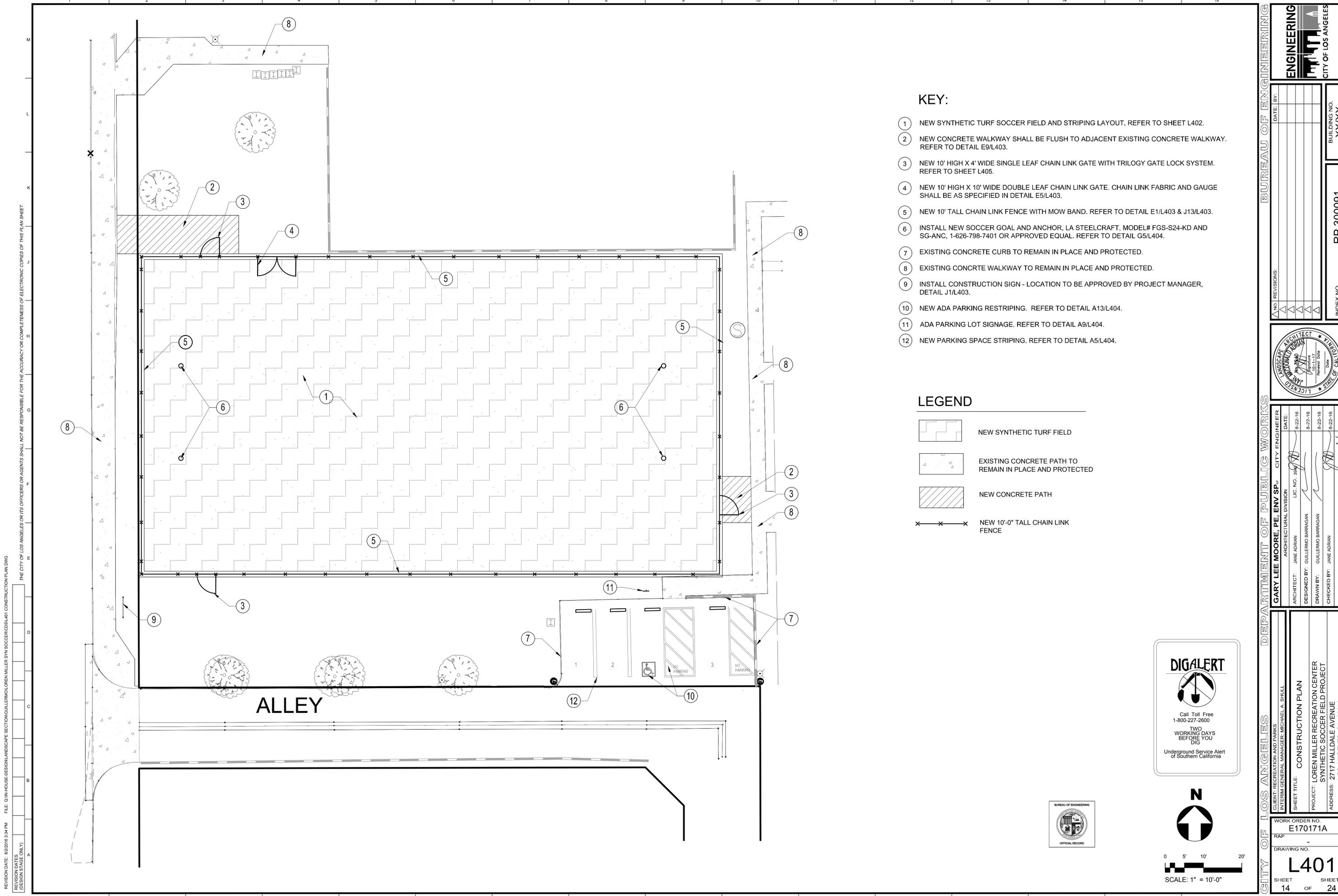
- LEGEND**
- NEW UNDERLAYMENT PAD
 - NEW CONCRETE PAVEMENT
 - NEW GRAVEL SUMP AREA
50'-0" long x 10'-0" wide x 4'-6" deep.
 - EXISTING TREE, TYP.
 - PROPOSED CONTOUR
 - EXISTING CONTOUR

- ABBREVIATIONS**
- FS FINISH SURFACE
 - FG FINISH GRADE
 - INV INVERT ELEVATION
 - HP HIGH POINT
 - TC TOP OF CURB
 - BC BOTTOM OF CURB
 - TOS TOP OF SUMP
 - (30.3) EXISTING GRADE
 - 30.3 PROPOSED GRADE
 - DIRECTION OF FLOW



REVISION DATE: 8/22/16 3:33 PM FILE: Q:\HOUSE-DESIGN\LANDSCAPE SECTION\GUILLEMOLOREN MILLER SYN SOCCER\CD\SL302 LID PLAN.DWG
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 Dalton Avenue
 SHEET 13 OF 24
 PLOTTED: 8/23/2016 10:38 AM

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ENGINEERING
 CITY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS
GARY LEE MOORE, PE, ENV SP
 ARCHITECTURAL DIVISION
 ARCHITECT: JANE ADRIAN
 DESIGNED BY: GUILLERMO BARRAGAN
 DRAWN BY: GUILLERMO BARRAGAN
 CHECKED BY: JANE ADRIAN
 APPROVED BY: MAHMOOD KARIMZADEH, A.I.A., PRINCIPAL ARCHITECT
 DATE: 8-22-16
 LIC. NO.: 39474
 SHEET TITLE: LOW IMPACT DEVELOPMENT PLAN
 PROJECT: LOREN MILLER RECREATION CENTER SYNTHETIC SOCCER FIELD PROJECT
 ADDRESS: 2717 HALLIDALE AVENUE LOS ANGELES, CA 90018
 WORK ORDER NO. E170171A
 DRAWING NO. L302
 SHEET 13 OF 24
 BUILDING NO. XX/XX
 INDEX NO. RP 300091



KEY:

- ① NEW SYNTHETIC TURF SOCCER FIELD AND STRIPING LAYOUT, REFER TO SHEET L402.
- ② NEW CONCRETE WALKWAY SHALL BE FLUSH TO ADJACENT EXISTING CONCRETE WALKWAY. REFER TO DETAIL E9/L403.
- ③ NEW 10' HIGH X 4' WIDE SINGLE LEAF CHAIN LINK GATE WITH TRILOGY GATE LOCK SYSTEM. REFER TO SHEET L405.
- ④ NEW 10' HIGH X 10' WIDE DOUBLE LEAF CHAIN LINK GATE. CHAIN LINK FABRIC AND GAUGE SHALL BE AS SPECIFIED IN DETAIL E5/L403.
- ⑤ NEW 10' TALL CHAIN LINK FENCE WITH MOW BAND. REFER TO DETAIL E1/L403 & J13/L403.
- ⑥ INSTALL NEW SOCCER GOAL AND ANCHOR, LA STEELCRAFT, MODEL# FGS-S24-KD AND SG-ANC, 1-626-798-7401 OR APPROVED EQUAL. REFER TO DETAIL G5/L404.
- ⑦ EXISTING CONCRETE CURB TO REMAIN IN PLACE AND PROTECTED.
- ⑧ EXISTING CONCRTE WALKWAY TO REMAIN IN PLACE AND PROTECTED.
- ⑨ INSTALL CONSTRUCTION SIGN - LOCATION TO BE APPROVED BY PROJECT MANAGER, DETAIL J1/L403.
- ⑩ NEW ADA PARKING RESTRIPING. REFER TO DETAIL A13/L404.
- ⑪ ADA PARKING LOT SIGNAGE. REFER TO DETAIL A9/L404.
- ⑫ NEW PARKING SPACE STRIPING. REFER TO DETAIL A5/L404.

LEGEND

- NEW SYNTHETIC TURF FIELD
- EXISTING CONCRETE PATH TO REMAIN IN PLACE AND PROTECTED
- NEW CONCRETE PATH
- NEW 10'-0" TALL CHAIN LINK FENCE

REVISION DATE: 8/22/16 3:34 PM
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BEFORE YOU
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Underground Service Alert
of Southern California



0 5' 10' 20'

SCALE: 1" = 10'-0"

CITY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

BUREAU OF ENGINEERING

ENGINEERING CITY OF LOS ANGELES

DATE:	
NO. REVISIONS:	
INDEX NO.:	XX/XX
BUILDING NO.:	RP 300091

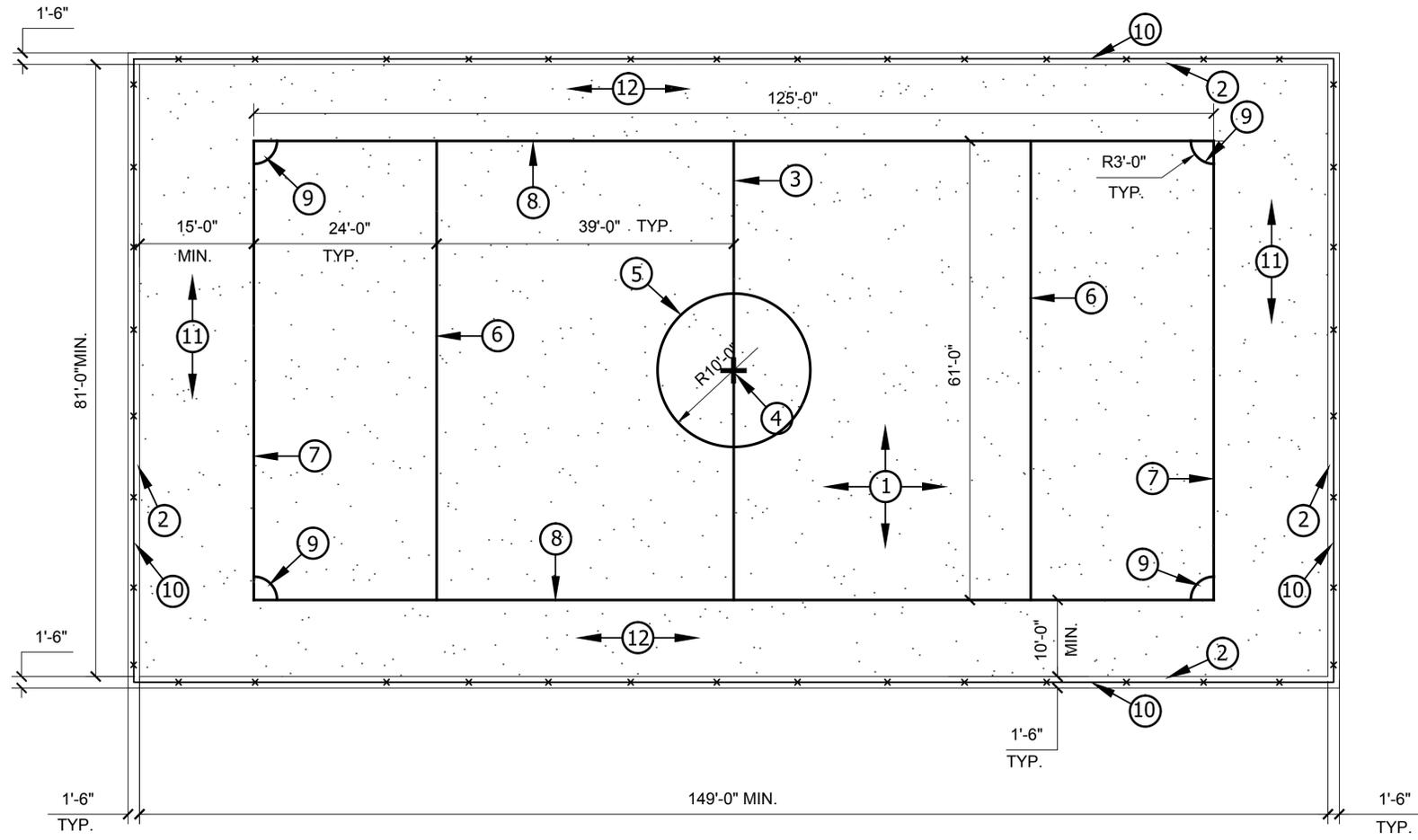
GARY LEE MOORE, PE, ENV SP
 ARCHITECTURAL DIVISION
 ARCHITECT: JANE ADRIAN
 LIC. NO. 3847
 DESIGNED BY: GUILLERMO BARRAGAN
 DRAWN BY: GUILLERMO BARRAGAN
 CHECKED BY: JANE ADRIAN
 APPROVED BY: MAHMOOD KARINZADEH, A.I.A., PRINCIPAL ARCHITECT

CLIENT: RECREATION AND PARKS
 INTERIM GENERAL MANAGER: MICHAEL A. SHULL
 SHEET TITLE: CONSTRUCTION PLAN
 PROJECT: LOREN MILLER RECREATION CENTER
 SYNTHETIC SOCCER FIELD PROJECT
 ADDRESS: 2717 HALDALLE AVENUE
 LOS ANGELES, CA 90018

WORK ORDER NO.:	E170171A
DRAWING NO.:	L401
SHEET:	14
SHEETS:	24

PLOTTED: 8/22/2016 3:58 PM

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SYNTHETIC SOCCER FIELD PLAN ACTUAL PLAYING FIELD 81' X 149'

LEGEND:

- ① 81'X149' SYNTHETIC TURF FIELD WITH SYNTHETIC TURF BUFFER ON ALL 4 SIDES, REFER TO SPECIFICATIONS FOR INSTALLATION.
- ② CONCRETE PERIMETER CURB AND SYNTHETIC TURF EDGE TREATMENT, SEE DETAILS J13/L403 AND A5/L406, UNLESS NOTED OTHERWISE.
- ③ HALFWAY LINE, COLOR: WHITE, 4" WIDE.
- ④ CENTER CIRCLE MARK, COLOR: WHITE, 4" WIDE.
- ⑤ CENTER CIRCLE, COLOR: WHITE, 4" WIDE.
- ⑥ GOAL AREA BOUNDARY LINE, COLOR: WHITE, 4" WIDE.
- ⑦ GOAL LINE, COLOR: WHITE, 4" WIDE.
- ⑧ SIDE LINE, COLOR: WHITE, 4" WIDE.
- ⑨ CORNER ARC, COLOR: WHITE, 4" WIDE.
- ⑩ 10' HIGH FENCE. SEE E5/L403 CHAIN LINK FENCE, UNLESS NOTED OTHERWISE ON CONSTRUCTION LAYOUT PLAN.
- ⑪ MIN. 15'-WIDE SYNTHETIC TURF BUFFER, REFER TO SPECIFICATIONS FOR INSTALLATION.
- ⑫ MIN. 10'-WIDE SYNTHETIC TURF BUFFER, REFER TO SPECIFICATIONS FOR INSTALLATION.

NOTES:

- 1. CONTRACTOR TO SUBMIT MFR. SHOP DRAWINGS, DETAILS AND MATERIALS TO PROJECT MANAGER FOR APPROVAL PRIOR TO INSTALLATION.



CITY OF LOS ANGELES
BUREAU OF ENGINEERING

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

SHEET TITLE:
 SYNTHETIC TURF SOCCER FIELD
 LOREN MILLER RECREATION CENTER
 SYNTHETIC SOCCER FIELD PROJECT
 ADDRESS: 2717 HALDIALE AVENUE
 LOS ANGELES, CA 90018

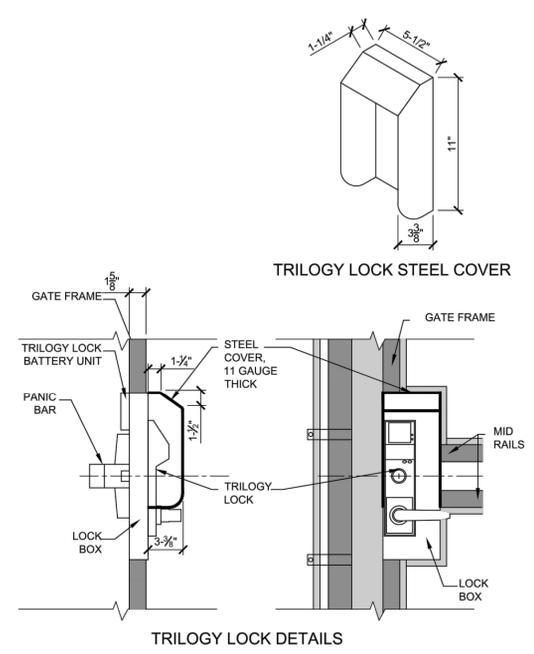
ARCHITECT: JANE ADRIAN
 DESIGNED BY: GUILLERMO BARRAGAN
 DRAWN BY: GUILLERMO BARRAGAN
 CHECKED BY: JANE ADRIAN
 APPROVED BY: MAHMOOD KARINZADEH, A.I.A., PRINCIPAL ARCHITECT

NO.	REVISIONS	DATE	BY

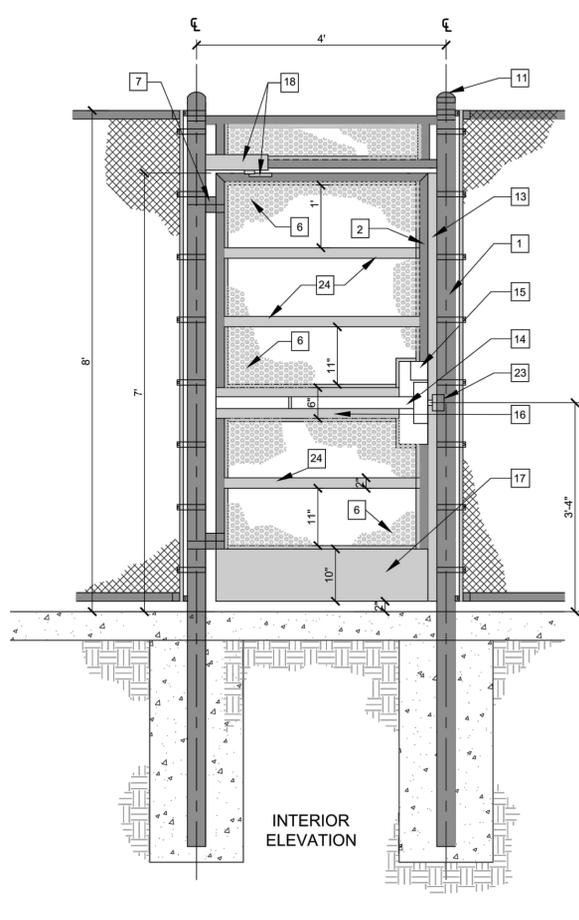
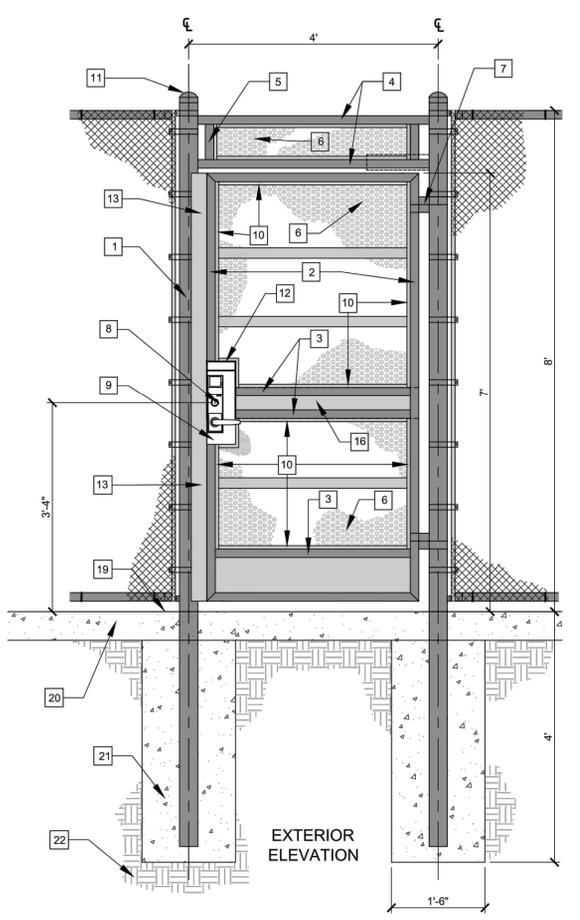
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DRAWING NO. L402	
SHEET 15	SHEETS OF 24

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- NOTES:**
- CHAIN LINK FENCE, GATE AND POST MATERIALS SHALL BE GALVANIZED STEEL UNLESS NOTED. ALL COMPONENTS SHALL CONFORM TO THE CHAIN LINK FENCE AND MISCELLANEOUS METAL CONSTRUCTION SECTION OF THE SPECIFICATIONS.
 - CONCRETE FOOTINGS SHALL BE ALLOWED TO SET FOR SEVEN (7) DAYS PRIOR TO INSTALLATION OF FABRIC OR HARDWARE.
 - HOLD DOWN CONC. FTG. TO RECEIVE FINISH SURFACE PAVEMENT WHERE FTG. IS NOT SURROUNDED BY LANDSCAPED AREA. IN SUCH CASES, PROVIDE 1" CROWN ON TOP OF ALL POST FTG.'S AT FINISH GRADE.
 - CONCRETE FOOTING TO BE 2500 PSI @ 28 DAYS. PROVIDE 3" OF GRAVEL UNDER CONCRETE FOOTING.
 - PEDESTRIAN GATE SHALL BE COMPLIANCE WITH ALL FEDERAL AND STATE REQUIREMENT FOR ACCESSIBILITY OF DOORS AND GATES.
 - VERIFY FENCE AND GATE LAYOUT WITH RAP PROJECT LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.
 - ALL MATERIALS HOT DIP GALVANIZED.

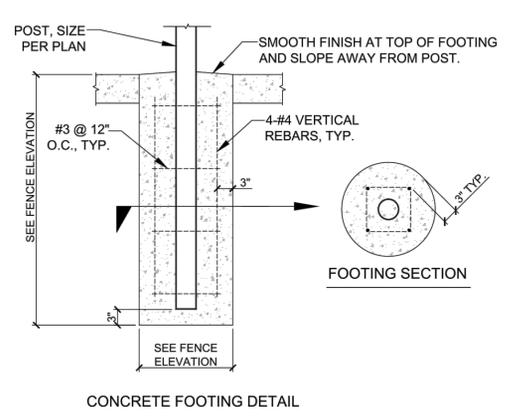


- GATE MATERIALS**
- POSTS: 3-1/2" O.D. WITH 12" DIA. X 4'-0" DEEP FOOTINGS.
 - GATE FRAMES: TOP, BOTTOM AND SIDE MEMBERS: 1-5/8" O.D., MITER GATE FRAME CORNERS, WELD AND GRIND SMOOTH.
 - GATE RAILS: MID RAILS, 1-5/8" O.D. WELD TO GATE FRAME SIDE MEMBERS AND STEEL LOCK BOX AND GRIND SMOOTH.
 - RAILS: TOP AND BOTTOM RAILS, 1-5/8" O.D., WELD TO POST.
 - SIDE MEMBERS: 1-5/8" O.D., WELD TO TOP AND BOTTOM RAILS.
 - PERFORATED METAL SHEET PANEL, 9 GAUGE, 1/8" ROUND ON 7/32" STAGGERED, CONTINUOUS WELD PERFORATED METAL SHEET PANEL ONTO 3/4" WIDE METAL FRAME. PLACE ON INTERIOR SIDE OF GATES.
 - HINGES: HEAVY DUTY COMMERCIAL HINGES WELD TO POSTS, 2 HINGES PER GATE, ONE AT TOP AND BOTTOM.
 - ALARM LOCK TRILOGY ETL-D-S1G-26D-V99 KEYLESS CONTROL UNIT WITH ALARM LOCK ET-BIC/26D BEST KIT. SATIN CHROME FINISH.
 - 5-1/2" WIDTH X 16" LENGTH X 1-3/4" DEPTH STEEL BOX TO HOUSE TRILOGY LOCK ASSEMBLY. STEEL TO BE 3/16" THICK.
 - 3/4" WIDE GALVANIZED STEEL METAL BAR, 1/2" THICK, CONTINUOUS WELD TO GATE FRAME.
 - POST CAPS SHALL BE MALLEABLE IRON OR PRESSED STEEL.
 - TRILOGY LOCK STEEL COVER, 5-1/2" WIDE, 11 GAUGE THICK AROUND TRILOGY LOCK, WELD ONTO FACE OF LOCKING ASSEMBLY BOX ON ALL SIDES. SEE ENLARGED DETAILS, THIS SHEET.
 - 3" X 1/2" X 82" LATCH PROTECT GALVANIZED STEEL METAL BAR, TACK WELD TO GATE FRAME FOR THE ENTIRE LENGTH OF LATCH SIDE OF GATE.
 - PANIC BAR ASSEMBLY. AVAILABLE THROUGH VON DUPRIN MODEL #99FO 26D 48" OR APPROVED EQUAL. SATIN CHROME FINISH.
 - TRILOGY LOCK BATTERY UNIT.
 - 3/8" THICK X 6" WIDTH, GALVANIZED STEEL MOUNTING PLATE FOR PANIC BAR. WELD PLATE TO GATE MID RAILS AND FRAME AND LOCK BOX. LENGTH TO BE EQUAL TO WIDTH OF GATE FRAME.
 - 10" METAL KICK PLATE 3/8" THICK (INSIDE OF PARK), WELD TO GATE FRAME ON PARK SIDE OF GATE.
 - GATE CLOSURE UNIT, AVAILABLE THROUGH LCN, MODEL # 4040XP R-W/PA 689 OR APPROVED EQUAL.
 - PROVIDE A 1" CROWN AT TOP OF ALL POST FOOTINGS
 - CONCRETE PAVING.
 - CONCRETE FOOTING, SEE DETAIL, THIS SHEET.
 - 90% RELATIVE COMPACTED SUBGRADE
 - GATE STRIKE, WELD TO POST
 - 2" WIDE GALVANIZED STEEL METAL BAR, 1/2" THICK, PLACE ON INTERIOR SIDE OF GATE OVER PERFORATED METAL SHEET PANEL. BEAD WELD 2" WIDE METAL BAR TO GATE FRAME AND PERFORATED METAL SHEET PANEL. LENGTH TO BE EQUAL TO WIDTH OF GATE.



A 8' HIGH X 4' WIDE CHAIN LINK SINGLE LEAF GATE WITH TRILOGY LOCK AND PANIC HARDWARE

NOTE: PHOTOS SHOWN ARE FOR REFERENCE ONLY. CONTRACTOR TO FABRICATE CHAIN LINK GATE PER DETAIL 'A' THIS SHEET.



TRILOGY LOCK AND STEEL COVER ASSEMBLY



INTERIOR VIEW



EXTERIOR VIEW

CITY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
 ENGINEERING CITY OF LOS ANGELES
 DATE: BY:
 NO. REVISIONS:
 LICENSE ARCHITECT
 JANE ADRIAN
 GUILLEMOLOREN MILLER SYN SOCCER
 8-22-16
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 8-22-16
 GARY LEE MOORE, P.E., ENV SP
 ARCHITECTURAL DIVISION
 ARCHITECT: JANE ADRIAN LIC. NO. 3947
 DESIGNED BY: GUILLEMOLOREN MILLER SYN SOCCER
 DRAWN BY: GUILLEMOLOREN MILLER SYN SOCCER
 CHECKED BY: JANE ADRIAN
 APPROVED BY: MAHMOOD KARIMZADEH, A.I.A., PRINCIPAL ARCHITECT
 CLIENT: RECREATION AND PARKS
 INTERIM GENERAL MANAGER: MICHAEL A. SHULL
 SHEET TITLE: TRILOGY LOCK KIT CHAINLINK GATE DETAILS
 PROJECT: LOREN MILLER RECREATION CENTER SYNTHETIC SOCCER FIELD PROJECT
 ADDRESS: 2717 HALDALLE AVENUE LOS ANGELES, CA 90018
 WORK ORDER NO. E170171A
 DRAWING NO. L405
 SHEET 18 OF SHEETS 24
 PLOTTED: 02/22/2016 4:02 PM

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CITY OF LOS ANGELES / DEPARTMENT OF RECREATION AND PARKS
ALL-WEATHER TURF SPECIFICATION
ALL-WEATHER TURF AND SUB-BASE DRAINAGE
REVISION DATE 08/04/2016

SECTION A: SUB-GRADE FOUNDATION AND DRAINAGE

PART I: GENERAL

A. DEFINITION
This section defines requirements for the materials, installation, and operating performance of a sub-grade foundation and drainage system needed for a professional-grade All-weather turf field. Defined are the primary system requirements for insuring vertical and dimensional stability of the soil and adequate storm drainage of the playing surface.

B. STANDARDS
All specifications listed are defined per applicable ASTM standard test methods, unless no ASTM standard exists. All other specifications and tolerances listed shall be defined under standard ANSI and/or ISO drawing and specification rules.

Note: This specification requires installation of a continuous foundation-grade concrete curb around the entire perimeter of the athletic field. A formed top ledge or side-mounted composite header (2' x 4') is required for All-weather turf attachment.

PART II: MATERIALS

A. FIELD SOIL ISOLATION FABRIC
1. The prepared soil isolation fabric shall be isolated from the installed field and drainage system above it with the specified soil isolation fabric. The soil isolation fabric is a woven polyurethane-based material with a minimum gauge of 12 mil in thickness.
2. A non-permeable membrane is recommended for all soils. Drainage properties of the selected non-permeable fabric shall be 0.10 gallons per minute per square-foot maximum (ASTM D4491). Mirafi 550X fabric or approved equal.

B. TRENCH SOIL ISOLATION FABRIC
The soil isolation fabric is a polypropylene-based material with a minimum gauge weight of five (5) Oz/yd². Minimum permeability is 130 gallons/minute/square foot, Mirafi 180N, or approved equal. A non-permeable membrane may be recommended under specific site conditions - see plans to verify.

C. PERIMETER DRAINAGE COLLECTOR PIPE
Drainage piping is a perforated HDPE pipe, diameter specified on plans.

D. PERIMETER CURB
A continuous foundation grade curbing of 3000 psi concrete shall be installed along the entire perimeter of the All-weather field. See plans for curb dimensions.

SECTION B: STABILIZED SOIL BASE COURSE

PART I: GENERAL

A. DESCRIPTION OF WORK
1. Extent: It shall be the responsibility of Contractor to provide all labor, materials, equipment and tools necessary for the complete installation of a cement dust stabilized sub-grade in the specified area as shown on the Drawings.
2. After the removal of all organic material having an organic content of more than 25%, the sub-base shall be graded for planarity.
a. Break-up and or pulverize, similar to lime treatment, existing soil as necessary to re-grade the treated area as shown on the Drawings, minimum depth of 8 inches.
b. Using cement, treat those areas no deeper than 8".
c. Rough grade and compact the mixed material to achieve 98% compaction. Fine grade to specified tolerance.

B. REQUIRED CONTRACTOR EXPERIENCE
1. The Contractor shall demonstrate experience on at least two (2) sub-grade stabilization projects of the type herein specified.

PART II: MATERIALS

A. Portland Cement Dust
Type-II cement shall conform to the requirements of ASTM C150.

PART III: EXECUTION

A. BASE CONSTRUCTION
The Contractor shall approve, in writing, the cross-sectional detail for construction.

B. STABILIZATION OF SUB-GRADE
1. Apply 10% or 360 pounds by volume Portland Cement dust to treatment area and mix in with a pulverizing machine. Water as needed to allow setting up of soil cement.
a. Cement shall be 360 pounds per cubic yard
b. Material shall be mixed thoroughly into the existing top 6" of soil using one or more of the following:
1) Bomag pulverization machine
2) high speed tiller
3) plowing disc
4) rototiller
2. All work in a designated portion of the field area shall be completed, including fine grading, within 24 hours. Cure time of the material is 24 to 72 hours without rain. Do not apply if temperature is below 40 degrees F, including cure process time.
3. Rough grade area to +/- 1" tolerance. Compact area with 8-10 ton vibrator double drum roller.
4. Fine grade to a 3/8" tolerance within ten feet, maintaining the existing cross slope. Compact with double drum roller. A leveling course of decomposed granite or crusher dust not larger than 1/4" and having a fine content (200 sieve) of not less than 18% can be installed at not more than 1" thickness.

C. QUALITY ASSURANCE
1. The permeability of the sub-base stabilized material shall be checked by a registered geotechnical engineer from a sampling of the aggregate sieve prior to placing the liner on the base. The permeability shall not exceed 1/2" per hour using a double-ring infiltration testing method (ASTM D3385).
2. Testing shall occur after installation and final rolling of the base installation at 10,000 square feet intervals.
3. The Contractor is responsible to meet this performance specification, before proceeding with installation of the stone leveling course, and shall bear the cost of the on-site testing and the cost of any additional work necessary to achieve compliance with the specification.
4. All test results shall be logged and documented by the Owner's Technical Representative or Geotechnical Engineer. If at any time the stabilized stone base does not meet specifications, it shall be the Contractor's responsibility to restore, at his expense, the processed stone base to the required grade, cross-section and density.
5. After the contractor has independently confirmed compliance with all the above tolerances (planarity and elevation verified by a licensed surveyor and compaction, gradation, & permeability verified by Geotechnical Engineer), he shall notify the appropriate party and schedule a final inspection for approval. The contractor shall make available an orbital laser system to the inspection Team for the inspection process.
6. All testing fees shall be paid for by the Contractor.

SECTION C: PERIMETER COLLECTOR DRAINAGE

PART I: GENERAL
This work consists of the perimeter perforated pipe and drain rock installed in the perimeter trench.

PART II: MATERIALS
Rock shall consist of free-flowing 3/4" minus diameter coarse drain rock. It shall comply with the following gradation criteria:

MESH SIZE	% PASSING
3/4"	100
5/8"	100
1/2"	90-100
3/8"	70-90
#4	25-40
#8	15-30
#30	5-15
#50	0-7
#200	0-3

SECTION D: PERIMETER CURBING AND TURF ATTACHMENT

PART I: GENERAL

A. DESCRIPTION OF WORK
1. A continuous foundation grade curbing shall be installed around the entire perimeter of the All-weather field.
2. Curbing shall be primarily composed of foundation grade concrete, with an additional polymer composite lumber nailer that will serve as the attachment surface for the turf.
3. Polymer composite 2x4 lumber is attached (concrete nailed) directly to the poured concrete curbing then more securely attached using 1/4" diameter concrete threaded studs (T-nuts, or equivalent) at 3' maximum spacing. The top surface of the nailer should be located 2 inches below the top surface of the concrete curbing, or if an additional surface is applied to the concrete curbing, then 2 inches below that finish surface.
4. Curbing can be installed as a "exposed" style with the turf edge adjacent an exposed top section of concrete (or other paved surface) or as a "hidden" style with the turf edge adjacent and level with soil area (infield for example) or other non paved surface. See Construction Documents for exact orientation.
5. Turf is attached directly to the concrete supported polymer composite curbing utilizing galvanized fabric studs placed at 8" intervals.

PART II: QUALITY ASSURANCE / APPROVALS
A. It is required that the subsurface be properly installed, inspected and approved prior to turf installation by the turf company and designated City Inspector. Finished All-weather base installation workmanship shall be approved in advance by the turf manufacturer. Approvals to be sought on a physical inspection performed at the site prior to installation of any All-weather turf material.
B. Any approvals sought after turf installation will be declined. Any associated repair or replacement costs associated with rework of the All-weather base will be the responsibility of the turf supplier/installer.

PART III: INSTALLATION COMPLETION
Upon completion, the base installer will conduct a thorough inspection and walk-through with the City's Project Manager, Bureau of Construction Administration Inspector and Landscape Architect. See inspection requirement in the General Conditions and General Requirements of the Contract Documents. This inspection is to ensure that the Contractor has complied with the Contract Documents, to identify key features of the installation, and to ensure all details meet specifications and performance requirements.

SECTION E: ALL-WEATHER TURF

PART I: GENERAL

A. DESCRIPTION OF WORK
The work under this section includes but is not limited to the installation of the geotextile membrane, new All-weather grass system, in-fill materials, in-laid markings, perimeter termination and maintenance equipment.

B. SUBMITTALS
1. Installation Qualifications: The All-weather grass sub/contractor shall demonstrate experience on at least five (5) installations of the proposed material in the last year. The All-weather grass manufacturer shall certify the designated supervisory personnel on the project. A letter on the manufacturer's letterhead shall be submitted affirming the sub/contractor as competent in the installation of the material, including seaming methods, in-laid markings, termination and proper installation of the product.
2. All-weather Grass Sample: The Contractor shall submit a 6"X9" sample of the All-weather grass and in-fill system proposed for this contract for approval of colors, in-fill, seaming materials and layout of the system prior to ordering the materials.
3. Warranty: The Contractor shall submit a manufacturer's warranty listing an TEN (10) year guarantee against ultra-violet ray fading, degradation, or defects, such as excessive wear or defoliation. The guarantee shall include and cover that the product will not decrease in pile height by more than 15%, decrease in face weight (without in-fill) by more than 20% and not exceed a G-max (force reduction) of 110 G's initially and not exceed 140 G's over the guarantee period. The Contractor is required to perform the necessary testing during a scheduled time at least one time per year during the guarantee period. The results of the testing shall be submitted to the City of Los Angeles project manager within 30 days of each test. Failure to submit the results will serve as notice to perform such testing by the City of Los Angeles to determine the extent of the needs under this guarantee.
*The Contractor is required under this guarantee to supply and install all in-fill materials and All-weather grass to maintain the performance levels of this guarantee.
4. Testing and Quality Control: Submit to the Project Manager a copy of the results certified by an independent testing laboratory for the following tests performed on the All-weather grass system.
5. Fiber shall be Parallel Silt Film with nylon monofilament thatch layer.
6. All material shall be constructed using the C-8 resin technology. A letter from the fiber manufacturer shall be submitted to the City before payment.

PART II: QUALITY ASSURANCE

A. The permeability of the non permeable treated base shall be checked by a qualified engineer from a sample of the treated material prior to placing the liner on site. In addition, tests shall be coordinated through the Project Manager to test the treated base in six locations. The treated base shall have a permeability rate no more than 4" per hour and shall be per Din 8035 Part 7, ASTM 2434 (constant head), or ASTM F2896 (bucket test) testing methods which consist of a bucket or pale approximately 5 gallons in size. The bottom of the vessel shall be perforated with thirty (30) hole using a 1/2" drill bit. In addition to the lab testing, after installation of any aggregate base cross-section designed to conduct rainfall from the turf to the sub-soils and/or under-drain system shall be tested in situ for infiltration rate, using a (ASTM D-3385-94). The test shall be performed in the presence of the Project Manager. The average infiltration rate of 12 critical areas of the field, as determined by the Project Manager, shall not be more than 4" per hour of vertical water passage per hour, with no one location having a rate more than 6" per hour. The Contractor is responsible to meet this in-situ performance specification, before proceeding with the installation of the All-weather turf, and shall bear the cost of the on-site testing and the cost of any additional work necessary to achieve compliance with the specification. It shall be the Contractor's responsibility to restore at his expense, the processed stone base to the required grade, cross-section and density.
B. All testing fees shall be paid for by the Contractor.
C. The Contractor shall notify the Project Manager and designated City Inspector to schedule a final inspection for approval of base and subgrade prior to installing the All-weather turf. The Contractor shall make available an orbital laser system to the inspection team for the inspection process.
D. METHODS
1. UNDERLYING SOIL
Prior to preparing the site for subgrade foundation and drainage installation, all surface turf and vegetation shall be removed and properly disposed of off-site.
2. SOIL PREPARATION
The native soil shall be sufficiently irrigated and stratified as required to meet the final conditions set forth below. Field Contour - Overall surface contour after final grading and compaction shall be as indicated in the Construction Documents.
3. SUBGRADE AND BASE COMPACTION
After final contouring and rolling, the subgrade soil compaction: The soil compaction shall be greater than 98% on average, with no measurement less than 95%, in accordance with ASTM D-698, based on eight (8) samples taken at reasonably spaced (pseudo-random locations across the field surface location). The designated City Inspector may modify the exact location in the field depending on field conditions. Installed compaction of base material shall average 95% minimum measured at eight (8) locations reasonable spaced across the field surface with no individual measurement less than 90%. The designated City Inspector may modify the exact location in the field.
4. SUBGRADE AND BASE PLANARITY
a. Local soil contour after final compaction and grading shall not have deviations in surface shape greater than 3/8" over a 10' span. Final contour shall be established using a laser-sighted grade elevations using a rectangular grid size appropriate to the area of All-weather turf. Soil grade elevations are to be reviewed and approved by the designated City Inspector prior to installation of the soil isolation fabric.
b. The finished surface of the compacted and laser-graded base material should be set 1/2" below the top surface of the nailer. A graded surface tolerance of +/-1/8" is required along the nailer.
5. PERIMETER COLLECTOR DRAINAGE PIPE INSTALLATION
a. Perimeter drainage system shall be coupled with a main drain exit, see Construction Drawings.
b. The centerline of the perimeter drainage trench is nominally placed 36" inboard of the perimeter curbing with a minimum width of 24" and a minimum depth of 16" at the "uphill" end of the system).
c. Surface contour between the drainage trench and perimeter concrete curb should be counter-sloped to the field at a minimum of 1% for surrounding infiltration or as specified in the provided Construction Drawings.
d. Trenches shall be cleared of all loose debris.
e. Install perforated HDPE pipe in the perimeter collector trenches.
f. The centerline of the pipe shall coincide with the centerline of the trench.
g. A minimum of 4" of the collector trench drain rock shall be placed in the bottom of the collector trenches, on top of the specified soil isolation fabric. The drainage rock shall be compacted per specification. Fill the remainder of the collector trenches with the specified pipe and the specified drainage rock to top of subgrade, compacted per specification.
h. The trench bottoms shall have a drainage slope of 0.5% minimum with a preferred slope of 0.75% throughout the entire system or as specified in the provided Construction Drawings.

SECTION F: FIELD SYSTEM HOLD HARMLESS
The contractor shall hold the City of Los Angeles, Project Manager and Field Consultant harmless from infringement of any current or future patent issued for the All-weather grass system, fibers, backings, including shock pad (as required), installation methods and vertical draining characteristics. The successful Proposer will be required to submit a letter for consent from their surety. Surety will indemnify the requirements.

SECTION G: FIELD DIMENSIONS AND LAYOUT
The Contractor will be responsible for furnishing, setting and marking all lines, seams and markings for the field. The Contractor shall at all times maintain all necessary benchmarks and control points to locate all events and markings.

SECTION H: PROTECTION OF UTILITIES AND STRUCTURES
This Contractor shall take special care to protect all field and stadium structures and utilities.

SECTION I: WARRANTY OF ALL-WEATHER GRASS SYSTEM
1. The Warranty/Guarantee shall cover, in general, the usability of the turf system (and pad as required), accessories use characteristics and suitability of the installation. All items covered by the warranty are to be replaced or repaired with new materials, including installation at the sole expense of the warranting contractor for a period of TEN (10) years to the City of Los Angeles from the date of substantial completion. The field materials shall be guaranteed for the designated uses as follows:
a. Marching Band
b. Football
c. Soccer
d. Physical Trustees exercises
e. Physical Trustees activities
f. Lacrosse
g. Field Hockey
h. Rugby
i. Pneumatic rubber tired maintenance and service equipment
j. Pedestrian traffic and other similar uses
2. A principal of the applicable firm, duly authorized to make contracts, shall sign the turf contractor warranty. The term "contractor" contained herein means the firm furnishing the warranty. "Owner" is the City of Los Angeles. If the turf manufacturer of the All-weather grass system is not the same entity as the contractor, the warranty shall be co-signed by the manufacturer and the installation contractor.
3. Contractor warrants to the City of Los Angeles that its All-weather grass materials shall not fade, fail, shrink, wrinkle or reflect excessive wear. Contractor shall, at their sole expense and cost, replace such areas of the All-weather grass system not performing to these standards for the life of the warranty.
4. Definitions:
a. The term "not fade" in the context of this warranty shall mean that the All-weather grass material remain a uniform shade of green or the other colors installed with no significant loss of color as defined by not greater than 20% loss or shade reduction.
b. The term "not fail" or "excessive wear" as used in the context of this warranty shall mean that the length and weight of the face yarn or pile material in the All-weather turf surface shall not have been decreased by more than 8% per year according to ASTM D418, nor exceed 20% during the warranty period. In the event that the All-weather turf materials do not retain its fiber height or shock absorbency and is consequently no longer serviceable during the warranty period, the Contractor shall, at their sole expense, replace such portions of the system that are no longer serviceable.
c. The term "serviceable" in the context of this warranty shall mean that the All-weather turf material shall have a maximum "G" force value according to Procedure A, B, or C of ASTM D355, not exceed 110 G's at any location upon installation and shall not exceed 140 G's thereafter throughout the life of the warranty period. This shall be determined by conducting dynamic cushioning tests at the six field locations as required per ASTM D355 procedures. "G" force factor values to be determined at 70 degrees F. Any increase from 110 G's to allowable 140 G's maximum shall be at a relatively uniform rate not to exceed 10 G's in any single year.
5. Where applicable, the fabric shall adhere firmly and completely to the under pad or seaming tape over the entire warranty period.
6. Contractor warrants to the City of Los Angeles that the permeable All-weather turf system shall drain vertically a minimum of 10 inches precipitation per hour for a maximum of 24 hours continuously, without visible surface ponding.
7. Contractor shall replace with new materials, at their sole expense, any damage to the All-weather grass system, which extends more than one meter beyond the location of foreign combustibles, which may ignite, and fire-damage the All-weather grass system. The Contractor shall not be held responsible for any incidental or consequential damages. These warranties and the Contractor's obligations here-under are expressly conditioned upon:
a. The City of Los Angeles making all minor repairs to the All-weather grass system upon the discovery of the need for such repairs.
b. The City of Los Angeles maintaining and properly caring for the All-weather grass system in accordance with the Contractor's maintenance manual and instructions.
c. The City of Los Angeles complying with the dynamic and static load specifications established by the Contractor.
8. Contractor shall examine the All-weather turf system at least once per year or in regards to any claim that the City of Los Angeles makes to be present any time, to analyze the results of all tests conducted by the City of Los Angeles or others, and to conduct such tests of their own. Contractor shall not be responsible for any costs or expenses incurred by the City of Los Angeles or others with respect to such tests, except the Contractor shall pay for costs of all tests and analysis conducted or directed by their representative. The annual testing will be at the expense of the Contractor and the results delivered to the City of Los Angeles within 60 days of the testing.
9. In the event the Contractor does not respond to the City of Los Angeles's written notice within 10 days of receipt of the notice or does not submit, schedule and execute corrective work within 60 days (weather permitting), the City of Los Angeles has the option of having the work performed at the expense of the Contractor.
10. The Contractor will be given 7 days notice in the form of a certified letter notifying the Contractor of the end of the 60 day scheduling period.
11. Sample form of warranty herein set forth is a suggested form for use for the work under this section. Manufacturers' standard form of warranty may be used provided conditions specified herein are incorporated. All claims by the City of Los Angeles under this warranty must be made in writing to the Contractor's address.
Within 30 days after the City of Los Angeles learns of the defect, giving rise to the claim. This warranty shall constitute a contract made in the State of California and shall be governed by the laws of that State.

SECTION J: FORM OF WARRANTY OF THE ALL-WEATHER GRASS SYSTEM
1. Contractor hereby warrants to the City of Los Angeles, subject to the limitations and conditions set forth below, that its All-weather grass system consisting of the All-weather turf described as _____, the shock-absorbing under-pad (if necessary) described as _____, and the adhesives used in the installation, are free from defects in material and workmanship and shall, for a period of TEN (10) years from the date of acceptance by the City of Los Angeles, remain serviceable for the activities as listed above.
2. Contractor warrants to the City of Los Angeles that its All-weather grass materials shall not fade, fail, shrink, wrinkle or reflect excessive wear. Contractor shall, at their sole expense and cost, replace such areas of the All-weather grass system not performing to these standards for the life of the warranty.
3. Definitions:
a. The term "not fade" in the context of this warranty shall mean that the All-weather grass material remain a uniform shade of green or the other colors installed with no significant loss of color as defined by not greater than 20% loss or shade reduction.
b. The term "not fail" or "excessive wear" as used in the context of this warranty shall mean that the length and weight of the face yarn or pile material in the All-weather turf surface shall not have been decreased by more than 8% per year according to ASTM D418, nor exceed 20% during the warranty period. In the event that the All-weather turf materials do not retain its fiber height or shock absorbency and is consequently no longer serviceable during the warranty period, the Contractor shall, at their sole expense, replace such portions of the system that are no longer serviceable.
c. The term "serviceable" in the context of this warranty shall mean that the All-weather turf material shall have a maximum "G" force value according to Procedure A, B, or C of ASTM D355, not exceed 110 G's at any location upon installation and shall not exceed 140 G's thereafter throughout the life of the warranty period. This shall be determined by conducting dynamic cushioning tests at the six field locations as required per ASTM D355 procedures. "G" force factor values to be determined at 70 degrees F. Any increase from 110 G's to allowable 140 G's maximum shall be at a relatively uniform rate not to exceed 10 G's in any single year.
4. Where applicable, the fabric shall adhere firmly and completely to the under pad or seaming tape over the entire warranty period.
5. Contractor warrants to the City of Los Angeles that the permeable All-weather turf system shall drain vertically a minimum of 10 inches precipitation per hour for a maximum of 24 hours continuously, without visible surface ponding.
6. Contractor shall replace with new materials, at their sole expense, any damage to the All-weather grass system, which extends more than one meter beyond the location of foreign combustibles, which may ignite, and fire-damage the All-weather grass system. The Contractor shall not be held responsible for any incidental or consequential damages. These warranties and the Contractor's obligations here-under are expressly conditioned upon:
a. The City of Los Angeles making all minor repairs to the All-weather grass system upon the discovery of the need for such repairs.
b. The City of Los Angeles maintaining and properly caring for the All-weather grass system in accordance with the Contractor's maintenance manual and instructions.
c. The City of Los Angeles complying with the dynamic and static load specifications established by the Contractor.
7. The warranty is not to cover any defect, failure, damage or undue wear in or to the All-weather grass system caused by or connected with abuse, neglect, deliberate acts, acts of God, casualty, static or dynamic loads exceeding Contractor's recommendations.

SECTION K: DYNAMIC CUSHIONING REQUIREMENTS OF THE ALL-WEATHER GRASS SYSTEM

SECTION 1: ORIGIN, QUALITY AND PROPERTIES	Reference Standards
Product must be made in the United States of America.	
Manufacturer must demonstrate successful installations in the United States for at least 5 million sq feet of specified product.	
Material must carry a U.S. 25-year non-prorated product and performance warranty. Warranty shall cover removal and replacement of the pad system at no cost to the City.	
Product must be of a homogeneous material composition. Variable material content will not be accepted.	
Material is to be manufactured in an ISO 9000 certified facility. No exceptions allowed.	ISO 9000
Minimum material thickness 23mm - Product material thickness tolerance must be within +/- 2 mm from declared value.	
Seams should be mechanically locked into place by hand without use of additional materials, glue, fasteners or accessory processes and equipment.	
Tensile Strength >60pa	ASTM D3575-08
Tensile Elongation >28%	ASTM D3575-08
Resistance to Acid and Alkaline Liquids <0.5% tensile strength loss - 100yr model - after 12 days immersion	ISO 12960:1998
Resistance to Oxidation (Accelerated Ageing) <10% tensile strength loss - 100yr model - after 96 days @ 110°C	ISO 13438:2004
Resistance to bacteria - no growth	ASTM G22-76 / EN 12225
Resistance to fungi - no growth	ASTM G21-96
Thermal Resistance (R Value) - minimum 3.0	ASTM D3575
Coefficient of linear thermal expansion <0.004 in./ft./°C	ASTM D996-03
Water Absorption <1.5% after 24 hrs immersion	DIN 52 438 / ASTM D570

SECTION 2: ENVIRONMENTAL COMPATIBILITY

Specification	Reference Standards/Specifications
Product must comply with and be certified for the California Proposition 65 Safe Drinking Water and Toxic Enforcement Act of 1986 - Update effective 06 JUN 2014	EPA 81018 TCLP/SP/P (CP Metal) (Aquatic) EPA 7410A TCLP/SP/P Mercury (Aquatic) EPA 1474 Mercury (Soil) EPA 8270C Sem-Volatile Organics (Soil) EPA 8270C TCLP/SP/P Semi-volatile Organics (Aquatic) EPA 8200D Volatile Organics (Soil) EPA 8200B EPA Volatile Organics (Aquatic)
Product must fulfill requirements for California Code of Regulations, Title 22, Division 4, Chapter 15, Article 16, Secondary Water Standards.	EPA 6010B/7471A CAC Title 22 Metals
Product must be Cradle to Cradle Certified	EPEA Cradle to Cradle™
Manufacturer must provide a product lifetime recycle / reuse program	
Material must demonstrate 100% closed loop recyclability, recycling program Decoupling and/or energy production not acceptable.	
Manufacturer must provide documentation of material content and approved standard MSDS sheet for submitted package	

BUREAU OF ENGINEERING
ENGINEERING
CITY OF LOS ANGELES

DATE: BY:
NO. REVISIONS

BUILDING NO. XX/XX
INDEX NO. -

RP 300091

LANDSCAPE ARCHITECT
GARY LEE MOORE, PE, ENV SP, ARCHITECTURAL DIVISION
ARCHITECT: JANE ADRIAN
DESIGNED BY: GUILLERMO BARRAGAN
DRAWN BY: GUILLERMO BARRAGAN
CHECKED BY: JANE ADRIAN
APPROVED BY: MAHMOUD KARIMZADEH, A.I.A., PRINCIPAL ARCHITECT

DEPARTMENT OF PUBLIC WORKS
CLIENT: RECREATION AND PARKS
INTERIM GENERAL MANAGER: MICHAEL A. SHULL

CITY OF LOS ANGELES
SHEET TITLE: SYNTHETIC TURF SPECIFICATION, SHEET 1
PROJECT: LOREN MILLER RECREATION CENTER SYNTHETIC SOCCER FIELD PROJECT
ADDRESS: 2717 HALLDALE AVENUE LOS ANGELES, CA 90018

WORK ORDER NO. E170171A
DRAWING NO. L406
SHEET 19 OF 24
PLOTTED: 8/22/2016 4:04 PM

SECTION 3: PERFORMANCE / SAFETY REQUIREMENTS

Specification	Reference Standards/Specifications
Vertical drainage >700" / hr	ASTM 1551; Sulfite-DIN 18-035, Part 8
Vertical Deformation <5.0mm	EN14809
Force Reduction <65%	EN14808
Provide maximum field average Gmax of field of 100 G's upon initial testing under specified in-fill turf	ASTM F355-A / ASTM F1936-10
Provide guarantee of maximum field average G-Max of 130 during warranty period of the specified in-fill turf	ASTM F355-A / ASTM F1936-10
Provide maximum field average HIC of <1,000 from a 1.3m drop height of during warranty period of the turf	ASTM F355 E / ASTM F1292
Provide minimum interface friction coefficient of >0.6 in wet and dry conditions with specified in-fill turf system	

- Acceptable manufacturers / systems of drain-mat, or approved equal (to be installed over the impermeable liner fabric):
 - Brock Systems, PowerBase Series, by Brock USA, Boulder, CO, www. Brockusa.com (877)276-2587, Brock Power Base: 0.95" thick
 - Nexfield Pad, 2.9 density pad @ 0.95" thickness, Montreal, Canada

*Note: The contractor and supplier shall hold the city of Los Angeles harmless from any patent or pending patent infringements.

- The dynamic cushioning of the combined turf and in-fill system (and pad if required) shall not exceed a maximum of 110 G's at 70 degrees F, per ASTM 1936-98, F355, Procedure A at any location within 30 days of the installation. The system shall not exceed 140 G's over the warranty period.

- Packing and Shipping: Deliver products in original unopened packaging with legible manufacturers' identification. All materials shall be stored in a dry place out of the direct sunlight.

- The in-fill system shall have not less than 2 pounds of Zeolite, 12 - 20 mesh sieve size.
 - The material shall have a MOHS hardness of 4.2 to 4.8.
 - The initial in-filling shall be at 1.6 pounds per square foot.
 - The remaining 0.4 pounds per square foot shall be installed after 60 days.

D. PERMEABILITY REQUIREMENTS OF THE ALL-WEATHER GRASS SYSTEM

The combined turf, in-fill system and pad shall drain vertically at a minimum of 10 inches of precipitation per hour for 24 hours continuously, without visible surface ponding.

E. ADHESIVE MATERIAL PROPERTIES

- Adhesive material to adhere the All-weather turf shall be:
 - 34-G adhesive as manufactured by Synthetic Surfaces, Inc. of Scotch Plains, NJ.
 - StaBond (one part adhesive), By StaBond adhesive, Gardena, CA.
 - Mapai Ultrabond PU 1K(single component), Mapai, Deerfield Beach, FL.
 - The adhesive shall be applied at the rate not to exceed 60 square feet per gallon.
 - Hot melt glue method using National Adhesives (281) 731-8949 Product #34-5637.

F. ALL-WEATHER TURF PILE SURFACE

- The pile surface shall provide good traction in all types of weather with the use of conventional "sneaker type shoes" and composition, molded sole athletic shoes. The pile surface shall be suitable for both temporary and permanent line. Markings and permanent markings using a rubber base paint where applicable.

- The pile height shall be constructed to allow a total of 3/4" of free fiber after the in-fill materials are installed.

G. ALL-WEATHER TURF SYSTEM MATERIAL COMPONENTS

- Pile fibers shall resemble freshly grown natural grass in appearance, texture and color (except for the color turf for markings).
- Fibers shall be a combination of 58 oz. of Polyethylene parallel slit film (1.5mm pattern) having a denier of 8,000 and fiber thickness of 100 micron (before the oven), with 22 oz. HD (30) nylon (650 denier) monofilament as a thatch zone. Total fiber weight shall be not less than 80 ounces per square yard.
- Pile surface shall be nominally uniform in length not less than 1-1/4".
- The fibers are tufted through a two layer (one woven and one non-woven) All-weather backing material.
- The final coating or secondary backing shall be a moisture cure polyurethane. This backing shall be not less than 20 ounces. Latex backing material is not acceptable. The secondary backing or polyurethane coating shall be uniform and monolithic when cured.
- If sewn, all turf seams shall be constructed of reinforced backing material or sewn with high strength polyester fiber cord. Sewn seams shall be a "double loop stitch" (bagger seams are not acceptable) type seam. Seams shall lay flat after in-fill.
- All glued seams shall have a 12" wide seaming tape of nylon or Mylar, fully coated with adhesive. All seams shall not have any adhesive applied to any exposed fibers. All graphics or markings can be in-laid or cut-in.
- All turf shall be perforated for drainage after the final backing coating. The perforations shall be not less than 1/4" in diameter and have a uniform spacing of not less than 4" on center. Perforations shall be complete and full diameter for a minimum of 95% of the each roll.
- On-site perforations are to be inspected prior to installation of the product.
- Fabric surface shall be constructed and installed in minimum widths of 15 feet with no longitudinal or transverse seams, except for in-laid lines with a finished roll assembly. The seams shall be 15'-0" apart and shall have the white 5-yard line tufted into each panel for the full width of the field. Rolls that do not comply with the proper length or conform to the seaming diagram as submitted prior to the installation, shall be rejected from the site. No fitted pieces will be allowed to true alignment.

H. PERFORMANCE AND TEST REQUIREMENTS

1. Melting Point	ASTM D789	135 degrees C.
2. Specific Gravity	ASTM D792	950 to 960
3. Breaking Strength	ASTM D5034	Length 283 lbs./ft. Width 208 lbs./ft.
4. Coefficient of Friction	ASTM D5034	Dry 1.15 Wet 1.00
5. Pill Burn Test	ASTM D2859	8 Passed/0 Failed
6. Tuft Bind (without in-fill)	ASTM D1335	8 LBS /sq.ft.
7. Tuft Bind (with in-fill)	ASTM D1335	22 lbs./sq.ft.
8. Pile Height	ASTM D418	1-1/4" minimum
9. Fiber Face Weight	ASTM D418	80 oz./sq. yard total
10. Fiber Construction	ASTM D418	Fibers shall be a combination of 58 oz. polyethylene parallel slit film (1.5 mm pattern) having a denier 8,000 and a fiber thickness of 100 micron (before the oven) with 22 oz. HD (30) nylon (650 denier) monofilament as a thatch zone. Total fiber weight shall be not less than 80 ounces per square yard.
11. Gauge Width	ASTM D418	3/16" max. (Tufted as A-B needles or alternating fibers)
12. Fiber Denier	ASTM D418	Slit film 8,000 Denier; Monofilament PE 1200; HD (30) Nylon Thatch 650 Denier
13. Fiber Thickness	ASTM D418	Parallel Slit film 100 microns; Monofilament 230 microns; Nylon 80 micron (minimum thickness) before the oven.
14. Fibers (Yarn):		
a. Strenex, by Shaw: Color shall be Field Green		
b. Bonar Ultra HD: Color shall be Sport Green		
c. Dr. Karl Wetekam & Co. Narnberger Strasse 30-32 Melsungen, Hessen 34212 Germany Phone: 0049-5661-73770		
d. Radici Group, Italy		
e. Matrix Velocity, by Hellas, Austin, TX		

15. Secondary Backing ASTM D418 20 oz. Non-filled Polyurethane (CLEAR)

I. POST INSTALLATION TESTING REQUIREMENTS:

After the installation the Contractor shall have the field tested for performance within two weeks of completion. The test shall be the ASTM F-355 Shock Attenuation (Gmax). The testing laboratory will be required to test each field in 20 locations as determined by the City or shown on the drawing. At each location the Gmax level will be recorded in addition to the in-fill depth measurement.

J. POST INSTALLATION TESTING REQUIREMENTS:

- After 60 days of the installation the Contractor shall have the field tested for performance within two weeks.
- The testing requirements shall be according to the STC (Synthetic Turf Council).

3. Tests:

- Ball Roll: 6 to 10 meters
- Ball Bounce: 60 to 100 centimeters
- Force Reduction: 55 to 70
- Deformation: 8 to 12 mm
- Torque: 25 to 50 kg
- Traction: 120 to 180
- Evenness: 9mm within 3m straightedge
- Gmax: 110 to 120 (initial)
- Seams: All Seams are checked for completeness
- Infill Depth: 16 to 18mm (+/- 3mm)

4. Testing Laboratories:

- All in-situ field performance testing shall be performed by a FIFA certified laboratory
- Laboratories:
 - Labosport Inc, Montreal, Canada +1 (514) 277-9111
 - DMA Sports Design Group, LLC, Canyon Lake, CA (509)579-8015
 - or Submitted testing company as approved by the City of Los Angeles, Department of Recreation and Parks

K. MARKINGS

- A complete field lining, marking and field boundary system with team areas limits, etc. shall be provided with the initial installation. Layouts shall be accurately surveyed and marked prior to installation.
- All lines, numbers and field markings except one-yard marks are to be tufted or in-laid with the specific colored turf. All markings shall be uniform in color, providing a sharp contrast with the turf color and shall have sharp and distinct edging. Markings shall be true and shall not vary more than 1/2" from specified width and location.
- Manufacturer is to guarantee that the synthetic fiber is adaptable to painted lines.
- Minimum Lining and Markings: All Green Field area with white, red and yellow as indicated on the drawings for soccer markings.

PART 3 - EXECUTION

A. INSTALLATION

- Perform all work in strict accordance to the drawings, shop drawings and manufacturer's specifications and instructions.
- Verification: The Contractor is responsible for the inspecting, verifying and completing all installed work of this section.
- Weather Permitted Conditions: The Contractor shall not perform any work if any of the following conditions exist:
 - Ambient air temperatures are below 45 degrees F.
 - Material temperature falls below 45 degrees F.
 - Rain is forecast or falling
 - Conditions exist or are pending that will be unsuitable to the installation of the system.

B. CERTIFICATION OF THE BASE INSTALLATION

- The Contractor is responsible for the review and acceptance of the base and drainage.
- Upon completion of the base installation, this contractor shall submit the acceptance of the base in written form, noting any deficiencies.

C. DELIVERY AND INSPECTION OF MATERIALS

- Prior to the installation of any materials and immediately upon delivery of the synthetic turf system and components to the project site, the Contractor shall inspect/verify the following:
- Damaged or defective items
 - Appropriate turf pile height and roll lengths
 - Uniformity of perforations
 - Arrival of adhesives in sealed dry containers
 - Arrival of in-fill with a dry, loose condition, and contained in large sacks or bags without tears

D. CITY OF LOS ANGELES TESTING

- The City of Los Angeles reserves the right to submit any material, either before or after installation to any testing it deems necessary to satisfy the conditions of this contract.
- Any material tested and found not in compliance with the contract will be rejected and replaced with material conforming to the specifications. This will be done at the sole expense of the contractor.
- Any testing performed by the City of Los Angeles will be at the City of Los Angeles's expense. The contractor is responsible for the cost of all testing that fails.

E. TURF INSTALLATION

- After acceptance of the base materials, any turf material with less than the 20 oz. secondary backing shall have a 6 oz. non-woven geotextile membrane installed under each area of the panel, the All-weather turf is staged and unrolled as necessary for a daily installation. No material will be allowed to be unrolled 24 hours prior to installation. If a shock pad is required, the in-situ pad can be installed over the accepted base. Control of the finish grade and contour shall be the responsibility of the contractor.
- Seams
 - All panel seams shall be securely sewn using a double stitch bagger seam and/or glued to a backing material of nylon or mylar.
 - All panel seams spacing are to be held to a minimum of 15 feet unless prior approval of seaming diagram indicates a lesser panel.
 - All in-laid areas shall have full fastenings and no loose areas. At no time can pulling on the section separate the material.
 - All seams and in-laid areas shall be brushed thoroughly before in-fill materials are installed.
- Turf Edges and Termination

All edges and ends of the turf shall be secured to a termination area. This termination shall be as detailed in the drawings. The contractor shall submit a shop drawing of this termination detail prior to any work on the site.

F. LINES, MARKINGS, AND IN-LAID TURF

All lines to be 4" wide. See drawings for locations and colors of lines, in-laid turf, and (if applicable) logos.

G. INSTALLATION OF IN-FILL

- In-fill material shall consist of 2 lbs. per square foot of Zeolite. Zeolite must be approved by the City's third party inspector prior to installation.
- The in-fill material shall be installed to a depth that results, after finish brushing, in an exposed fiber length of not less than 3/4".
- The contractor shall be required to return to the site after not less than 30 days to inspect and add in-fill materials as needed.
- No in-fill materials shall be installed until the turf system is fully installed with all lines and markings.
- The entire synthetic turf installation shall be thoroughly brushed with a minimum of 10 passes to remove any wrinkles and debilitate the slit film prior to the installation of the in-fill material.
- The in-fill materials shall be installed in layers not to exceed 0.375 pound per square foot per layer.
- The turf shall remain free draining at all times: before, during and after the in-fill materials are installed.

H. GENERAL CLEANUP

- The site shall be kept clean and free of debris throughout the installation. Empty barrels, sacks, bags and remnant materials shall be appropriately and legally stored or disposed of daily.
- After completion of the entire project, all debris remaining that is not a part of the final project shall be removed from the site.

SECTION F: WARRANTY AND GUARANTEE: ALL-WEATHER TURF SYSTEM

A. GENERAL

- The Contractor shall be required to issue a non-prorated guarantee for 100% of all labor, materials, workmanship and services for the All-weather Surface and Markings for:
 - The Contractor shall be required to issue a non-prorated guarantee for 100% of all labor, materials, workmanship and services for any failure due to installation or materials. The surface wear will be determined by an independent consultant acceptable to all parties.
- All-weather Grass System for a period of TEN (10) years. This warranty will be not be subject to pro-rating of the surface for any failure due to installation or materials. The surface wear will be determined by an independent consultant acceptable to all parties.
- The guarantee for the surface systems shall remain in force for a period of not less than TEN (10) Years specified from the date of written acceptance of the work.
 - The Owner will notify the contractor in writing of any issues that require remedial work on the field area.
 - The Contractor shall respond to the notification within 48 hours of receipt and schedule any major defect or repair within 72 hours or as weather permits.
 - The warranty requires that the contractor shall be required to perform all required repairs in a permanent and suitable manner as deemed necessary to maintain a safe playing condition at all times.
 - The warranty requires that in case of any major repair or replacement, the contractor is to schedule such work as to not interfere with the Owner's primary use or schedule.
 - Any expenses resulting from the failure to honor the requirements of this warranty shall be the responsibility of the contractor.
 - Failure to service the requirements of this warranty will be charge to the contractor.
- Any defects caused by delamination, peeling, normal abrasion or raveling that is not in original conformance with the testing specifications shall be repaired or replaced at no cost to the City of Los Angeles, Department of Recreation and Parks during this guarantee period.

In addition to the Contractor's warranty, the contractor shall be required to submit the following documents in regard to the guarantee:

- Provide a TEN (10) year warranty from the manufacturer for the turf product for all work performed under this contract.
- Provide an EIGHT (8) year warranty for the fibers from the fiber manufacturer for all work performed under this contract.
- Provide a TEN (10) year surfacing manufacturer and installer written guarantee for the All-weather grass.
- Provide an EIGHT (8) year third party insured warranty issued by a company licensed to do business in the State of California. This company shall have a Best rating of A- or more. The limits of the policy shall not be less than \$5,000,000.00 per year with a single limit of not less than \$500,000.00 per field (not site).
- The City of Los Angeles shall be listed as additionally insured.
- Policy is non-prorated with no allowances for deductibles.
- Documents shall be submitted to the City of Los Angeles, Department of Recreation and Parks prior to final payment.

- The Contractor will be responsible for all tests that fail the specification. The City of Los Angeles reserves the right to submit the surface to the above tests at any time during the length of the guarantee. Consideration will be given to the time and use of the surface.

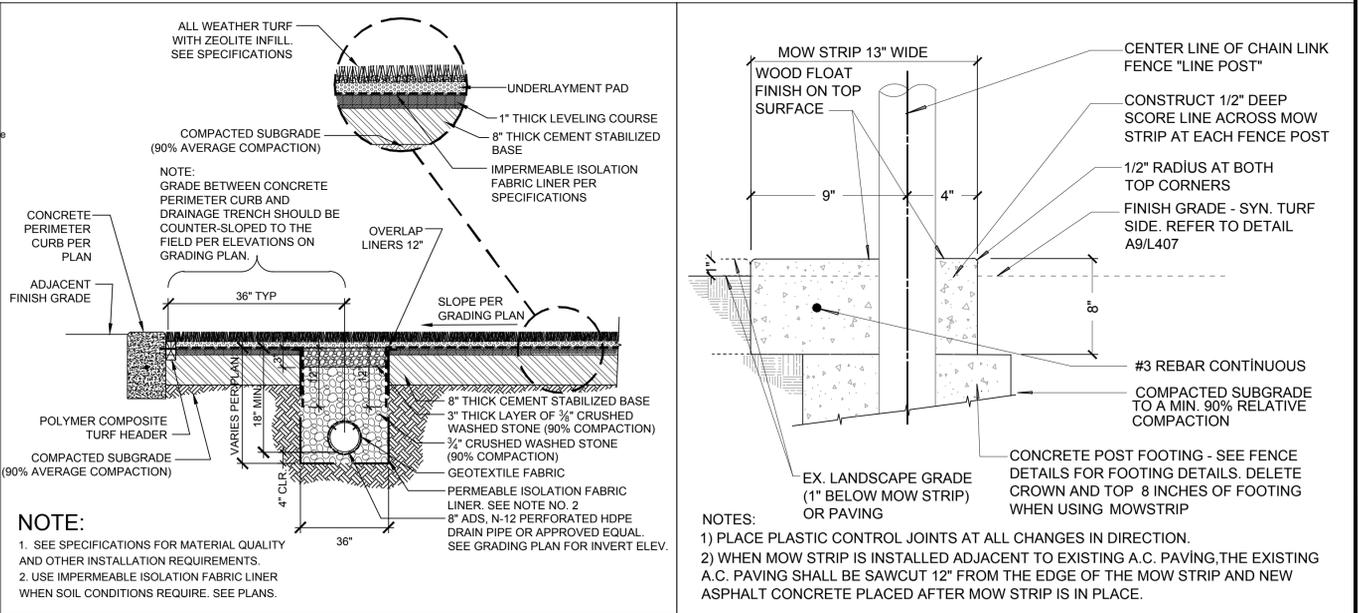
- This warranty does not cover excessive wear of the surface caused by misuse. The City of Los Angeles will be given instructions and caretaking procedures before final acceptance in order to comply with the maintenance guidelines as specified by the surfacing manufacturer.

SECTION G: POST INSTALLATION MATERIALS AND EQUIPMENT

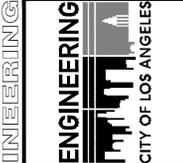
Upon completion of the project and before final payments are made, this contractor shall supply the following items to the City of Los Angeles, Department of Recreation and Parks.

- SMG - TMC 1400 Turf Groomer, by SMG Equipment, 2002 West Valley Hwy #200; Auburn, WA 98001
- One piece of turf (of the material installed) 15 feet x 100 feet. Delivered to the City of Los Angeles, Department of Recreation and Parks storage area as directed.
- One super sack (3500 lbs.) of the in-fill material used for this project.

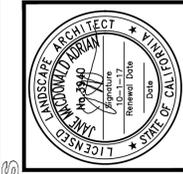
END OF ALL-WEATHER TURF SPECIFICATION



A9	TYPICAL TURF PROFILE AND PERIMETER DRAINAGE	A13	CONCRETE MOW STRIP AT CHAINLINK FENCE
N.T.S.		N.T.S.	
	C.J.A. 3.19.15		RP DETAIL XXX
			RP DETAIL 321



DATE: BY:	
NO. REVISIONS	
BUILDING NO.	XX/XX
INDEX NO.	RP 300091



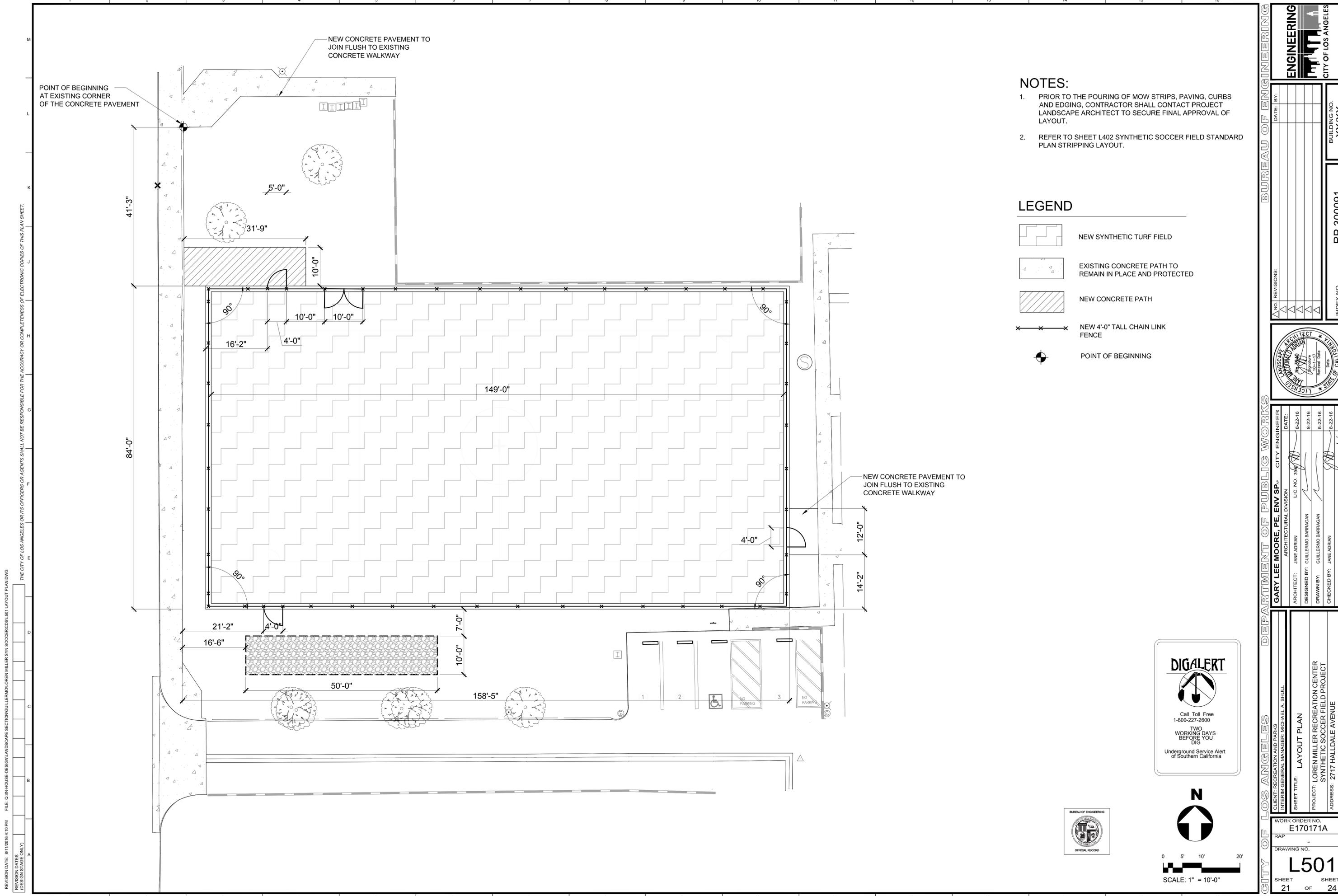
GARY LEE MOORE, PE, ENV SP.	CITY ENGINEER	DATE	10-22-16
ARCHITECTURAL DIVISION	LIC. NO. 3547	DATE	10-22-16
ARCHITECT: JANE ADRIAN	DESIGNED BY: GUILLERMO BARRAGAN	DATE	10-22-16
DRAWN BY: GUILLERMO BARRAGAN	CHECKED BY: JANE ADRIAN	DATE	10-22-16
APPROVED BY: MAHMOUD KARIMZADEH, A.I.A.	PRINCIPAL ARCHITECT	DATE	10-22-16

CLIENT: RECREATION AND PARKS	INTERIM GENERAL MANAGER: MICHAEL A. SHULL
SHEET TITLE: SYNTHETIC TURF DETAILS AND SPECIFICATION, SHEET 2	PROJECT: LOREN MILLER RECREATION CENTER SYNTHETIC SOCCER FIELD PROJECT
ADDRESS: 2717 HALLDALE AVENUE	LOS ANGELES, CA 90018

WORK ORDER NO.	E170171A
DRAWING NO.	
SHEET	L407
20	OF 24

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- NOTES:**
1. PRIOR TO THE POURING OF MOW STRIPS, PAVING, CURBS AND EDGING, CONTRACTOR SHALL CONTACT PROJECT LANDSCAPE ARCHITECT TO SECURE FINAL APPROVAL OF LAYOUT.
 2. REFER TO SHEET L402 SYNTHETIC SOCCER FIELD STANDARD PLAN STRIPPING LAYOUT.

- LEGEND**
- NEW SYNTHETIC TURF FIELD
 - EXISTING CONCRETE PATH TO REMAIN IN PLACE AND PROTECTED
 - NEW CONCRETE PATH
 - NEW 4'-0" TALL CHAIN LINK FENCE
 - POINT OF BEGINNING

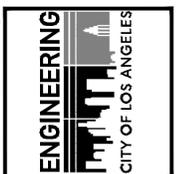
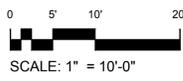
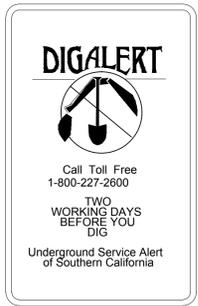
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CITY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING

ARCHITECT:	JANE ADRIAN	DATE:	8-22-16
DESIGNED BY:	GUILERMO BARRAGAN	DATE:	8-22-16
DRAWN BY:	GUILERMO BARRAGAN	DATE:	8-22-16
CHECKED BY:	JANE ADRIAN	DATE:	8-22-16
APPROVED BY:	MAHMOOD KARIMZADEH, A.I.A., PRINCIPAL ARCHITECT	DATE:	8-22-16

CLIENT: RECREATION AND PARKS
 INTERIM GENERAL MANAGER: MICHAEL A. SHULL
 SHEET TITLE: LAYOUT PLAN
 PROJECT: LOREN MILLER RECREATION CENTER
 SYNTHETIC SOCCER FIELD PROJECT
 ADDRESS: 2717 HALDALLE AVENUE
 LOS ANGELES, CA 90018

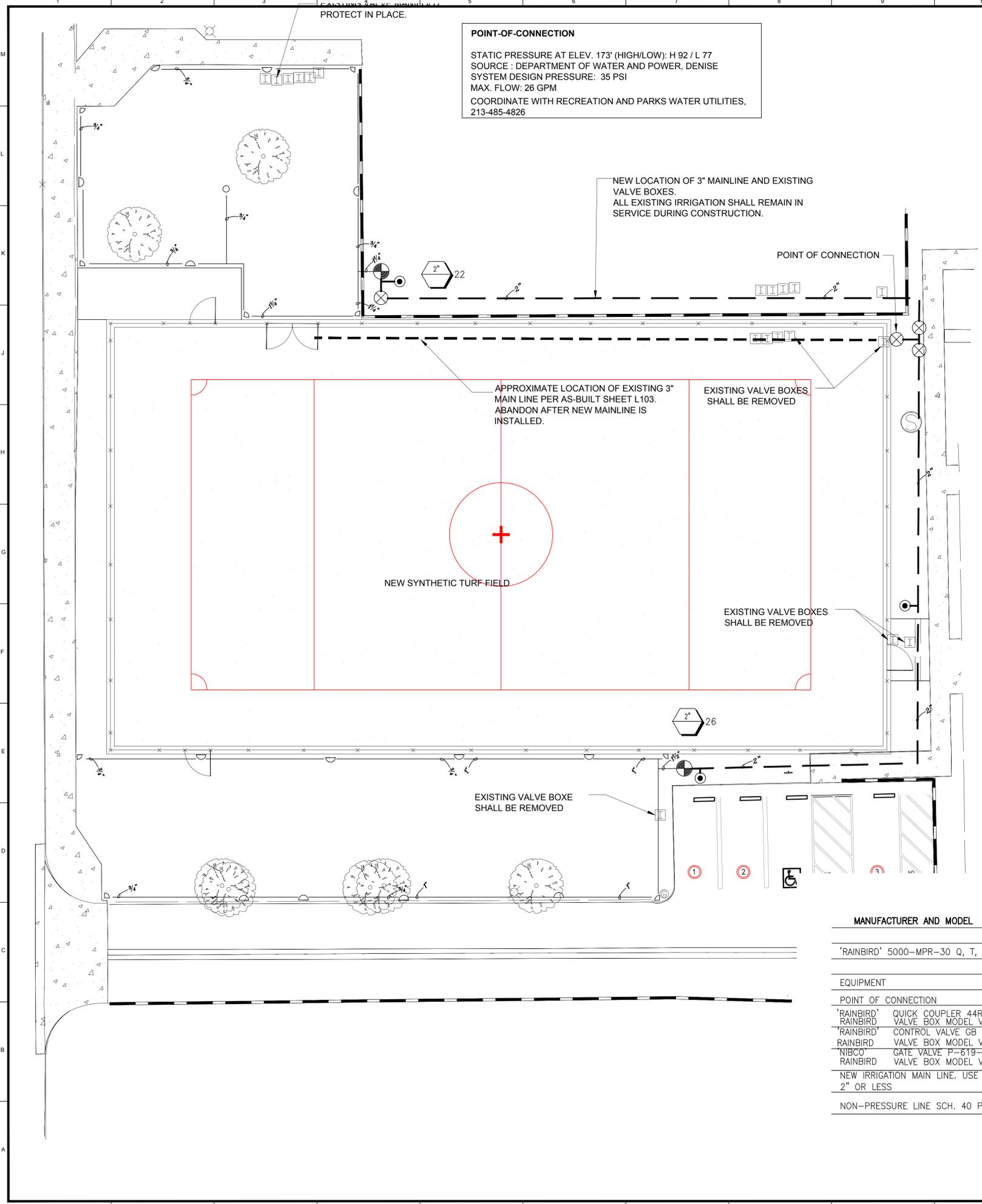
WORK ORDER NO. E170171A
 DRAWING NO. L501
 SHEET 21 OF SHEETS 24



INDEX NO.	-
BUILDING NO.	XX/XX
INDEX NO.	RP 300091



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 Sheet Version 2.2



- NOTES:**
1. THE INSTALLING CONTRACTOR SHALL VERIFY STATIC WATER PRESSURE AND EXISTING SITE CONDITIONS BEFORE CONSTRUCTION. THE CONTRACTOR MUST ALSO MAKE ALL NECESSARY CONTACTS REGARDING THE COORDINATION OF THE VARIOUS TRADES INVOLVED IN THE PROJECT WHOSE WORK MAY CONFLICT WITH THE SCOPE OF WORK. THE CONTRACTOR SHALL REPORT THIS INFORMATION IN WRITING TO THE PROJECT ENGINEER/LANDSCAPE ARCHITECT IMMEDIATELY. IF S/HE FAILS TO DO SO, THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY CHANGES AND/OR COSTS THAT OCCUR AS A RESULT CONTRACTOR SHALL VERIFY OPERATION WATER METER AND BACKFLOW PRESSURE SETTING.
 2. FOR EXISTING MAIN LINE, EXISTING IRRIGATION HEADS AND LATERAL LINES LAYOUT, PLEASE REFER TO AS-BUILT DRAWING L103.
 3. CONTRACTOR SHALL ENSURE THAT NO IRRIGATION HEADS ARE PLACED WITHIN THE PERIMETER OF THE SYNTHETIC TURF AREA. HEADS THAT ARE SHOWN SCHEMATICALLY ON THIS PLAN WITHIN THE BOUNDARY OF THE SYNTHETIC TURF ON THIS SHEET SHALL BE PLACED IN THE CLOSEST LOCATION JUST OUTSIDE THE SYNTHETIC TURF PERIMETER.
 4. CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTING AND RE-SETTING IRRIGATION BOXES, HEADS AND OTHER EXISTING EQUIPMENT TO REMAIN, THAT IS AFFECTED DURING CONSTRUCTION AND GRADING, TO PROPER HEIGHTS RELATIVE TO FINISH GRADE.
 5. IRRIGATION EQUIPMENT DAMAGED DURING CONSTRUCTION BY THE CONSTRUCTION PROCESS SHALL BE REPLACED IN KIND. ALL EQUIPMENT REPLACED SHALL BE INSTALLED PER THE DETAILS PROVIDED IN THESE CONSTRUCTION DRAWINGS.
 6. ALL PRESSURIZED PIPE TO BE ABANDONED SHALL CUT AND CAPPED MINIMUM OF 48" FROM THE BOUNDARY OF NEW SYNTHETIC TURF.
 7. ALL NEW IRRIGATION PIPE SHALL BE ROUTED AROUND BOUNDARY OF NEW SYNTHETIC TURF AREAS AND WHERE POSSIBLE LOCATED IN LANDSCAPED AREAS.
 8. CONTRACTOR SHALL COORDINATE ALL IRRIGATION WORK WITH RAP PACIFIC MAINTENANCE SUPERVISOR AT (310)548-7644.
 9. TRENCHING: THE ROUTING OF MAINLINE AND LATERAL LINES IS INTENDED TO MINIMIZE DAMAGE TO EX. TREE ROOTS CAUSED BY TRENCHING. ANY TRENCHES DUG TO ACCOMMODATE NEW IRRIGATION PIPES THAT PASS THROUGH THE DRIPLINE OF AN EX. TREE ARE SUBJECT TO THE REQUIREMENTS SPECIFIED IN THE SECTION "TREE PROTECTION GUIDELINES" OF THE IRRIGATION CONSTRUCTION NOTES.
 10. UPON COMPLETION OF INSTALLATION, INSTALLER SHALL CONDUCT A COVERAGE TEST AND MAKE ANY ADJUSTMENTS IN HEAD LOCATION AND SPACING OR NOZZLE SELECTION AS NECESSARY TO ACHIEVE THE BEST POSSIBLE DISTRIBUTION UNIFORMITY GIVEN EX. PARAMETERS OF AVAILABLE PRESSURE AND FLOW.
 11. INSTALLATION FOR THE CONTROL WIRES SHALL FOLLOW MAINLINE ROUTING. SEE LANDSCAPE CONSTRUCTION NOTES.
 12. REFER TO LANDSCAPE CONSTRUCTION NOTES FOR ADDITIONAL INFORMATION REGARDING THIS SECTION OF WORK.

MANUFACTURER AND MODEL	SYMBOL	DETAIL	P.S.I.	DESIGN RADIUS	CATALOGUE RADIUS	G.P.M.	PRECIP. RATE
'RAINBIRD' 5000-MPR-30 Q, T, H, F,		E13/L602	35	24'-27'	30'	1.23,1.62,2.59,5.08	.53
EQUIPMENT							
POINT OF CONNECTION	POC						
'RAINBIRD' QUICK COUPLER 44RC 1"		E5/L602					
'RAINBIRD' VALVE BOX MODEL VB-10RND-H		J1/L602					
'RAINBIRD' CONTROL VALVE GB SERIES IN		J1/L602					
'RAINBIRD' VALVE BOX MODEL VB-STD-H		J1/L602					
'NIBCO' GATE VALVE P-619-RW LINE SIZE		E9L602					
'RAINBIRD' VALVE BOX MODEL VB-STD-H		E9L602					
NEW IRRIGATION MAIN LINE. USE SCH. 40 P.V.C. 2" OR LESS		J11L602		SEE PLAN FOR SIZE			
NON-PRESSURE LINE SCH. 40 P.V.C.				SEE PLAN FOR SIZE			

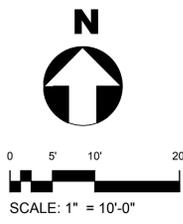


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BUREAU OF ENGINEERING

ENGINEERING

CITY OF LOS ANGELES

DATE: BY:

NO. REVISIONS:

BUILDING NO. XX/XX

INDEX NO. - RP 300091

ARCHITECT

LICENSED LANDSCAPE ARCHITECT

STATE OF CALIFORNIA

DEPARTMENT OF PUBLIC WORKS

GARY LEE MOORE, PE, ENV SP

ARCHITECTURAL DIVISION

CITY ENGINEER

DATE: 8-22-16

LIC. NO. 3894

DESIGNED BY: GUILLEMOUEN BARRAGAN

LIC. NO. 8-22-16

DRAWN BY: GUILLEMOUEN BARRAGAN

LIC. NO. 8-22-16

CHECKED BY: JANE ADRIAN

LIC. NO. 8-22-16

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

LIC. NO. 8-22-16

CLIENT: RECREATION AND PARKS

INTERIM GENERAL MANAGER: MICHAEL A. SHULL

SHEET TITLE: IRRIGATION PLAN

PROJECT: LOREN MILLER RECREATION CENTER SYNTHETIC SOCCER FIELD PROJECT

ADDRESS: 2717 HALLDALE AVENUE LOS ANGELES, CA 90018

WORK ORDER NO. E170171A

DRAWING NO. L601

SHEET 22 OF SHEETS 24

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GENERAL CONDITIONS
&
GENERAL REQUIREMENTS
FOR
CONSTRUCTION
OF
LOREN MILLER RECREATION CENTER
SYNTHETIC SOCCER FIELD

2717 HALLDALE AVENUE
LOS ANGELES, CA 90018



Revision Date: 8/15/2016

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GENERAL

1. DEFINITIONS

The following terms as used in the Contract shall be defined and interpreted as follows:

ADDENDA

Written documents issued during the bidding period which modify, supersede, or supplement the original Contract Documents.

AGREEMENT

See "CONTRACT."

AS SHOWN, AS INDICATED, AND AS SPECIFIED

These words are understood to be followed by the words "in the Contract Documents."

BENEFICIAL USE

Use of a building, system, structure, or facility by the CITY.

BID

The offer of the Bidder submitted on the prescribed forms setting forth the price(s) for the Work.

BIDDING PERIOD

The time period allocated to the Bidder to enable preparation of a Bid or Proposal.

BIDDER

The person or persons, partnership, firm or corporation submitting a Bid or proposal for the Work defined in the Contract Documents.

BID GUARANTY

The cash, certified check or Bidders Surety Bond accompanying the Bid as a guaranty that the Bidder will enter into a contract with the RECREATION AND PARK COMMISSION for the performance of the Work.

BOARD OF RECREATION AND PARK COMMISSIONERS

The Board of Recreation and Park Commissioners, of the City of Los Angeles.

BOND

Bid bond, performance and payment bond or other instrument of security.

CHANGE ORDER

A written order to the CONTRACTOR signed by the GENERAL MANAGER directing an addition, deletion or revision in the Work, or an adjustment in the Contract Price or time which is issued after the effective date of the Contract and effects less modification than is effected by a Supplemental Agreement. A Change Order may or may not also be signed by the CONTRACTOR.

CITY

The CITY of Los Angeles, a municipal corporation.

CLAIM

A written demand or assertion by one of the parties seeking, as a matter of right, an interpretation of the Contract Documents, payment of money, extension of time or other relief. The party asserting the claim must set forth the facts and circumstances for which the other party is responsible.

CODE

Codes of the State of California as well as any other Federal or local law, statute, ordinance, rule or regulation.

CONTRACT

A binding agreement between the CITY and the CONTRACTOR for the Work described in the Contract Documents.

CONTRACT COMPLETION DATE

The date the CITY accepts the entire Work as being in compliance with the Contract Documents, and authorizes the final payment in accordance with the requirements set forth in Article 25, FINAL PAYMENT of the General Requirements.

CONTRACT DOCUMENTS

The following documents constitute a part of and comprise the Contract Documents: Agreement, Notice Inviting Bids or Proposals, Instruction to Bidders, Contractor's Bid or Proposal, Special and Supplementary Conditions, General Requirements, Geotechnical Baseline Report (if provided for the in the General Requirements), Federal and State Requirements, Standard and Reference Specifications, Standard Plans, Plans and Specifications, Soil Reports and Subsurface Investigation Reports, Summary of First Notice Replies, Addenda and Notice to Bidders issued prior to the opening of bids, Plan Clarifications, Request for Information, Supplemental Agreements and Change Orders issued after Contract award.

CONTRACTOR DEFAULT

See TERMINATION OF CONTRACT BY CITY (CONTRACTOR DEFAULT) Article of these General Conditions.

CONTRACT PRICE

The total amount of money for which the Contract is awarded.

CONTRACT UNIT PRICE

The amount stated in the Bid for a single unit of an item of Work.

CONTRACTOR

The person or persons, partnership, firm or corporation who enters into the Contract as stipulated in the Agreement awarded by the CITY. Prime Contractor and Contractor shall mean the same.

CONTRACTOR'S REPRESENTATIVE

The representative of the CONTRACTOR at the site who shall supervise and direct the construction and who is authorized to receive and fulfill instructions from the PROJECT MANAGER or INSPECTOR.

DAYS

Unless otherwise specifically stated, the term "days" will be understood to mean consecutive calendar days.

EASEMENT

Permission to access or utilize property not owned by the CITY.

EQUAL

See "OR EQUAL".

GENERAL CONDITIONS

Instructions to the CONTRACTOR setting forth its responsibilities and the CITY'S responsibilities for proper execution of the Work indicated herein.

GENERAL MANAGER

GENERAL MANAGER of the Department of Recreation and Parks, or an authorized representative.

GENERAL REQUIREMENTS

Instructions to the CONTRACTOR setting forth its responsibilities and the CITY'S responsibilities for proper execution of the administration and technical aspects of the project indicated herein.

GEOTECHNICAL DESIGN SUMMARY REPORT /GEOTECHNICAL BASELINE REPORT (GBR)

The report that sets forth the geotechnical interpretations regarding anticipated conditions for the design and construction of the project. This report establishes a geotechnical baseline that provides the basis for identification of changed site/ground conditions.

GEOTECHNICAL SITE ASSESSMENT

SEE A GEOTECHNICAL DESIGN SUMMARY REPORT.@

HOLIDAY

Those holidays and dates observed by the CITY. A list of such holiday dates is available from the RECREATION AND PARK COMMISSION Office.

IMMEDIATELY NOTIFY

The obligation to cause verbal notification of some condition or event as soon as possible upon discovery or knowledge of the condition or event and in all instances, no more than two (2) hours.

INSPECTOR

The Inspector of Public Works, the Director of the Bureau of Contract Administration, or an authorized representative(s) located at the Public Works Building, 1149 S. Broadway, 3rd Floor, Los Angeles, CA, 90015.

JOBSITE

The area upon or in which the CONTRACTOR'S operations are carried on and such other areas adjacent thereto as may be designated as such by the Contract Documents.

LAW

Any Federal, State or local law, statute, ordinance, rule, regulation or code.

LIQUIDATED DAMAGES

The amount the CONTRACTOR shall pay to the CITY, as determined by rates and amounts as fixed and agreed in the Contract Documents, due to the CONTRACTOR'S failure to complete the Work or submit the schedule within the time specified, or for non-compliance with other specified requirements.

MODIFICATIONS

Includes Change Orders and Supplemental Agreements. A modification may only be issued after the effective date of the Contract.

NON-CONFORMING WORK

Non-conforming Work is Work which does not conform in all respects to all requirements in the Contract Documents, including damaged Work and damaged materials, without respect to the causes or nature of such lack of conformity.

NOTICE OF AWARD

The written notice by the CITY to the successful Bidder stating that upon compliance by the successful Bidder of required conditions, the City will execute the Contract.

NOTICE TO BIDDERS

A notice included in the bidding documents that informs prospective bidders of the bidding procedures and the opportunity to submit a bid.

NOTICE TO CONTRACTOR

The written notice by the CITY to the CONTRACTOR which officially advises on direction and provides information pertinent to the Contract.

NOTICE TO PROCEED

The written notice by the CITY to the successful Bidder stating that the Work or portions of the Work may commence.

NOTICE TO WITHHOLD

The written notice by the CITY to the CONTRACTOR advising that certain payments shall be withheld due to unacceptable execution of the Work by the CONTRACTOR.

OR EQUAL

The product, equipment, or material which is proposed by the CONTRACTOR for use in the Work which in the sole judgment of the PROJECT MANAGER is equal to, better than and as suitable as the product or material specified in the Contract Documents as to function, performance, reliability, quality, and general configuration.

PARTIAL ACCEPTANCE

Any portion of the Work which has been completed in accordance with the plans and specifications and has been accepted in writing by the PROJECT MANAGER and the INSPECTOR on the "Statement of Partial Completion" form.

PLANS OR DRAWINGS

The drawings, profiles, cross sections, working drawings, and supplemental drawings, or reproductions thereof, issued or approved by the PROJECT MANAGER, which show the location, character, dimensions or details of the Work.

PROJECT

The Work and/or construction operations executed through the performance of this Contract.

PROJECT MANAGER

The authorized representative of the GENERAL MANAGER.

PROTEST

See definition of Claim.

REFERENCE SPECIFICATIONS

Those bulletins, standards, rules, methods of analysis or test, codes, and specifications of other agencies, PROJECT MANAGER societies, or industrial associations referred to in the Contract Documents. These refer to the latest edition, including amendments in effect and published at the time of advertising the project, adopted by the RECREATION AND PARK COMMISSION, if applicable, unless specifically referred to by edition, volume, or date.

RIGHTS OF ENTRY

Written permission from an owner of a facility or property to access the facility or property for a specific purpose.

RIGHT OF WAY

Rights of way, easements, or rights of entry for the Work will be provided by the CITY. The CONTRACTOR shall make arrangements, pay for, and assume all responsibility for acquiring, using, and disposing of additional work areas and facilities temporarily required in addition to those provided by the CITY. The CONTRACTOR shall indemnify and hold the CITY harmless from all claims for damages caused by such actions.

SPECIAL PROVISIONS

Any provision which supplements or modifies the Specifications.

SPECIFICATIONS

The Contract Documents and revisions to it which were prepared to specifically describe the commercial, legal, technical and nontechnical requirements of the project. Specifications include but are not limited to Terms, Provisions, General Conditions, General Requirements, Special Provisions, Technical Specifications, Equipment Schedules, and all revisions made to the specifications in Addenda, Notice To Bidders, and Change Orders or Modifications, signed by the GENERAL MANAGER.

STANDARD PLANS

Details of standard structures, devices or instructions referred to on the plans or in the specifications by title or number issued by the CITY.

STANDARD SPECIFICATIONS

Documents, Materials and items specified in Article 5 of these General Conditions.

STARTUP

That stage of performance testing as defined in the specifications which use the actual process fluid, material, or medium for a specified number of days of continuous operation without major interruptions and prior to acceptance by the CITY.

SUBCONTRACTOR

A "Subcontractor" is a contractor who is licensed pursuant to California Business and Professions Code, Section 7000 *et seq.* and who contracts directly with the prime CONTRACTOR. The Subcontractor performs some part of the Work of the Contract. A Subcontractor does not have any direct contract with the CITY related to the project.

SUB-SUBCONTRACTOR

A "Sub-subcontractor" is a Subcontractor, within the definition of that term, who has a contract with a Subcontractor and has no Contract with the City related to the project.

SUPERVISOR

The designated individual who is responsible for the proper execution or installation of some portion or portions of the Work. The SUPERVISOR reports directly or indirectly to the CONTRACTOR'S REPRESENTATIVE.

SUPPLEMENTAL AGREEMENT

A written amendment of the Contract Documents which modifies the Contract in price or scope by a percentage which is more than can be accomplished by a Change Order and signed by the CITY and the CONTRACTOR.

SUPPLIER

An individual, organization, or firm who is not required for the purposes of the Work to be licensed pursuant to California Business and Professions Code as a CONTRACTOR, Subcontractor, or Sub-subcontractor,

within the meanings of those terms as defined herein above, who provides equipment and/or materials for the Work, to the CONTRACTOR, a Subcontractor, or a Sub-subcontractor, including that fabricated to a special design, but who does not perform labor at the site except for labor or labor supervision required by some manufacturers as part of their equipment installation for warranty or other purposes. The term "supplier" also includes fabricator, manufacturer, or vendor.

SURETY

Any individual, firm or corporation, bound with and for the CONTRACTOR for the acceptable performance, execution and completion of the Work, and for the satisfaction of all obligations incurred.

TERMS

Unless otherwise stated, the words "directed, required, permitted, ordered, instructed, designated, considered necessary, prescribed, approved, acceptable, satisfactory," or words of like meaning, refer to actions, statements, judgments, conclusions, and decisions within the responsibility of the PROJECT MANAGER or the INSPECTOR.

UNAVOIDABLE DELAY

Delay arising from causes beyond the control and without the fault or negligence of the CONTRACTOR and its Subcontractors at all tiers.

UTILITY

Tracks, overhead or underground wires, cables, pipeline, conduits, ducts, or structures, sewers, or storm drains owned, operated, or maintained in or across a public right of way, private easement, or jobsite.

WORK

Includes all material, labor, utility services, tools, expendable equipment, and all appliances, machinery, transportation, appurtenances and specified services necessary to perform and complete the Contract; and such additional items not specifically indicated or described that can be reasonably inferred as belonging to the item described or indicated and as required by good practice to provide a complete and satisfactory system or structure. As used herein, "provide" shall be understood to mean "furnish and install, complete in place."

WORKSITE

See "JOBSITE."

WORKDAY

Any day within the period between the start of the Contract time and the date provided in the Contract for completion or the date established in the Statement of Completion by the CITY acknowledging that all Work under the contract is complete, whichever occurs last, other than:

- Saturday,
- Sunday,
- any day designated as a holiday by the CITY, and,
- any other day designated as a holiday in a Master Labor Agreement entered into by the CONTRACTOR or on behalf of the CONTRACTOR as an eligible member of a Contractor's Association,
- any day the CONTRACTOR is prevented from working for cause as established by UNAVOIDABLE DELAY of these General Conditions; and,

- any day the Contractor is prevented from working during the first five (5) hours of the workday with at least sixty percent (60%) of the normal Work force from cause as established by an Unavoidable Delays of these General Conditions.

CONTRACT DOCUMENTS

2. SCOPE

- A. The work to be performed under this Contract shall consist of furnishing all tools, equipment, materials, supplies and manufactured articles, and for furnishing all transportation, services, including fuel, power and water, and essential communications, and the performance of all labor, Work, or operations required for the fulfillment of the Contract, in strict accordance with the specifications, schedules, and drawings, all of which are made a part hereof, and including such detail sketches as may be furnished by the PROJECT MANAGER from time to time during the construction in explanation of said drawings. The items shall be complete and all Work, material, and services not expressly called for in the Specifications, or not shown on the drawings, which may be necessary for complete and proper construction to carry out the Contract in good faith shall be performed, furnished, and installed by the CONTRACTOR at no increase in cost to the CITY.
- B. The Work required by the Contract shall be completed within **Two Hundred and Ten (215)** calendar days of the date specified by the General Manager in the notice to proceed with the work. The Contract completion time shall consist of **one hundred and Eighty (180)** calendar days for construction, and **Thirty Five (35)** calendar days for plant establishment and maintenance.

3. AUTHORITY OF THE RECREATION AND PARK COMMISSION, PROJECT MANAGER, AND INSPECTOR

The GENERAL MANAGER, RECREATION AND PARKS has the final authority in all matters affecting the Work. The CONTRACTOR shall promptly comply with instructions from the PROJECT MANAGER or the INSPECTOR.

On all questions relating to quantities, the acceptability of material, equipment, or Work, the execution, progress or sequence of Work, and the meaning of specifications or drawings, the decision of the PROJECT MANAGER is final and binding, and shall be precedent to any payment under the Contract, unless otherwise ordered by the BOARD OF RECREATION AND PARKS:

The PROJECT MANAGER is authorized to require performance of the Work consistent with the meaning of the plans and specifications and to approve necessary additive changes in Plans up to a maximum as authorized by the Recreation and Park Commission. The PROJECT MANAGER may initiate changes in Plans or scope of Work, regardless of cost, for submission to the RECREATION AND PARK COMMISSION for its approval.

The INSPECTOR is authorized to enforce compliance with Plans and Specifications, to determine the acceptability of materials and workmanship, administer requirements with respect to subcontracts, and to prepare and process progress payment estimates. In the event of a dispute between the CONTRACTOR and the INSPECTOR, the latter is authorized to reject materials or suspend the Work until any questions at issue can be referred to and decided by the RECREATION AND PARK COMMISSION or, in design matters, by the PROJECT MANAGER.

The INSPECTOR may sample and test all materials to be incorporated into the Work. The INSPECTOR may delegate this authority to sample materials and perform tests to the Department of General Services, Standards Division, or other approved agencies, the CONTRACTOR will pay for testing.

4. INTENT OF CONTRACT DOCUMENTS

The Contract Documents are complementary, and what is called for by one part shall be as binding as if called for by all. The intent of the Documents is to include all Work consistent therewith and reasonably inferable therefrom as being necessary for completion of the Contract. Materials or Work described in words that indicate the proper execution and a well known technical or trade designation shall be held to refer to such recognized standards.

It is understood and agreed that the written terms and provisions of the Contract Documents represent the entire and integrated agreement between the parties hereto and supersede all prior negotiations, representations, or agreements, either written or oral. The Contract Documents shall not be construed to create any contractual relationship of any kind between the PROJECT MANAGER or the INSPECTOR and the CONTRACTOR.

5. STANDARD SPECIFICATIONS

The applicable portions of the Standard Specifications for Public Works Construction (SSPWC) shall become part of these Contract Documents, and unless otherwise specified, all Work and materials shall conform to the Standard Specifications as modified by the corresponding issue of Standard Plan No. S-610 as amended or revised and adopted by the RECREATION AND PARK COMMISSION in effect on the date of advertising for bids.

6. INTERPRETATION OF PLANS AND SPECIFICATIONS

Every part of the Contract, as shown on the Plans and described in the Specifications, must be completed and finished. No deviations are to be made from the Plans or Specifications without previous written authorization from the PROJECT MANAGER.

In general, the Plans will show dimensions, positions and type of construction, and the Specifications will define materials, quantities, and if indicated, required methods of construction. Any Work called for on the Plans and not mentioned in the Specifications, or vice versa, shall be performed as though fully set forth in both. Work not particularly detailed, marked, or specified shall be the same as similar parts that are detailed, marked, or specified.

The Plans have been drawn to the indicated scales except where otherwise noted. Dimensions indicated by figures or numerals shall govern in all cases whether drawn to scale or not. Larger scale drawings shall take precedence over smaller scale drawings. Drawings shall not be scaled for dimensions.

The general character of the detailed Work is shown on the Contract drawings, but minor modifications may be made in larger scale drawings. The PROJECT MANAGER will furnish additional details, when needed, to more fully explain the Work, and the same shall be considered part of the Contract.

Where on any drawings, a portion of the Work is drawn out or detailed and the remainder is indicated in outline, the drawn out or detailed parts shall apply also to all other like portions of the Work. Where ornament or other detail is indicated by starting only, such detail shall be continued throughout the courses or parts in which it occurs and shall also apply to all other similar parts in the Work, unless otherwise indicated.

References made to other specifications and codes refer to the edition including amendments in effect and published at the time of advertising the project or issuing the permit, unless specifically referred to by edition, volume, or date as noted in the Contract Documents.

The CONTRACTOR shall furnish and install all equipment and materials required to complete installations whether or not the quantities are specifically shown, called out, or reflected in the Contract Drawings.

7. PRECEDENCE OF CONTRACT DOCUMENTS

In resolving inconsistencies or ambiguities among two (2) or more components of the Contract Documents, the highest precedence shall be given to Permits from the other agencies as may be required by law and decreasing order as follows:

1. Permits from other agencies as may be required by law
2. Agreement
3. Special Provisions
4. General Conditions
5. Specifications - Division 01: General Requirements
6. Specifications - Divisions 02 - 17
7. Geotechnical Site Assessment
8. Drawings
9. Standard Plans
10. Standard Specifications

11. Reference Specifications

12. Reference Drawings

Supplemental Agreements, Change Orders, PROJECT MANAGER'S written interpretations and clarifications, Notice to Bidders and Addenda, in the precedence listed, will take precedence over all other Contract Document components referenced therein. Figure dimensions on Drawings will take precedence over scaled dimensions.

Detailed Drawings, including Process and Instrumentation Drawings (P & ID's), will take precedence over general Drawings.

8. ACCURACY OF PLANS AND SPECIFICATIONS

Omissions from the Plans and Specifications shall not relieve the CONTRACTOR from the responsibility of furnishing, making, or installing all items required by law or usually furnished, made, or installed in a project of the scope and character indicated by the Plans and Specifications. If the CONTRACTOR is of the opinion that it will incur costs above and beyond what would reasonably be anticipated in meeting the above requirements, it shall inform the PROJECT MANAGER in writing within twenty (20) calendar days after discovering the omission and before starting the Work.

The Plans show conditions as they are supposed or believed by the PROJECT MANAGER to exist, but it is not intended or to be inferred that the conditions as shown thereon constitute a representation or warranty, expressed or implied, by the CITY or its officers, that such conditions are actually existent, nor shall the CITY, or any of its officers, be liable for any loss sustained by the CONTRACTOR as a result of any variance between conditions as shown on the Plans, and the actual conditions revealed during progress of the Work or otherwise, except as indicated in Article 53, Differing Site Conditions of these General Conditions.

9. EXAMINATION OF COVERED WORK

If any Work is covered without inspection, approval or consent of the INSPECTOR, and examination is required by the INSPECTOR, it shall be uncovered at the CONTRACTOR'S sole expense.

Examination of covered Work may be ordered by the PROJECT MANAGER and if so ordered, the Work shall be uncovered by the CONTRACTOR. If such Work is found to be in accordance with the Contract Documents, the CITY will issue a Change Order authorizing payment for the cost of examination and replacement. If such Work is found to be not in conformance with the Contract Documents, the CONTRACTOR shall correct the non-conforming Work and the cost of examination and correction of the non-conforming Work shall be borne solely by the CONTRACTOR.

10. UNNOTICED DEFECTS

Any non-conformity in the Work that is discovered before Contract Completion, or before final payment has been made, or during the guarantee period, shall be removed and replaced by the CONTRACTOR with Work which conforms to the provisions of the Contract Documents. Failure on the part of the PROJECT MANAGER or the INSPECTOR to condemn or reject non-conforming Work shall not constitute acceptance or implied acceptance of such Work.

11. BUILDING CODES AND REGULATIONS

The CONTRACTOR shall perform the Work in accordance with the requirements of the Los Angeles City Building Code and all other regulations, laws, and ordinances, even though such requirements are not specifically mentioned in the Specifications or shown on the drawings.

It is not the responsibility of the CONTRACTOR to make certain that the Contract Documents are in accordance with applicable laws, statutes, building codes and regulations. If the CONTRACTOR observes that any of the Contract Documents are at variance therewith in any respect, it shall promptly notify the PROJECT MANAGER in writing, and any necessary changes shall be accomplished by issuance of a Change Order.

If the CONTRACTOR performs any Work knowing it to be contrary to such laws, ordinances, rules and regulations, and without such notice to the PROJECT MANAGER, it shall assume full responsibility therefore and shall bear all costs attributable thereto.

12. LENGTH OF WORKDAY AND WORK WEEK

Eight (8) hours of labor shall constitute a calendar day's work for employees of the CONTRACTOR under this Contract. Said employees shall be paid not less than the prevailing wage rate for the first eight (8) hours work of each day.

A working day shall be Monday through Friday, and work shall be between 7:00 a.m. and 4:00 p.m., unless otherwise approved by the PROJECT MANAGER or the RECREATION AND PARK COMMISSION or revised by CITY Ordinance.

When work in excess of eight (8) hours per day, or forty (40) hours during any one (1) week is performed, wages for all hours over eight (8) hours in any day or over forty (40) hours during any one (1) week shall be paid at the prevailing wage rate, as provided in the California Code and the CITY's code requirements.

13. PAYMENT OF EMPLOYEES

The CONTRACTOR and each Subcontractor shall pay each employee engaged in Work on the project under this Contract in compliance with the Federal and State wage provisions indicated on the appropriate page of the Proposal (General Instruction and Information for Bidders), and LENGTH OF WORKDAY AND WORK WEEK of these General Conditions.

The certified payroll and the Statement of Compliance shall be submitted to the INSPECTOR by the CONTRACTOR and all Subcontractors performing Work on the project, regardless of dollar amount or type of contract.

If there is a difference between the Federal and State minimum wage rates for similar classifications of labor, the CONTRACTOR and its Subcontractors shall pay not less than the higher wage rate.

When the CONTRACTOR intends to use a craft or classification not shown on the general prevailing wage determinations, it will be required to pay the wage rate of that craft or classification most closely related to it as shown in the general prevailing wage determinations. In case of disagreement between the CONTRACTOR and the CITY, the INSPECTOR shall make the final determination as to the prevailing wages for the Work.

14. CONVICT-MADE MATERIALS

No materials manufactured or produced in a penal or correctional institution shall be incorporated in the project under this Contract.

15. SALES; BUSINESS OR USE TAX

Purchases of materials and equipment which will be incorporated or installed permanently in the Contract Work, or which will be used in the operation of the CONTRACTOR or Subcontractors, and not incorporated in the Contract Work, are not exempt from City of Los Angeles and California State Sales or Use Taxes as applicable. The CITY shall consider any required business taxes to be included in the overhead costs of the CONTRACTOR.

16. NONDISCRIMINATION IN EMPLOYMENT

The CONTRACTOR shall comply with all of the provisions of the Los Angeles Administrative Code, Mandatory Provision Pertaining to Nondiscrimination in Employment.

The CONTRACTOR shall submit Monthly Ethnic Composition of Work Force Reports to the INSPECTOR indicating the number of employees in the various work categories and ethnic groups and gender on forms furnished by the CITY. Failure to furnish the reports shall constitute grounds for the CITY to withhold the progress payment.

Nondiscrimination Clause: "The CONTRACTOR shall not discriminate during the performance of this Contract against any employee or applicant for employment because of employee's or applicant's race, religion, national

origin, ancestry, sex, age, sexual orientation or physical handicap." The CONTRACTOR shall include in all subcontracts awarded under this Contract the same Nondiscrimination Clause.

If conflicts exist between these provisions and the Federal Rules and Regulations governing the same, the more stringent requirements shall prevail.

17. APPRENTICE UTILIZATION

Any Contract awarded hereunder will require the CONTRACTOR to comply with the provisions of the California Labor Code relating to apprentice employment and training; and will require the CONTRACTOR to assume full responsibility for compliance with said section with respect to all Apprenticing Occupations involved in the Project. (Compliance with said Apprentice Utilization provisions of the Labor Code is not required for Public Works Contracts involving less than \$30,000 or less than twenty (20) Working days in duration).

18. LAWS AND REGULATIONS

The CONTRACTOR shall observe and comply with all Federal, State, and local laws, ordinances, codes, orders, and regulations which in any manner affect those engaged or employed on the Work, the materials used in the Work, or the conduct of the Work. If any discrepancy or inconsistency should be discovered in this Contract in relation to any such law, ordinance, code, order, or regulation, the CONTRACTOR shall report the same in writing to the PROJECT MANAGER. The CONTRACTOR shall indemnify and save harmless the CITY, and its officers, agents, and employees, against all claims or liability arising from violation of any such law, ordinance, code, order, or regulation, whether by itself or by its employees or subcontractors as stated in these Contract Documents. Any particular law or regulation specified or referred to elsewhere in these specifications shall not in any way limit the obligation of the CONTRACTOR to comply with all other provisions of Federal, State, and local laws and regulations.

19. PERMITS AND CONSTRUCTION EASEMENTS

The CONTRACTOR shall anticipate, obtain and pay for all permits, excluding the General Building Permit, necessary for performance of the Work.

The CONTRACTOR shall obtain and pay all costs incurred and submit to the PROJECT MANAGER copies of all permits required for the construction and installation of all Work called for on this project. All costs shall be included in the CONTRACTOR'S bid. The permit list to be obtained by the CONTRACTOR shall include, but not be limited to the following:

1. Night Work, hauling, overload, grading, excavation, demolition, foundation, and associated building permits.
2. Electrical permits.
3. Mechanical permits.
4. Plumbing permits.
5. South Coast Air Quality Management District permits.
6. Fire sprinkler permit.
7. All Federal, State, County and CITY issued permits.

Rights of ways, easements, or rights of entry for the Work will be provided by the CITY. The CONTRACTOR shall make arrangements, pay for, and assume all responsibility for acquiring, using, and disposing of Work areas and facilities temporarily required which are necessary in addition to those provided by the CITY. The CONTRACTOR shall indemnify and hold the CITY harmless for all claims for damages caused by such actions.

20. PARTIES EXCLUDED FROM THE WORK

Lists of individuals, firms and organizations which have been debarred, suspended or have voluntarily excluded themselves from Federal Procurement and Non Procurement Program is maintained by US General Services

Administration. A copy can be obtained from Superintendent of Documents, US Government Printing Office, Washington, DC 20402, Tel: (202) 783-3238.

The CITY will not conduct business with an individual, firm or organization, and the CONTRACTOR shall not employ or otherwise utilize any Subcontractor, supplier or equipment vendor at any tier which is on the U.S. General Services Administration "List of Parties Excluded from Federal Procurement and Non Procurement Programs". The CONTRACTOR shall not utilize or otherwise employ any subcontractors or suppliers on the CITY's list of nonresponsible bidders maintained by the General Services Division of the Bureau of Contract Administration.

21. BUSINESS TAX REGISTRATION CERTIFICATES

The CONTRACTOR represents that it has, or will obtain upon award, the Business Tax Registration Certificate(s) required by the Los Angeles City Business Tax Ordinance. The CONTRACTOR shall maintain, or obtain as necessary, all such Certificates required of it under said Ordinance and shall not cause or allow any such Certificate to be revoked or suspended.

The CITY requires all firms that have business activity within the City of Los Angeles to pay CITY business taxes.

Payments for goods or services will be withheld unless proof of tax compliance is provided to the CITY. All firms and individuals that do business with the CITY will be required to provide a Business Tax Registration Certificate number or an exemption number as proof of compliance with Los Angeles City business tax requirements in order to receive payment for goods or services.

The Tax and Permit Division of the City Clerk's Office has the sole authority to determine whether a firm is covered by business tax requirements.

22. FINANCIAL LIABILITY

The CITY's liability under this Contract shall not exceed the CITY's appropriation to fund the Contract at the time of Contract award. However, if the CITY shall appropriate funds for any successive years, the CITY'S maximum liability shall not exceed the extent of such appropriation, subject to the terms and conditions of this Contract.

THE CONTRACTOR'S RESPONSIBILITIES

23. CONTRACTOR'S OBLIGATIONS

Only competent workers shall be employed on the Work. Any worker, at the journey level or above, employed on the Work shall have a current license or certificate as required for the type of Work being performed, issued by the Department of Building and Safety of the City of Los Angeles and any such other organization as required.

Any person or subcontractor employed who is found by the PROJECT MANAGER AND/OR INSPECTOR to be incompetent, disorderly or otherwise objectionable, or who fails or refuses to perform Work properly, acceptably and as directed shall be immediately removed from the Work by the CONTRACTOR and not be reemployed on the Work.

The CONTRACTOR, at its sole cost and expense, shall perform all labor and services and furnish all the materials, tools, and appliances, except as hereinafter otherwise definitely provided, necessary or proper for performing and completing the Work required, in the manner and within the time stipulated in these specifications. The CONTRACTOR shall furnish, erect, maintain, and remove the construction plant and such temporary works as may be required. If, at any time before the commencement or during the progress of the Work or any part of it, the CONTRACTOR'S methods or appliances appear to the PROJECT MANAGER or the INSPECTOR to be unsafe, inefficient, or inadequate for securing the safety of the workers, the quality of the Work required, or the rate of progress stipulated, the PROJECT MANAGER or the INSPECTOR may order the CONTRACTOR to increase their safety and efficiency or to improve their character, and the CONTRACTOR shall comply with such orders at its own expense. Neither the making of such demands by the PROJECT MANAGER nor the failure to make such demands shall relieve the CONTRACTOR of its obligation to secure the safe conduct of the Work, the quality of Work required, nor the rate of progress stipulated in the Contract. The CONTRACTOR shall be fully responsible for the safety, efficiency, and adequacy of its plant, appliances, and methods, and for any damage which may

result from their failure or their improper construction, maintenance, or operation. All of the labor and materials shall be performed and furnished strictly pursuant to and in conformity with the Contract Documents, the lines and grades and other directions of the PROJECT MANAGER or the INSPECTOR as given from time to time during the progress of the Work under the terms of the Contract, and in accordance with working drawings to be furnished from time to time as provided herein. The CONTRACTOR shall complete the entire Work to the satisfaction of the PROJECT MANAGER and INSPECTOR and in accordance with the Specifications and drawings herein mentioned, at the prices fixed in the Contract.

Where articles or materials are especially manufactured or fabricated for delivery under these specifications, the CONTRACTOR shall at all times employ such workforce, plant, materials, and tools as will be sufficient to complete the performance of the Contract and every part thereof within the time limits stipulated herein. If the CONTRACTOR fails to employ sufficient workforce, plant, materials, tools, or to maintain adequate progress, the PROJECT MANAGER may require an increase in progress at any point or points or a modification of plans and procedure in such a manner as to accelerate the Work. Failure to adequately staff the project shall be just cause for the CITY to terminate the Contract.

24. CONTRACTOR'S REPRESENTATIVE AT THE SITE

A technically qualified and English-speaking project representative shall be designated in writing as the CONTRACTOR'S representative at the job site, who shall supervise the Work and shall provide competent supervision of the Work until its completion. The CONTRACTOR'S project representative shall be assigned full time and exclusively to this project. Alternate representatives with qualifications equal to or better than the previous representative may be designated. The CONTRACTOR'S representatives shall have at least five (5) years of verifiable experience as the person primarily responsible for supervision of the Work on projects of the same or similar size and nature as this project. Within five (5) days after the Notice of Award the CONTRACTOR shall provide a statement to the PROJECT MANAGER with the following:

1. Identification and resume, showing the qualifications and experience of the CONTRACTOR'S representative and the alternate appointed to act in the place of the CONTRACTOR'S representative.
2. References of not less than two (2) previous projects on which the CONTRACTOR'S representative and the alternate had supervisory responsibility on a project of a similar nature and at least one-half or more of the cost of this project. Such references shall include names, addresses, and telephone numbers of owner representatives who worked on the project as well as project information such as project type, size, location and duration.

The PROJECT MANAGER reserves the right to disapprove any candidate named as the CONTRACTOR'S representative or alternate who fails to meet the provisions set forth herein. The PROJECT MANAGER reserve the right to remove, without any right to work on the project, either the CONTRACTOR'S representative or alternate, who in the sole opinion of the PROJECT MANAGER has demonstrated incompetence, lack of ability, or other unsuitability to perform supervision of the Work.

If the CONTRACTOR'S representative or alternate leave the employ of the CONTRACTOR, the CONTRACTOR will be required to replace the individual(s) and fulfill the requirements of this Article within fifteen (15) calendar days. In no event shall any Work proceed in the absence of an approved representative.

The CONTRACTOR'S representative or alternate shall have full authority to act on behalf of the CONTRACTOR, including, but not limited to final approval of Change Orders and Supplemental Agreements. All directions given by the PROJECT MANAGER to said representative or alternate shall be considered as having been given to the CONTRACTOR. Such instructions given by the PROJECT MANAGER to the CONTRACTOR'S representative or alternate will be confirmed in writing. All instructions and directions given by the PROJECT MANAGER or the INSPECTOR will be limited to matters properly falling within the PROJECT MANAGER'S or the INSPECTOR'S authority as specified in AUTHORITY OF THE RECREATION AND PARK COMMISSION, PROJECT MANAGER AND INSPECTOR of these General Conditions.

The CONTRACTOR'S representative or alternate shall be present at the site of the Work at all times while Work under the Contract is in progress. Failure to observe this requirement shall constitute suspension of the Work by

the CONTRACTOR, until such time as said representative or alternate is again present at the site, and no payment will be allowed for any Work performed in the absence of said representative or alternate. Work performed in violation of these provisions shall be removed and reconstructed, re-fabricated, or reinstalled under the required supervision. No extensions of time will be granted, nor will additional payment be allowed for any costs to the CONTRACTOR for slowdown, delays, idled equipment, or any other costs incurred by the CONTRACTOR as the direct or indirect result of such suspension.

Whenever the Work is defined as being suspended under the provisions of this Article, any such suspension in excess of ten (10) calendar days shall constitute just cause for the CITY to terminate the Contract under the provisions of TERMINATION OF CONTRACT BY CITY (CONTRACTOR DEFAULT) of these General Conditions.

25. FAMILIARITY WITH PLANS AND SPECIFICATIONS

It shall be the responsibility of the CONTRACTOR to be thoroughly familiar with all details of the Project, including the Work of CONTRACTOR'S forces and all Subcontractors. The CONTRACTOR shall call the following to the attention of both the PROJECT MANAGER and the INSPECTOR in writing within twenty-four (24) hours of discovery, before any Work is performed:

1. Errors and omissions in the Plans and Specifications;
2. Work on the Plans or in the Specifications which, if so constructed, would result in a conflict or interference with other Work or the Work of other trades, including the location of fixtures and equipment;
3. Existing improvements visible at the job site, for which no existing disposition is made on the Plans or in the Specifications but which could reasonably be assumed to interfere with the satisfactory completion of the improvements contemplated by the Plans and Specifications.

Failure to notify shall constitute a waiver by the CONTRACTOR of any claim for delay or other damages occasioned by such defect. If the CONTRACTOR proceeds with the Work without instructions from the PROJECT MANAGER, the incorrect Work shall be removed and corrections made to comply with the PROJECT MANAGER'S instructions, at no cost to the CITY. The requirements of this Article are applicable to typographical errors in the Specifications and notational errors on the Plans where ambiguity or inadequate description exists.

26. JOB CONDITIONS

The CONTRACTOR shall visit the job site as soon as practicable after award of the Contract and ascertain all conditions affecting necessary procedure and sequencing of Work operations in the execution of the Work, including condition of available roads and streets, or clearances, restrictions and other limitations affecting transportation and ingress and egress to the job site. The CONTRACTOR shall determine the nature and types of Work to be performed and shall be responsible for all Work to be accomplished.

The CONTRACTOR shall enter the job site as noted in Article 4, SITE SECURITY of the General Requirements. The CONTRACTOR will be restricted to the immediate Work areas on the job site and shall in no case go beyond the Work limits noted on the drawings or as otherwise directed by the PROJECT MANAGER. The job site shall be enclosed with a temporary chain link fence and gates which shall be removed upon completion of the Work. The CONTRACTOR shall confine all operations of the contracted Work to the boundaries of the job site(s) and shall not interfere with CITY personnel and CITY operations or the Work of other contractors working on or near the site.

CONTRACTOR'S employee access to the job site by private vehicles is prohibited.

No vehicle is allowed in the facility or on the job site except delivery trucks and CONTRACTOR'S identified vehicles and equipment. It shall be the CONTRACTOR'S sole responsibility to arrange and pay for offsite employee parking and transportation, if necessary, so as not to affect the availability of public parking on the grounds of the facility or park site. The CONTRACTOR shall fully cooperate with all authorities on the job site and other contractors not related to the Work of this Contract who might be at the job site and shall comply with all regulations in force at the job site.

27. RESPONSIBILITY FOR SITE

The CONTRACTOR shall be in full charge of and be responsible for the job site and the construction Work of this Contract, subject to the directions of the PROJECT MANAGER or the INSPECTOR. Article 33, INTERFACE/COORDINATION REQUIREMENTS of the General Requirements describes interfaces with other contractors working on the job site. No other operations of any nature shall be performed except as specifically authorized in the Contract Documents or as authorized by the PROJECT MANAGER.

The CONTRACTOR shall exercise care not to damage improvements and adjacent land. The CONTRACTOR shall correct any damage caused within seventy-two (72) hours by restoring the land and improvements damaged to their original condition and shall indemnify and hold the CITY harmless for any such damage as specified in INDEMNIFICATION of these General Conditions.

28. WORKMANSHIP AND MATERIALS

All materials, parts and equipment furnished by the CONTRACTOR for the Work shall be new, high grade and free from defects. Materials and Work quality shall be subject to the INSPECTOR'S approval.

29. INJURY AND ILLNESS PREVENTION - SAFETY MEASURES

Safety is the responsibility of the CONTRACTOR. The CONTRACTOR shall observe and comply with the safety provisions of all applicable laws, building and construction codes, safety and health regulations of the California Code of Regulations, and with applicable CITY Safety Policies.

If a Work procedure or condition exists that is a violation of said safety standards, the PROJECT MANAGER or INSPECTOR may order the CONTRACTOR to comply with said safety provisions, and the CONTRACTOR shall comply with such orders at its own expense. If the CONTRACTOR fails to act promptly, the PROJECT MANAGER or INSPECTOR is authorized to suspend the Work. Failure of the PROJECT MANAGER or the INSPECTOR to make such demands shall not relieve the CONTRACTOR of its obligations to secure the safe conduct of the Work.

In the event of an emergency constituting an immediate hazard to the health or safety of the public or CITY employees, property, or licensee, the CITY may undertake, at the CONTRACTOR'S sole expense, without prior notice, all Work necessary to correct such hazardous conditions when it was caused by Work of the CONTRACTOR not being in accordance with the requirements of this Contract.

First aid facilities and supplies shall be kept and maintained by the CONTRACTOR at the site of the Work. The CONTRACTOR shall cause all persons within the construction area to wear protective helmets. In addition, all employees of the CONTRACTOR and its Subcontractors shall be provided with, and required to use, personal protective and life saving equipment set forth in California Construction Safety Orders and the OSHA Safety and Health Standards for Construction.

30. PROTECTION OF PERSONS AND PROPERTY AND RESTORATION OF EXISTING IMPROVEMENTS

The CONTRACTOR shall not destroy, remove, or otherwise disturb any existing survey monuments or reference points without authorization from the PROJECT MANAGER. No pavement breaking or excavation shall be started until all survey monuments or other reference points that will be disturbed by the construction operations have been properly referenced by the PROJECT MANAGER. It shall be the CONTRACTOR'S responsibility to notify the PROJECT MANAGER and the INSPECTOR of the time and location that Work will be done. Such notification shall be sufficiently in advance of construction so that there will be no delay due to waiting for survey points to be satisfactorily referenced for restoration. All survey monuments or reference points disturbed, without authorization by the PROJECT MANAGER, shall be accurately restored by the CITY at the CONTRACTOR'S sole expense after all street or roadway resurfacing has been completed.

All paved areas including asphaltic concrete beams cut or damaged as a result of construction shall be replaced with similar materials and of equal thickness to match the existing adjacent undisturbed areas, except where specific resurfacing requirements have been called for in the Contract Documents or in the requirements of the agency issuing the permit. All temporary and permanent pavement shall conform to the requirements of the affected pavement owner. All pavement which is subject to partial removal shall be neatly saw cut in straight lines.

In order to obtain a satisfactory junction with adjacent surfaces, the CONTRACTOR shall saw cut back and trim the edge so as to provide a clean, sound, vertical joint before permanent replacement of an excavated or damaged portion of pavement. Damaged edges of pavement along excavations and elsewhere shall be trimmed back by saw cutting in straight lines. All pavement restoration and other facilities restoration shall be constructed to finish grades compatible with adjacent undisturbed pavement.

Where sidewalks have been removed for purposes of construction, the CONTRACTOR shall place suitable temporary sidewalks, properly protected, promptly after backfilling and shall maintain them in satisfactory condition until the final restoration thereof has been made.

All utilities encountered along the line of the Work shall be maintained continuously in service during all the operations under the Contract, unless other arrangements satisfactory to the PROJECT MANAGER are made. Utilities shall include, but not be limited to, all above or below-ground conduit, pipes, ducts, cables, and appurtenances associated with oil, gas, water, steam, irrigation, process, sewer, storm drain, wastewater, air, electrical, power, instrumentation, communication, telephone, cable, TV, and lighting systems, whether or not owned by the CITY.

The CONTRACTOR shall protect all existing utilities and improvements not designated for removal. Necessary potholing shall be accomplished at the CONTRACTOR'S expense. The CONTRACTOR shall determine the exact locations and depths of all utilities indicated on the drawings. The CONTRACTOR shall make exploratory excavations of all utilities. All such exploratory excavations shall be performed as soon as practicable after award of the Contract and in any event, a sufficient time in advance of construction to avoid possible delays to the CONTRACTOR'S Work. When such exploratory excavations show the utility location as indicated on the drawings to be in error, the CONTRACTOR shall so notify the INSPECTOR and the PROJECT MANAGER. The CONTRACTOR should not rely upon plan designation of location of underground utilities. The number of exploratory excavations and extent of potholing required shall be that number which is sufficient to determine the alignment and grade of the utility. No costs shall be allowed for such Work except those included in the CONTRACTOR'S proposal.

Prior to any excavation in the vicinity of any existing underground facilities, the CONTRACTOR shall notify the INSPECTOR and the PROJECT MANAGER, and the respective authorities representing the owners or agencies responsible for such facilities, not less than three (3) working days, nor more than five (5) working days, of their intention to begin excavation. The CONTRACTOR shall make arrangements for and provide access such that a representative of said owners or agencies may be present during such Work.

Where the proper completion of the Work requires the temporary or permanent removal and/or relocation of an existing utility or other improvement which is shown on the drawings, the CONTRACTOR shall at its own expense, remove and, without unnecessary delay, temporarily replace or relocate such utility or improvement to a place and in a manner as directed by the PROJECT MANAGER, and the owner of the facility. In all cases of such temporary removal or relocation, restoration to former location shall be accomplished by the CONTRACTOR in a manner that will restore or replace the utility or improvement as nearly as possible to its former locations and to as good or better condition than found prior to removal. When utilities that are to be removed are encountered within the area of operations, the CONTRACTOR shall notify the PROJECT MANAGER not less than fifteen (15) days in advance for necessary measures to be taken to prevent interruption of service.

The CONTRACTOR shall notify the PROJECT MANAGER thirty (30) calendar days in advance of any proposed connection, and shall notify the PROJECT MANAGER and the INSPECTOR twenty-four (24) hours prior to the actual connection, to any existing utility.

Any utility or improvement which is damaged by the CONTRACTOR shall be immediately repaired at the CONTRACTOR'S expense, to a condition equal to, or better than, the condition it was in prior to such damage or temporary relocation. If the CONTRACTOR fails or refuses to promptly repair the utility or improvement, the CITY may perform the necessary Work at the CONTRACTOR'S expense and no time extension shall be allowed to the CONTRACTOR. The CONTRACTOR is not relieved of provisions of this Article even in the event such damage occurs after backfilling or is not discovered until after completion of backfilling.

All repairs to a damaged improvement shall be inspected and approved by the INSPECTOR and an authorized representative of the improvement owner before being concealed by backfill or other Work. In case of damage, which in the opinion of the PROJECT MANAGER or the INSPECTOR, threatens the safety of persons or property, the CONTRACTOR shall immediately make all repairs necessary for removal of the hazard. Should the CONTRACTOR fail to promptly take all necessary action, the CITY has the option to remove any hazard resulting from damages caused by the CONTRACTOR at the CONTRACTOR'S expense without waiving any other rights the CITY may have, and no time extension will be allowed to the CONTRACTOR.

In the event that the CONTRACTOR damages any existing utilities that are not shown on the drawings or the locations of which are not made known to the CONTRACTOR prior to excavation, the CONTRACTOR shall immediately notify the INSPECTOR and take all measures necessary to prevent further damage. The CONTRACTOR shall then immediately make a written report to the PROJECT MANAGER and shall make repairs as directed by the PROJECT MANAGER. Payment for this extra Work will be made pursuant to the provisions contained in Article 27, PAYMENT FOR CHANGES AND EXTRA WORK of the General Requirements.

Notwithstanding that an existing utility or substructure is not shown on the original Plans and Specifications, if the existence and location thereof was made known to the CONTRACTOR prior to excavation, the utility or substructure constitutes an existing known condition, and the CONTRACTOR is responsible for protecting the utility or substructure.

Damage to a utility known to the CONTRACTOR shall be repaired at the CONTRACTOR'S expense.

31. NON-CONFORMING WORK

Except as set forth in this Article, all non-conforming Work and materials, in place or not, shall be removed immediately from the site or corrected to conform to all requirements of the Contract Documents, by the CONTRACTOR, at the sole expense of the CONTRACTOR.

If the CONTRACTOR fails to remove, replace or correct any non-conforming Work or materials within seventy two (72) hours of discovery, the PROJECT MANAGER may cause such Work or materials to be removed and replaced. Such removal and replacement shall be at the sole expense of the CONTRACTOR and all such cost shall be deducted from any amounts that are due or may become due to the CONTRACTOR.

Failure of the INSPECTOR or the PROJECT MANAGER to notify the CONTRACTOR of any non-conforming Work shall not constitute acceptance of any non-conforming Work. The CONTRACTOR'S obligation to remove, replace or correct any non-conforming Work, whenever discovered, shall continue to the end of the guaranty-warranty period provided for in Article 16, GUARANTY-WARRANTY of the General Requirements. The CITY reserves and retains all rights and remedies at law against the CONTRACTOR and their Surety for correction of any and all latent defects discovered after the guaranty-warranty period.

The Contract Documents may be modified for the purpose of allowing non-conforming Work to become acceptable in lieu of the CONTRACTOR'S obligation to remove and replace all such non-conforming Work. Such modification shall be effective only upon the written agreement of the CONTRACTOR and the PROJECT MANAGER. Such written agreement shall be issued as a Change Order, which shall include all of the following provisions.

1. A statement that the Work as constructed is non-conforming Work.
2. The specifications by which the non-conforming Work will be made to conform to the requirements of the Contract Documents.
3. A statement that all modifications to the non-conforming Work shall be at the sole expense of the CONTRACTOR.
4. A statement that the CONTRACTOR waives and releases any and all claims against the CITY, including time and impacts, in any way whatsoever related to the non-conforming Work, the modification of such non-conforming Work, and the time to negotiate such a modification.

5. The amount representing the value of the Work specified in the Contract Documents less the value of the Work as constructed, as a credit to the CITY, which shall be deducted from the amount of the Contract.

No Work shall proceed which shall make the non-conforming Work more costly to correct nor to modify such non-conforming Work until the PROJECT MANAGER and the CONTRACTOR execute such a Change Order. The PROJECT MANAGER may grant permission, in response to a written request from the CONTRACTOR, to proceed with the Work before finalization of such a Change Order, if they find the request to be in the best interest of the CITY.

Any delays or impacts arising on the Work as a result of construction or delivery of non-conforming Work or materials shall be at the CONTRACTOR'S sole expense, regardless of whether the Work ultimately becomes the subject of a Change Order, and no time extension shall be allowed to the CONTRACTOR.

Acceptance by the INSPECTOR of such previous non-conforming Work, after execution of the Change Order, does not act to waive or otherwise negate the CONTRACTOR'S obligations to guarantee such Work as set forth in Article 16, GUARANTY-WARRANTY of the General Requirements.

Failure of the CONTRACTOR to comply with the requirements of this Article shall constitute default of the Contract by the CONTRACTOR and the CITY may terminate the Contract as provided for in TERMINATION OF CONTRACT BY CITY (CONTRACTOR DEFAULT).

32. SUBCONTRACTORS AND SUB-SUBCONTRACTORS (Revised as of 3/25/2010)

The Contractor shall perform on the site and with its own organization not less than fifty (50%) of the total Contract Price, unless a different percentage is designated in the Bid Proposal. Any items designated "specialty items" in the Bid Proposal may be performed by subcontract and the amount of all such "specialty items" may be deducted from the Contract Price before computing the amount of Work required to be performed by the Contractor with its own organization. The dollar value included in the percentage performed by the Contractor shall include the value of labor, materials and equipment to be incorporated or used in the Work and directly purchased by the Contractor and shall not include the value of Work, including labor, materials and equipment, incorporated or used in the Work, performed or provided by Subcontractors.

Bidders must list all Subcontractors in the Bid, regardless of the dollar amount of the work to be performed, if the Bidder wishes to have the Subcontract amount credited toward meeting the MBE/WBE/SBE/EBE/DVBE/OBE levels of participation of the Project. Subcontractors added to the project following acceptance of the Bid and award of the Project will not be credited toward meeting the MBE/WBE/SBE/EBE/DVBE/OBE levels of participation for this Project.

Listed vendors and/or Suppliers will be limited to 60% of their listed dollar value toward achieving the anticipated MBE/WBE/SBE/EBE/DVBE/OBE levels of participation for this Project, unless the vendor and/or Supplier manufactures or substantially alters the materials/supplies.

The designated percentage of the total Contract Price the Contractor is to perform may not be reduced below that level by the addition of Subcontractor's added after Award of the Project.

The Inspector, acting on behalf of the Board of Recreation and Park Commissioners, will be responsible for approval of all Subcontractors, whether Bid-listed or not, and all Sub-subcontractors employed on the Project.

The Contractor must list in the original bid each Subcontractor who will perform Work or render services in an amount in excess of one-half of 1 percent of the Contractor's total Bid or \$10,000.00, whichever is greater.

Subletting or Subcontracting of any portion of the Work in excess of one-half of 1 percent of the Contractor's original total Bid or \$10,000.00, whichever is greater, for which no Subcontractor was designated in the original Bid shall only be permitted in cases of public emergency or necessity, and then only after a finding reduced to writing as a public record of

the Inspector setting forth the facts constituting the emergency or necessity.

If the Contractor fails to specify a Subcontractor, or if the Contractor specifies more than one Subcontractor for the same portion of Work to be performed under the Contract in excess of one-half of 1 percent of the Contractor's total original Bid or \$10,000.00, whichever is greater, the Contractor agrees that it is fully qualified to perform that portion of Work itself, and that it shall perform that portion itself.

The Contractor shall set forth in its Bid the following: The name, location of the place of business, telephone number, California State Contractor's License Number and dollar amount of each Subcontractor who will perform Work, labor, service, supply specifically fabricated materials or equipment in an amount in excess of one-half of 1 percent of the Contractor's total Bid, or \$10,000.00, whichever is greater.

The Contractor shall list only one Subcontractor for each portion of Work as defined by the Contractor in its Bid.

Acceptance by the Board of Recreation and Park Commissioners of its Bid is dependent upon each Bid listed Subcontractor, and all subsequently approved additional Subcontractors, performing the dollar value of Work listed or approved. Any reduction, increase, or other change to any Subcontract amount without prior approval by Board of Recreation and Park Commissioners is considered an Unauthorized Subcontractor Substitution and is subject to a penalty of ten (10) percent of the Subcontract amount, whether Bid-listed or not. A Subcontract dollar value increased or reduced as the result of a Change Order issued by the Engineer to add or delete from the original scope of Work shall not be subject to a penalty for an Unauthorized Subcontract Substitution.

Acceptance by the Board of Recreation and Park Commissioners of its Bid shall not entitle Subcontractors to recognition for any direct or contractual relationship with the City, nor shall it constitute approval of the use of any materials other than those specified.

The Contractor shall be responsible for all acts of all Subcontractors at all tiers. The Contractor shall coordinate all work performed by subcontractors in the interest of the City.

All Subcontractors who will be working on the Project shall be approved in writing by the Inspector prior to beginning Work, regardless of the dollar amount of Work to be performed, and whether or not they were listed in the original Bid.

Requests for approval of all Subcontractors, or request for substitution of a Subcontractor, shall be made in writing to the Inspector located at the Public Works Building, 1149 S. Broadway, 3rd Floor, Los Angeles, CA, 90015, and said request shall contain the following information for each Subcontractor:

- 1) Project Name
- 2) Project Work Order Number
- 3) Subcontractor's Name
- 4) Subcontractor's Address
- 5) Subcontractor's Phone Number
- 6) Subcontractor's Status (WBE, MBE, SBE, EBE, DVBE, OBE)
- 7) Subcontractor's State of California Contractor License Number
- 8) Subcontractor's City Business Tax Registration Certificate Number (BTRC)
- 9) Dollar amount of Subcontract work to be performed
- 10) Description of Subcontract work to be performed

Failure to provide any of the information listed will result in denial of approval until such time as the information is provided.

Failure to obtain approval of the Inspector prior to each Subcontractor performing Work on the Project may result in suspension of Work by that Subcontractor, removal of Work performed by unapproved Subcontractors, assessment of penalties, and possible sanctions against the Contractor.

Additional Subcontractors may be added after the time of original Bid. The value of Work to be performed by additional Subcontractors may not be greater than one-half of 1 percent of the Contractor's original total Bid or ten thousand dollars (\$10,000.00), whichever is greater, unless the Subcontractor will be performing Work added by Change Order causing changes or deviations from the original Contract.

The Contractor shall provide the dollar amount of Work to be performed in all requests for additional Subcontractors. Failure to specify a dollar amount of Work to be performed will result in denial of additional Subcontractors until such time as the amount is provided.

Failure of the Contractor to request and obtain approval for a reduction in either a Bid-listed Subcontract amount or the Subcontract amount of a Subcontract added after the original Bid shall result in a penalty of ten percent of the Subcontract amount.

A Contractor whose Bid is accepted may not:

- 1) Substitute any person as Subcontractor in place of a Subcontractor listed in the original Bid, except that the Inspector, acting on behalf of the Board of Recreation and Park Commissioners, may consent to the substitution of another Subcontractor for one of the following situations:
 - A) When the Subcontractor listed in the original Bid or proposal after having had a reasonable opportunity to do so fails or refuses to execute a written contract, when that written contract, based upon the general terms, conditions, plans and specifications for the project involved or the terms of that Subcontractor's written bid, is presented to the subcontractor by the Contractor.
 - B) When the listed Subcontractor becomes bankrupt or insolvent.
 - C) When the listed Subcontractor fails or refuses to perform its subcontract.
 - D) When the listed Subcontractor fails or refuses to meet the bond requirements of the Contractor as set forth herein.
 - E) When the Contractor demonstrates to the Inspector's satisfaction that the name of the Subcontractor was listed as a result of an inadvertent clerical error.
 - F) When the listed Subcontractor is not licensed pursuant to the State of California Contractor's License Law.
 - G) When the listed Subcontractor refuses to obtain a City of Los Angeles Business Tax Receipt Certificate (BTRC).
 - H) When the Inspector concurs with the Contractor that the Work being performed by the listed Subcontractor is unsatisfactory and not in substantial accordance with the Contract Documents, or the listed Subcontractor is delaying or disrupting the progress of the work.
 - I) When the listed Subcontractor fails to submit an Affirmative Action Plan acceptable to the Inspector.

- J) When the Board of Recreation and Park Commissioners determines that a listed Subcontractor is not a responsible contractor.
- 2) Permit a Subcontract to be voluntarily assigned or transferred or allow it to be performed by anyone other than the original Subcontractor listed in the original Bid, without the consent of the Inspector.
 - 3) Other than in the performance of Change Orders causing changes or deviations from the original Contract, sublet or Subcontract any portion of the Work in excess of one half of 1 percent of the Contractor's total Bid as to which its original Bid did not designate a Subcontractor.
 - 4) Reduce the dollar amount of a Bid-listed Subcontract without the written approval of the Inspector.

A request for substitution of any Subcontractor, whether Bid-listed or not, must be made in writing to the Inspector and must include letter(s) of explanation as to the reason for the requested substitution.

It is considered a substitution if anyone other than the Bid-listed and/or approved Subcontractor(s), including the Contractor, performs any portion of the Work designated to be performed by said Subcontractor.

Failure to obtain approval for a Subcontractor substitution may result in rejection of the affected Work, penalties assessed for failure to obtain approval, and possible sanctions by the City.

All substitutions of Subcontractors, whether MBE/WBE/ SBE/EBE/DVBE/OBE or not, shall be approved in writing by the Board of Recreation and Park Commissioners prior to any Work being performed by the substituting Subcontractor.

The Contractor shall conduct a Business Inclusion Program Outreach prior to approval of any requested Subcontractor substitution, regardless of the status (MBE/WBE/SBE/EBE/DVBE/OBE) of the contractor being substituted for. For MBE/WBE/ SBE/EBE/DVBE/OBE Subcontractor substitution requests, the Contractor shall comply with the Business Inclusion Program Outreach requirements of Pages 15-15R of the Instructions to Bidders (Volume I). The Business Inclusion Program Outreach for any requested Subcontractor substitution must be reviewed and approved by the Special Research and Investigation Section of the General Services Division of the Bureau of Contract Administration, whether the Subcontractor was Bid listed or approved after the Award of the Project.

There shall be no decrease in dollar value of Work to be performed by Subcontractors approved as a substitute for a Bid-listed Subcontractor without a change in scope of the Work to be performed by the originally Bid-listed Subcontractor. Written evidence of a change of scope must be provided by the Engineer prior to approval of a change in dollar value of a Bid-listed Subcontractor.

Prior to approval of the Contractor's request for substitution, the Inspector shall give notice in writing to the Subcontractor affected by the Contractor's request to substitute and of the reasons for the request. The notice shall be served by certified or registered mail to the last known address of the Subcontractor. The listed Subcontractor who has been so notified shall have five (5) Workdays within which to submit written objections to the substitution. Failure to file these written objections within five (5) Workdays of notification shall constitute the listed Subcontractor's consent to the substitution. Notification by the Inspector may be made by phone in lieu of written notification via certified or registered mail if agreed to by the listed Subcontractor and followed by written request. Upon notification by phone, the listed Subcontractor may file written objections within five (5) days of notification.

If written objections are filed, the Inspector shall give notice of at least five (5) Workdays to the listed Subcontractor of a hearing on the Contractor's request for substitution.

The Contractor, as a condition to assert a claim of Inadvertent Clerical Error in the listing of a Subcontractor, shall within

two Workdays after the time of the original Bid opening by the Board of Recreation and Park Commissioners give written notice to the Inspector and the Board of Recreation and Park Commissioners and copies of such notice to both the Subcontractor he claims to have listed in error and the intended Subcontractor who had bid to the Contractor prior to Bid opening.

Written notice of an Inadvertent Clerical Error shall be forwarded within two (2) days after the time of the original Bid opening by every Contractor claiming such an error. Failure to submit such notice within the time prescribed shall make any such subsequent claim of Inadvertent Clerical Error invalid.

Any listed Subcontractor who has been notified by the Contractor of an Inadvertent Clerical Error shall be allowed six (6) Workdays from the time of the Bid opening to submit to the Inspector and to the Contractor written objection to the Contractor's claim of Inadvertent Clerical Error. Failure of such listed Subcontractor to file such written notice within the six (6) Workdays shall constitute agreement that an advertent clerical error was made.

The Inspector shall, in the absence of compelling reasons to the contrary, consent to the requested substitution based on an Inadvertent Clerical Error if:

- 1) The Contractor, the Subcontractor listed in error, and the intended Subcontractor each submit an affidavit to the Inspector along any additional information as the parties may wish to submit that an Inadvertent Clerical Error was in fact made, provided that the affidavits from each of the three parties are filed within eight (8) Workdays from the time of the original Bid opening, or
- 2) If such affidavits are filed by both the Contractor and the intended Subcontractor within eight days of the original Bid opening but the Subcontractor whom the Contractor claims to have listed in error does not submit within six (6) Workdays, to the Inspector and to the Contractor, written objection to the Contractor's claim of Inadvertent Clerical Error as provided in this article.

If such affidavits are filed by both the Contractor and the intended Subcontractor but the listed Subcontractor has, within six (6) Workdays from the time of the original Bid opening, submitted to the Inspector and to the Contractor written objection to the Contractor's claim of Inadvertent Clerical Error, the Inspector shall investigate the claims of all parties and schedule a public hearing before the Board of Recreation and Park Commissioners to determine the validity of such claims. Any determination shall be based on the facts contained in the declarations submitted under penalty of perjury by all three parties and supported by testimony given to the Board of Recreation and Park Commissioners. The Board of Recreation and Park Commissioners may, on its motion or that of any other party, admit testimony of other Contractors, any Bid registries or depositories, or any other party in possession of facts, which may have a bearing on the decision of the Board of Recreation and Park Commissioners. The findings of the Board of Recreation and Park Commissioners shall be final.

33. RESPONSIBILITY OF CONTRACTOR TO ACT IN EMERGENCY

In case of an emergency that threatens loss of or damage to property or injury to persons, the CONTRACTOR shall act, without instructions from the CITY, as the situation may warrant. The CONTRACTOR shall immediately inform the PROJECT MANAGER and the INSPECTOR of the emergency action taken. Any claim shall be submitted to the PROJECT MANAGER. If practical the amount of compensation, if any, shall be determined by agreement prior to the issuance of a Change Order. However, if the emergency is created or aggravated by the CONTRACTOR, it shall be liable for the resulting damages. If the CONTRACTOR fails to take the necessary action as required by such an emergency the CITY may assign another CONTRACTOR or use its own forces to perform the emergency Work at the CONTRACTOR'S sole expense.

34. ASSIGNMENT

The CONTRACTOR shall not assign, transfer, convey or otherwise dispose of this Contract or any of the proceeds there under unless written consent of the CITY has been obtained. No right under this Contract or claim for any

proceeds due or to become due hereunder shall be asserted against the CITY, or persons acting for the CITY, by reason of any so-called assignment, transfer or conveyance of this Contract or any part thereof unless such assignment, transfer or conveyance has been authorized by the written consent of the CITY. The instrument of assignment, transfer or conveyance shall contain a clause subordinating the claim of the assignee, transfer or conveyor to all prior liens for services rendered or materials supplied for the execution of the Work.

35. INDEPENDENT CONTRACTOR

The CONTRACTOR represents that it is fully experienced and properly qualified to perform the class of Work required for the CONTRACT and that it is properly licensed, equipped, organized and financed to perform the Work. The CONTRACTOR shall be an independent contractor. The CONTRACTOR is not an agent of the CITY in the performance of the CONTRACT, and shall maintain complete control over its employees and its Subcontractors and Suppliers of any tier. Nothing contained in the CONTRACT or any Subcontract awarded by the CONTRACTOR shall create any relationship between any Subcontractor and the CITY. The CONTRACTOR shall perform the Work in accordance with its own methods, in compliance with the terms of the CONTRACT.

INDEMNIFICATION AND INSURANCE REQUIREMENTS

36. INDEMNIFICATION

Except for the active negligence or willful misconduct of the CITY, the CONTRACTOR undertakes and agrees to defend, indemnify and hold harmless, through legal counsel acceptable to the CITY, the CITY, and any and all of the CITY'S Boards, Officers, Agents, Employees, Assigns, and Successors in Interest from and against all suits and causes of action, claims, losses, demands and expenses, including, but not limited to, attorney's fees and cost of litigation, damage or liability of any nature whatsoever, arising out of or related to the performance or nonperformance by CONTRACTOR or its Subcontractors, Sub-Subcontractors, or Suppliers, of any tier, of any portion of the construction of the Project, including but not limited to CONTRACTOR'S negligent acts, errors, omissions, breach of contract, breach of warranty (express or implied), or willful misconduct.

It is agreed that such defense and indemnity shall extend to the CITY'S PROJECT MANAGER, Architect/Engineer or other Design Consultant providing services under written agreement with the CITY covering any portion of the Project. Provided, however, that the Design Consultant shall be solely responsible for the enforcement of any request made by said Consultant for indemnification or defense by the CONTRACTOR. It is further provided that the CITY shall have no liability whatsoever for any failure of the CONTRACTOR to comply with any request from the Consultant for indemnity or defense.

It is further agreed that the defense and indemnity obligations of the CONTRACTOR under this Article shall not extend to the liability of the Design Consultant or its agents, employees or subconsultants, arising as a result of such indemnitee's own active negligence, errors or omissions or from (1) the preparation or approval of maps, Plans, opinions, reports, surveys, change orders, designs or Specifications, or (2) the giving of or failure to give directions or instructions by the indemnitee provided that such giving or failure to give is the primary cause of the damage or injury.

37. INSURANCE

A. GENERAL

During the term of this Contract and without limiting the CONTRACTOR's indemnification of the CITY, the CONTRACTOR shall provide and maintain at its own expense, insurance having the limits customarily carried and actually arranged by the CONTRACTOR but not less than the amounts and types listed on the Insurance Requirements Form in Volume 1 of these Contract Documents, covering its operations hereunder subject to the following conditions as they may variously apply:

1. ADDITIONAL INSURED/ADDITIONAL INTEREST/LOSS PAYEE

The CITY, it's Recreation and Park Commissions, Officers, Agents, Employees and Design Consultant shall be included as:

- a. Additional Insureds in all required General Liability and property insurance and Additional Interests in all required Automobile Liability insurance.
- b. Named Insureds in all required Owners and Contractors Protective Liability insurance policies.
- c. Loss Payee As Its Interest May Appear in all required property, fidelity or Surety coverages.
- d. Listing of other entities as additional insures may be required for specific projects due to their funding source (such as, Prop A funded projects require that Los Angeles County be listed as an additional insured).

The CITY and other interests listed above need not be named on Workers' Compensation/Employer's Liability, Professional Errors and Omissions and Second-party Legal Liability coverages (such as Garage Keepers' Legal).

2. INSURANCE APPROVAL

All insurance required hereunder shall conform to the CITY requirements established by Charter, ordinance or policy. Evidence of insurance shall be submitted to the Department's Risk Control Coordinator and approved by the City Attorney prior to commencement of any Work or tenancy under this Contract in accordance with the Los Angeles Administrative Code.

3. ALTERNATIVE PROGRAMS

Alternative Risk Financing mechanisms such as Risk Retention Groups, Risk Purchasing Groups, off-shore carriers and captive insurance programs are subject to review of their financial statements by the CITY before an approval can be granted by the City Attorney.

4. ADMITTED CARRIER/LICENSED CALIFORNIA BROKER

Insurance shall be obtained from brokers or carriers authorized to transact insurance business in California. Surplus lines insurance from carriers who are not admitted in California must be submitted through a California-licensed broker or agent.

Surplus lines coverage must also contain a Service of Suite provision whereby the underwriters will submit as necessary to any court of competent jurisdiction in California and agree that all matters arising there under will be determined in accordance with the law and practice of such court. It must further give the name and address of the underwriter's agent for service of process located within California or must nominate the California Insurance Commissioner as such agent.

5. PRIORITY OF COVERAGE

The CONTRACTOR's insurance shall not call on the CITY's program for contributions.

6. CANCELLATION/REDUCTION IN COVERAGE NOTICE

With respect to the interest of the CITY, if an insurance company elects to cancel insurance before the stated expiration date, or declines to renew in the case of a continuous policy, or materially reduces the coverage period by changing the retroactive date (if any), or the extended discovery period (if any), or reduces the stated limits other than by impairment of an aggregate limit, or materially reduces the scope of coverage which affects the CITY's interest, the company will provide the CITY at least thirty (30) calendar days prior written of such election. Notice will be made by receipted delivery addressed as follows: CITY ATTORNEY, INSURANCE AND BONDS, 1240 City Hall East, 200 NORTH MAIN STREET, LOS ANGELES, CA 90012-4168. It is understood, however, that such notice to the CITY shall not affect the company's right to give a lesser notice to the Named Insured in the event of nonpayment of premium. (L.A. Admin. Code Section 11.54).

7. ACCEPTABLE EVIDENCE

The appropriate CITY Special Endorsement forms, contained in Volume 1 of these Contract Documents, are the preferred form of evidence of insurance. Alternatively, the CONTRACTOR may submit two (2) certified copies of the policy or other evidence acceptable to the City Attorney containing language which complies with subparagraphs 1) through 6) above.

With respect to Professional Liability insurance, either a signed copy of the Policy Declarations Page or a letter from the CONTRACTOR's insurance broker certifying coverage, together with a thirty (30) day cancellation notice endorsement in favor of the CITY as specified in subparagraph 6) will satisfy this requirement.

8. SEPARATION OF INSURED

Except with respect to the insurance company's limits of liability, each liability insurance policy shall apply separately to each insured against whom a claim or suit is brought. The inclusion of any person or organization as an insured shall not affect any right which such person or organization would have as a claimant if not so included.

9. RENEWAL

Once the insurance has been approved by the CITY, evidence of renewal of an expiring policy may be submitted on a manually signed renewal endorsement or certificate form. If the policy or carrier has changed, however, new evidence as specified in paragraphs 1) through 8) above, must be submitted.

B. AGGREGATE LIMITS/REDUCTION IN COVERAGE

If any of the required insurance coverages contain aggregate limits, or apply to other operations or tenancy of the CONTRACTOR not related to this Contract, the CONTRACTOR shall give the CITY prompt, written notice of any incident, occurrence, claim, settlement or judgement against such insurance which in the CONTRACTOR's best judgement may diminish the protection such insurance affords the CITY. Further, the CONTRACTOR shall immediately take all reasonable and available steps to restore such aggregate limits or shall provide other insurance protection for such aggregate limits. The CITY may, at its option, specify a minimum acceptable aggregate for each line of coverage required.

The CONTRACTOR shall not make any substantial reductions in scope of coverage (e.g., elimination of contractual liability or reduction of discovery period) which may affect the CITY's protection without the CITY's prior written consent.

C. SELF-INSURANCE AND SELF-INSURED RETENTIONS

Self-insurance programs and self-insured retention in insurance policies are subject to separate approval by the CITY upon review of evidence of the CONTRACTOR's financial capacity to respond. Additionally, such programs or retention must provide the CITY with at least the same protection from liability and defense of suits as would be afforded by first-dollar insurance.

D. MODIFICATION OF COVERAGE

The CITY reserves the right at any time during the term of this Contract to change the amounts and types of insurance required hereunder by giving the CONTRACTOR ninety (90) calendar days advance written notice of such change. If such change should result in substantial additional cost to the CONTRACTOR, the CITY agrees to negotiate additional compensation.

E. FAILURE TO PROCURE INSURANCE

The required coverage and limits are subject to availability on the open market at reasonable cost as determined by the CITY. Non-availability or non-affordability must be documented by a letter from the CONTRACTOR'S insurance broker or agent indicating a good faith effort to procure the required insurance

and showing, as a minimum, the names of the insurance carriers and the declinations or quotations received from each.

Within the foregoing constraints, the CONTRACTOR'S failure to procure or maintain required insurance or a self-insurance program during the entire term of this Contract shall constitute a material breach of this Contract under which the CITY may immediately suspend or terminate this Contract or, at its discretion, procure or renew such insurance to protect the CITY'S interests and pay any and all premiums in connection therewith, and recover all monies so paid from the CONTRACTOR.

F. UNDERLYING INSURANCE

The CONTRACTOR shall be responsible for requiring indemnification and insurance as it deems appropriate from its consultants, agents and Subcontractors, if any, to protect the CONTRACTOR's and the CITY'S interests, and for ensuring that such persons comply with any applicable insurance statutes. The CONTRACTOR is encouraged to seek professional advice in this regard.

G. WORKERS' COMPENSATION

By signing this Contract, the CONTRACTOR hereby certifies that it is aware of the provisions of Section 3700 *et seq.*, of the Labor Code which require every employer to be insured against liability for Workers' Compensation or to undertake self-insurance in accordance with the provisions of that Code, and that it will comply with such provisions at all such times as they may apply during the performance of the Work pursuant to this Contract.

A waiver of subrogation in favor of the CITY will be required when Work is performed on CITY premises under hazardous conditions.

H. ALL RISK BUILDER'S RISK/INSTALLATION FLOATER

During the course of construction, the CONTRACTOR shall secure and maintain an All Risk Builder's Risk Insurance policy covering loss, damage or destruction of property, including materials in transit and stored on and off site, in an amount equal to the value of the construction and materials on hand.

An Installation Risk or "Floater" Policy, written to cover only specific types of equipment during construction, may be provided to cover damage to Work or high valued equipment or materials.

Coverage shall remain in force until the Work is completed and accepted by the CITY. Acceptable evidence of coverage shall be in the form of an endorsement to the policy which names the CITY as an additional named insured and as Loss Payee As Its Interest May Appear.

I. TYPICAL COVERAGES REQUIRED

The coverages required in A above shall be at least as broad as:

1. General Liability: Insurance Services Office Commercial General Liability coverage (Occurrence Form CG 00 01).
2. Automobile Liability: Insurance Services Office Form Number CA 00 01 (Ed. 1/87) covering Automobile Liability, code 1 (any auto).
3. Professional Liability: If applicable, errors and omissions liability appropriate to the consultant's profession, with a discovery period of not less than twelve (12) months after completion of Work or termination of Contract.

J. TYPICAL LIMITS OF LIABILITY

Unless otherwise specified in Form Gen. 146/IR, the CONTRACTOR shall maintain limits no less than:

1. General Liability: \$1,000,000 per occurrence for bodily injury, personal injury and property damage. If Commercial General Liability or other form with a general aggregate limit is used, either the

general aggregate shall apply separately to this project/location or the general aggregate limit shall be twice the required occurrence limit.

2. Automobile Liability: \$1,000,000 per accident for bodily injury and property damage, combined or equivalent in split limits.
3. Employer's Liability: \$1,000,000 per accident for bodily injury or disease.
4. Professional Liability: \$1,000,000 per occurrence.

K. CONTRACT BONDS

Before the execution of the Contract by the RECREATION AND PARK COMMISSION, the bidder shall file with the RECREATION AND PARK COMMISSION Surety bonds satisfactory to the RECREATION AND PARK COMMISSION in the amounts and for purposes noted below. Bonds shall be duly executed by a responsible corporate Surety, authorized to issue such bonds in the State of California and secured through an authorized agent with an office in California. Bonds shall be issued by a Surety who is listed in the latest revision of U.S. Department of Treasury Circular 570, is authorized to issue bonds in California, and whose bonding limitation shown in said circular is sufficient to provide bonds in the amount required by the Contract. The Bidder shall pay all bond premiums, costs, and incidentals. On Contracts estimated by the PROJECT MANAGER to be less than \$2 million, bonds may be obtained from an insurance company with a Certificate of Authority from the California Insurance Commissioner authorizing the company to write Surety insurance within the State of California.

Each bond shall be signed by both the Bidder and the Surety, and the signature of the authorized agent of the Surety shall be notarized.

The Bidder shall provide two good and sufficient surety bonds. The "Payment Bond" (Material and Labor Bond) shall be for not less than one hundred percent (100%) of the Contract price, to satisfy claims of material suppliers and of mechanics and laborers employed by it on the Work. The bond shall be maintained by the CONTRACTOR in full force and effect until the Work is accepted by the RECREATION AND PARK COMMISSION, and until all claims for materials and labor are paid, and shall otherwise comply with the California Civil Code.

The "Performance Bond" shall be for one hundred percent (100%) of the Contract price to guaranty faithful performance of all Work, within the time period prescribed, in a manner satisfactory to the RECREATION AND PARK COMMISSION, and that all materials and Workmanship will be free from original or developed defects, and comply with requirements and guaranty specified in Article 16, GUARANTY-WARRANTY of the General Requirements.

Should any Surety at any time be unsatisfactory to the RECREATION AND PARK COMMISSION, notice will be given the CONTRACTOR to that effect. No further payments shall be deemed due or will be made under the contract until a new Surety shall qualify and be accepted by the RECREATION AND PARK COMMISSION.

Changes in the Work, or extensions of time, made pursuant to the Contract, shall in no way release the CONTRACTOR or Surety from its obligations. Notice of such changes or extensions shall be waived by the Surety. In addition to the bonds detailed above, the CONTRACTOR shall provide a guarantee bond as detailed in Article 16, GUARANTY-WARRANTY of the General Requirements.

38. SERVICE OF NOTICE

The delivering of any notice, instruction, claim or protest, or other written communication, personally to the CONTRACTOR or the CONTRACTOR'S representative or to the PROJECT MANAGER, or to the City Clerk of the CITY shall constitute service therefore upon the CONTRACTOR, the PROJECT MANAGER, or the CITY, respectively.

The depositing of a post-paid (Registered Mail) wrapper directed to the official address of the CONTRACTOR, the PROJECT MANAGER, or the CITY in any post office, of any notice, instruction, claim or protest, or written

communication, shall be deemed sufficient service thereof upon the CONTRACTOR, the PROJECT MANAGER, or the CITY, respectively, and the date of said service shall be the day following the date of postmark.

The official address of the CONTRACTOR shall be the address given in the accepted bid or such other address as the CONTRACTOR may subsequently designate in writing either to the PROJECT MANAGER or to the CITY. The official name and address of the PROJECT MANAGER and the CITY will be supplied to the CONTRACTOR after the award.

39. AGENT TO ACCEPT SERVICE

The CONTRACTOR shall maintain within Los Angeles County a duly authorized agent as identified in the Article entitled SERVICE OF NOTICE to accept service of legal process on its behalf, and shall keep the CITY advised of such agent's name and address during the duration of the CONTRACT and for three (3) years after the Final Payment, or as long as the CONTRACTOR has warranty obligations under Article 16, GUARANTY-WARRANTY of General Requirements, whichever period terminates later. In the event that no such duly authorized agent is on file with the CITY, the CONTRACTOR agrees that the Secretary of State of the State of California shall be the Contractor's agent for service of legal process.

PROGRESS OF WORK

40. TEMPORARY SUSPENSION OF WORK

If the Work of the Contract is suspended or delayed, the CONTRACTOR shall so notify the PROJECT MANAGER in writing within twenty-four (24) hours after the start thereof. If the CONTRACTOR is entitled to reimbursement for such suspension or delay, as specified hereinafter, the CONTRACTOR shall submit a completely detailed statement of the costs thereof, to the PROJECT MANAGER, within twenty (20) calendar days after the termination thereof. Failure to submit such statement of costs or notification within the time specified shall be deemed a waiver of any claims for delay or damages or both by the CONTRACTOR.

If the Work of the Contract is suspended or delayed through no fault of the CITY, all expenses and losses shall be borne by the CONTRACTOR.

If the Work of the Contract is suspended or delayed by an act of the CITY, or by failure of the CITY to furnish required information, and the CONTRACTOR thereby incurs expenses or sustains losses which could not have been avoided by the judicious handling of forces and equipment, and if by a diligent prosecution of the Work the CONTRACTOR could not have completed the Work before such suspension, the CONTRACTOR will be paid such amount as the RECREATION AND PARK COMMISSION may find to be a fair and reasonable compensation for such part of the CONTRACTOR'S actual loss. In no case shall any compensation be made to cover any loss other than actual cash paid for wages, rental of equipment, and materials used in protection of the Work, all of which must be supported by satisfactory written evidence. Such wages shall not include the wages or salary of any individual not necessary for protection of the Work. The CONTRACTOR shall not be entitled to any mark-up for overhead or profit on damages or for extended duration.

The CONTRACTOR shall maintain complete and accurate daily records of all costs due to delay, clearly distinguishing them from the costs of other portions of the Work, and shall submit a detailed written report of such costs to the PROJECT MANAGER within twenty (20) calendar days of incurring the delay. Failure to comply shall result in waiver by the CONTRACTOR to any claims for additional payment and schedule change. In addition, the CONTRACTOR shall submit evidence of any cause of delay specified herein if it has not already done so.

As soon as practicable, following receipt of such report and evidence, if required, the PROJECT MANAGER will determine the nature and extent of such costs and will, if the PROJECT MANAGER finds that payment is due, issue a Change Order therefore, subject to the provisions in Article 27, PAYMENT FOR CHANGES AND EXTRA WORK of the General Requirements. If the PROJECT MANAGER determines that payment is not due, the CONTRACTOR will be so advised in writing. Should the CONTRACTOR disagree with such finding, CONTRACTOR may submit a notice of protest to the PROJECT MANAGER as provided in CLAIMS AND PROTESTS in these General Conditions. The CONTRACTOR shall provide the PROJECT MANAGER with access to its daily cost records or certified copies thereof as requested. All such records shall be retained by the

CONTRACTOR and open to inspection and audit by the CITY and the PROJECT MANAGER'S authorized representatives. Except for the additional compensation provided herein before, the CONTRACTOR shall have no claim for damage or compensation for any delay or hindrance whether or not contemplated by the Contract.

41. UNAVOIDABLE DELAY

Should the CONTRACTOR be obstructed or delayed or completion of the Work from causes beyond its control and without its fault or negligence, and solely due to acts of God, acts of government in its sovereign capacity, riots, insurrections, wars, fires, floods, earthquakes, tidal waves, epidemics, quarantine restrictions, industry-wide strikes, freight embargoes, or unusually severe weather, it shall be entitled to a noncompensable extension of time.

The CONTRACTOR shall only be entitled to a noncompensable extension of time for Unavoidable delay in the Work which negatively impacts the critical path of the approved project schedule, and causes the Work of the project to extend beyond the approved Contract Completion date.

The CONTRACTOR shall be entitled to a noncompensable time extension only if it notifies the PROJECT MANAGER immediately at the time the CONTRACTOR is prevented from proceeding with the Work and follows with written notification of the causes of the delay within five (5) calendar days from the beginning of any delay. Also, the CONTRACTOR shall notify the PROJECT MANAGER immediately at the end of the delay and follow up with written notification of the cessation of delay within five (5) calendar days from the end of the delay.

Any claim for a time extension shall be made in writing within twenty (20) calendar days after the conclusion of the delay. The PROJECT MANAGER shall ascertain the facts and the extent of the delay and extend the time for completing the Work if, in his/her judgement, the findings of fact justify such an extension. The PROJECT MANAGER'S decision shall be final and conclusive, subject only to appeal as provided by CLAIMS AND PROTESTS of these General Conditions.

42. ARCHAEOLOGICAL AND PALEONTOLOGICAL DISCOVERIES

If discovery is made of items of archaeological or paleontological interest, the CONTRACTOR shall immediately cease excavation in the area of discovery and shall not continue until ordered by the PROJECT MANAGER. When resumed, excavation operations within the area of discovery shall be as directed by the PROJECT MANAGER.

Discoveries which may be encountered may include, but not be limited to, dwelling sites, stone implements or other artifacts, animal bones, human bones and fossils. The CONTRACTOR shall be entitled to an extension of time and compensation in accordance with the provision of TEMPORARY SUSPENSION OF WORK of these General Conditions.

43. OTHER CONTRACTS

The CITY may perform other Work related to the Project at the site by the CITY'S own forces, have other Work performed by utility owners or let other direct contracts therefore which shall contain General Conditions similar to these. If such other Work to be performed was not noted in the Contract Documents, written notice thereof will be given to the CONTRACTOR prior to starting any such other Work; and, if the CONTRACTOR believes that such performance will involve additional expense to the CONTRACTOR or requires additional time and the parties are unable to agree as the extent thereof, the CONTRACTOR may make a claim therefore as provided under CLAIMS AND PROTESTS of these General Conditions.

The CONTRACTOR shall afford each utility owner and other contractor who is a party to such a direct contract (or the CITY, if the CITY is performing the additional Work with the CITY'S employees) proper and safe access to the site and a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such Work, and shall properly connect and coordinate the Work with theirs. The CONTRACTOR shall do all cutting, fitting and patching of the Work that may be required to make its several parts come together properly and integrate with such other Work. The CONTRACTOR shall not endanger any Work of others by cutting, excavating or otherwise altering their Work and will only cut or alter their Work with the written consent of the PROJECT MANAGER and the others whose Work will be affected. The duties and responsibilities of the CONTRACTOR

under this Article are for the benefit of such utility owners and other contractors to the extent that there are comparable provisions for the benefit of the CONTRACTOR in said direct contracts between the CITY and such utility owners and other contractors.

If any part of the CONTRACTOR'S Work depends upon proper execution or results of the Work of any such other contractor or utility owner or the CITY, the CONTRACTOR shall inspect and promptly report to the PROJECT MANAGER in writing any delays, defects or deficiencies in such Work that renders it unavailable or unsuitable for such proper execution and results. The CONTRACTOR'S failure to do so will constitute an acceptance of the other Work as fit and proper for integration with the CONTRACTOR'S Work except for latent or nonapparent defects and deficiencies in the other Work.

44. TERMINATION OF CONTRACT BY CITY (CONTRACTOR NOT AT FAULT)

The CONTRACT may be terminated, in whole or in part, at any time, by the CITY, at its sole discretion, without cause and for the CITY'S convenience. Such termination will be accomplished by delivery of a notice of Termination to the CONTRACTOR, specifying the extent to which performance of the Work under the CONTRACT or portion of the CONTRACT shall be terminated and the date upon which such termination shall become effective.

After receipt of a Notice of Termination, except as otherwise directed by the CITY the CONTRACTOR shall:

1. Stop Work under the CONTRACT on the date and to the extent specified in the Notice of Termination.
2. Notify the CITY in writing of all outstanding orders, Subcontracts and contracts entered into by CONTRACTOR for performance of the Work, including the (i) name and address of the vendor, supplier or Subcontractor; (ii) a copy of the complete contract, order or Subcontract; (iii) an accounting of the Work performed and compensation earned by the vendor, supplier or Subcontractor, and (iv) such other information as the CITY may request to assist it in determining whether to terminate or accept assignment of the order, Subcontract or contract.
3. Upon written notice by CITY, terminate all Subcontracts, orders and contracts, of any tier, related to the performance of the Work that the CITY determines shall be terminated and not assigned.
4. Place no further orders or Subcontracts for Goods or services, except as may be necessary for completion of that portion of the Work that has not been terminated.
5. Settle outstanding liabilities and claims arising out of such termination of orders and Subcontracts, with the Acceptance of the CITY if required (which Acceptance shall be final for the purposes of this Article). Assign to the CITY in the manner, at the times, and to the extent directed by the CITY all of the rights, titles, and interests of the CONTRACTOR under such orders, contracts and Subcontracts so terminated.
6. Transfer title and deliver to the CITY in the manner, at the times and to the extent directed by it, the:
 - a. Fabricated or unfabricated parts, Work in process, completed Work, supplies, and other Goods procured as a part of, or acquired in connection with the performance of the Work terminated; and
 - b. Completed or partially completed plans, drawings, information and other items that would have been required (per the Technical Specifications) to be furnished to the CITY if the Contract had been completed.
7. Use its best efforts to sell the property of the types referred to above in the manner, at the times, to the extent, and at the price(s) directed or authorized by the CITY, providing that the:
 - a. CONTRACTOR is not required to extend credit to any purchaser;

- b. CONTRACTOR may acquire any such property under the prescribed conditions; and/or proceeds of any such transfer or disposition are applied or otherwise credited to reduce payments made by the CITY to the CONTRACTOR under the CONTRACT.
- 8. Take any action that may be necessary, or that the CITY may direct, for the protection and preservation of the property related to the CONTRACT that is in the possession of the CONTRACTOR and in which the CITY has or may acquire an interest.
- 9. Complete performance of that portion of the Work that has not been terminated by the Notice of Termination, as applicable and in accordance with the CONTRACT.

After receipt of a Notice of Termination for the CITY's convenience, the CONTRACTOR shall submit its termination claim to the CITY requesting payment of such sums as are permitted under the terms of this Article, in the form and with the certification(s) prescribed by the CITY for Claims and Protests. Such Claim shall be submitted promptly but in no event later than six months from the effective date of termination, unless one or more extensions are granted in writing by the CITY upon written request by the CONTRACTOR during such six month period or authorized extension thereof. However, the CITY may receive and act upon any termination claim at any time after the six month period or any extension thereof, if it determines that the facts justify such action. Upon failure of the CONTRACTOR to submit its termination claim within the time specified, the CITY will determine the amount due the Contractor, if any, on the basis of information available, and will pay the CONTRACTOR the amount so determined. Such determination shall be final and binding and payment shall be in full settlement for the Work performed under the CONTRACT.

Subject to the provisions of this Article, the CONTRACTOR and the CITY may agree upon the total or partial amount to be paid to the CONTRACTOR by reason of the total of or partial termination pursuant to this Article. The agreed upon amount shall under no circumstances include any sum for lost profits on the terminated portion of the Work or for consequential damages, of any kind. If agreement is reached, the CONTRACT will be amended by Modification accordingly and the CONTRACTOR will be paid the agreed upon amount.

In the event of failure of the CONTRACTOR and the CITY to agree on the total amount to be paid the CONTRACTOR by reason of the termination of Work pursuant to this Article, the CITY will pay the CONTRACTOR the amounts determined by the City as follows, exclusive of any amounts agreed upon in accordance with the preceding Paragraph:

The CONTRACTOR'S actual cost for the Work properly performed by the CONTRACTOR as of the date of termination, including a 5% allowance for profit on such costs; plus, the reasonable cost of preserving and protecting property; plus other reasonable costs incidental to the termination of the Work under the CONTRACT, including expense incurred to determine the amounts due; provided however, that the maximum payable or paid for any portion of the completed Work shall not exceed the values listed in the corresponding bid item of Schedule of Values.

The total sum to be payable or paid to the CONTRACTOR, exclusive of the settlement amounts described in the Paragraph immediately above, shall not exceed the total CONTRACT Price less the:

- 1. Payments made previously by CITY for the Work; plus
- 2. A prorated portion of the total CONTRACT Price for the terminated portion of the Work as determined by the PROJECT MANAGER.

Except for normal spoilage and to the extent that the CITY will have otherwise expressly assumed the risk of loss, the fair value (as determined by the CITY) of property that is destroyed, lost, stolen, or damaged (so as to become undeliverable to the CITY or other buyer as described above) shall be excluded from the amounts paid to the CONTRACTOR.

In arriving at the amount due the CONTRACTOR under this Article, a deduction shall be made for the following:

- 1. Any claim that the CITY may have against the CONTRACTOR in connection with the CONTRACT; and

2. The agreed upon price for and/or proceeds from the sale of Goods or other items acquired or sold by the CONTRACTOR that have not been otherwise recovered by or credited to the CITY.

Under such terms and conditions as it may prescribe and at its sole discretion, the CITY may make partial payments against costs incurred by the CONTRACTOR in connection with terminated portion of the CONTRACT whenever the CITY decides that the aggregate of such payments is within the amount to which the CONTRACTOR is entitled hereunder. If the total of such payments is in excess of the amount finally agreed upon or determined to be due under this Article, such excess shall be payable by the CONTRACTOR or to the CITY upon demand together with interest at a rate equal to that set forth in California Code of Civil Procedure, Section 685.010.

Under no circumstances shall the CONTRACTOR be entitled to anticipatory or unearned profits or consequential damages as a result of a termination or partial termination under this Article, or for any other termination by the CITY. The payment to the Contractor determined in accordance with this Article shall constitute the exclusive remedy of the CONTRACTOR for termination hereunder.

Anything contained in the CONTRACT to the contrary notwithstanding, a termination under this Article shall not waive any right or claim to damages that the CITY may have; the CITY may pursue any clause of action that it may have by law or under the CONTRACT; and shall not relieve CONTRACTOR of its warranty obligations with respect to any Work performed prior to such termination.

If the termination hereunder is only for a part of the Work, the Contract Price shall be reduced by the amount of the Contract Price applicable to the portion of the Work, which is terminated, including overhead and profit, on the basis of one or more of the following:

1. Unit prices stated in the CONTRACT or agreed upon by the CITY and the CONTRACTOR.
2. A lump sum determined by the PROJECT MANAGER, based on the estimate costs including overhead and profit of the terminated portions of the Work.

45. TERMINATION OF CONTRACT BY CITY (CONTRACTOR DEFAULT)

In the event of conduct by the CONTRACTOR which is determined by the PROJECT MANAGER or the to constitute default, the CITY may either suspend the Work under the provisions of TEMPORARY SUSPENSION OF WORK of these General Conditions or, upon ten (10) calendar days' written notice to the CONTRACTOR, terminate the Contract as provided herein. Default by the CONTRACTOR shall occur whenever it shall declare bankruptcy; become insolvent or assign its assets for the benefit of its creditors; fail to provide materials, equipment, or workmanship meeting the requirements of the Specifications; disregard or violate provisions of the Contract Documents or the PROJECT MANAGER's instructions; fail to prosecute the Work according to the approved progress schedule; or fail to provide a qualified representative, competent workers or Subcontractors. Upon request, the RECREATION AND PARK COMMISSION will provide the CONTRACTOR a hearing by the RECREATION AND PARK COMMISSION to contest the recommendation of the PROJECT MANAGER as to default by the CONTRACTOR.

In the event the Contract is terminated pursuant to this Article, the CITY may take possession of the Work and of all materials, tools, equipment, and property of the CONTRACTOR, which have been provided in connection with the Work, and may complete the Work by whatever method or means the CITY may select. The unpaid balance of the Contract cost for completing the Contract Work shall be used to complete the Work in accordance with the Contract Documents. If cost of completing the Work exceeds the unpaid balance, the CONTRACTOR shall pay the excess amount to the CITY. If such cost is less than the unpaid balance, the CONTRACTOR shall not have claim to the difference except to such extent as may be necessary, in the opinion of the PROJECT MANAGER, to reimburse the CONTRACTOR or the CONTRACTOR'S sureties for any unpaid expense properly incurred for materials, tools, equipment, property, and labor devoted to the prosecution of the Work, or which the CITY shall have received the benefit. In computing such expenses, as it relates to equipment and property, the salvage value at completion of Work shall be deducted from the salvage value at the time the contract was terminated, and the

difference shall be considered as an expense. If after termination for failure of the CONTRACTOR to fulfill contractual obligations (CONTRACTOR Default), it is determined by a Court of competent jurisdiction that the CONTRACTOR had not failed to fulfill contractual obligations, the termination shall be deemed to have been for the convenience of the CITY. In such an event, adjustment of the Contract price shall be made as provided in TERMINATION OF CONTRACT BY CITY (CONTRACTOR NOT AT FAULT) of these General Conditions.

46. PRE-FINAL INSPECTION

Approximately two weeks before completion of the Work, the contractor will schedule a Pre-final Inspection to be attended by the Bureau of Contract Administration Inspector, the Project Manager, the Contractor and invited parties associated with the Project. At this time, a list of items requiring correction or completion before the Final Inspection will be compiled. In addition, at this time the Contractor shall arrange for the delivery of manufacturers' data, manuals, and operating instructions and keys to the appropriate Department of Recreation and Parks personnel.

47. FINAL INSPECTION

Approximately seven (7) days prior to completion of the Work, the Contractor shall first notify the Bureau of Contract Administration Inspector and then the Project Manager that he desires a Final Inspection of the Project. During this inspection, which will be arranged as soon as possible, the Inspector, the Project Manager, the Contractor and other parties concerned with contractual requirements will compile a Final Inspection Correction List, incorporating all items of work and corrections required to complete the Project. This list must be completed within thirty (30) days of Final Inspection, or a new Final Inspection will be held and a new Final Inspection Correction List compiled.

48. PARTIAL ACCEPTANCE

The CITY shall have the right to utilize or place into service any item of equipment or other usable portion of the Work prior to completion of the entire project. Whenever the CITY plans to exercise said right, the CONTRACTOR will be notified in writing by the CITY, identifying the specific portion or portions of the Work to be so utilized or otherwise placed into service. Following inspection by the Bureau of Contract Administration's Final Inspector and establishment of a Final Inspection Correction List, a Statement of Partial Completion will be issued.

It shall be understood by the CONTRACTOR that until a Statement of Partial Completion is issued, all responsibility for care and maintenance of all items or portions of the Work to be placed in use shall be borne by the CONTRACTOR. Upon issuance of a Statement of Partial Completion, the CITY will accept responsibility for the protection and maintenance of all such items or portions of the Work described in the written notice, and it is further understood that the manufacturer's warranties of any affected equipment will commence not later than the date for commencement of the warranties indicated on the Statement of Partial Completion. However, the CONTRACTOR shall retain full responsibility for satisfactory operation of the total project and the CONTRACTOR'S guarantee period shall commence only after the final acceptance of the Contract by the RECREATION AND PARK COMMISSION. Such guarantee of total systems operation shall include that portion or portions previously placed into beneficial use by the CITY.

The issuance of a Statement of Partial Completion for any part of the Work shall not relieve the CONTRACTOR of its obligation to promptly remedy any omissions and latent or unnoticed defects in the Work covered by the Statement of Partial Completion. The CITY shall have the right to restrict the CONTRACTOR'S use of the occupied portion of the Work but shall allow the CONTRACTOR reasonable access to complete or correct items required by the Contract Documents.

The CITY may, if the Work is progressing satisfactorily, release part of the retention on portions of the Work for which a Statement of Partial Completion has been issued, provided that the following conditions have been met:

1. Partial final inspection corrections have been completed to the satisfaction of the INSPECTOR;
2. The CONTRACTOR submits a written request for release of retention which includes a verifiable valuation of the identified portions of the Work covered by the Statement of Partial Completion;

3. Impacted Subcontractors, major suppliers and the CONTRACTOR's Surety all agree in writing to release of retention;
4. If any minor corrections remain which do not directly affect operations or maintenance then twice the values of the remaining cleanup items shall be retained on each request for release; and
5. The CONTRACTOR signs a Change Order which specifically states the value of the retention being released.

The PROJECT MANAGER shall issue a no-change-in-contract-cost Change Order reflecting the Work for which a Statement of Partial Completion has been issued and the amount of the retention to be released. This Change Order shall authorize reduction of the retention on the next payment.

49. FINAL ACCEPTANCE

When all Work has been completed on the entire project, the CONTRACTOR shall notify the INSPECTOR and the PROJECT MANAGER in writing and request a final inspection by the INSPECTOR. The inspection conducted by the Final Inspector will include the CONTRACTOR and major Subcontractors' representatives. The CONTRACTOR shall promptly and diligently correct all items on the Final Inspection Correction List. The correction list Work will be reinspected until all Work is complete. If deemed necessary by the PROJECT MANAGER, a deductive Change Order may be issued for twice the value of final correction list items remaining to be corrected to attain completion, and permit the acceptance of the Contract by the RECREATION AND PARK COMMISSION.

Final payment to the CONTRACTOR is made following action by the RECREATION AND PARK COMMISSION that formally adopts the recommendation of the PROJECT MANAGER to accept the Contract. Said action by the RECREATION AND PARK COMMISSION establishes the following:

1. The start date of the CONTRACTOR'S material and workmanship warranty/guarantee for the total project.
2. The start date of any equipment or material warranties for which the "warranty clock" had not started.

50. LIQUIDATED DAMAGES

Time is of the essence in completing the Work required by the Contract. If the CONTRACTOR fails or refuses to complete the Work or any part thereof within the time fixed by the terms of the Contract, or any approved extension thereof, the actual damage to the CITY due to the delay will be difficult or impossible to determine. In lieu thereof, the CONTRACTOR shall pay to the CITY, as fixed and agreed, liquidated damages for each calendar day of delay in completion, the sum of **\$ 750.00 per day**. The CONTRACTOR shall be liable for the amount thereof. The CITY reserves the right, however, to terminate the CONTRACTOR's completing the Work, charging against the CONTRACTOR and its sureties any excess cost occasioned the CITY thereby, together with liquidated damages accruing until such time as the CITY may reasonably complete the Work.

Permitting the CONTRACTOR to continue and complete the Work, or any portion thereof, after the time fixed herein for completion, or after the expiration of any extensions of said time, shall in no way operate as a waiver on the part of the CITY of any of its rights under the Contract.

51. COMPENSATION FOR DELAY, DISRUPTION, AND UNANTICIPATED OVERHEAD

Notwithstanding anything to the contrary in the Contract Documents, CONTRACTOR agrees the provisions of this Article, set forth CONTRACTOR'S sole and exclusive rights to compensation for costs, expenses or damages, of any kind, arising from or relating to (i) delay, disruption, hindrance, interference, schedule compression, and the impact, ripple or cumulative effect thereof; or (ii) additional supervision, administration, excess, extended or extraordinary overhead, loss of productivity, or similar costs, expenses or damages incurred as a result of or related to extras, changes, additions or deletions in the Work, errors, omissions, conflicts or ambiguities in the

Contract Documents, suspensions of the Work, acts or omissions of CITY or its representatives, agents, contractors or consultants, Differing Site Conditions, or other unforeseen circumstances, of any kind.

CONTRACTOR shall not be entitled to, and hereby conclusively waives, any right to recovery of compensation, costs, expenses or damages for delays, disruptions, hindrances or interferences (including without limitation interruption of schedules, extended, excess or extraordinary field and indirect overhead costs, loss of productivity and the impact, ripple or cumulative effect on other Work) that are the result of Unavoidable Delays or which are caused by the acts or omissions of CONTRACTOR or of its SUBCONTRACTORS, of any tier.

CONTRACTOR'S rights to recovery of compensation, costs, expenses and damages for delay, disruption, hindrance and interference (including without limitation interruption of schedules, extended, excess and extraordinary field and indirect overhead costs, loss of productivity and the impact, ripple or cumulative effect on other Work) that are the result of extras, changes, additions or deletions in the Work for which CONTRACTOR is entitled to an adjustment of the Contract Price as set forth in CHANGES AND EXTRA WORK of these General Conditions and shall constitute the sole, exclusive and complete compensation that the CITY is obligated to pay CONTRACTOR for all such costs, expenses and damages incurred by CONTRACTOR and its SUBCONTRACTORS, of every tier.

Time extension in calendar days will be granted only if delays are caused by unforeseen events beyond the control of both the CONTRACTOR and the City. Such delays will entitle the CONTRACTOR to an extension of time as provided herein, but the CONTRACTOR shall not be entitled to damages or additional payment due to such delays. War, government regulations, labor disputes, strikes (when not brought solely against the CONTRACTOR, its subcontractors or material suppliers), fires, floods, adverse weather necessitating cessation of work, other similar action of the elements, inability to obtain materials, equipment or labor, required "extra work", or other specific reasons as may be further described in the specifications may constitute such a delay.

No extension of time will be granted for a delay caused by the inability to obtain materials unless the CONTRACTOR furnishes to the Project Manager documentary proof of the inability to obtain such materials in a timely manner in accordance with the sequence of the CONTRACTOR'S operations and the approved construction schedule.

The amount of time given to the CONTRACTOR is limited to the amount of time the Project is directly impacted by the above described delays. Direct impact means no other project work can proceed.

The CONTRACTOR may be compensated for delays caused solely by the failure of the City to furnish necessary rights-of-way, failure to deliver materials shown in the CONTRACTOR Documents to be furnished by the City, or for the suspension of the work by the City for its own convenience or benefit. If compensable delays could not have been avoided by the judicious handling of forces, equipment or plant, there shall be paid to the CONTRACTOR such amount as the General Manager may find to be fair and reasonable compensation for such part of the CONTRACTOR'S actual loss as was unavoidable.

If the CONTRACTOR desires payment for a delay as specified above or an extension of time, it shall, within thirty (30) days after the beginning of the delay, file with the General Manager a written request and report as to the cause and extent of the delay. The request of payment or extension must be made at least fifteen (15) days before the specified completion date, so as to allow for appropriate investigation. Failure by the CONTRACTOR to file these items within the times specified will be considered grounds for refusal by the City to consider such a request.

Any and all extensions of time granted under the Provisions of these Specifications shall not release the sureties on the bonds accompanying the Contract for the work required herein. The bonds shall remain in full force and effect until the discharge of the Contract.

CHANGES TO THE CONTRACT

52. CHANGES AND EXTRA WORK

The PROJECT MANAGER may, at any time, with or without notice to the Sureties, by written order designated or indicated to be a Change Order, order performance of extra work or make any change, addition or deletion in the

Work, including but not limited to changes in the Specifications including Plans and Designs; in the time, method or manner of performance of the Work; in the CITY furnished facilities, equipment, materials, services, or site; or directing acceleration in the performance of the Work.

Upon receipt of such Change Order, the CONTRACTOR shall promptly proceed with the Work covered thereby, which shall be performed in accordance with the provisions of the Contract Documents except as otherwise specifically provided.

In the event that CONTRACTOR receives any written order or direction by the CITY, PROJECT MANAGER that is not so designated or indicated to be a Change Order, but which CONTRACTOR believes to constitute an extra, change, addition or deletion in the Work, then CONTRACTOR shall, prior to performance of any Work related thereto, give written confirmation notice to the PROJECT MANAGER confirming CONTRACTOR'S belief that such order or direction is believed to be a Change Order within one (1) working day of CONTRACTOR'S receipt of such order or direction.

CONTRACTOR conclusively waives any right to additional compensation, costs, expenses, damages or extension of time associated with an extra, change, addition or deletion to the Work that is performed by CONTRACTOR without either (i) a written order signed by the CITY, PROJECT MANAGER designated or indicated to be a Change Order and any change, addition or deletion, or (ii) a written confirmation notice issued by CONTRACTOR in accordance with the provisions of this Article.

Should a change be required and it is not feasible to delay construction of that portion of the Work until such time as a regular Change Order can be issued, and the estimated increase in Contract cost does not exceed the amount which can be authorized by the PROJECT MANAGER, an Emergency Change Authorization, in writing, will be issued in the field by the PROJECT MANAGER, and the CONTRACTOR shall then proceed with the Work without delay. Such Emergency Change Authorization shall be followed by a subsequent regular Change Order.

Except as provided in this Article, no order, Statement, or conduct of the PROJECT MANAGER shall be treated as a change under this Article or shall entitle the CONTRACTOR to an adjustment in the Contract Price or Contract Completion Date.

If any change under this Article causes an increase or decrease in the CONTRACTOR'S cost or the time required to perform any part of the Work under this Contract, whether or not said costs or time are specified by any order, the PROJECT MANAGER will make an adjustment to the Contract Price and modify the Contract in writing. Except for claims based on defective Specifications, no claim for any change under this Article shall be allowed for any costs incurred more than twenty (20) calendar days before the CONTRACTOR gives written notice as required. Except as otherwise provided in the Contract Documents, in the case of defective specifications for which the PROJECT MANAGER is responsible, the adjustment shall include any increased cost the CONTRACTOR reasonably incurred in attempting to comply with those defective specifications.

If the CONTRACTOR intends to assert a claim for an adjustment in the Contract Price under this Article, it must, within twenty (20) calendar days after receipt of a written Change Order or the furnishing of a written confirmation notice as hereinbefore specified, submit a written statement to the PROJECT MANAGER setting forth the general nature and monetary extent of such claim and all factual grounds therefor. The CONTRACTOR may include the statement of claim in the written notice as hereinbefore specified. Failure to comply with the twenty (20) calendar day notice requirement shall be deemed a waiver of claims by the CONTRACTOR.

No adjustment shall be made under this Article for any suspension, delay, interruption, change or any other cause, to the extent that an adjustment is provided for or excluded under any other provision of the Contract.

Recovery of compensation, costs, expenses or damages resulting from delay, disruption, hindrance, or interference in the performance of the Work (including without limitation interruption of schedules, extended, excess or extraordinary field overhead and indirect overhead costs, loss of productivity and the impact, ripple or cumulative effect on other Work), shall not be permitted, and all rights thereto are conclusively waived by CONTRACTOR, except to the extent allowed by COMPENSATION FOR DELAY, DISRUPTION AND UNANTICIPATE OVERHEAD of these General Conditions.

No claim by the CONTRACTOR shall be allowed if the claim is made after final payment under this Contract.

53. DIFFERING SITE CONDITIONS

The following provisions shall apply only in the event that there is not a Geotechnical Baseline Report for the Project. If a Geotechnical Baseline Report is so identified, then the provisions of this Article shall not apply and the CONTRACTOR'S rights arising from Differing Site Conditions shall be governed solely by the provisions of the General Requirements pertaining to the CONTRACTOR'S rights in the event of Differing Site Conditions.

Upon discovery and before further disturbance of any unforeseen conditions, the CONTRACTOR shall immediately notify the INSPECTOR and the PROJECT MANAGER, followed by a written notice to the PROJECT MANAGER within twenty-four (24) hours of subsurface or latent physical conditions at the site differing materially from those indicated in the Contract Documents; or unknown physical conditions at the site, of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in the Work of the character provided for in this Contract; or materially differing from that represented in the Contract Documents which the CONTRACTOR believes may be hazardous waste, as defined in the California Health and Safety Code, that is required to be removed to a Class I, Class II or Class III disposal site in accordance with provisions of existing law.

The PROJECT MANAGER shall promptly investigate the conditions. If the PROJECT MANAGER finds that conditions materially differ and will cause an increase or decrease in the CONTRACTOR'S cost or the time required to perform any part of the Work under this contract, whether or not changed as a result of such conditions, the PROJECT MANAGER shall, make an adjustment in the Contract Price by Modification to the Contract in writing.

If the CONTRACTOR intends to seek an adjustment to the Contract Price or Contract Completion Date based upon this Article, it must, within twenty (20) calendar days after it first discovered or should have discovered in the exercise diligence and extreme care the existence of Differing Site Conditions, submit a written statement setting forth a detailed cost breakdown in the form required by Article 27, PAYMENT FOR CHANGES AND EXTRA WORK of the General Requirements, setting forth the basis of CONTRACTOR'S calculation of the costs saved or, detailed information demonstrating the effect on the CONTRACTOR'S schedule of performance in the same manner as required by the Contract Documents for obtaining approval of extensions of time, identification of the Escrow Bid Documents that formed the basis of the CONTRACTOR'S bid estimate to perform the Work affected by such conditions, and a complete and detailed explanation of the factual basis for the request.

Failure by CONTRACTOR to strictly comply with the requirements of this Article concerning the timing and content of any notice of Differing Site Conditions or of any request for adjustment in Contract Price or Contract Completion Date based on Differing Site Conditions shall be deemed waiver of any claim by the CONTRACTOR for increase in the Contract Price or extension of the Contract Completion Date by reason of such conditions.

CONTRACTOR'S right to compensation for (i) delay, disruption, hindrance, interference, schedule compression, and the impact, ripple or cumulative effect thereof; or (ii) additional supervision, administration, excess, extended or extraordinary overhead, loss of productivity, or similar costs, expenses or damages incurred as a result of or related to any Claim based on Differing Site Conditions shall be limited to such sums as are allowable under COMPENSATION FOR DELAY, DISRUPTION, AND UNANTICIPATED OVERHEAD of these General Conditions.

No claim by the CONTRACTOR for an adjustment hereunder be allowed if asserted after final payment under this Contract.

LEGAL REQUIREMENTS

54. CLAIMS AND PROTESTS

A Claim or Protest that involves an extra, change, addition or deletion to the Work as set forth in CHANGES AND EXTRA WORK of these General Conditions shall arise upon issuance of a final decision of the PROJECT MANAGER denying, in whole or in part, a request for adjustment in the Contract Price or Contract Completion Date; provided however, that failure to comply with the requirements of CHANGES AND EXTRA WORK of these General Conditions shall be conclusively deemed to constitute grounds to deny such Claim or Protest.

A Claim or Protest that does not involve an extra, change, addition or deletion to the may be asserted only if the CONTRACTOR shall immediately and prior to performing the Work affected thereby give written notice to the PROJECT MANAGER of such circumstances and of CONTRACTOR'S intention to file a Claim or Protest based thereon. Unless otherwise directed by the PROJECT MANAGER the CONTRACTOR shall proceed without delay to perform the Work and to conform to any order, instruction, or decision of the PROJECT MANAGER with respect thereto.

The CONTRACTOR shall, within twenty (20) calendar days after it first knew, or in the exercise of diligence and extreme care should have known, of the circumstances giving rise to the Claim or Protest, file a written Claim or Protest with the PROJECT MANAGER, stating in detail all objections, grounds and reasons therefore. The CONTRACTOR shall, upon instruction by the PROJECT MANAGER provide, within ten (10) days or such other time as agreed to between the PROJECT MANAGER, the INSPECTOR, and the CONTRACTOR, any and all documents, records or other materials identified by the PROJECT MANAGER as necessary for the resolution of the CONTRACTOR's Claim or Protest.

Claims or Protests seeking time extensions shall be accompanied by such documentation as is required by Article 18, CONTRACTOR'S CONSTRUCTION SCHEDULE AND REPORTS of the General Requirements. Claims or Protests seeking recovery of compensation or adjustments to the CONTRACT PRICE, whether or not based on extras, changes, additions or deletions to the Work, shall be in the form of Change Order Cost Quotations prepared in accordance with and subject to all of the requirements of Article 27, PAYMENT FOR CHANGES AND EXTRA WORK of the General Requirements, including without limitation the prohibition on use of total cost and modified total cost methodologies.

CONTRACTOR waives all rights to assert any claims or seek any relief in the form of extensions of time or recovery of additional compensation, costs, expenses, damages from the CITY that are not presented as a Claim or Protest in the manner specified and within the time stated herein. CONTRACTOR further hereby agrees that in the interest of avoiding the additional expense and potential inequity of piecemeal resolution of Claims or Protests, all decisions by PROJECT MANAGER shall be final and binding not only as to all matters asserted in the Claim or Protest, but also as to all matters (including without limitation all rights to extensions of time and recovery of extra compensation, costs, expenses and damages) not asserted in the Claim or Protest that were known to CONTRACTOR, or that could have been reasonably discovered by CONTRACTOR in the exercise of diligence and extreme care, at the time of submission of the Claim or Protest and that are in any way related to the subject matter of the Claim or Protest. All orders, instructions and decisions of the PROJECT MANAGER will be limited to matters properly falling within their respective authority as specified in AUTHORITY OF THE RECREATION AND PARK COMMISSION, PROJECT MANAGER AND INSPECTOR of these General Conditions.

The CONTRACTOR will be informed of the PROJECT MANAGER's decision within thirty (30) days after the CONTRACTOR last submits data pertinent to the protest previously mentioned. In the case of a Claim or Protest that involves an extra, change, addition or deletion to the Work as set forth in CHANGES AND EXTRA WORK of these General Conditions, if the Contractor accepts the decision of the PROJECT MANAGER, then the CONTRACTOR and CITY shall enter into a Change Order adjusting the Contract Price and Contract Completion Date in accordance with such decision. In the case of a Claim or Protest does not involve an extra, change, addition or deletion to the Work as set forth in CHANGES AND EXTRA WORK of these General Conditions and the CONTRACTOR accepts the decision of the PROJECT MANAGER, then the CONTRACTOR and CITY shall enter into a Modification of the Contract setting forth the terms of the decision and, if appropriate, its effect on the Contract Price or Contract Completion Date. If the CONTRACTOR does not accept the decision of the PROJECT MANAGER, then further appeal of the PROJECT MANAGER's or the decision must be made to the RECREATION AND PARK COMMISSION in writing within twenty (20) calendar days after receipt of the PROJECT MANAGER's decision. The RECREATION AND PARK COMMISSION shall afford the CONTRACTOR an opportunity to be heard and to offer evidence in support of its appeal. All determinations of the RECREATION AND PARK COMMISSION with respect to Claims or Protests shall be final and binding.

In all matters concerning the validity, interpretation, performance, effect or otherwise of the Contract, the Federal regulations (if and to the extent expressly incorporated by reference in the Contract Documents), the laws of the State of California, and the Charter of the City of Los Angeles shall govern and be applicable. Pending final

disposition of a protest, the CONTRACTOR shall proceed diligently with the performance of the Contract and in accordance with the previously mentioned decision.

Any Claim or Protest, including without limitation any Claim or Protest filed on behalf of or having its source in a claim by Subcontractor, Sub-Subcontractor, or Supplier, at any tier, which the CONTRACTOR chooses to make to the CITY, shall be accompanied by the certification language set forth below signed by a responsible managing officer of the CONTRACTOR'S organization, who has the authority to sign Subcontracts or Purchase Orders on behalf of the CONTRACTOR, and who has personally investigated and confirmed the truth and accuracy of the matters set forth in such certification. Submission of certification in accordance herewith is a condition precedent to the CITY'S consideration of or decision on the Claim or Protest and to the filing and maintenance of any legal action or proceeding to enforce or recover monies under such Claim or Protest. Failure to submit such a certification along with the Claim or Protest, shall result in the Claim or Protest being returned to the CONTRACTOR without any decision and shall waive the CONTRACTOR's right to pursue the Claim or Protest either on its own behalf or on behalf of such Subcontractor or Supplier.

I hereby certify under penalty of perjury that I am a managing officer of (CONTRACTOR'S name) and that I have reviewed this Claim or Protest presented herewith on CONTRACTOR'S behalf and/or on behalf of (Subcontractor's/Supplier's name(s)) and that the following statements are true and correct:

1. The facts alleged in or that form the basis for the Claim or Protest are true and accurate; and,
2. CONTRACTOR does not know of any facts or circumstances, not alleged in the Claim or Protest, that by reason of their not being alleged render any fact or statement alleged in the Claim or Protest materially misleading; and,
3. CONTRACTOR has, with respect to any request for money or damages alleged in or that forms the basis for the Claim or Protest, reviewed the job cost records (including those maintained by CONTRACTOR and by any Subcontractor or Supplier, of any tier, that is asserting all or any portion of the Claim or Protest) and confirmed with mathematical certainty that the losses or damages suffered by CONTRACTOR and /or such Subcontractor or Supplier were in fact suffered in the amounts and for the reasons alleged in the Claim or Protest; and,
4. CONTRACTOR has, with respect to any request for extension of time or claim of delay, disruption, hindrance or interference alleged in or that forms the basis for the Claim or Protest, reviewed the job schedules (including those maintained by CONTRACTOR and by any Subcontractor or Supplier, of any tier, that is asserting all or any portion of the Claim or Protest) and confirmed on an event-by-event basis that the delays or disruption suffered by CONTRACTOR and /or such Subcontractor or Supplier were in fact experienced for the durations, in the manner, and with the consequent effects on the time and/or sequence of performance of the Work, as alleged in the Claim or Protest; and,
5. CONTRACTOR has not received payment from CITY for, nor has CONTRACTOR previously released CITY from, any portion of the Claim or Protest.

Signature: _____

Name: _____

Title: _____

Company: _____

Date: _____

No Claim or Protest by the CONTRACTOR shall be allowed if made after final payment under this Contract.

55. COMMENCEMENT OF STATUTE OF LIMITATIONS

Unless otherwise provided in this Contract, all claims, counterclaims, disputes and other matters in question between the CITY and the CONTRACTOR arising out of or relating to this Contract or the breach of it will be decided by a Court of competent jurisdiction. It is understood that this Contract is executed and to be performed within the City and County of Los Angeles.

Any applicable statute of limitations shall commence to run and any alleged cause of action by the CONTRACTOR against the CITY arising out of or related to the Project shall be deemed to have accrued in any and all events no later than 30 days after CONTRACTOR'S submittal of its last application for progress payment.

56. GOVERNING LAW

The terms and conditions of this Contract shall be construed and interpreted under, and all respective rights and duties shall be governed by, the laws of the State of California. Wherever applicable each provision of these Contract Documents shall be interpreted in such a manner as to be effective and valid under applicable law, but if any provision of these Contract Documents shall be prohibited by or invalid under applicable law, such provision shall be ineffective to the extent of such prohibition or invalidity, without invalidating the remainder of such provision or the remaining provisions of these Contract Documents.

57. VENUE

This Contract will be executed and performed within the City and County of Los Angeles, California.

58. NO WAIVER OF RIGHTS

Neither the inspection by the CITY, nor any order by the CITY for payment of money, nor any payment for or acceptance of the whole or any part of the Work by the CITY, nor any extension of time, nor any possession taken by the CITY, shall operate as a waiver of any provision of this Contract, or any power herein reserved to the CITY, or any right to damages herein provided, nor shall any waiver of any breach in this Contract be held to be a waiver of any other or subsequent breach.

59. ACCEPTANCE OF FINAL PAYMENT CONSTITUTES RELEASE

The acceptance by the CONTRACTOR of final payment shall release the CITY, the PROJECT MANAGER, the INSPECTOR, their officers, agents, representatives, or employees, as representatives of the CITY, from all claims and all liability to the CONTRACTOR for all things done or furnished in connection with the Work and every act of the CITY relating to or arising out of the Work.

60. PATENTS AND COPYRIGHTS

The CONTRACTOR shall include in its bid the patent fees or royalties on any patented article or process which may be furnished or used in the Work. The CONTRACTOR shall indemnify and hold the CITY harmless from any legal action that may be brought for infringement of patents. The CONTRACTOR'S attention is directed to "Notice of Patents, Data, and Copyright Regulations" of the Federal Labor Standards.

The CONTRACTOR shall bear all costs arising from the use of patented goods and /or processes used on and/or incorporated into the Work. When use of these goods and/or processes are judged to be an infringement and their use is banned, the Contractor, at its own expense, shall, with concurrence of the PROJECT MANAGER, do one of the following:

1. Secure for the CITY the right to continue using goods and/or processes by suspension of the injunction or by procuring a license(s);
2. replace said goods and/or processes with non-infringing goods and /or processes;
3. modify said goods and/or processes so that they become non-infringing; or

4. remove said goods and/or processes and refund the sum paid therefore without prejudice to any other rights of the CITY.

The preceding Subarticle shall not apply to any goods manufactured to the detailed design of the CITY contained in the Contract Documents.

61. PUBLIC RECORDS ACT

All records, documents, plans, specifications and all other information relating to the conduct of the CITY's business, including information submitted by the CONTRACTOR, shall become the exclusive property of the CITY and except as provided by law shall be deemed public records. Said information shall be subject to the provisions of the California Public Records Act (Government Code Sections 6250 *et seq.*).

Under no circumstances, will the CITY be responsible or liable to the CONTRACTOR, submitter or any other party for the disclosure of any records or information submitted to the CITY, regardless of whether such records or information are labeled "TRADE SECRET", "CONFIDENTIAL", or "PROPRIETARY" (or words to similar effect) and regardless of, whether the disclosure is required by law or a court order or occurs through inadvertence, mistake, or negligence on the part of the CITY or its officers, employees, and/or contractors.

The CITY will not advise as to the nature or content of documents entitled to protection from disclosure under the California Public Records Act", including interpretations of the Act or the definition of "Trade Secret". The submitting party shall be solely responsible for all determinations made under the Act, and where appropriate for clearly and prominently marking each and every page or sheet of information with "TRADE SECRET", "CONFIDENTIAL", or "PROPRIETARY". Each submitting party is advised to contact its own legal counsel concerning the California Public Records Act and its applicability to the submitting party's own circumstances.

In the event of litigation concerning the disclosure of any information submitted by the submitting party, the CITY's sole involvement will be as a stake holder, retaining the information until otherwise ordered by a court. The submitting party, at its sole expense and risk, shall be responsible for any and all fees and costs for prosecuting or defending any action concerning the information, and shall indemnify and hold the CITY harmless from all costs and expenses including attorneys' fees, in connection with such action.

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GENERAL

1. ABBREVIATIONS AND REFERENCE STANDARDS

A. ABBREVIATIONS

Wherever the following abbreviations are used they shall have the meanings indicated:

AASHTO	American Association of State Highway and Transportation Officials
ACI	American Concrete Institute
AGA	American Gas Association
AGMA	American Gear Manufacturers' Association
AI	The Asphalt Institute
AISC	American Institute of Steel Construction
AISI	American Iron & Steel Institute
AITC	American Institute of Timber Construction
AMCA	Air Moving and Conditioning Association
ANSI	American National Standards Institute
APA	American Plywood Association
API	American Petroleum Institute
AREA	American Railway Engineering Association
ASCE	American Society of Civil Engineers
ASHRAE	American Society of Heating, Refrigerating, and Air Conditioning Engineers
ASME	American Society of Mechanical Engineers
ASQC	American Society for Quality Control
ASTM	American Society for Testing and Materials
AWPA	American Wood Preservers Institute
AWS	American Welding Society
AWWA	American Water Works Association
CBM	Certified Ballast Manufacturers
CRS	Concrete Reinforcement and Steel Institute
EPA	Environmental Protection Agency
ETL	Department of Building & Safety Electrical Test Laboratory
FCI	Fluid Control Institute, Inc.
ICBO	International Conference of Building Officials
ICEA	Insulated Cable Engineers Association
IEEE	Institute of Electrical and Electronics Engineers
IPCEA	Insulated Power Cable Engineers Association
ISA	Instrument Society of America
LABC	City of Los Angeles Building Code
NAAMM	National Architectural Association of Metal Manufacturers
NEC	National Electrical Code
NECA	National Electrical Contractors Association
NEMA	National Electrical Manufacturers Association
NOAA	National Oceanic and Atmospheric Administration (Dept. of Commerce)
OSHA	Occupational Safety and Health Administration (Dept. of Labor)
PCA	Portland Cement Association
RCSC	Research Council on Structural Connections of the Engineering Foundation

SAMA	Scientific Apparatus Manufacturer's Association
SSPWC	Standard Specifications for Public Works Construction
SWRCB	State Water Resources Control Board
UBC	Uniform Building Code, International Conference of Building Officials
UL	Underwriters Laboratories, Inc.
USGS	United States Geological Survey
WATCH	Work Area Traffic Control Handbook
WCLIB	West Coast Lumber Inspection Bureau
WCRSI	Western Concrete Reinforcing Steel Institute
WRI	Wire Reinforcement Institute
WWPA	Western Wood Products Association

B. REFERENCE STANDARDS

1. APPLICABLE PUBLICATIONS - Whenever in these Specifications references are made to published specifications, codes, standards, or other requirements, it shall be understood that wherever no date is specified, only the latest specifications, standards, or requirements of the respective issuing agencies which have been published as of the date that the Work is advertised for bids shall apply; except to the extent that said standards or requirements may be in conflict with applicable laws, ordinances or governing codes. No requirements set forth herein or shown on the Drawings shall be waived because of any provision of, or omission from, said standards or requirements.
2. SPECIALISTS' ASSIGNMENTS - In certain instances, specification text requires (or implies) that specific Work is to be assigned to specialists or expert entities, which must be engaged for the performance of that Work. Such assignments shall be recognized as special requirements over which the CONTRACTOR has no choice or option. These requirements shall not be interpreted so as to conflict with the enforcement of building codes and similar regulations governing the Work; also they are not intended to interfere with local union jurisdiction settlements and similar conventions. Such assignments are intended to establish which party or entity involved in a specific unit of Work is recognized as "expert" for the indicated construction processes or operations. Nevertheless, the final responsibility for fulfillment of the entire set of Contract requirements remains with the CONTRACTOR.
3. CODES AND SAFETY STANDARDS - Without limiting the generality of other requirements of the Specifications, Work specified herein shall conform to or exceed the applicable requirements of the following Codes and Safety Standards.
 - a. Applicable Codes:
 - City of Los Angeles Building Code
 - City of Los Angeles Mechanical Code
 - City of Los Angeles Plumbing Code
 - City of Los Angeles Fire Code
 - City of Los Angeles Electrical Code
 - b. References herein to "Building Code" shall mean City of Los Angeles Building Code. Similarly references to "Mechanical Code," "Plumbing Code," "Fire Code," and "Electric Code" shall mean City of Los Angeles Mechanical Code, City of Los Angeles Plumbing Code, City of Los Angeles Fire Code and City of Los Angeles Electric Code respectively.
 - c. Applicable Safety Standards:
 - OSHA Regulations for Construction
 - OSHA Standards
 - Cal-OSHA
 - d. References herein to "OSHA Regulations for Construction" shall mean Title 29, Part 1926, Construction Safety and Health Regulations, Code of Federal Regulations (OSHA), including all changes and amendments thereto.
 - e. References herein to "OSHA Standards" shall mean Title 29, Part 1910, Occupational Safety and Health Standards, Code of Federal Regulations (OSHA), including all changes and amendments thereto.
 - f. References herein to "Cal-OSHA" shall mean State of California, Department of Industrial Relations, as amended to date, and all changes and amendments thereto which are effective as of the date of construction.
 - g. The latest edition of the codes as approved and adopted for use by the CITY as of the date

of award shall apply to the Work herein, including all addenda, modifications, amendments, or other lawful changes thereto.

4. STANDARD SPECIFICATIONS - References in the Contract Documents to "Standard Specifications" shall mean the Standard Specifications for Public Works Construction (SSPWC), including all current supplements, addenda, and revisions thereof, except that the provisions therein for measurement and payment shall not apply.
5. STANDARD PLANS - References herein to "Standard Plans" shall mean the Standard Plans issued by the City of Los Angeles which drawings are hereby incorporated in and made a part of these Contract Documents, and copies of which are available for a fee.
6. CONFLICT BETWEEN CODES, SAFETY STANDARDS, REFERENCE STANDARDS, DRAWINGS AND OTHER CONTRACT DOCUMENTS - In case of conflict between codes, reference standards, drawings and other Contract Documents, the most stringent requirements shall govern. Conflicts shall be brought to the attention of the PROJECT MANAGER for clarification and directions prior to ordering or providing any materials or labor. The CONTRACTOR shall bid for the most stringent requirements.

CONTRACT DOCUMENTS

2. ISSUANCE OF PLANS AND SPECIFICATIONS

- A. Unless otherwise provided in the Contract Documents, the PROJECT MANAGER will furnish to the CONTRACTOR TEN (10) sets each of the Plans, Specifications and, Geotechnical Report without charge. Additional sets desired by the CONTRACTOR or Subcontractors will be furnished upon request, but at the CONTRACTOR's expense.
- B. Drawings, Specifications, Special Provisions, and copies thereof are the property of the CITY. They are not to be used on other work. Necessary bid documents will be available to prospective bidders. Bidders will be issued plans and specifications for a fee. This fee is stated in the "Notice Inviting Bids" of the Contract Documents.
- C. Standard Plans for the CITY, which are noted on the drawings, are available for a fee. Also see the City of Los Angeles, Bureau of Engineering Web pages for Standard Plans at www.cityofla.org/boe/index.

3. DIVISIONS OF SPECIFICATIONS

The specifications are arranged into the Construction Specifications Institute (CSI) sixteen (16) Division format with an additional Division 17 for Instrumentation and Controls (if applicable).

- A. The organization of the Specifications into divisions, sections, parts, and paragraphs shall not control or limit the CONTRACTOR in dividing the Work among Subcontractors of any tier. The CONTRACTOR shall be solely responsible for all subcontract arrangements of Work regardless of the organization of the specifications.
- B. Titles of Specification sections and paragraphs are for convenience of reference only, and do not form a part of the Specifications.

THE CONTRACTOR'S RESPONSIBILITIES

4. SITE SECURITY

- A. In addition to the responsibilities specified in other Articles of these Requirements, and the General Conditions, the CONTRACTOR shall be responsible for the security of all its construction equipment, materials, tools, facilities, and vehicles (personal, private, or contractual) while performing the Work of this Contract. This requirement shall be effective twenty-four (24) hours per day for the duration of the Contract. CONTRACTOR shall familiarize themselves with the location of the job site and scan the premises by means necessary to protect the property, including but not limited to, provision of fencing, guards, security system or other means as necessary.

5. ENVIRONMENTAL CONTROL AND MITIGATION

A. CONTROL

1. Fugitive Dust and Smoke Control:

Comply with the requirements of Title 8, California Code of Regulations, concerning handling of asbestos dust.

- a. Criteria for Fugitive Dust - Detailed descriptions and explanations of specific impact mitigation measures are contained in South Coast Air Quality Management District (SCAQMD) Rules and Regulations (Rule 403, Limitation on Fugitive Dust Emissions). Key features of mitigation options described are as follows:
 - i. Do not cause or allow emissions of fugitive dust from any transport, handling, construction or storage activity to remain visible in atmosphere beyond property line of the emission source.
 - ii. Take precautions to minimize fugitive dust emissions from operations involving demolition, excavation, grading, clearing of land and disposal of solid waste. Utilizes at least one Reasonably Available Control Measure (RACM) for each potential source of fugitive dust. Do not cause or allow particulate matter to exceed 50 mg/m³ when determined as difference between upwind and downwind samples collected on high volume particulate matter samplers or other EPA approved equivalent method for PM-10 monitoring at the property line for a five hour period during the time of active operations.
 - iii. Take precautions to prevent visible particulate matter from being deposited upon public roadways as a direct result of their operations. Precautions include, removal of particulate matter from equipment before movement to paved streets or prompt removal of material from paved streets onto which such material has been deposited.
- b. As A minimum - Use the following procedures and techniques:
 - i. Cover loads of materials, debris and soil transported from construction sites. Trim or remove loose material from loads before leaving Project.
 - ii. Daily or more frequently, if necessary, water down and sweep adjacent streets and sidewalks that have construction vehicles carrying debris and excavated materials.
 - iii. Establish regular cycles and locations for cleaning trucks that haul soil from site.
 - iv. Water down construction sites whenever required to suppress dust, particularly during handling of excavation soil or debris or during demolition.
 - v. If conveyors are used, cover all transfer points along conveyor system moving soil. Minimize drop height to the stockpile. Provide a sprinkler system that will apply water to soil before it drops to stockpile.
 - vi. Any adapted measures developed by SCAQMD on Best Available Control Measures (BACM) for Fugitive Dust and Rule 403 will be incorporated into the site operations for Fugitive Dust Control.
 - vii. Burning of wastes is prohibited. Remove scrap and waste material and dispose of in accordance with laws, codes, regulations, ordinances and permits.
 - viii. Use construction equipment designed and equipped to prevent or control air pollution in conformance with most restrictive regulations of EPA, State and local authorities. Maintain evidence of such design and equipment and make available for inspection by Authority or its designee.
 - ix. Establish and maintain records of routine maintenance program for internal combustion engine powered vehicles and equipment used on Project. Keep records

available for inspection by Authority or its designee.

- x. Comply with the requirements of Title 8, California Code of Regulations, concerning handling of asbestos dust.
- xi. Implement Fugitive Dust Measures listed in tables 1 and 2 of SCAQMD Rule 403 and perform record keeping in accordance with Sections (e)(1) of said rule. Make records available to Authority or its designee for inspection.

2. Rubbish Control

- a. Through all phases of construction, including suspension of Work and until final acceptance of the Project, keep the site of the Work and other areas used by it in a neat and clean condition, and free from an accumulation of rubbish and debris. Dispose of rubbish and waste materials of any nature occurring at the worksite and establish regular intervals of collection and disposal of such materials and waste. Keep CONTRACTOR haul roads free from dirt, rubbish, and unnecessary obstructions resulting from its operations. Take care to prevent spillage on haul routes. Remove such spillage immediately and clean the area. Confine equipment and material storage to areas approved by the PROJECT MANAGER. Dispose of rubbish and surplus materials off the construction site, at the CONTRACTOR's expense, in accordance with local codes and ordinances governing locations and methods of disposal, and in conformance with all applicable safety laws, and the requirements of the OSHA Safety and Health Standards for Construction. Include cleanup cost in the CONTRACTOR's Bid.

3. Sanitation

- a. Fixed or portable chemical toilets shall be provided for the use of the CONTRACTOR's employees. These accommodations shall be maintained in a neat and sanitary condition. Toilets at construction job sites shall conform to the requirements of Title 8, California Code of Regulations.
- b. Wastewater conveyance and disposal shall not be interrupted. Should the CONTRACTOR disrupt existing sewer facilities, sewage shall be conveyed in closed conduits and disposed of in a sanitary sewer system. Sewage shall not be permitted to flow in trenches or be covered by backfill. Establish a regular schedule for collection of sanitary and organic waste. Dispose of wastes and refuse from sanitary facilities provided by the CONTRACTOR or organic material wastes from any other source related to the CONTRACTOR's operations away from the site in a manner satisfactory to the INSPECTOR and in accordance with laws and regulations pertaining thereto. Dispose of such wastes at the CONTRACTOR's expense.

4. Chemicals

The following paragraph does not relieve the CONTRACTOR from its responsibility for obtaining prior approval from the PROJECT MANAGER for chemical usage when otherwise required.

- a. Provide four (4) copies of the MSDS to the PROJECT MANAGER for all chemicals used during Project construction or furnished for Project operation, prior to bringing them on site, whether soil conditioning agents, lubricants, defoliant, soil sterilant, herbicide, pesticide, disinfectant, polymer, soil conditioning agents, lubricants, reactant, or of other classification, which shall show approval of either the U.S. Environmental Protection Agency or the U.S. Department of Agriculture. Use of all such chemicals and disposal of residues shall be in strict accordance with the printed instructions of the manufacturer.

5. Odor Control

- a. The CONTRACTOR shall furnish all labor, materials, and equipment required and shall carry out effective measures wherever and as often as necessary to prevent the discharge of a nuisance odor from its operation into the atmosphere in such quantity as will violate the regulations of any legally constituted authority. During construction, the CONTRACTOR

shall notify the PROJECT MANAGER and the INSPECTOR at least forty-eight (48) hours in advance when potential odor-causing activities are scheduled for construction.

6. Noise and Vibration - Comply with requirements of CITY noise ordinances and mitigation specified below.

a. Lighting – Shield worksite lighting to prevent disturbance to adjacent properties.

B. MITIGATION

1. General

a. The CONTRACTOR shall mitigate the adverse environmental impacts associated with the Work of the Contract. The CONTRACTOR shall indemnify and hold harmless the CITY from any and all fines, penalties or damages incurred by the CITY for violation of any environmental mitigation measures or permit caused by the CONTRACTOR's failure to comply with environmental mitigation measures of this Article. The measures that the CONTRACTOR shall take to mitigate environmental impacts include, but are not limited to the following:

b. The CONTRACTOR, a minimum of thirty (30) days prior to beginning Work on each new major activity, shall submit a written plan to the PROJECT MANAGER, detailing how the environmental impacts for the activity shall be mitigated. The plan shall include, at a minimum:

- i. Anticipated site conditions;
- ii. Equipment to be utilized;
- iii. Means and methods of construction;
- iv. Impacts likely to occur;
- v. Mitigation methods to be employed.

2. Storm Water Pollution Control

a. Comply with the State General Construction Activity Storm Water Permit.

b. Minimum Water Quality Protection Requirements – The Contractor is required to meet the following minimum standards of good housekeeping:

- i. Eroded sediments and other pollutants must be retained on site and may not be transported from the site via sheet flow, swales, area drains, natural drainage, or wind.
- ii. Stockpiles of earth and other construction-related materials must be protected from being transported from the site by wind or water.
- iii. Fuels, oils, solvents, and other toxic materials must be stored in accordance with their listing and are not to contaminate the soil nor the surface waters. All approved toxic storage containers are to be protected from the weather. Spills must be cleaned up immediately and disposed of in a proper manner. Spills may not be washed into the drainage system.
- iv. Excess or waste concrete may not be washed into the public way or any drainage system. Provisions shall be made to retain concrete wastes on-site until they can be appropriately disposed of or recycled.
- v. Trash and construction-related solid wastes must be deposited into a covered receptacle to prevent contamination of rainwater and dispersal by wind.
- vi. Sediments and other materials may not be tracked from the site by vehicle traffic.

The construction entrance roadways must be stabilized so as to inhibit sediments from being deposited into the public ways. Accidental depositions must be swept immediately and may not be washed down by rain or by any other means.

- c. Wet Weather Erosion Control Plan (WWECP) – Pursuant to Section 61.02 of the LAMC, whenever it appears that the construction site will have grading between October 1 and April 15, the Contractor shall submit a WWECP to the Project Manager for approval within 30 days after award of contract or get approval 30 days prior to the beginning of the rainy season, whichever is longer. Note: Guidance on preparing the WWECP can be found in the Development Best Management Practices Handbook – Part A, Construction Activities adopted by the Board of Public Works on August 2, 1999, as authorized by Section 64.72 of the Los Angeles Municipal Code. This handbook can be obtained at cost at the public/permit counters of the Bureau of Engineering.
 - d. The Contractor shall file a “Notice of Intent” (NOI) with the State Water Resources Control Board to comply with the California General Construction Activity Stormwater Permit (NPDES No. CAS000002) and prepare and implement a Stormwater Pollution Prevention Plan (SWPP). Whenever the CONTRACTOR is required to get any type of permit from the Department of Building and Safety (DBAS), the CONTRACTOR shall show a Waste Discharge Identification Number (WDID) to the DBAS as proof of submittal of the NOI. If the CONTRACTOR does not need any type of permit from the DBAS, the CONTRACTOR shall show the WDID to the PROJECT MANAGER.
3. Noise and Vibration
- a. General
 - i. The Work specified in this Article consists of eliminating excessive noise and vibration generated by construction activities, complying with applicable noise regulations and specifications requirements, monitoring and reporting noise and vibration measurements.
 - ii. Use equipment with effective noise-suppression devices and employ other noise control measures such as enclosures and noise barriers necessary to meet the noise limits specified and to protect the public. Schedule and conduct operations in a manner that will minimize, to the greatest extent feasible, the disturbance to the public in areas adjacent to the construction activities and to occupants of buildings in the vicinity of the construction activities.
 - iii. Noncompliance Corrective Action – If, at any time prior to or during the construction, complaints are received from the public, the PROJECT MANAGER shall direct the CONTRACTOR to undertake immediate corrective action through equipment modification, additional noise abatement equipment or a change in operating procedures.
 - b. Construction Vibration
 - i. Ground-borne vibrations from equipment may have the potential of causing an impact to the existing structure. The CONTRACTOR shall mitigate and/or repair any damage caused by vibration.

6. MOBILIZATION

A. GENERAL

Mobilization shall include, but not be limited to, the following items, all as required for the proper performance and completion of the work:

1. Obtaining all permits, insurance, and bonds.
2. Moving onto the job-site all CONTRACTOR's plant and equipment as required.

3. Erecting temporary buildings and other construction facilities.
4. Installing temporary construction power and wiring.
5. Establishing fire protection system for its temporary facilities.
6. Developing construction water supply.
7. Providing field office trailers for the CONTRACTOR AND INSPECTOR, complete with all specified furnishings and utility services, including telephones.
8. Providing connections to onsite sanitary facilities as specified.
9. Providing for potable water facilities as specified. This includes a means by which all on site contractor, subcontractor or supplier personnel can wash their hands with soap.
10. Arranging for and erection of CONTRACTOR's work and storage yards and sheds.
11. Submittal of all required Subcontractor insurance certificates and bonds.
12. Posting all CAL-OSHA required notices and establishment of safety programs.
13. Have the CONTRACTOR's representative at the job site full time.
14. Furnishing of Construction Schedule, Bid Breakdown and Submittal Schedules.

B. TEMPORARY CONSTRUCTION UTILITIES AND WORKSITE FACILITIES

The Contractor shall provide the following worksite facilities, as indicated below:

- Yes (1) The Contractor shall provide adequate sanitary conveniences for use of persons employed on the work. These conveniences shall be properly secluded from public observation and maintained in a neat and sanitary condition in the manner and places required by the Project Manager. The use of these conveniences shall be strictly enforced, and they shall be maintained at all times until completion of the work, when they shall be removed from the premises and the area left clean and free from any nuisance. They shall also comply with all applicable laws, ordinances and regulations pertaining to the public health and sanitation of dwelling and camps.
- Wastewater shall not be interrupted. Should the Contractor disrupt existing sewer facilities, sewage shall be conveyed in closed conduits and disposed of in a sanitary sewer system. Sewage shall not be permitted to flow in trenches or be covered by backfill.
- No (2) The Contractor shall provide the power and light needed for construction until permanent meter installation is completed. The Contractor shall make all necessary arrangements with the City Department of Water and Power; assume all costs; and make and remove all connections to power facilities as necessary for required tests.
- No (3) The Contractor shall provide the water needed for construction until permanent meter installation is completed. The Contractor shall make all necessary arrangements with the City Department of Water and Power; assume all costs; and make and remove all connections to water facilities as necessary for required tests.
- No (4) The Contractor shall provide the gas needed for construction until permanent meter installation is completed. The Contractor shall make all necessary arrangements with the Gas Company; assume all costs; and make and remove all connections to gas facilities as necessary for required tests.
- Yes (5) The Contractor shall provide a temporary shed on the site for the safe storage of his material and equipment. The floor shall be weathertight with a wood floor above grade. The shed shall be removed upon completion of the work or by order of the General Manager.
- No (6) The Contractor shall provide an office for the Inspector for the entire period of construction or until the General Manager orders its removal. The office, to be located as the General Manager directs, shall be weathertight and have not less than 100 square feet floor area; screened windows that open in opposite walls; a door with latch set and hasp for padlocking; a built in counter of sufficient size for a full set of job blue prints with a drawer for filing 9" x 12" folders; a stool and a plan rack for drawings; an electric heater, a 12" electric fan and electric lights.
- Yes (7) The Contractor shall provide a job telephone for the use of City personnel only. The Contractor shall make all necessary arrangements with the telephone company; assume all costs and pay for all calls. The telephone is to be located so that it is easily accessible from the job office and provided with an outside extension bell.
- Yes (8) The Contractor shall maintain temporary drainage to keep excavations, pits and trenches free of water accumulation, by pumping if necessary. The Contractor shall protect against damage caused by water backing up in sewers and drains.
- Yes (9) The Contractor shall exercise every reasonable precautions to protect channels, storm drains and bodies of water from pollution; and shall conduct and schedule construction operations so as to minimize or avoid muddying and silting of said channels, drains and waters. Water pollution control work shall consist of constructing any facilities which may be required to prevent, control and abate water pollution.

The Project Manager, authorized representative of the General Manager, in charge of this project is:

Erick Chang at (213) 847-4771

All correspondence should be addressed to the Project Manager at:

**Department of Public Works, Bureau of Engineering
Recreation and Cultural Facilities Program
1149 S. Broadway, Suite 860,**

7. REMOVAL, CLEANUP, AND DEMOBILIZATION

- A. Upon completion of the contracted Work, remove all CONTRACTOR tools, materials and other articles from the CITY's property. Should the CONTRACTOR fail to take prompt action to this end, the CITY at its option and without waiver of such other rights as it may have, on thirty (30) calendar days notice, may treat them as abandoned property. Sweep floors broom clean, clean exterior and interior surfaces and windows and remove rubbish and debris resulting from the contracted Work and maintain the job site in a clean, orderly and safe condition at all times until completion of the physical Work and written Notice of Partial Acceptance. Failure to comply with this requirement shall be grounds for the CITY to assess clean-up costs in the amount of 5% of the mobilization cost.

8. RECORD DRAWINGS

- A. Record Drawings are full size drawings (Plans) which are marked up during construction to delineate the actual in-place constructed conditions. Record Drawings shall be provided by the CONTRACTOR for this Project. Requirements for Record Drawings as specified elsewhere shall supplement the requirements specified herein.
- B. Record Drawings shall include all changes in the plans including those issued as Change Orders, Plan Clarifications, Addenda, Notice to Bidders, responses to Requests for Information, Jobsite Memos, and any additional details needed for the construction of the Project but not shown on the plans. Substructures encountered while excavating that are left in place shall be located by survey, to the satisfaction of the PROJECT MANAGER, shown, and identified on the Record Drawings. Substructures, including but not limited to concrete structures, electrical conduit and duct banks, drains and sanitary sewer pipelines, process piping, water lines, etc, whose installed location differs from that shown on the original plans shall be precisely located by survey to the satisfaction of the PROJECT MANAGER and recorded on the as-built drawings before backfilling.
- C. Mark Record Drawings with red ink or chemical fluid on one (1) set of full size prints to produce a record of the complete installation. Prepare additional drawings that may be required to indicate record conditions on 24" x 36" paper. Additions to Contract Drawings shall employ and use drafting standards, which are consistent with the drafting standards, used in the Contract Drawings.
- D. Keep Record Drawings on the job and update during construction and make available for the PROJECT MANAGER'S inspection and copying at all times. The PROJECT MANAGER will review the Record Drawings before submittal of monthly payment requests. If in the opinion of the PROJECT MANAGER, the Record Drawings are not current, approval of the monthly payment may be withheld until the drawings are made current. Submit a signed certification with each monthly payment request stating that the Record Drawings are current and accurate as of the date of the payment request.
- E. Where the plans are diagrammatic or lacking precise details, produce dimensioned full size sheets as the Record Drawings. For installations outside of structures, the locations shall be given by coordinates and elevations. Where substructures are encased in concrete, the outside dimensions of the encasement shall also be given.
- F. In the case of those drawings which depict the detail requirements for equipment to be assembled and wired in the factory, the Record Drawings shall be updated by indicating those portions which are superseded by final Shop Drawings and by including appropriate reference information describing the Shop Drawings by manufacturer, drawing and revision numbers.
- G. At the completion of the Work and after final inspection, copy the Record Drawing (as installed) data, using red ink, onto a new set of high quality prints provided by the CITY. Certify to the completeness and accuracy of the "as installed" information indicated on the prints with its signature. Then deliver as a submittal to the PROJECT MANAGER for review and approval both the field developed prints and the final signed prints as a condition precedent to the CITY'S release of any retained funds.

9. EXCAVATION SHORING, FORMS, AND FALSEWORK

- A. Whenever Work under the Contract involves trench excavation five (5) feet or more in depth, or any kind of shoring, design and prepare plans for the required shoring, bracing, and sloping. In addition to the Division 2 specified requirements, submit plans and calculations to the PROJECT MANAGER in advance of excavation to ensure workers' protection from the hazard of caving ground during the excavation. If such plan varies from the shoring system standards established by the Cal-OSHA Construction Safety Orders, the plan shall be prepared by a California registered civil or structural PROJECT MANAGER employed by the CONTRACTOR, and include all costs therefore in the price named in the Contract for completion of the Work as set forth in the Contract Documents. Nothing in this Article shall be deemed to allow the use of a shoring, sloping, or other protective system less effective than that required by the Construction Safety Orders. Nothing in this Article shall be construed to impose liability on the CITY, PROJECT MANAGER, INSPECTOR, or any of their officers, agents, representatives, or employees.
- B. Secure approval, in advance, from authorities concerned for the use of any bridges proposed by it for public use. Temporary bridges shall be clearly posted as to load limit, with signs and posting conforming to current requirements set forth in the Traffic Manual published by the California Department of Transportation, covering "signs". This manual shall also apply to the street closures, barricades, detours, lights, and other safety devices required.
- C. Comply fully with the requirements of the Cal-OSHA Construction Safety Orders, regarding the design of forms, false work, and shoring for concrete placement, and the inspection of same before placement of concrete. Where the Construction Safety Orders requires the services of a civil PROJECT MANAGER registered in the State of California to approve design calculations and Working Drawings of the false work or shoring system, to inspect such system prior to placement of concrete, employ a registered civil PROJECT MANAGER for these purposes, and all costs therefore shall be included in the price named in the Contract for completion of the Work as set forth in the Contract Documents.
- D. No Work under this Article shall start until the PROJECT MANAGER has accepted the plans and the CONTRACTOR has obtained permits required and furnished a copy to the PROJECT MANAGER.

10. SUBMITTALS

- A. Furnish a schedule and list of required submittals to the PROJECT MANAGER, in accordance to CONTRACTOR'S CONSTRUCTION SCHEDULE AND REPORTS of these General Requirements, including required submittals by Subcontractors.
- B. Wherever called for in these specifications or on the plans, or where required by the PROJECT MANAGER, furnish to the PROJECT MANAGER for review 10 copies of each submittal. The term "submittal" as used herein shall be understood to include detail design calculations, design drawings, Shop Drawings, Working Drawings fabrication and installation drawings, erection drawings, lists, graphs, operating instructions, catalog sheets, data sheets, samples, and similar items. Unless otherwise required, Submit said submittals to the PROJECT MANAGER at a time sufficiently early (see paragraph F. below) to allow review of same by the PROJECT MANAGER and to accommodate the rate of construction progress required under the Contract without delaying the Contract Work and with due regard for the possibility of resubmittals. Submittals shall be in English.
- C. Design or Shop Drawings or other submittal shall be accompanied by the standard "CONTRACTOR'S SUBMITTAL TRANSMITTAL" form. A submittal not accompanied by such a form, or where all applicable items on the form are not completed, or are incorrectly completed, may be returned, at the PROJECT MANAGER'S discretion, for resubmittal.
- D. Normally, a separate transmittal form shall be used for each specific item or class of material or equipment for which a submittal is required. Transmittal of a submittal of various items using a single transmittal form will be permitted only when the items taken together constitute a manufacturer's "package" or are so functionally related that expediency indicates a review of the group or package as a whole. A multiple-page submittal shall be collated into sets, and each set shall be stapled or bound, as appropriate, prior to transmittal to the PROJECT MANAGER.

- E. Shop Drawings shall show in detail the size, sections, and dimensions of all the member(s); the arrangement and construction of all connections and joints; all holes, straps, and other fittings required for attaching Work; and other pertinent details. When required, PROJECT ENGINEERING computations shall be submitted. Be responsible for delivering reviewed copies of Shop Drawings to all others whose Work is dependent thereon. Maintain at the site of the Project, a complete file of approved Shop Drawings and manufacturers' data for this Project, at all times.
- F. Except as may otherwise be provided herein, the PROJECT MANAGER will make a reasonable attempt to return prints of each submittal to the CONTRACTOR, with its comments noted thereon, within 30 calendar days following their receipt by the PROJECT MANAGER. It is considered reasonable that the CONTRACTOR shall make a complete and acceptable submittal to the PROJECT MANAGER by the second submission of a submittal item. The CITY reserves the right to withhold moneys due the CONTRACTOR to cover additional costs of the PROJECT MANAGER's review beyond the third submittal. Submittal will be returned to the CONTRACTOR with one of three (3) markings:
- G. If three (3) copies of a submittal are returned to the CONTRACTOR marked "NO EXCEPTIONS TAKEN/PROCEED," formal revision and resubmission of said submittal will not be required.
- H. If three (3) copies of a submittal are returned to the CONTRACTOR marked "MAKE CORRECTIONS NOTED/PROCEED CONDITIONALLY," formal revision and resubmission of said submittal will not be required.
- I. If one (1) copy of a submittal is returned to the CONTRACTOR marked "REJECTED-RESUBMIT/DO NOT PROCEED," revise said submittal and resubmit TEN (10) copies of said revised submittal to the PROJECT MANAGER.
- J. Work for which Shop Drawings are required shall be performed in accordance with the reviewed and approved copies. Fabrication of an item shall not commence before the PROJECT MANAGER has reviewed the pertinent submittal and returned the copies to the CONTRACTOR marked either "NO EXCEPTIONS TAKEN/PROCEED," or "MAKE CORRECTIONS NOTED/PROCEED CONDITIONALLY." Revisions indicated on submittals shall be considered as changes necessary to meet the requirements of the Contract Documents and shall not be taken as the basis for claims for extra Work.
- K. CONTRACTOR submittals shall be carefully reviewed by an authorized representative of the CONTRACTOR prior to submission to the PROJECT MANAGER. Each submittal shall be dated, signed, and certified by the CONTRACTOR as being correct and in strict conformance with the Contract Documents. No consideration for review by the PROJECT MANAGER of any CONTRACTOR submittal will be made for any items that have not been so certified by the CONTRACTOR. Non-certified submittals will be returned to the CONTRACTOR without action taken by the PROJECT MANAGER, and any delays caused thereby shall be the total responsibility of the CONTRACTOR.
- L. The PROJECT MANAGER's review of CONTRACTOR submittal shall not relieve the CONTRACTOR of the entire responsibility for the correctness of details and dimensions and conformance to the specifications. Assume all responsibility and risk for any misfits due to any errors in the submittal. Any fabrication or other Work performed in advance of the receipt of accepted submittals shall be entirely at the CONTRACTOR's risk and expense. Be responsible for the dimensions and the design of adequate connections and details.

11. SUBSTITUTIONS AND "OR EQUAL" SUBMITTAL

- A. Make "Or Equal" submittals within thirty (30) calendar days after issuance of Notice-to-Proceed. A request or submittal received after the specified period will be considered as NOT EQUAL to that so specified and will be processed as a substitution described hereinafter.
- B. Clearly identify manufacturers' data submitted to the PROJECT MANAGER for review and acceptance each proposed substitute with the corresponding Contract Drawing detail and Specification section. If the PROJECT MANAGER decides to accept for use in the Project a material, process or article which is not the equal of that specified, make substitution in the manner described in Article 52 CHANGES AND

EXTRA WORK of the General Conditions, with a credit to the CITY for the difference in value.

- C. The PROJECT MANAGER will determine whether the material offered is equivalent to that specified. Any revision to structures, piping, mechanical, electrical, instrumentation, or any other Work made necessary by such substitution must be approved by the PROJECT MANAGER, and the entire cost both direct and indirect of these revisions shall be borne by the CONTRACTOR.
- D. Materials, processes, or articles may be requested as a substitution by the CONTRACTOR, in lieu of that specified, under the following conditions:
 - 1. Submit in writing and in the manner described in SUBMITTAL of these General Requirements.
 - 2. Submit thirty (30) calendar days before starting the Work, as established by the PROJECT MANAGER, so as not to cause any delay in completion of the Project. No other request will be considered after expiration of the period specified, except that in exceptional cases where it is determined to be in the best interest of the CITY, as approved by the PROJECT MANAGER.
 - 3. Agree to pay for all PROJECT ENGINEERING and design services, if required, to make changes and adjustments in material and Work of trades directly or indirectly affected by the substitute, to the satisfaction of the PROJECT MANAGER, at no cost to the CITY.
 - 4. All requests for substitution shall be made through the CONTRACTOR. Submissions by the CONTRACTOR shall imply the CONTRACTOR's approval of such substitution.
 - 5. No requests for substitutions will be considered during the bidding period.
 - 6. Furnish adequate data with each request for approval of a substitute to enable the PROJECT MANAGER to evaluate the proposed substitution.

MATERIALS, EQUIPMENT, AND APPLIANCES

12. SURVEYING

A. DEFINITIONS

- 1. CONTRACTOR's Surveyor - Shall be a registered (licensed) Land Surveyor or Registered Civil Engineer authorized to practice land surveying by the State of California in compliance with Business and Professions Code Section 8700, *et. Seq.* cited as the Land Surveyor's Act.
- 2. Construction Stakes - Durable markers that will maintain elevations, station, and offset for the duration of use as reference markers for construction.
- 3. Surveying - Described in Section 8726 of the Land Surveyor's Act.
- 4. Survey Manual - City of Los Angeles, Bureau of PROJECT ENGINEERING Manual, Part J – Survey.

B. SURVEY SERVICES

- 1. The CONTRACTOR's Surveyor shall comply with State Law and the latest edition of the Standard Specifications for Public Works Construction, "Green Book", and its supplement.
 - a. The contractor shall employ the Contractor's Surveyor.
 - b. All work shall utilize CCS 83, Zone 5, and NAVD 88 control systems.
 - c. CONTRACTOR's Surveyor to utilize horizontal & vertical control provided by PROJECT MANAGER and referenced on drawings.
 - d. Work shall conform to the lines, elevations, and grades shown on the plans.
 - e. CONTRACTOR's Surveyor shall notify the PROJECT MANAGER, in writing, of all material discrepancies between existing survey control and the current Work. Any material discrepancies shall be resolved prior to start of construction.
 - f. During progress of construction, CONTRACTOR's Surveyor to provide surveying services

as necessary, or as requested by PROJECT MANAGER or INSPECTOR, to assure construction complies with Contract Documents.

- g. CONTRACTOR's Surveyor shall fulfill duties of "PROJECT MANAGER" described in Standard Specifications for Public Works Section 2.9, Surveying, except that the City forces shall be notified 7 days prior to the CONTRACTOR disturbing any street centerline control monuments so they can be preserved by City forces.
 2. Safety - CONTRACTOR's Surveyor shall conform to recommended safety standards for all Work, as set forth in the latest edition of Work Area Traffic Control Handbook (WATCH) adopted by the City of Los Angeles Board of Public Works. Compliance with the Confined Space Regulations in the California Code or Regulations, Title 8, Section 5157 of the Cal/OSHA Safety Orders is mandatory.
- C. CONSTRUCTION SURVEYS:
1. Conform to Survey Manual Part J, Section J 600 of Bureau of PROJECT MANAGER.
 2. CONTRACTOR's Surveyor - Provide all reference stakes and form checks necessary for construction and inspection of improvements. Document construction staking in survey field notes as described in Part C.4 in this Article. Staking may include, but is not limited to - removals, joins, rough grade, slope, utilities, storm drain, sewer, curb, walk, paving, wall, tunnels, building stakes and other staking necessary for construction and inspection.
 3. Form Checks - CONTRACTOR's Surveyor to check forms where durable points may be disturbed, removed, or is impractical to be used to verify the design location. Record measured location in survey field notes as described in Part C.4 in this Article. Notify PROJECT MANAGER of all variations from plan locations.
 4. Staking Interval and Offset Lines - Staking intervals shall be in accordance with Survey Manual, Figure J 615.225A. CONTRACTOR's Surveyor to set stake lines at an offset distance from the improvement to ensure proper grade, station and alignment.
 5. Utility Stakes - CONTRACTOR's Surveyor shall provide stakes for utilities, public or private, which require location or relocation unless PROJECT MANAGER states otherwise.

13. SITE INVESTIGATION

- A. Before beginning the Work, inspect related and appurtenant Work and report in writing to the PROJECT MANAGER conditions which will prevent proper completion of the Work. Except as provided for in Article 53, DIFFERING SITE CONDITIONS, of the General Conditions, failure to report any such conditions shall constitute acceptance of all site conditions, and required removal, repair, or replacement caused by unsuitable conditions shall be performed by the CONTRACTOR at its sole cost and expense without any adjustment in the Contract Price or extension of the Contract Completion Date.

14. INSPECTION OF THE WORK

- A. Whenever the CONTRACTOR intends to carry on the Work of this Contract on a Saturday, Sunday, or holiday, or more than two eight (8) hours a day shifts on Monday through Friday, or any variation in the time of the workday as set forth in the GENERAL CONDITIONS, length of the workday and work week, notification shall be given to the INSPECTOR and the PROJECT MANAGER of such intention at least forty-eight (48) hours in advance so that inspection may be arranged. No Work shall be allowed during these times without the approval of the INSPECTOR and no demolition will be permitted on Saturdays, Sundays, or holidays without the prior approval of the Board. All CITY inspection required by the CONTRACTOR on holidays, weekends and overtime for the sole convenience of the CONTRACTOR shall be accomplished at the sole expense of the CONTRACTOR by issuance of a deductive Change Order.
- B. Conduct the Work under the general observation of the PROJECT MANAGER and be subject to inspection by the INSPECTOR to ensure compliance with the requirements of the Contract Documents.

Such inspection may include mill, Plant, shop or field inspection, as required. The INSPECTOR shall be permitted access to all parts of the Work, including Plants where materials or equipment are manufactured or fabricated. Materials and articles furnished by the CONTRACTOR shall be subject to inspection, and no materials or articles shall be used in the Work until they have been inspected and accepted by the INSPECTOR.

- C. Do not backfill, bury, cast concrete, hide or otherwise cover Work until it has been inspected by the INSPECTOR, and other Agencies from which a permit is required. Whenever the CONTRACTOR is ready to backfill, bury, cast in concrete, hide, or otherwise cover any Work under the Contract, notify the INSPECTOR not less than forty-eight (48) hours in advance to request inspection before beginning such Work of covering. Failure of the CONTRACTOR to notify the INSPECTOR at least forty-eight (48) hours in advance of such inspections will be cause for the INSPECTOR to require a sufficient delay in the progress of Work to allow time for such inspections and any remedial or corrective Work required, and costs of such delays, including its effect upon other portions of the Work, shall be borne by the CONTRACTOR. Work so covered in the absence of inspection shall be subject to uncovering at the sole expense of the CONTRACTOR. Where uninspected Work cannot be uncovered, such as in concrete cast over reinforcing steel, such Work shall be subject to demolition, removal, and reconstruction under proper inspection, and no additional payment will be allowed therefore.
- D. The presence of the PROJECT MANAGER or the INSPECTOR, shall not relieve the CONTRACTOR of the responsibility for the proper execution of the Work in accordance with all requirements of the Contract Documents. Compliance is a duty of the CONTRACTOR, and said duty shall not be avoided by any act or omission on the part of the PROJECT MANAGER or the INSPECTOR. If the CONTRACTOR fails to replace any defective or damaged Work or material after reasonable notice, the INSPECTOR may cause such Work or materials to be replaced. The replacement shall be deducted from the amount to be paid to the CONTRACTOR, otherwise the CONTRACTOR shall pay the CITY if there remains insufficient or no amount to be paid by the CITY to the CONTRACTOR.
- E. The INSPECTOR will have the right, at all times and places, to reject any articles or materials to be furnished hereunder which, in any respect, fail to meet the requirements of these specifications, regardless of whether the defects in such articles or materials are detected at the point of manufacture or after completion of the Work at the site. If the INSPECTOR, through an oversight or otherwise, has not rejected materials or Work which is defective or which is contrary to the specifications, such material, no matter in what stage or condition of manufacture, delivery, or erection, may be rejected by the INSPECTOR upon discovery. Promptly remove rejected articles or materials from the site of the Work after notification of rejection. Costs of removal and replacement of rejected articles or materials as specified herein shall be borne by the CONTRACTOR.
- F. At the completion of Work, after completion of all corrections, a final inspection will be made by the INSPECTOR, the PROJECT MANAGER, and the CONTRACTOR, as applicable. The INSPECTOR will provide a Final Inspection Correction List itemizing all Work necessary to complete the Project satisfactorily.

15. SAMPLING, TESTING AND FABRICATION INSPECTION

A. GENERAL

1. Materials and fabricated articles furnished by the CONTRACTOR may be subject to inspection and testing and no materials or fabricated articles shall be incorporated into the Work until they have been accepted by the INSPECTOR. The CONTRACTOR shall ensure that all items requiring shop inspection are inspected at their source as required by the CONTRACT.
2. Fabrication may be subject to inspection by the INSPECTOR, to ensure strict compliance with the requirements of the Contract Documents. Such inspection may include mill, plant, shop or field inspection, as required. The PROJECT MANAGER or INSPECTOR shall be permitted access to all parts of the Work, including Plants where materials or equipment are manufactured or fabricated. When a third party inspector is approved, meetings may be scheduled with the PROJECT MANAGER or INSPECTOR at the manufacturing facility to review the progress of the Work and the inspection activities.
3. Fabricate items using Shop Drawings that have been submitted to the PROJECT MANAGER and approved in accordance with SUBMITTALS of the GENERAL REQUIREMENTS. Provide shop inspection on materials and/or equipment so designated on the CONTRACTOR's approved Shop Drawings.
4. Material which is subject to or requires shop inspection and arrives at the job site without inspection by the INSPECTOR will be rejected by the INSPECTOR and shall be removed from the job site by the CONTRACTOR at the CONTRACTOR's sole expense.

B. SAMPLES AND TEST SPECIMENS

1. CONTRACTOR shall obtain, perform and pay for all testing. Testing shall be performed at a certified laboratory approved by the PROJECT MANAGER.
2. Samples and test specimens required under these specifications shall be furnished, prepared for testing, and delivered, to the approved testing laboratory at no cost to the CITY.
3. In addition to any other inspection or quality assurance provisions that may be specified, the PROJECT MANAGER or the INSPECTOR shall have the right to independently select, test, and analyze, at the expense of the CITY, additional test specimens of any or all of the materials to be used. Whenever any portion of the Work fails to meet the requirements of the specifications as shown by the results of independent testing or investigation all costs of such independent inspection and investigation, and all costs of removal, correction, and reconstruction or repair of any such Work shall be borne solely by the CONTRACTOR.
4. When the manufacturer, fabricator, supplier, or subcontractor provides the results of tests from samples taken at the mill, factory, or warehouse, the PROJECT MANAGER or INSPECTOR will accept the test reports provided the following conditions are met:
 - a. The Testing Agency was approved by the PROJECT MANAGER or INSPECTOR prior to performing the tests, and that all necessary certifications were valid at the time the tests were performed.
 - b. The tests were performed in conformity with the specifications for the specified materials or items.
 - c. The reports are made in the form of an affidavit specified hereinafter.
5. Whenever the approved independent testing laboratory or inspector takes samples of materials other than at the site, the deliveries to the site of materials represented by such samples shall be identified as specified for the specific material. The results of such tests shall be reported to the INSPECTOR in the form of affidavits attested to by the testing agency. Such affidavits shall furnish the following information with respect to the material sampled:
 - a. Manufacturer's name and brand.
 - b. Place of sampling.

- c. Sufficient information to identify the lot, group, bin, or silo from which the samples were taken.
 - d. Amount of material in the lot sampled.
 - e. Statement that the material has passed the requirements.
 - f. Notarized signature and title of the person making the affidavit and the date of execution of the affidavit.
6. THIRD PARTY INSPECTION REQUIREMENTS
- a. The proposed third party inspection and/or testing company must gain approval by the PROJECT MANAGER after award. Obtain this approval before producing any material or manufacturing any product or equipment. The approved inspection and/or testing agency shall not sublet or assign its Work to any other agency.
 - b. Comply with requirements as identified in the CONTRACT.
 - c. The Work and activities of the third party inspection and/or testing agency shall be monitored by the INSPECTOR during meetings to ensure compliance with the Contract Documents.
7. THIRD PARTY TESTING AND INSPECTION LABORATORY APPROVAL PROCEDURES
- a. The PROJECT MANAGER will approve third party inspection and/or testing agencies/laboratories.
 - b. Requests for approval of a third party inspection agency and/or test laboratory shall be in writing from the CONTRACTOR to the PROJECT MANAGER.
 - c. The letter requesting approval of a third party test laboratory and/or private inspection agency shall contain all of the following information:
 - i. Complete title of Project.
 - ii. Project Work order number.
 - iii. Name of proposed testing laboratory or inspection agency.
 - iv. Address and telephone number of proposed testing laboratory/inspection agency.
 - v. Contact person at proposed testing laboratory/inspection agency.
 - d. The PROJECT MANAGER will notify the CONTRACTOR by letter if the testing laboratory/inspection agency has been approved.

16. GUARANTY/WARRANTY

- A. The CONTRACTOR shall and does hereby warrant and guaranty that Work executed under this Contract will be free from defects of materials and workmanship for a period of one (1) year from the date of final acceptance of the Project by the Recreation and Park Commission, except certain specific items of Work, materials and equipment requiring a guaranty or warranty for a greater period of time as hereinafter specified. In the event, that portions of the Work are sufficiently complete to allow use or occupancy by the CITY in the manner and for the purposes intended prior to final completion and acceptance of the Project, the guarantee period for those portions will commence on the date shown on the Statement of Partial Completion.
- B. The CONTRACTOR hereby agrees to indemnify and save harmless the CITY, and their officers, agents and employees against and from all claims and liability arising from damage and injury due to said defects. The CONTRACTOR shall repair or replace, at no cost to the CITY, any and all such defective Work and all other Work damaged thereby, which becomes defective during the term of the above-mentioned guaranties and warranties.
- C. Within thirty (30) calendar days prior to completion of all Work the CONTRACTOR shall submit to the PROJECT MANAGER original copies of all manufacturers guaranties covering all supplied and installed equipment and, where applicable, systems.

- D. In addition to the requirements of Contract Bonds, of the General Conditions, it shall be understood that the Surety for the faithful performance bond, submitted in conformance with the terms of the Contract for this Project, is liable on its bond for all obligations of the CONTRACTOR including guaranty provisions.
- E. The CONTRACTOR shall, within twenty-four (24) hours of notice from the PROJECT MANAGER of any Work not in accordance with the requirements of the Contract, or any defects in the Work, commence and prosecute with due diligence all work necessary to fulfill the terms of this Article and to complete the Work within a period of time as approved by the PROJECT MANAGER. In the event of failure by the CONTRACTOR and/or its surety to respond to the notice or to complete the Work required by this Article within the time specified, the CITY shall proceed to have such Work done at the CONTRACTOR's expense. The CONTRACTOR or its Surety shall promptly reimburse the CITY all direct and indirect cost associated with performing this Work.

17. STORAGE OF MATERIALS AND EQUIPMENT

- A. Store and protect materials and equipment in accordance with the manufacturer's instructions, with seals and labels intact and legible. Exercise measures necessary to ensure preservation of the quality, quantity, and fitness of the materials or equipment and perform the manufacturers recommended maintenance of the material or equipment. Absorb any and all cost incurred to store, protect, and maintain the materials and equipment without modification to the Contract Amount.
- B. Do not store construction materials in streets, roads, or highways for more than 5 days after unloading. Materials or equipment not installed or used in construction within 5 days after unloading shall be stored elsewhere by the Contractor at its expense unless authorized additional storage time.
- C. Do not store construction equipment at the worksite before its actual use on the Work, nor after use for more than 5 days after it is no longer needed.
- D. Excavated material, except that which is to be used as backfill in the adjacent trench within three days shall not be stored in public streets unless otherwise permitted. Remove excess material after placing backfill from the site immediately.

PROGRESS OF THE WORK

18. CONSTRUCTION SCHEDULE AND COMMENCEMENT OF WORK

- A. After notification of award and prior to start of any work, the Contractor shall submit its Schedule of Values to the Project Manager for review and approval. Upon approval of the Schedule of Values, and prior to start of any contract work, other than mobilization, the Contractor shall submit its Baseline Schedule to the Project Manager for acceptance. The Baseline Schedule shall be based on the approved Schedule of Values. The approved Schedule of Values work items shall be the basis for the construction elements for the accepted Baseline Schedule and the Monthly Billing items. As a minimum the Baseline Schedule shall indicate the work plan of all specifications sections. The Baseline Schedule shall include, but is not limited to: all items noted on I.2.a. through I.2.f. and I.2.h. through I.2.o. The Baseline Schedule shall recognize the protection, removal, or relocation of utilities and how they affect construction. The Baseline Schedule shall also reflect completion of all work under the Contract within the specified time and in accordance with the Specifications.

Unless otherwise provided, the Contract time shall commence as indicated in the Notice-to-Proceed letter. The Work shall start within 10 days thereafter, and be diligently prosecuted to completion within the time provided in the Specifications or as modified through change order.

Upon acceptance of the Baseline Schedule by the Project Manager, the Contractor shall maintain a copy of the accepted schedule in the jobsite office, recording thereon progress of the work at the end of each calendar week.

- B. Methodology: The Baseline Schedule and all Updated Progress/Recovery Construction Schedules (UPRS) shall be in the form of a Critical Path Method schedule showing chronological relationship of all activities of the project. The principles and definitions of the terms used herein shall be as set forth in the Associated General Contractor's publication "As-Planned CPM Schedule - Handbook", latest edition. To the extent there are any conflicts between the Associated General Contractor's publication and the Specifications, the Specifications shall govern. The Contractor shall utilize Primavera Sure-Trak 3.0 or

Microsoft Project 2000 as the computer program for formatting the Baseline Schedule, and subsequent updated schedules.

- C. The Contractor shall have the right to complete the job in advance of the scheduled completion date and within the allowable days allotted for the project. In the event that the Contractor elects to finish the project in advance, a Change Order shall be issued to reflect reduced duration and revised completion date. The Contractor shall not be entitled to any additional compensation for early project completion.
- D. A schedule showing the Work completed in less than the Contract Time, which has been accepted by Owner and amended by Change Order, shall be considered to have Project Float. The Project Float is the time between the scheduled completion of the Work and Contract Substantial Completion. Project Float is a resource available to both City and Contractor. No compensation shall be due to the Contractor for use of this float time by either party.
- E. Float Ownership: Neither City nor Contractor owns float. The Project owns the float. As such, liability for delay of any Substantial Completion date rests with the party whose actions, last in time, actually cause delay to a Substantial Completion date.
- F. The Contractor shall forward to the General Manager, along with the monthly Request for Payment, the Updated Schedule, referred to in Section B of this Article, indicating the progress of any part of the work not up to Baseline Schedule, stating the existing status, cause of delay, impact of change orders and approximate time of completion.
- G. If the Contractor should fall behind the progress schedule by more than one month, the Contractor must provide the General Manager with an Updated Progress/Recovery Schedule (UPRS). Failure to comply with the full requirements of this Article shall be cause for withholding all future progress payments until full compliance. Failure to provide more than 2 consecutive Updated Schedules or UPRS shall constitute grounds for cancellation of the project.
- H. The Department reserves the right to request a two-week "look ahead" schedules if the Department determines that the submitted UPRS does not reflect the as-built condition, manpower utilization or sequential progress necessary to fulfill the intent of the UPRS.
- I. Network Details:
 - 1. The Schedule shall include time-scaled network diagram, based on working days, as well as tabulations. It shall be constructed to show the order in which the Contractor proposed to carry out the Work, to indicate restrictions of access and to show availability of work areas, and availability and use of manpower, materials and equipment. The Contractor shall utilize the Schedule in planning, scheduling, coordinating, and performing the Work under the Contract (including activities of Subcontractors, equipment vendors, and Suppliers). Provide the Project Manager with written confirmation of the concurrence of listed trade Subcontractors and Suppliers with the Schedule. Major trade Subcontractors and Suppliers shall approve the Schedule before they are submitted.
 - 2. The Schedule shall provide the Project Manager and Inspector with a tool to monitor and follow the progress of all phases of the Work. The Schedule submitted to the Project Manager shall comply with all limits imposed by the scope of Work, and with all constraints, restraints or sequences included in the Contract. The degree of detail shall include factors to the satisfaction of the Project Manager, including, but not limited to:
 - a. Physical breakdown of the Project including estimated starting and completion dates of activities.
 - b. Float Time.
 - c. Contract milestones and completion dates, building occupancy date, constraints, restraints, sequences of Work shown in the Contract, the maintenance period and the final completion date. Durations shall be in calendar day.
 - d. Type of Work to be performed, and the sequences.
 - e. Purchases, submittals, submittal reviews, manufacturing, tests, delivery, and installation

activities for all major materials and equipment.

- f. Deliveries of City furnished equipment and/or materials in accordance with the dates or schedule windows of such items set forth in the Contractor furnished by the Project Manager, or items to be salvaged and delivered to the City.
 - g. Preparation, submittal and approval of Shop Drawings and material samples showing a thirty (30) day minimum time specified for the Project Manager's review of normal or routine submittals. A forty (40) day review time for all major submittals and the same time frame shall be allowed for at least one (1) re-submittal on all major submittals.
 - h. Impact of Change Orders issued to the Contract.
 - i. Approvals required by regulatory agencies or other third parties.
 - j. Plans for all subcontract Work.
 - k. Access to and availability of Work areas including all anticipated shutdowns.
 - l. Identification of linkage between preceding, concurrent and follow-on Sub- contractors and utilities that are shown on the Plans or called out in the Specifications.
 - m. Actual tests, submission of test reports, and approval of test results.
 - n. Training and classes required under the Contract.
 - o. Pre-Final and Final Inspection punch lists and final cleanup, allow time for preparation of the punch lists.
 - p. Clearly identify any manpower, material, or equipment restrictions, as well as any activity requiring unusual shift Work, specified overtime, or Work at times other than regular days or hours.
3. Durations of the labor, equipment, and materials required to perform each activity shall be based on a normal work day unless otherwise approved by the Project Manager.
 4. Critical or near critical paths resulting from the use of manpower or equipment restraints shall be kept to a minimum. Near critical paths shall be defined as those paths having fifteen (15) working days or less of total float as shown on the accepted Baseline Schedule.
 5. Time scale shall show a continuous flow of information from left to right. The critical path shall be clearly and graphically identified on the schedule.

J. SCHEDULE REPORTS

1. The Schedule submitted to the Project Manager shall include the time scaled network diagram. Network diagrams shall be based on early start and early finish dates of activities shown and any related calculations generated by the scheduling program which describes the events and activities depicted.

K. APPROVAL OF BASELINE SCHEDULE

1. Acceptance Process:
2. The Project Manager will accept or reject, in writing, the Contractor's submission within fourteen (14) days after receipt of required information. The Construction Schedule, once accepted, becomes the Baseline Schedule which shall be used for monitoring and evaluating all facets of Contract performance, including, but not limited to: payment progress, changes, and delays.
3. Revise the Schedule, periodically per B, F, G, and H of this Article.

L. REVISIONS TO ACCEPTED BASELINE SCHEDULE

1. No change to the accepted Baseline Schedule shall be made without the prior written approval of the Project Manager.

M. UPDATES TO ACCEPTED BASELINE SCHEDULE AND PROGRESS PAYMENTS

1. Updated Schedules or UPRS:
 - a. See Section F of this Article.
 - b. The Update Report shall show the activities or portions of activities completed during the reporting period and their total value as the basis for the Contractor's monthly request for payment. Payments made pursuant to Partial Payments of these General Requirements will be based on the total value of such activities completed or partially completed after verification by the Inspector. The report shall state the percentage of the Work actually complete as of the report date.

N. RESPONSIBILITY FOR COMPLETION

1. Whenever it becomes apparent from the Updated Schedule or UPRS that phasing, milestone, constraint, restraint, or Contract completion dates will not be met, the Contractor shall execute some or all of the following remedial actions:
 - a. Increase construction manpower in such quantities and crafts as necessary to eliminate the backlog of Work.
 - b. Increase the number of working hours per shift, shifts per working day, working days per week, the amount of construction equipment, or any combination of the foregoing to eliminate the backlog or Work. Contractor shall be responsible for all additional costs associated in having the Inspector present at the job site for all periods in excess of the basic work day.
 - c. Reschedule the Work in conformance with the Specification requirements.
2. Before implementing any of the above actions, the Contractor shall notify and obtain written approval from the Project Manager.
3. Under no circumstances will the addition of equipment or construction forces, increasing the working hours or any other method, manner, or procedure to return to the contractually required completion date be considered justification for a Change Order or be treated as acceleration where the need for a UPRS has been caused by the Contractor and/or its Subcontractors or Suppliers, at any tier.
4. The Project Manager may elect to withhold progress payments until the Contractor's progress indicates that the milestone date(s) and/or the Contract completion date will be met.

19. WORK BY CITY OR OTHERS

- A. Be responsible for ascertaining the nature and extent of any simultaneous, collateral and essential work by others. The CITY, its employees and contractors, and others, shall have the right to operate within or adjacent to the worksite to perform such Work.
- B. The CITY, the CONTRACTOR, and each of such employees, contractors and others, shall coordinate their operations and cooperate to hold interference to a minimum.
- C. Include in its Bid all costs involved as a result of coordinating its Work with others. The CONTRACTOR shall not be entitled to additional compensation from the CITY for damages resulting from such

simultaneous, collateral and essential Work. The CONTRACTOR's coordinating efforts shall include redeployment of his Work forces to other parts of the Work.

PAYMENT FOR WORK

20. PARTIAL PAYMENTS (Revised as of 02/01/12)

- A. Unless otherwise prescribed by law, three (3) working days prior to the last work day of each month, or other such date mutually agreed upon by the CONTRACTOR and the INSPECTOR, the CONTRACTOR shall prepare and submit to the INSPECTOR, an estimate of the cumulative amount and value of acceptable Work performed by the CONTRACTOR at the jobsite up to that date. Said amount shall also include the value of all acceptable materials and equipment for the Contract that have been delivered and suitably stored but not yet used in the Work, subject to the requirements of PAYMENTS FOR MATERIALS OR EQUIPMENT DELIVERED AND STORED ON THE JOBSITE and PAYMENT FOR MATERIALS OR EQUIPMENT STORED OFF THE JOBSITE of these General Requirements.
- B. Payments for undelivered, specifically manufactured equipment to be incorporated into the Work, excluding "off the shelf " or catalog items, will be made when all of the following conditions exist:
 1. The equipment must be specifically designated in the Technical Specifications for partial payment prior to delivery.
 2. The equipment to be specifically manufactured for the Project could neither be readily utilized on nor diverted to another job, and,
 3. A fabrication period of more than six (6) months is anticipated,
- C. Upon verification and approval by the INSPECTOR, such estimate shall be processed by the INSPECTOR in accordance with the provisions of the California Public Contracts Code.
- D. The CITY may retain a portion of the amount otherwise due to the CONTRACTOR, as follows:
 1. Retention of **five percent (5%)** will be held on the original Contract value on each approved payment claim until the amount paid of the original Contract equals fifty percent (50%). The CITY may then, at its sole discretion discontinue further retention on the original Contract value for all subsequently approved payment claims.
 2. At any time during the course of the Contract, the CITY may, at its sole discretion, reinstate the **five percent (5%)** retention.
 3. Additional deductions will be made from each monthly payment request for amounts due the CITY as follows:
 - a. Equipment or materials furnished by the CITY.
 - b. Services rendered to the CONTRACTOR by the CITY.
 - c. Amounts due the CITY for liquidated damages or penalties under the terms of the Contract.
 - d. Amounts required to be deducted by federal, state, or local governmental authority or other provisions of these Contract Documents.
- E. From the balance thus determined will be deducted the amount of all previous payments, and the remainder shall constitute the monthly payment due the CONTRACTOR. Within thirty (30) calendar days after receipt of the INSPECTOR's recommendation by the Department of the monthly payment due the CONTRACTOR and subject to the deductions provided, herein, the CITY will pay the amount found due.

- F. On lump-sum items the INSPECTOR's estimate of the monthly payment due the CONTRACTOR will not be required to be made by strict measurement, and an approximate estimate will suffice.
- G. The monthly payments may be withheld or reduced, for the following reasons:
 - 1. If the CONTRACTOR is not diligently or efficiently complying with the express intent of the Contract.
 - 2. If there are unresolved Notices of Non-Compliance.
 - 3. If Technical Manuals are not submitted.
 - 4. If Record Drawings are not kept up-to-date.
 - 5. If progress photographs are not submitted, and
 - 6. If construction schedules are not submitted in accordance with these General Requirements.
 - 7. The CONTRACTOR shall promptly submit the following in response to requests by the INSPECTOR:
 - 8. Information and records necessary to determine the cost of the Work for purposes of estimating monthly payment.
 - 9. Itemized statements, in a form satisfactory to the INSPECTOR, of the actual cost of all acceptable materials delivered by the CONTRACTOR to the site.
- H. The making of any payment to the CONTRACTOR shall not relieve the CONTRACTOR from contractual obligations. These payments shall not be construed as the transfer of ownership of any equipment or materials to the CITY.
- I. Responsibility of ownership shall remain with the CONTRACTOR who shall be obligated to store, protect, repair, replace, rebuild or otherwise restore any fully or partially completed Work or structure for which payment has been made. The CONTRACTOR shall replace any materials or equipment required to be provided under the Contract that may be damaged, lost, stolen, or otherwise degraded in any way prior to acceptance of the Work under the Contract.
- J. At its own expense, the CONTRACTOR has the option, to substitute for any money being withheld by the CITY, securities equivalent to the amount being withheld. Securities eligible for such substitution are bank or savings and loans certificates of deposit or such securities eligible for investment pursuant to California Government Code. Any such security or securities so substituted for monies withheld, shall be owned by the CONTRACTOR who shall receive earned interest.
- K. Such security shall, at the request and expense of the CONTRACTOR, be deposited with CITY or with a State or Federally Chartered Bank as the escrow agent who shall pay such monies to the CONTRACTOR upon notification by the CITY that payment can be made. Such notification will be given at the expiration of sixty (60) calendar days from the date of acceptance of the Work by the Board, or as prescribed by law, provided, however, that there will be a continued retention of necessary securities to cover such amounts as are required by law to be withheld by properly executed and filed notices to stop payment, or as may be authorized by the Contract to be further retained.
- L. Any escrow agreement entered into pursuant to this provision shall contain as a minimum, the following provisions - the amount of securities to be deposited; the terms and conditions of conversion to cash in case of the default of the CONTRACTOR; and the termination of the escrow upon completion of the Contract and the other requirements as herein above provided.

21. PAYMENT FOR MOBILIZATION

- A. General Mobilization
 - 1. Payment for general mobilization shall be limited to those items of Work described in MOBILIZATION, of these General Requirements.
 - 2. The CONTRACTOR shall submit to the PROJECT MANAGER for approval a breakdown of the amount established for mobilization. The payment for each item of mobilization will be made when that item of mobilization has been completed and as specified below:
 - 3. When the monthly partial payment estimate of the amount earned, not including the amount earned

- for mobilization, is five percent (5%) or more of the original Contract amount, the total amount earned for mobilization may be up to fifty percent (50%) of the Contract item price for mobilization or five percent (5%) of the original Contract amount, whichever is less will be included in the said estimate for payment.
4. When the monthly partial payment estimate of the amount earned, not including the amount earned for mobilization, is ten percent (10%) or more of the original Contract amount, the total amount earned for mobilization may be up to seventy-five (75%) of the Contract item price for mobilization or seven point five percent (7.5%) of the original Contract amount, whichever is less will be included in the said estimate for payment.
 5. When the monthly partial payment estimate of the amount earned, not including the amount earned for mobilization, is twenty percent (20%) or more of the original Contract amount, the total amount earned for mobilization may be up to ninety-five percent (95%) of the Contract item price for mobilization or nine point five percent (9.5%) of the original Contract amount, whichever is less will be included in the said estimate for payment.
 6. When the monthly partial payment estimate of the amount earned, not including the amount earned for mobilization, is fifty percent (50%) or more of the original Contract amount, the total amount earned for mobilization may be up to one hundred percent (100%) of the Contract item price for mobilization or ten percent (10%) of the original Contract amount, whichever is less will be included in the said estimate for payment.
 7. After acceptance of the Contract by the BOARD, the amount, if any, of the Contract item price for mobilization in excess of ten percent (10%) of the original Contract amount will be included for payment in the final monthly payment.
 8. The Contract lump sum price paid for mobilization shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the Work involved in mobilization as specified herein.
 9. The adjustment provisions in PAYMENT FOR CHANGES AND EXTRA WORK of these General Requirements, and the retention of funds provisions of PARTIAL PAYMENTS of these General Requirements shall not apply to the Contract lump sum item for Mobilization.
 10. When other Contract items are adjusted as provided in PAYMENT FOR CHANGES AND EXTRA WORK of these General Requirements, if the costs applicable to such item of Work include mobilization costs, such mobilization costs will be deemed to have been recovered by the CONTRACTOR by the payments made for mobilization and will be excluded from consideration in determining compensation under said Article.
 11. When the Contract does not include a Contract pay item for mobilization as specified above, full compensation for any necessary mobilization required shall be considered as included in the prices paid for the various Contract items of Work involved and no additional compensation will be allowed.

22. PAY ITEM DEFINITIONS

This Article describes methods of measurement and payment for lump sum and unit priced items listed on the Schedule of Work and Prices, contained in the Contract Proposal.

- A. The Contractor shall not take advantage of any apparent error or omission on the Drawings or Specifications, and the PROJECT MANAGER shall be permitted to make corrections and interpretations as may be deemed necessary for fulfillment of the intent of the Contract Documents.

- B. All portions of the Work are either in an applicable allowance, lump sum, or unit price item listed on the schedule of Work and Prices. Work for which there is not a separate item will be considered incidental to the contract and no additional compensation shall be allowed.
- C. ALLOWANCES
 - 1. Fixed allowances may have been allocated to the Schedule of Work and Prices for certain items of work. Requirements for each Allowance Item are specified below or a reference is given to the General Requirements article that describes the work. Allowance item work is to be performed only as directed by the PROJECT MANAGER. Unless otherwise noted, Allowances will be paid on a time and materials basis in accordance with Section C, PARTIAL PAYMENTS of these General Requirements.
 - 2. If allowance items are not executed or are only partially executed or the allowance for any item is not expended or partially expended, then a deductive change order shall be issued for the amount that is not expended. If, however, these items are over expended then an appropriate change order shall be executed in accordance with, PAYMENT FOR CHANGES AND EXTRA WORK, of these General Requirements.
- D. LUMP SUM ITEMS:
 - 1. Payment of the lump sum items established in the contractor's Bid under the various line items in the Bid Form shall be full compensation for all labor, materials, and equipment required to furnish, install, construct, and test the Work covered under the lump sum bid item.
 - 2. Payment for the lump sum items established in the Contractor's Bid shall also fully compensate the Contractor for any other work which is not specified or shown, but which is necessary to complete the Work.
 - 3. Payments for Lump Sum Work other than Mobilization will be based upon physical progress for each activity in accordance with the breakdown of the Lump Sum prices agreed to in the Schedule of Values.
- E. UNIT PRICE ITEMS:
 - 1. Payment for all work shall be in accordance with the unit price bid items in the schedule of Work and Prices and shall be full compensation for all labor, materials, and equipment required to furnish, install, construct and test the Work covered under the unit price bid item. Work for which there is not a price schedule item will be considered incidental to the Work and no additional compensation shall be allowed.
 - 2. Payment will be made only for the actual quantities of work performed in compliance with the Drawings and Specifications. The Contractor will receive reimbursement equal to the approved quantity times applicable unit price.

23. SCHEDULE OF VALUES

- A. The Schedule of Values will be used as a basis for determining progress payments on a lump sum Contract or any designated lump sum bid item. The Schedule of Values shall be a schedule of cost loaded construction activities equal, in total, to the lump sum bid and shall be in such form and sufficient detail to correctly represent a reasonable apportionment of the lump sum. Prior to submitting an invoice for payment, the CONTRACTOR shall have submitted a detailed Schedule of Values and obtained approval from the PROJECT MANAGER.
- B. Each lump sum bid item on the Schedule of Work and Prices as set forth in the Bid must be broken down separately. The breakdown of each lump sum bid item must cover the cost of construction required by the plans and specifications for that item. The sum of the values for the construction activities, within a bid item must equal the total amount bid for that item.
- C. Each activity in the Schedule of Values shall delineate one construction activity. For example, the placement of concrete between construction joints, the construction of an electrical duct bank or pipeline between points A & B. The costing for each activity should include all costs for the labor and materials or equipment required to complete the activity. For example, concrete construction activities should include all costs for the forming, placing of reinforcement, placing concrete and curing. The cost for pipeline

construction activities should include materials, equipment and installation including pipeline supports or thrust blocks. The excavation and backfill for a pipeline or structure may be separate activities. No non-construction activity shall be cost loaded.

24. NOTICE TO WITHHOLD AND/OR STOP NOTICE

- A. When a "Notice to Withhold" or "Stop Notice" is served upon the CITY, or the BOARD, pursuant to the lien statutes of the State of California, to withhold sufficient funds from payments to the CONTRACTOR in support of a claim resulting from default by the CONTRACTOR in payment for labor or materials used in prosecution of the Contract, the CITY shall withhold from payment due the CONTRACTOR an amount of money equal to the amount of the claim stated in the "Notice to Withhold" or "Stop Notice," and an additional amount equal to twenty-five percent (25%) of the amount of said claim, to defray the costs of litigation in the event of court action on the claim, for a total withholding of one and one quarter times the stated amount of the claim. At the discretion of the CITY, the CITY may allow the CONTRACTOR to file with the CITY the bond referred to in the Civil Code of the State of California after which said monies will not be withheld on account of such "Notice to Withhold" or "Stop Notice."
- B. In the event the Contract is terminated for CONTRACTOR default, any funds due the CONTRACTOR and retained by the CITY in accordance with PARTIAL PAYMENTS of these General Requirements, shall become the property of the CITY to the extent necessary to repay to the CITY any excess in the Contract price above the cost of the Work completed at the time of termination. After issuance of notice to discontinue Work, no further payments will be made to the CONTRACTOR for the Work covered by the notice until completion of Work and final settlement has been made.

25. FINAL PAYMENT

- A. Final payment to the CONTRACTOR is made following action by the BOARD that formally adopts the recommendation of the PROJECT MANAGER to accept the Contract.
- B. After acceptance of the Work by the BOARD and not more than sixty (60) calendar days after filing Notice of Completion, the CITY will make final payment to the CONTRACTOR of the amount remaining after deducting all prior payments and all amounts to be kept or retained under the provisions of the Contract, including the following items:
 - 1. Liquidated damages, as applicable;
 - 2. Lien claims or Stop Notices filed on behalf of suppliers, Subcontractors, and labor performed in connection with the Project; except, that upon submittal of a Stop Notice Release Bond issued by an approved Surety Company executed in favor of the CONTRACTOR, the CITY will release such portion of the retainage funds to said CONTRACTOR that is being held solely to cover Stop Notice Claims.
 - 3. No claim of the CONTRACTOR under this Article shall be allowed unless the CONTRACTOR has given the required written notice. Nor shall a claim by the CONTRACTOR for an equitable adjustment hereunder be allowed if asserted after final payment under this Contract.

26. CHANGE ORDER REQUESTS

- A. The CONTRACTOR's quotations for preliminary change orders for extras, changes, additions, or deletions to the Work as described in Article 52 CHANGES AND EXTRA WORK of the General Conditions shall be submitted to the PROJECT MANAGER, in writing, on the Change Order Cost Quotation Form provided by the PROJECT MANAGER, and in conformance with the requirements of PAYMENT FOR CHANGES AND EXTRA WORK of these General Requirements. Examples of these forms are bound at the end of these General Requirements. The quotation shall be firm for a period of not less than sixty (60) calendar days from the date of receipt of the quotation by the PROJECT MANAGER. Submit its written cost quotation and Time Impact Analysis not later than two (2) weeks after being requested to provide such quotation, unless the PROJECT MANAGER allows more time. Delays in submitting quotations beyond the two (2) weeks set forth herein, which cause a delay in the issuance of a Change Order or a delay to the completion date of the Project, shall not be cause for a claim or a time extension under the Contract.
- B. The PROJECT MANAGER's request for quotation on a preliminary change shall not be considered

authorization to proceed with the changed Work prior to the issuance of a formal Change Order, unless directed otherwise in writing by the PROJECT MANAGER, nor shall such request constitute justification for a delay to the existing Work or a time extension under the Contract.

27. PAYMENT FOR CHANGES AND EXTRA WORK

Payment to the CONTRACTOR, or credit to the CITY, for any extra, change addition or deletion to the Work under the Contract, or settlement of any claim under the Contract, covered by any Change Order, shall be determined by the methods set forth herein. The PROJECT MANAGER may change the plans and specifications, character of the Work, or quantity of Work provided the total arithmetic dollar value of all such changes, both additive and deductive, does not exceed twenty-five percent (25%) of the Contract price. Should it become necessary to exceed this limitation, the change shall be by written Supplemental Agreement between the CONTRACTOR and the CITY, which shall be executed by a Change Order.

A. LUMP SUM

A total sum for the changed Work may be mutually determined by the PROJECT MANAGER and the CONTRACTOR. The CONTRACTOR shall furnish a breakdown of the costs satisfactory to the PROJECT MANAGER, of the proposed lump sum, in complete accordance with C through J of this Article. Such lump sum costs shall be full and final compensation as described in D of this Article. All cost proposals for lump sum Change Orders shall be presented in accordance with C through J of this Article.

B. COST REIMBURSEMENT (TIME AND MATERIALS) WORK

The costs of all changed Work submitted under the cost reimbursement (time and materials) method shall be formulated in accordance with the provisions of C through J of this Article.

Additionally, if the method or amount of payment cannot be agreed upon prior to the beginning of the Work, the PROJECT MANAGER may issue a unilateral Change Order in the amount determined reasonable by the PROJECT MANAGER for the changed Work and direct the CONTRACTOR to proceed with the changed Work or the PROJECT MANAGER may direct in writing that the Work be done on a cost reimbursement (time and materials) basis, and the CONTRACTOR shall provide all labor, equipment, and materials necessary to complete the Work in a satisfactory manner and within a reasonable period of time. For Work performed, payment shall be made for the documented actual cost, in accordance with the following provisions.

1. Labor, up to and including general foremen, who are directly assigned to the changed Work. Employees identified as superintendents shall not be charged as labor on changed Work, but shall be covered under overhead costs. These costs shall include actual documented payroll costs including wages, payroll taxes as established by law (i.e., FICA, Federal and State Unemployment Taxes), fringe benefits as established by negotiated labor agreements, and any insurance costs (such as Worker's Compensation and General Liability Insurance but shall not include Automobile Liability Insurance, OCIP coverage, or any other insurance costs which are provided for in B.6 below which are currently assessed against labor costs. A detailed breakdown of the subcomponents of labor costs, by all crafts shall be submitted to the PROJECT MANAGER, by the CONTRACTOR and all SUBCONTRACTORS, for approval, as part of the documentation of labor costs, within forty-five (45) days after issuance of the Notice to Proceed. No other subcomponents of labor costs shall be considered, unless approved in writing by the PROJECT MANAGER.
2. Materials - The cost of materials used in performing the changed Work will be the cost, including sales tax, to the purchaser, whether CONTRACTOR, Subcontractor or other forces, from the supplier thereof, except as the following are applicable:
 - a. Cash or trade discounts available to the purchaser shall be credited to the CITY notwithstanding the fact that such discounts may not have been taken by the CONTRACTOR.
 - b. For materials secured by other than a direct purchase and direct billing to the purchaser, the cost will be deemed to be the price paid to the actual supplier as determined by the PROJECT MANAGER. Markup, except for actual costs incurred in the handling of such

materials, will not be allowed.

- c. Payment for materials from sources owned wholly or in part by the purchaser shall not exceed the price paid by the purchaser for similar materials from said sources on Contract items or the current wholesale price for such materials delivered to the job site, whichever price is lower.
 - d. If, in the opinion of the PROJECT MANAGER, the cost of materials is excessive, or the CONTRACTOR does not furnish satisfactory evidence of the cost of such materials, then the cost shall be deemed to be the lowest current wholesale price for the quantity concerned, delivered to the job site less cash or trade discount. The CITY reserves the right to furnish materials for the Work and no claim shall be made by the CONTRACTOR for costs and profit on such materials.
 - e. For the purposes of this Article, a "Supplier" is defined as any person or persons, firm or business, who supplies materials, of construction and/or permanent equipment, but who does not perform any portion of the Work of the Contract on site, for the CONTRACTOR, except that labor or labor supervision which may be required by some manufacturers as part of their equipment installation for warranty or other purposes.
3. EQUIPMENT COSTS, including ownership, lease or rental costs, as well as operating costs, for individual equipment units whose replacement value is in excess of \$1,000. Transportation and set up costs shall be included, but only if the equipment is imported to the worksite solely to perform Work on the changed Work included in the Change Order and the CONTRACTOR can demonstrate that the changed Work cannot or could not be performed economically with equipment already at the site. Equipment costs shall be determined in accordance with the requirements set forth in H of this Article.
 4. SUBCONTRACTOR COSTS, provided that such costs are direct costs to the CONTRACTOR for performing the changed Work as set forth in E of this Article.
 5. BOND COSTS on the incremental change in the value of the Contract shall be determined and paid for as set forth in I.1 of this Article.
 6. INSURANCE COSTS (other than labor insurance or OCIP coverage) shall be determined and paid for as set forth in I.2 of this Article.

C. GENERAL

1. It is the intent of the CITY to settle all Change Orders full and final at the time the Change Order is issued. Therefore, the following paragraph will be incorporated, in writing, on all Change Orders.

"The compensation (time and cost) set forth in a Change Order comprises the total compensation due the CONTRACTOR, all Subcontractors, and all Suppliers, for the Work or change defined in the Change Order, including impact on unchanged Work. By signing the Change Order, the CONTRACTOR acknowledges and agrees on its behalf and on the behalf of all Subcontractors, and all Suppliers, that the stipulated compensation includes payment for all Work contained in the Change Order, plus all payment for the interruption of schedules, extended field overhead costs, delay, and all impact, ripple effect or cumulative impact on all other Work under this Contract. The signing of the Change Order indicates that the Change Order constitutes full mutual accord and satisfaction for the change, and that the time and/or cost under the Change Order constitutes the total adjustment to price or time or performance owed the CONTRACTOR, all Subcontractors, and all Suppliers as a result of the change. The CONTRACTOR, on behalf of himself, all Subcontractors, and all Suppliers, agrees to waive all rights, without exception or reservation of any kind whatsoever, to file any further claim related to this Change Order. No further claim or request for adjustment of any type, excepting only bond and insurance cost as set forth in these General Requirements of the Contract Documents for any reasonably foreseeable cause shall arise out of or as a result of this Change Order or the impact of this Change Order on the remainder of the Work under this Contract."

2. Costs which shall not be paid in Change Orders under this Contract include, but are not limited to, interest costs of any type; claim preparation or filing costs; legal expenses; the costs of preparing or reviewing proposed Change Orders or Change Order proposals; lost revenue; lost profits; lost income or earnings; rescheduling costs; costs of idled equipment when such equipment is not at the site or has not yet been employed on the Work; lost earnings or interest on unpaid retainage; claims consulting costs; and the costs of corporate officer or staff visiting the site; any compensation due to the fluctuation of foreign currency conversion or exchange rates; loss of other business; changes in taxes or increased tax rates of any kind or any costs identified as unallowable under the provisions of the Federal Acquisition Regulations.
3. Extensions of time shall be based solely upon the effect of delays to the Work as a whole. Extensions of time shall not be granted for delays to the Work, unless the CONTRACTOR can clearly demonstrate, through analysis of the current updated schedule, that the delay to the Work as a whole arose or will arise from causes other than normal weather, beyond the control and without fault or negligence of the CONTRACTOR, or any Subcontractor, at any tier, and that such delays did or will, in fact, delay the progress of the Work as a whole. The CONTRACTOR shall not be entitled to a time extension unless it submits a Time Impact Analysis which is a calculation of the extent of the delay to the end date of the Work and which shows that the Work has been or will be extended beyond the current Contract completion date. A Time Impact Analysis is an estimating procedure which utilizes the networking techniques (fragnets) and a written analysis of the facts associated with the alleged delay to demonstrate the effect of the alleged delay on the critical path of the schedule. A "fragnet" is defined as a sequence of new activities and/or activity revisions that are proposed to be added to the existing current updated schedule to demonstrate (mathematically and graphically) the influence of the alleged delay on the end date of the Work and shall be the sole method for incorporating delays and impacts into the schedule. The objective of a Time Impact Analysis is to pinpoint, isolate, and quantify all time impact associated with a specific issue and determine its time relationship to past or current delays. Time extensions shall not be allowed for delays to parts of the Work that are not on the critical path of the currently approved monthly updated Project Schedule. Time extensions shall not be granted, nor delay damages of any kind whatsoever paid to the CONTRACTOR, until all available float, slack, or contingency time on the Project is used and the end date of the Work is moved beyond the current, adjusted Contract completion date.
4. The CONTRACTOR'S Cost Breakdowns submitted under the lump sum method described in paragraph A and its Change Order Quotations submitted under the cost reimbursement (time and materials) method described in paragraph B (including without limitation requests for cost reimbursement for delay, disruption, hindrance and interference associated with extras, changes, additions or deletions) shall be itemized in a manner that, with mathematical certainty and without reliance upon probabilities or inferences, segregates the direct, actual reimbursable costs associated with each individual extra, change, addition, deletion and (on an event-by-event basis) each individual delay or disruption event. Such Change Order Cost Quotations shall not be based, in whole or in part, upon any methodology (such as "total cost" or "modified total cost" methodologies) that purports to calculate the CONTRACTOR'S additional costs of performance of the extra, change, addition or deletion (including without limitation the additional costs of delay, disruption or other impact) based on the difference between CONTRACTOR'S total actual Project or line item costs (with or without fee) and its original bid estimate for the Project or any original bid estimate line item. In connection with the foregoing, CONTRACTOR represents and warrants that it has the ability to generate and maintain complete and accurate cost accounting records that will reflect:
 - a. The actual costs incurred or saved for each individual item of extra work, change, addition, deletion (including without limitation any costs of associated delay, disruption, interference, hindrance and the cumulative impact of each extra, change, addition, deletion on other parts of the Work); and,
 - b. On an event-by-event basis, the effect of each delay or disruption that forms the basis of

each request for extension of time, regardless of their scope, number, complexity, cumulative effect, or time of issuance or occurrence.

5. Except as provided in Article 51, COMPENSATION FOR DELAY, DISRUPTION, UNANTICIPATED OVERHEAD of the General Conditions, CONTRACTOR shall have no right to recovery of any compensation, costs, expenses or damages resulting from delay, disruption, interference, or hindrance in the performance of the Work (including without limitation interruption of schedules, excess or extraordinary extended field and indirect overhead costs, loss of productivity and the impact, ripple or cumulative effect on other Work).
6. CONTRACTOR waives any claim or rights and remedies based on abandonment, quantum merit, rescission or other similar legal theory by reason of any of the following circumstances, which the CONTRACTOR acknowledges and agrees are within the reasonable contemplation of the parties:
 - a. Extras, changes, additions and deletions to the Work after execution of the CONTRACT and issued from time to time throughout the period of construction, regardless of their scope, number, cumulative value, or complexity, to correct errors, omissions, conflicts, and ambiguities in the Contract Documents, or to implement discretionary changes the scope of Work requested by the CITY;
 - b. The issuance and performance of extras, changes, additions and deletions in a manner that is not in sequence with the as-built or as-planned progress of the Work;
 - c. Changes due to Differing Site Conditions;
 - d. Suspensions of the Work or parts thereof, or limitations on access to portions or all of the Work, for the convenience of CITY or in the interests of the Project;
 - e. Delay or disruption to the Work due to failure of the CITY, PROJECT MANAGER or INSPECTOR to timely perform any contractual obligation.

D. OVERHEAD COSTS

To the costs under Paragraphs C.1., C.2., and C.3., above, an added fixed fee to provide compensation for all overhead costs shall be allowed as established in Paragraph E.1 below. This overhead rate is not applicable to the costs under Paragraphs C.4. through C.6. above.

The overhead rates determined in Paragraphs 1 and 2 below shall be applied to all additive and deductive Change Orders, of this Article.

1. GENERAL AND ADMINISTRATIVE OVERHEAD RATE:

- a. An allowance of eight percent (8%) for overhead costs will be allowed to the CONTRACTOR, only when CONTRACTOR uses its own organization to perform a part of the Work under the Change Order based upon the value of labor, material and construction equipment required to accomplish said part of the change Paragraphs C.1., C.2., and C.3.
- b. An allowance of twelve percent (12%) for overhead costs will be allowed to the Subcontractors (at any tier), only when Subcontractors use their own organization to perform a part of the Work under the Change Order, based upon the value of labor, material, and construction equipment required to accomplish said part of the change Paragraphs C.1., C.2., and C.3.
- c. Overhead percentages shall be considered to include all insurance costs other than specifically mentioned in this Article, all field and office supervisors and assistants, all onsite project administration, security costs, the cost of small tools and consumables, incidental job burdens, and all general home office expenses and no separate allowance will be made therefore. Assistants to field and office supervisors include all clerical, stenographic, and general office help. Incidental job burdens include, but are not necessarily limited to, office equipment and supplies, temporary toilets, telephone and conformance to OSHA requirements. Items such as, but not necessarily limited to, review and coordination, estimating, PROJECT MANAGER, scheduling, and expediting relative to Change Orders, and updating and furnishing Record Drawings to incorporate changes, are associated with field and office supervision and are considered to be included in the CONTRACTOR's

overhead percentage set forth herein.

- d. For those Change Orders with both additive and deductive costs, the overhead rate shall be determined by the net amount of the additive and deductive work.

E. SUBCONTRACTOR COSTS

1. Where Work under the Change Order is performed in whole or in part by a Subcontractor, at any tier, the cost of the Change Order shall include the cost to the Subcontractor. Subcontractor's costs shall be presented in strict accordance with A., B., and C., above, and D. through J. as applicable.
2. An additional fixed fee of six percent (6%) based upon the sum of the costs of all Subcontractors, at any tier, involved in the Work of the Change Order, shall be allowed to the CONTRACTOR for profit and General and Administrative Overhead Costs. An additional fixed fee of six percent (6%) shall be allowed to first tier Subcontractors for profit and General and Administrative Overhead costs for any Work involved in the Change Order that is performed by Sub-subcontractors. No additional fixed fee shall be allowed for Change Order Work performed by Subcontractors to Sub-subcontractors, at any tier.

F. PROFIT

To the costs of C.1., C.2., and C.3., above, plus applicable overhead costs from D.1.a. or D.2.b., if a SUBCONTRACTOR at any tier above, an added fixed fee for Profit shall be allowed as established herein.

1. An allowance of ten percent (10%) for Profit for the party performing the Work under the Change Order, shall be included on all Change Orders that are negotiated full and final in advance of any changed Work being performed.
2. An allowance of five percent (5%) for Profit for the party performing the Work under the Change Order shall be included on all Change Orders where any portion of the Work is performed before the Change Order is executed full and final by both the PROJECT MANAGER and the CONTRACTOR.
3. No added fixed fee for Profit shall be allowed for any cost other than those costs under C.1., C.2., and C.3., of this Article, if Subcontractor at any tier above. No fixed fee for profit shall be allowed on the costs of C.4., C.5., C.6., or F of this Article.
4. On Change Orders with both additive and deductive cost components, the profit allowance on net additive Change Orders shall be based on the Change Order amount after overhead rates have been added. The profit allowance shall be as set forth in Paragraphs 1 and 2 above as applicable. No profit allowance shall be included for net deductive Change Orders.

G. CITY FURNISHED MATERIALS AND EQUIPMENT

The CITY reserves the right to furnish such materials and equipment as it deems expedient, and the CONTRACTOR shall have no claim for profit or overhead on the cost of such materials and equipment.

H. EQUIPMENT COSTS

Full rental costs for rental or leased equipment shall not exceed the rates as set forth in the Rental Rate Blue Book (the Blue Book) published by Dataquest, Inc., Palo Alto, California, as adjusted to the regional area of the Work under this Contract. Owned equipment costs shall not exceed the rates listed in the Cost Reference Guide (the CRG) for Construction Equipment, published by Dataquest, Inc., Palo Alto, California. The most recent published edition in effect at the commencement of actual equipment use shall be used.

1. RENTED OR LEASED EQUIPMENT

- a. For equipment rented or leased (including lease with purchase option) in arm's length transactions from outside vendors, the CONTRACTOR shall be paid the actual invoiced, rented or leased rates provided that the invoiced lease or rental rates do not exceed the rates set forth in the Blue Book. Arm's length rental or lease transactions are those in which the firm involved in rental or lease of such equipment is not associated with, owned by, have

common management, directorship, facilities, or stockholders with the firm renting the equipment. Submittal by a CONTRACTOR of a rental or leased invoice from the lessor will be prima facie proof of compliance with the above. However, such invoices are not conclusive proof; if questioned, the burden of proof remains with the CONTRACTOR. In no event shall the leased equipment rate billed to the CITY be at rates exceeding those prescribed in the following table:

Actual Usage (Change Order & Contract Work Combined)	Blue Book Payment Category
Less than 8 hours	Hourly Rate
8 or more hours but less than 7 days	Daily Rate
7 or more days but less than 30 days	Weekly Rate
30 calendar days or more	Monthly Rate

b. When in Use:

Actual equipment use time documented by the INSPECTOR or PROJECT MANAGER shall be the basis that the equipment was utilized on the changed Work and paid for under the Change Order. In addition to the lease or rental rate, equipment operating costs shall not exceed the estimated hourly operating rate as set forth in the Blue Book. The hours of operation shall be based upon actual equipment usage on the changed Work as recorded by the INSPECTOR or PROJECT MANAGER. For multiple shift Work sequences, the allowable equipment rate shall not exceed fifty percent (50%) of the base rate, for second or third shifts.

c. When Idle:

Idle equipment is equipment on site and necessary to perform the Work under the change but not in actual use due solely to the impact of the changed Work. Equipment operating costs due to idle time, documented by the INSPECTOR or PROJECT MANAGER, shall be paid at the rate determined in Paragraph I above. Idle time shall include a reasonable time allowance to and from the Project site.

2. OWNED AND OTHER EQUIPMENT

a. Equipment rates for owned equipment or equipment provided in other than arm's length transactions will not exceed the total hourly costs as set forth in the Cost Reference Guide. Adjustments to the listed rates provided for under the section of the Cost Reference entitled "Cost and Production Formulas" shall not be allowed. Except as noted herein below, this equipment hourly rate plus the estimated operating cost per hour from the Cost Reference Guide will be paid for each hour the equipment actually performs Work on the changed Work. Daily records listing the equipment units and their respective operators, identification code, and actual usage on the Work under the Change Order, as certified at the end of each Work day (or work shift if the Work is being performed in multiple work shift sequence) by the INSPECTOR or PROJECT MANAGER shall be the record upon which actual equipment use shall be based. For multiple shift Work sequences, the allowable equipment rate shall not exceed the hourly depreciation and operating costs listed in the Cost Reference Guide, for second or third shifts. It is agreed that this rate shall represent payment in full for all the CONTRACTOR's direct costs.

b. When Idle:

Equipment necessary to be on the site to complete the Work, but not in actual use due solely to the impact of the changed Work, shall not exceed fifty percent (50%) of the hourly rates identified in the "Ownership" column under the heading "Hourly Operating and Overhaul Expenses" set forth in the Cost Reference Guide, provided that its presence and necessity on the site has been documented by the INSPECTOR or PROJECT MANAGER,

and further provided that the equipment was idled solely by actions of the CITY. Idle equipment time will only be paid as a function of delays specifically directed or caused by the CITY's actions. In no event shall the idle time claimed in a day for a particular piece of equipment exceed the normal Work schedule established for the Project - usually eight (8) hours per day or forty (40) hours per week, and excluding Saturdays, Sundays, and holidays. For multiple shift Work sequence, the allowable idle equipment rate shall not exceed fifty percent (50%) of the hourly depreciation costs listed in the Cost Reference Guide, for second or third shifts. It is agreed that this rate shall represent payment in full for all the CONTRACTOR's direct costs.

3. EQUIPMENT HAULAGE AND SET UP COSTS

- a. Documented and actual equipment haulage and set up costs shall be paid for, if applicable as set forth in C of this Article.

4. OTHER EQUIPMENT COST GUIDES

- a. In the event that a piece of equipment used on a Change Order is not listed in the Blue Book or the CRG, costs may be derived from the Associated General CONTRACTOR's of America Equipment Ownership Guide, the Associated Equipment Dealers Guide, or the Equipment Rate Guide published by the U.S. Army Corps of PROJECT MANAGERS as adjusted appropriately for the type of Work and use and the regional area of the Work under this Contract.

I. BONDS AND INSURANCE COSTS

1. Bond premium adjustment, consequent upon the Change Orders issued by the PROJECT MANAGER, shall be paid at the time of completion of the Work and will not be included in individual Change Orders. Additional bond costs on the incremental value of all Change Orders issued under the Contract shall be paid for through issuance of a separate Change Order upon receipt, by the PROJECT MANAGER, or a fully paid invoice from the CONTRACTOR's and Subcontractor's sureties. No allowances for overhead or profit shall be included in such separate Change Order.
2. Insurance costs, other than insurance assessed on labor costs, consequent upon the Change Orders issued by the PROJECT MANAGER, shall be paid for by the PROJECT MANAGER at the time of completion of the Work and will not be included in individual Change Orders. Additional insurance costs on the incremental value of all Change Orders issued under the Contract shall be paid through issuance of a separate Change Order upon receipt of a fully paid invoice from the CONTRACTOR's and Subcontractor's insurance carriers. On Contracts where the duration exceeds 365 calendar days from Notice to Proceed, the CONTRACTOR and its Subcontractors will be allowed to submit such fully paid invoices at the end of every year after issuance of the Notice to Proceed, and again at the end of the Project.

J. RECORDS

1. The CONTRACTOR's records shall make clear the distinction between the direct costs of Work paid for under the Change Order and the costs of the base scope Work under the Contract. Furnish the INSPECTOR with daily report sheets in duplicate of each day's cost reimbursement Work no later than the working day following execution of said Work. The daily report sheets shall itemize the materials and equipment used in the Work. The daily report sheets shall provide for identification and classification of workers; the hourly rates of pay and hours worked; and the size, type, identification number, and hours operated for each piece of equipment. The Daily Report sheets shall itemize the materials used in the Work.
2. Substantiate material charges by copies of vendor's invoices. Submit such invoices with the daily report sheets or, if not available at that time, submit with subsequent daily report sheets. Sign daily report sheets by the CONTRACTOR or his authorized agent and the INSPECTOR at the time of submittal.
3. On a weekly basis submit to the PROJECT MANAGER an approximate accounting of the Contract

expended on the cost reimbursement Work to date and an estimate of the Impact to the time of performance of Work.

28. PRICE REDUCTION FOR DEFECTIVE COST OR PRICING DATA

A. If the PROJECT MANAGER determines that any price, including profit or fee, negotiated in connection with any Change Order under this contract, or any cost reimbursable under this Contract, was increased because:

1. The CONTRACTOR furnished cost or pricing data which was not accurate, complete, and current as certified in the CONTRACTOR's Certificate of Current cost or Pricing Data;
2. A Subcontractor or prospective Subcontractor furnished cost or pricing data was submitted in support of a subcontract cost estimate furnished by the CONTRACTOR but which was not accurate, complete, and current as of the date certified in the CONTRACTOR's Certificate of Current Cost or Pricing Data.
3. The CONTRACTOR or a Subcontractor or prospective Subcontractor, at any tier, furnished any data not within paragraph 1 or 2 above, which was not accurate as submitted;

then price shall be reduced accordingly and the Contract shall be modified in writing as may be necessary to reflect such reduction. However, any reduction in the Contract price due to defective subcontract data of a perspective Subcontractor, when the subcontract was not subsequently awarded to such Subcontractor, will be limited to the amount (plus applicable overhead and profit allowances) by which the actual subcontract or actual cost to the CONTRACTOR if there was no Subcontract, was less than the prospective subcontract cost estimate submitted by the CONTRACTOR; provided that the actual subcontract price was not affected by defective cost or pricing data.

B. The following certification from the CONTRACTOR is required to be provided on all Change Order quotations or requests for adjustment in excess of \$10,000.

1. CERTIFICATION OF CURRENT COST AND PRICING DATA.
2. This is to certify that, to the best of my knowledge and belief, cost or pricing data submitted in writing, or specifically identified in writing if actual submission of the data is impracticable, to the CITY in support of [CONTRACTOR is to insert appropriate identification such as Change Order quotation, proposal quotation, price adjustment, etc.] are accurate, complete, and current as of [CONTRACTOR to insert date].

CONTRACT NO.: _____
 PROPOSED CHANGE ORDER NO.: _____
 FIRM: _____
 NAME: _____
 TITLE: _____
 DATE: _____
 SIGNATURE: _____

29. PAYMENT FOR MATERIALS OR EQUIPMENT DELIVERED AND STORED ON THE JOB

- A. Partial payment for materials or equipment delivered to the worksite and stored shall be subject to the following conditions:
1. Payment will not be made for any materials or equipment unless each individual piece of the material or equipment becomes a permanent part of the Work and has a value of more than \$5,000.
 2. The material or equipment is required by the specifications, and is specifically manufactured for the Project and could not readily be utilized or diverted to another job.
 3. The CONTRACTOR shall provide secure storage facilities as required in STORAGE OF MATERIALS AND EQUIPMENT of these General Requirements.
 4. No payment will be made for living or perishable Plant material, or for degradable materials such as rock, sand, cement, or for reinforcing steel, miscellaneous piping, off the shelf and catalog items, and similar items of construction, until they are incorporated into the Work.
 5. The payment for the materials or equipment shall not exceed ninety-five percent (95%) of the invoice cost. The amount paid shall not exceed the total amount of the bid item less an amount estimated for installation.
 6. Include cost loaded activities for the materials and equipment, for which payment will be requested, in the Schedule of Values. The CONTRACTOR shall provide all documentation necessary to establish the cost of the materials or equipment.
 7. Suppliers, fabricators, or manufacturers who intend to furnish materials or equipment to the CITY must file a notice with the CITY in accordance with the State of California lien laws.
 8. Each supplier, fabricator or manufacturer shall file a list, with the INSPECTOR, indicating the materials or equipment to be furnished to the Project. They shall also provide a notarized declaration from their company indicating the employees authorized to sign an unconditional release for the company. The persons signing the declaration and the unconditional release shall be identified by name and title.
 9. Each request for payment shall include a notarized Unconditional Release, which conforms to the California Civil Code. The release shall be signed by an authorized employee identified in the corporate declaration. The request shall include the suppliers invoice for the materials or equipment.
 10. Absorb costs incurred to meet the requirements of this Article without modification to the Contract amount.

30. PAYMENT FOR MATERIALS OR EQUIPMENT STORED OFF THE JOBSITE

- A. Partial payment for materials or equipment stored off the jobsite shall be subject to the following conditions:
1. Payment will not be made for any materials or equipment unless each individual piece of the material or equipment becomes a permanent part of the Work and has a value of more than \$5,000, unless otherwise approved by the city.
 2. The materials or equipment is required by the specifications, and is specifically manufactured for the Project and could not readily be utilized or diverted to another job.
 3. No payment will be made for living or perishable Plant material, or for degradable materials such as rock, sand, cement, or for reinforcing steel, miscellaneous piping, off the shelf and catalog items, or similar items, until they are incorporated into the Work.
 4. Payment for the materials or equipment stored shall not exceed sixty percent (60%) of the invoice cost of the materials or equipment. Percent of the invoice paid shall be at the discretion of the CITY. The amount paid shall not exceed the total amount of the bid item less an amount estimated for installation.
 5. Include cost loaded activities for the materials and equipment, for which payment will be requested, in the Schedule of Values. Provide documentation necessary to establish the cost of the materials or equipment.
 6. Suppliers, fabricators, or manufacturers who intend to furnish materials or equipment to the CITY must file a notice with the CITY in accordance with the State of California lien laws.
 7. Each supplier, fabricator or manufacturer shall file a list, with the INSPECTOR, indicating the materials or equipment to be furnished to the Project. They shall also provide a notarized declaration from their company indicating the employees authorized to sign an unconditional release for the company. The persons signing the declaration and the unconditional release shall be identified by name and title.
 8. Each request for payment shall include a notarized Unconditional Release, which conforms to the California Civil Code. The release shall be signed by an authorized employee identified in the corporate declaration. The request shall include the suppliers invoice for the materials or equipment.
 9. Store the materials and equipment as required in STORAGE OF MATERIALS AND EQUIPMENT of these General Requirements, in a bonded warehouse or facility approved by the INSPECTOR. The storage site shall be located within 50 miles of the geographic limits of the CITY. The materials and equipment shall be physically segregated from all other materials or equipment within the facility and shall be identified as being the "PROPERTY OF THE CITY OF LOS ANGELES". Exercise measures necessary to ensure preservation of the quality, quantity, and fitness of such materials or equipment and perform the manufacturers recommended maintenance of the materials or equipment. Inspect the materials and equipment, and submit a monthly written report to the INSPECTOR listing the equipment stored, results of their inspection, and the maintenance performed.
 10. Grant the INSPECTOR and the PROJECT MANAGER access to the storage facility at any time and assist the INSPECTOR and the PROJECT MANAGER in conducting a full view, piece by piece, inventory of all such material or equipment.
 11. Provide additional insurance necessary to insure the materials or equipment against loss of damage. The insurance provided shall be provided as stated in Article 37, INSURANCE of the General Conditions. The insurance shall cover the material or equipment, while stored at the approved site, while in transit to the project site, while being off-loaded at the site and until the material or equipment is incorporated into the Work and the Contract is accepted by the BOARD.
 12. Be responsible for damage to, defects therein, misfabrication thereof, or loss of the materials or equipment.
 13. Be responsible for any resulting Project delays or consequential damages as if the CONTRACTOR

were the owner of the material or equipment until it is incorporated in the Work and accepted by the CITY.

14. Absorb any and all cost incurred to meet the requirements of this Article without modification in the Contract amount.
15. Present the storage arrangements in writing and sign a Security Agreement, which shall be submitted to the INSPECTOR for approval by the CITY ATTORNEY. This agreement shall set forth the terms of ownership, storage and insurance necessary to insure the material or equipment against damage or loss.

31. PAYMENT FOR PERMITS

See PAYMENT FOR MOBILIZATION of these General Requirements.

32. AUDIT AND ACCESS TO RECORDS

- A. Maintain books, records, documents and other evidence directly pertinent to performance of Work under this Contract in accordance with generally accepted accounting principles and practices consistently applied. Also maintain the financial information and data used by the CONTRACTOR in the preparation or support of cost submissions required for this Contract, or any Modifications or claims, and a copy of the cost summary submitted to the CITY. The CITY authorized representatives shall have access, at all times during normal business hours, to such books, records, documents and other evidence for the purpose of inspection, audit and copying. Provide proper facilities for such access and inspection.
- B. Agree to make A through G of this Article applicable to this Contract and Modifications or claims affecting the Contract price. Agree to include A through G of this Article in all his contracts and all tier Subcontracts in excess of \$5,000, and to make A through G of this Article applicable to Modifications and claims related to Project performance.
- C. Audits conducted under this Article shall be in accordance with generally accepted auditing standards and established procedures and guidelines of the reviewing or audit agency.
- D. Agree to the disclosure of information and reports resulting from access to records under A and B of this Article, to the CITY and affected agencies.
- E. Records under A and B of this Article shall be maintained and made available during performance of Work under this Contract until final payment, or until settlement of all disputes, claims, or litigation, whichever occurs later. In addition, those records which relate to any portion of this Contract, to any Modification, to any dispute, to litigation, to the settlement of claims arising out of such performance, or to costs or items to which an audit exception has been taken, shall be maintained and made available until final payment or until final resolution of such dispute, litigation, claim or exception, whichever occurs later.
- F. This right of access Article applies to financial records pertaining to this Contract and all Contract Modifications. In addition this right of access applies to all records pertaining to all contracts, contract modifications, and contract amendments:
 1. To the extent the records pertain directly to Contract performance;
 2. If there is any indication that fraud, gross abuse or corrupt practices may be involved; or
 3. If the Contract is terminated for default or for convenience.
- G. Access to records is not limited to the required retention periods. The authorized representatives designated in A of this Article shall have access to records at any reasonable time for as long as the records are maintained.
- H. Provided that CITY has made demand for access or audit pursuant to this Article, CONTRACTOR's compliance with provisions A through G of this Article shall be a condition precedent to maintenance of any legal action or proceeding by the CONTRACTOR against the CITY and to CONTRACTOR's right to Progress or Final Payment. Without limitation to the foregoing or to any other provisions for withholding set forth in the Contract Documents, CITY shall have the right, in its sole discretion and in addition to any right of withholding of retention, to further withhold from any payment to CONTRACTOR a sum of up to ten percent (10%) of the total amount set forth in CONTRACTOR's current, unpaid Application(s) for Payment, until CONTRACTOR has complied with any outstanding and unsatisfied request by CITY for

audits under this Article. Upon CONTRACTOR's compliance with this Article, any monies withheld pursuant to this Paragraph solely due to CONTRACTOR's failure to permit an audit requested by CITY shall be released to CONTRACTOR.

- I. CONTRACTOR hereby consents and agrees that any failure by CONTRACTOR to provide access to records as provided in A through G of this Article shall be specifically enforceable by issuance of a preliminary and/or permanent mandatory injunction by a court of competent jurisdiction based on affidavits submitted to such court, without the necessity of oral testimony, to compel CONTRACTOR to permit access and inspection of the records or to require delivery of the records to CITY for inspection.

MISCELLANEOUS

33. INTERFACE/COORDINATION REQUIREMENTS

- A. Vehicular and pedestrian traffic adjacent to the laydown area and/or within the jobsite must be maintained. If an existing street in the CONTRACTOR's work area is to be demolished or obstructed, the CONTRACTOR shall be responsible for providing access through or around the effected area, including signs, barricades, and lights, as approved by the PROJECT MANAGER and any local agencies having jurisdiction over any public access areas. The CONTRACTOR shall follow WATCH standards and City of Los Angeles Department of Transportation Worksite Traffic Control Plans for all traffic, including a minimum traffic lane dimensions for vehicles and pedestrians.
- B. The CONTRACTOR shall not park any vehicles, including concrete, hauling and delivery trucks, in any street at any time unless approved by the PROJECT MANAGER. Access must be maintained at all times for emergencies, sampling, equipment operations, maintenance and like items.
- C. Before altering any vehicular or pedestrian access, the CONTRACTOR shall notify the PROJECT MANAGER thirty (30) days in advance on forms provided by the PROJECT MANAGER. The CONTRACTOR shall then request the alteration on forms provided by the PROJECT MANAGER. Requests shall include reasons for the alteration, times, boundary limits, special safety measures, proposed traffic rerouting with widths of such route, and a map detailing the above. Such requests shall be submitted to the PROJECT MANAGER not less than fifteen (15) days before the requested date of the access alteration. If any of the information changes, an additional fifteen (15) days may be required after the changes are brought to the attention of the PROJECT MANAGER. Approval when granted, will always be conditional. Final approval of the request, including date and time, will be given three (3) days in advance. The CITY retains the right to ticket and impound vehicles blocking traffic.

34. PROGRESS PHOTOGRAPHS

- A. As directed by the PROJECT MANAGER, take a minimum of 4 views of each Project worksite location, at 14 days intervals during the entire period of Contract Work. Take the first photographs before start of construction operations at the jobsite. Take the final photographs when all Contract Work has been completed and accepted by the CITY regardless of time intervals since previous photographs were taken. View locations shall be as directed by the PROJECT MANAGER.
- B. Provide 4, 8-inch by 10-inch color prints of each photograph on double weight glossy paper with each monthly progress report. Clearly label each print with the name of the job, view location, date of exposure and CONTRACTOR's name. Photographs and prints shall be of professional quality.
- C. Submittal of progress photographs shall be a condition precedent to the making of the monthly payments.

35. COMMUNITY RELATIONS

- A. The contractor shall cooperate with the City in conducting a public relations program for the project. The program will provide information to address concerns and complaints and to promote a positive project image. Contractor cooperation shall include the following:
 - 1. The Project Manager shall attend public meetings, when requested by the PROJECT MANAGER.
 - 2. Provide safe access for on-site community meetings and tours, on average twice per month per work site. Tours will be conducted by the PROJECT MANAGER and will be coordinated with the Contractor to limit interference with the work.
 - 3. Do not provide any information directly to the public or news media without approval of the PROJECT MANAGER.

36. PROJECT CLOSEOUT

A. CLOSEOUT TIMETABLE

The CONTRACTOR shall establish dates for equipment testing and acceptance periods (as required under the Contract). Such dates shall be established not less than one week prior to beginning any of the foregoing items, to allow the CITY, the PROJECT MANAGER, and their authorized representatives sufficient time to schedule attendance at such activities.

B. FINAL SUBMITTALS

- 1. The CONTRACTOR, prior to requesting final payment, shall obtain and submit the following items to the PROJECT MANAGER.
 - a. Written guarantees, where required.
 - b. Technical manuals and instructions.
 - c. Maintenance stock items; spare parts; special tools.
 - d. Completed record drawings.
 - e. Certificates of inspection and acceptance by local governing agencies having jurisdiction.
 - f. Releases from all parties who are entitled to claims against the subject project, property, or improvement pursuant to the provisions of law.

C. FINAL CLEANUP

The CONTRACTOR shall perform all tasks specified in REMOVAL, CLEANUP, AND DEMOBILIZATION of these General Requirements.

D. MAINTENANCE AND GUARANTEE

- 1. The CONTRACTOR shall make all repairs and replacements promptly upon receipt of written order from the PROJECT MANAGER. If the CONTRACTOR fails to make such repairs or replacements promptly, the PROJECT MANAGER reserves the right to do the work and the CONTRACTOR and his surety shall be liable to the CITY for the cost thereof.
- 2. Replacement of earth fill or backfill, where it has settled below the required finish elevations, shall be considered as a part of such required repair work, and any repair or resurfacing constructed by the CONTRACTOR which becomes necessary by reason of such settlement shall likewise be considered as a part of such required repair work.

E. BOND

1. The CONTRACTOR shall provide a bond to guarantee performance of the provisions contained in Article 31 and Article 37 (Paragraph K) of the General Conditions, Article 24 of these General Requirements, Paragraph D of this Article.

SUPPLEMENTARY GENERAL REQUIREMENTS

- 1.0 General Scope of Work:
- A. Work in this Contract: All labor, material, and equipment necessary for construction of the Ken Malloy Harbor Regional Park Synthetic Soccer Field as noted on the Contract Drawings and in these Specifications (Project Manual) and all other Contract Documents including but not limited to the GENERAL CONDITIONS, GENERAL REQUIREMENTS, and the GEOTECHNICAL REPORT dated 2/24/14
 - B. Removal of the existing turf, and remove and recompact 24" of soil, as specified in the Geotechnical Report.
- 1.1 **Synthetic Soccer Field Contractor Minimum Qualifications and Experience.** The specific contractor that will actually construct the Synthetic Soccer Field must have adequate qualifications and experience in constructing public synthetic soccer fields comparable to this project. In order for a bid to be considered eligible for this project, the SYNTHETIC SOCCER FIELD CONTRACTOR must have completed in the last six (6) years at least five (5) public use synthetic soccer fields for government agencies.
- 1.2 USE OF ELECTRONIC DOCUMENT CONTROL SYSTEM
- A. The CONTRACTOR shall use a web based document control system to submit and receive all construction related documentation on this project. The system used is "e2020" and costs associated for the use of the software have been paid for by the City. The website address to be used will be provided by the ENGINEER after award of the contract. The CITY will provide training to the CONTRACTOR on the use of the system. The information to be generated, transmitted and tracked by the e2020 document control system shall include, but not be limited to the following:
 - 1. Correspondence (including Engineer's Communication).
 - 2. Plan Clarifications.
 - 3. Request for Information (RFI's).
 - 4. Shop Drawings.
 - 5. Change Orders.
 - 6. Allowance Orders.
 - 7. Progress Photos.
 - 8. Project Schedules.
 - 9. Meeting Minutes.
 - 10. Permits.
 - 11. Partnering (Issue Resolution Ladder, Charter).
 - B. When large drawings or product samples are required to be submitted that cannot be submitted through e2020, the CONTRACTOR shall:
 - 1. Upload a transmittal sheet for the submittal in e2020,
 - 2. Submit six (6) full-size hard copies,
 - 3. Submit one half-sized hard copy (not exceeding 11x17 inches),
 - 4. Transmit electronic files to the ENGINEER in Adobe Acrobat (.PDF) format.
 - C. The CONTRACTOR shall be responsible for the installation of its own computer system, scanner, and the procurement of an Internet Service Provider (ISP) with a high speed broadband internet

connection for its own and the ENGINEER/INSPECTOR site offices to access the document control system.

- D. At the request of the ENGINEER, the CONTRACTOR must provide a hard copy of approved submittals to the INSPECTOR, at no additional cost to the CITY.

The contractor must ensure that the SYNTHETIC SOCCER FIELD CONTRACTOR meet these minimum qualifications and experience requirements. The contractor must submit with the bid the completed "SYNTHETIC SOCCER FIELD CONTRACTOR'S MINIMUM QUALIFICATIONS AND EXPERIENCE WITH PUBLIC SYNTHETIC SOCCER FIELD CONSTRUCTION" forms (pages GR-S2 through GR-S3), attached hereto. **Failure to submit the completed minimum qualifications and experience forms with the bid or failure to meet the minimum qualifications of the SYNTHETIC SOCCER FIELD CONTRACTOR will result in the bid being non-responsive.**

POOL CONTRACTOR'S MINIMUM QUALIFICATIONS AND EXPERIENCE WITH PUBLIC SYNTHETIC SOCCER FIELD CONSTRUCTION

FAILURE TO SUBMIT THIS FORM WITH THE BID OR FAILURE TO MEET THE MINIMUM QUALIFICATIONS OF THE SYNTHETIC SOCCER FIELD CONTRACTOR WILL RESULT IN THE BID BEING NON-RESPONSIVE

The intent of this form is to solicit information to confirm if the Synthetic Soccer Field Contractor meets the minimum qualifications as a synthetic soccer field builder for the Ken Malloy Harbor Regional Park Synthetic Soccer Field project. The SYNTHETIC SOCCER FIELD CONTRACTOR that will actually construct the synthetic soccer field must have completed in the last six (6) years at least five (5) public use synthetic soccer fields for government agencies. The synthetic soccer fields must be all new construction and must be currently in operation for at least one year. These forms (pages GR-S2 through GR-S3) will help to determine if the SYNTHETIC SOCCER FIELD CONTRACTOR meets the minimum qualification for this project; however, submission of the forms (pages GR-S2 through GR-S3) does not in and of itself constitute qualification.

Submit the following information on projects that the POOL CONTRACTOR has completed.

PROJECT NO. 1

A. Project Information

1. Project Name and Address

2. Project Description

(Meeting minimum qualifications above)

3. Construction Cost

4. Year Completed

B. Contact Information

1. Owner / Reference Name

2. Telephone

PROJECT NO. 2

A. Project Information

1. Project Name and Address

2. Project Description

(Meeting minimum qualifications above)

3. Construction Cost

4. Year Completed

B. Contact Information

1. Owner / Reference Name

2. Telephone

PROJECT NO. 3

A. Project Information

1. Project Name and Address

2. Project Description

(Meeting minimum
qualifications above)

3. Construction Cost

4. Year Completed

B. Contact Information

1. Owner / Reference Name

2. Telephone

PROJECT NO. 4

A. Project Information

1. Project Name and Address

2. Project Description

(Meeting minimum
qualifications above)

3. Construction Cost

4. Year Completed

B. Contact Information

1. Owner / Reference Name

2. Telephone

PROJECT NO. 5

A. Project Information

1. Project Name and Address

2. Project Description

(Meeting minimum
qualifications above)

3. Construction Cost

4. Year Completed

B. Contact Information

1. Owner / Reference Name

2. Telephone

END OF DOCUMENT

VAN AMBATIELOS
PRESIDENT

E. FELICIA BRANNON
VICE-PRESIDENT

JOSELYN GEAGA-ROSENTHAL
GEORGE HOVAGUIMIAN
JAVIER NUNEZ



ERIC GARCETTI
MAYOR

RAYMOND S. CHAN, C.E., S.E.
GENERAL MANAGER

FRANK BUSH
EXECUTIVE OFFICER

SOILS REPORT APPROVAL LETTER

May 18, 2015

LOG # 83880-01
SOILS/GEOLOGY FILE - 2

City of Los Angeles, Rec & Parks
221 N. N Figueroa St. 1550
Los Angeles, CA 90012

TRACT: CHA'S VICTOR HALL TRACT(M R 26-65)
BLOCK: 12
LOT(S): 6 & 7
LOCATION: 2726-2800 ½ S. Dalton Ave.

<u>CURRENT REFERENCE</u>	<u>REPORT</u>	<u>DATE(S) OF</u>	<u>PREPARED BY</u>
<u>REPORT/LETTER(S)</u>	<u>No.</u>	<u>DOCUMENT</u>	
Soils Report	13-095	04/23/2015	LA City Geotechnical
Oversized Document	“	”	“

<u>PREVIOUS REFERENCE</u>	<u>REPORT</u>	<u>DATE(S) OF</u>	<u>PREPARED BY</u>
<u>REPORT/LETTER(S)</u>	<u>No.</u>	<u>DOCUMENT</u>	
Dept. Correction Letter	83880	05/08/2014	LADBS
Soils Report	E170171B	02/24/2014	LA City Geotechnical Engineering Group

The Grading Division of the Department of Building and Safety has reviewed the referenced report providing recommendations for the proposed construction of a synthetic soccer field and infiltration facility. According to the report, artificial fill over native soils was encountered during the exploration. The consultant recommends removal and recompaction of the earth materials to a minimum depth of 2 feet below the surface. The current report has updated the site address and legal description of the proposed project.

The referenced report is acceptable, provided the following conditions are complied with during site development:

(Note: Numbers in parenthesis () refer to applicable sections of the 2014 City of LA Building Code. P/BC numbers refer the applicable Information Bulletin. Information Bulletins can be accessed on the internet at LADBS.ORG.)

1. The soils engineer shall review and approve the detailed plans prior to issuance of any permit. This approval shall be by signature on the plans which clearly indicates that the soils engineer has reviewed the plans prepared by the design engineer and that the plans included the recommendations contained in his report. (7006.1)

2. All recommendations of the report which are in addition to or more restrictive than the conditions contained herein shall be incorporated into the plans.
3. A copy of the subject and appropriate referenced reports and this approval letter shall be attached to the District Office and field set of plans. Submit one copy of the above reports to the Building Department Plan Checker prior to issuance of the permit. (7006.1)
4. A grading permit shall be obtained. (106.1.2)
5. All man-made fill shall be compacted to a minimum 90 percent of the maximum dry density of the fill material per the latest version of ASTM D 1557. Where cohesionless soil having less than 15 percent finer than 0.005 millimeters is used for fill, it shall be compacted to a minimum of 95 percent relative compaction based on maximum dry density (D1556). Placement of gravel in lieu of compacted fill is allowed only if complying with Section 91.7011.3 of the Code. (7011.3)
6. Existing uncertified fill shall not be used for support of footings, concrete slabs or new fill. (1809.2)
7. Drainage in conformance with the provisions of the Code shall be maintained during and subsequent to construction. (7013.12)
8. The applicant is advised that the approval of this report does not waive the requirements for excavations contained in the State Construction Safety Orders enforced by the State Division of Industrial Safety. (3301.1)
9. Unsurcharged temporary excavations over 3 feet exposing soil shall be trimmed back at a gradient not exceeding 1:1, as recommended.
10. A supplemental report shall be submitted to the Grading Division of the Department containing temporary excavation recommendations if excavations deeper than 5 feet are anticipated.
11. Where any excavation, not addressed in the approved reports, would remove lateral support (as defined in 3307.3.1) from a public way, adjacent property or structures, a supplemental report shall be submitted to the Grading Division of the Department containing recommendations for shoring, underpinning, and sequence of construction. Report shall include a plot plan and cross-section(s) showing the construction type, number of stories, and location of adjacent structures, and analysis incorporating all surcharge loads that demonstrate an acceptable factor of safety against failure. (7006.2 & 3307.3.2)
12. The infiltration facility design and construction shall comply with the minimum requirements specified in the Information Bulletin P/BC 2011-118.
13. The infiltration system shall be constructed at the location shown on the drawing attached to the current report.
14. A minimum distance of 10 feet (in any direction) shall be provided from adjacent proposed/existing footings to the proposed infiltration system. A minimum distance of 10 feet horizontally shall be provided from private property lines to the proposed infiltration system.
15. The construction of the infiltration system shall be provided under the inspection and approval of the soils engineer.

16. An overflow outlet shall be provided to conduct water to the street in the event that the infiltration system capacity is exceeded. (P/BC 2011-118)
17. Approval for the proposed infiltration system from the Bureau of Sanitation, Department of Public Works shall be secured.
18. All concentrated drainage shall be conducted in an approved device and disposed of in a manner approved by the LADBS. (7013.10)
19. The soils engineer shall inspect all excavations to determine that conditions anticipated in the report have been encountered and to provide recommendations for the correction of hazards found during grading. (7008 & 1705.6)
20. Prior to the pouring of concrete, a representative of the consulting soils engineer shall inspect and approve the footing excavations. He shall post a notice on the job site for the LADBS Building Inspector and the Contractor stating that the work so inspected meets the conditions of the report, but that no concrete shall be poured until the City Building Inspector has also inspected and approved the footing excavations. A written certification to this effect shall be filed with the Grading Division of the Department upon completion of the work. (108.9 & 7008.2)
21. Prior to excavation, an initial inspection shall be called with LADBS Inspector at which time sequence of construction, protection fences and dust and traffic control will be scheduled. (108.9.1)
22. Prior to the placing of compacted fill, a representative of the soils engineer shall inspect and approve the bottom excavations. He shall post a notice on the job site for the City Grading Inspector and the Contractor stating that the soil inspected meets the conditions of the report, but that no fill shall be placed until the LADBS Grading Inspector has also inspected and approved the bottom excavations. A written certification to this effect shall be included in the final compaction report filed with the Grading Division of the Department. All fill shall be placed under the inspection and approval of the soils engineer. A compaction report together with the approved soil report and Department approval letter shall be submitted to the Grading Division of the Department upon completion of the compaction. In addition, an Engineer's Certificate of Compliance with the legal description as indicated in the grading permit and the permit number shall be included. (7011.3)



ALAN DANG
Structural Engineering Associate I

AD/ad
Log No. 83880-01
213-482-0480

cc: LA City GEO, Applicant
LA City Geotechnical, Project Consultant
LA District Office

DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING

GEOTECHNICAL ENGINEERING GROUP



**GEOTECHNICAL ENGINEERING REPORT
LOREN MILLER PARK - SYNTHETIC SOCCER FIELD
2717 HALLDALE AVENUE
CHA'S VICTOR HALL TRACT, BLOCK 12, LOT 16
LOS ANGELES, CALIFORNIA**

**W.O. #E170171B
GEO FILE # 13-095
DATE: FEBRUARY 24, 2014**

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Appendix A Department of General Services, Standards Division, Report of Subsurface Investigation, Loren Miller Recreation Center, Synthetic Soccer Field, December 2013

1.0 INTRODUCTION

This report presents the results of our geotechnical investigation for the Loren Miller Park - Synthetic Soccer Field. The project site, as shown on Figure 1, is located at 2717 Halldale Avenue in Los Angeles. This investigation was conducted to evaluate the subsurface conditions and provide geotechnical recommendations for design and construction of the project. The Geotechnical Engineering Group (GEO) prepared this report in response to the Recreation and Cultural Facilities Program request dated July 25, 2013 and Notice to Proceed dated October 3, 2013.

This report is based on visual observation, subsurface investigation and laboratory testing. At the request of GEO, the Department of General Services, Standard Division (Standards) performed the drilling and soil sampling, infiltration testing and laboratory tests. Standards' Report of Subsurface Investigation is included in Appendix A of this report. GEO has reviewed the report, concurs with their findings, and accepts responsibility for the use of its contents.

2.0 PROJECT SCOPE

The project consists of constructing a new synthetic turf soccer field, which will include the installation of permanent goal posts, a chain link fence, drainage system, field cooling system, and an irrigation system. The project will involve re-grading of the existing grass area; however, final site grades are expected to be within one to two feet of the current site grades.

If significant changes to the project are proposed, the findings and recommendations in this report may not still be applicable, and a supplemental report may be required. GEO should be provided an opportunity to review any proposed changes and determine if supplemental recommendations are required.

3.0 FIELD EXPLORATION PROGRAM

Two exploratory borings were drilled in the area of the proposed soccer field; one near the northwest corner and the other near the southeast corner. The borings were drilled to depths ranging from approximately 7 feet to 11½ feet below the ground surface (bgs). The borings were drilled using a truck-mounted drill rig equipped with 8-inch diameter hollow-stem augers. The approximate boring locations and the final boring logs are presented on the Test Boring Location Map and Aerial Photo in Standards' report (Appendix A). A more detailed description of the drilling program is also provided in Standards' report.

Screening for volatile organic compounds (VOCs) was performed to evaluate whether fuel spills or other contamination of the soil may have occurred in the project area. Soil samples were screened in the field using a portable Organic Vapor Analyzer (OVA), and a multigas detector was also used as a screening tool for methane (Lower Explosive Limit or LEL). OVA and methane levels at the site were found to be non-detect.

Borings TW-1 and TW-2 were both converted to monitoring wells, and infiltration testing was conducted within each well. The infiltration testing, including the results, is discussed in Section 6.4 of this report.

4.0 LABORATORY TESTING

Selected soil samples were tested for the following properties:

- In-Place Dry Density and Field Moisture (D2937)
- Laboratory Maximum Dry Density and Optimum Moisture Content (ASTM D1557)
- Consolidation (ASTM D2435)
- Direct Shear (ASTM D3080)
- Grain Size Analysis and Hydrometer (ASTM D422)
- Atterberg Limits (ASTM D4318)
- Expansion Index (ASTM D4829)

Laboratory test results are presented in Standards' Report (Appendix A). Soil parameters used for design purposes are summarized in Table 1, Soil Design Parameters.

TABLE 1 – SOIL DESIGN PARAMETERS

Material	Soil Description	Unit Weight	Cohesion	Friction
Compacted Fill (90% Relative Compaction)	Clayey Sand to Sandy Lean Clay (SC-CL)	125 pcf	300 psf	32°
Native Soil	Silty Sand with Gravel (SM)	125 pcf	0 psf	42°

5.0 SITE GEOLOGY

The Geologic Map by Thomas W. Dibblee Jr. (1991) indicates the site is underlain by Quaternary Alluvium that was deposited in the Holocene Epoch. According to Dibblee Jr., the Quaternary Alluvium is comprised of clay, sand, and gravel.

6.0 FINDINGS

6.1 SURFACE CONDITIONS

The proposed soccer field site is located in the southwest portion of the Loren Miller Park; on the east side of S Dalton Avenue near W 27th Street. The site is relatively flat and vacant. The recreation facility is located on the east side of the project site, and the area to the north is occupied by two tennis courts. There is a paved driveway that provides access to the park on the south side of the project site.

6.2 SUBSURFACE CONDITIONS

Undocumented fill was encountered in TW-2 to a depth of approximately 4 feet bgs. The fill is comprised of silty sand with gravel and contained fragments of glass. The near surface native soil encountered in TW-1 consists of clayey sand to sandy lean clay to a depth of approximately 4 feet bgs. Based on the 2011 Los Angeles Building Code criteria,

the near surface native soil is not considered to be expansive. The underlying soil consists of silty sand with gravel to the maximum explored depths in both borings.

6.3 GROUNDWATER

Free groundwater was not encountered in either of the borings to a maximum explored depth of approximately 11½ feet bgs. Groundwater data obtained from California Division of Mines and Geology (CDMG, 1998) indicates the shallowest reported historic depth to groundwater in the site area is on the order of 40 feet bgs. Groundwater was encountered at a depth of approximately 40 feet bgs in a previous boring that was drilled by GEO at the site in November, 2003. It should be noted that groundwater levels can fluctuate with seasonal rainfalls, dry weather, irrigation practices and pumping activities in the vicinity of the site.

6.4 INFILTRATION TESTING

The testing procedures were performed in general accordance with the "Shallow Well Pump-in Method" guidelines, as presented in Chapter 29 of the American Society of Agronomy (1986) textbook. Prior to infiltration testing, each test well was filled with water and left overnight. The infiltration testing was initiated by filling the well casing with water. As water began to infiltrate, the established water level was kept relatively constant by adding water at predetermined time increments. The amount of water added during each time increment to maintain the constant water level was recorded on field data sheets. Each test was performed for eight hours and until the infiltration rates appeared to stabilize (i.e. reach a steady-state flow condition). The test data sheets are provided in Appendix A. Following completion of the tests, each well was abandoned by backfilling the borehole with the on-site soils. A summary of the field saturated hydraulic conductivity values is presented below in Table 2. A factor of safety has not been applied to these values.

TABLE 2 – SUMMARY OF INFILTRATION TEST RESULTS

Test Well ID	Infiltration Zone (inches below ground surface)	Steady-State Infiltration Rate (in/hr)	USCS Soil Types
TW-1	24 – 78	9.3	SC
TW-2	24 – 138	48	SC & SM

The infiltration rates presented above may not be applicable to other areas of the site. Minor changes in soil composition can result in significant changes to the infiltration rates. The parameters above should only be used for design by those with an understanding of the limitations of the testing method and complexities of subsurface drainage.

7.0 SEISMIC HAZARDS

The project site is not located within an area that has been classified by the City of Los Angeles as potentially liquefiable (NavigateLA). The project consists of constructing a soccer field, and at this time, no structures are proposed; therefore, an evaluation of seismic hazards, including liquefaction potential, was beyond our current scope of work. If structures are proposed in the future, an evaluation of seismic hazards may be required.

8.0 SITE RECOMMENDATIONS

8.1 GENERAL

Based on the results of our geotechnical investigation, the proposed project is considered geotechnically feasible provided the recommendations in this report are incorporated into the design and construction of the project.

Site preparation and earthwork recommendations are provided in the remaining sections of this report. A representative of GEO will need to provide observation and testing services during the anticipated earthwork. This will allow us the opportunity to compare actual conditions with those encountered in the exploratory borings and, if necessary, provide supplemental recommendations. We shall also be provided an opportunity to review the design plans and specifications prior to finalizing.

8.2 DRAINAGE SYSTEM

Based on our estimations of the infiltration rates and the guidelines presented in the City of Los Angeles Low Impact Development Best Management Practices (LID BMP) Handbook, the project site can be classified as a Category 1 or "Feasible" for onsite infiltration. This classification is based on the assumption that the infiltration pit will be located at least 25 feet from adjacent buildings and/or other important structures.

The design details of the drainage system were not provided to us at the time of this report. The drainage system shall be designed in accordance with Minimum Design Requirements as presented in the City of Los Angeles Department of Building and Safety (LADBS) Information Bulletin P/BC 2011-118 "Guidelines for Stormwater Infiltration." One of the key requirements in the Bulletin is that water shall not infiltrate into fill material. Based on the existing subsurface conditions and proposed grading, the minimum depth of infiltration shall be 4 feet unless the drainage system is installed in an area of the site where there is no existing undocumented fill (i.e. western portion). The minimum infiltration depth may be 3 feet in areas where there is no existing undocumented fill.

It is our opinion that, if the drainage system is designed in accordance with LADBS requirements, infiltration is not expected to result in ground settlement that could affect structures, either on or adjacent to the site. Furthermore, infiltration is not expected to result in soil saturation that could affect retaining/basement structures.

8.3 SITE PREPARATION AND EARTHWORK

8.3.1 Site Clearing

Prior to construction, all organic or inorganic materials shall be removed from the construction area and disposed of outside the site. Any existing structural or landscape elements within these areas, including any foundation elements, shall be demolished and removed from the site. Any utilities, whether active or inactive, shall be identified and removed from the site or relocated per project plans and specifications. Any cavities resulting from removal of any existing foundations or utility lines shall be properly backfilled and compacted in accordance with the recommendations in Section 8.3.6 of this report.

8.3.2 Over Excavation

All existing fill materials within the area of the proposed soccer field shall be over-excavated to a depth of at least 24 inches below existing grade. The excavation shall extend laterally beyond the edge of the soccer field a minimum distance of 3 feet or to site property lines, whichever is smaller. Additional excavation may be required if soft soil is encountered at the base of the excavation.

8.3.3 Temporary Excavations

The soil at the site can be readily excavated using conventional earthmoving equipment. Excavations greater than 2 to 3 feet are not anticipated for the project.

8.3.4 Subgrade Preparation

If soft, yielding, or unsuitable soils are exposed at the subgrade surface, then the unsuitable soils shall be removed and replaced with properly compacted fill soils. If additional removal causes an uneven bottom, GEO may require additional excavation to provide a suitable subgrade transition. All exposed excavation bottoms, shall be scarified to a minimum depth of 6 inches, moisture conditioned, and compacted to a minimum 90% relative compaction as determined by ASTM D1557. The excavation bottom shall be observed, tested, and approved by a representative of GEO prior to placement of backfill.

Following subgrade approval, fill material may be placed in accordance with the following recommendations. Subgrade soils shall be kept moist (between 0 and 2 percent above the optimum moisture content) but not flooded until covered with subsequent fill or construction.

8.3.5 Fill Materials

Fill soils shall consist of the on-site soils or approved import material. The on-site soils shall be free of organic matter, debris, and other deleterious materials, and shall not contain inorganic debris and all materials with any dimension larger than 3 inches. Drying of wet site soils or mixing of these soils with dryer soils may be required prior to being used as compacted fill. Import material for use as fill for this project shall be predominantly granular (minimum 80% passing number 4 sieve and 35% or less passing the number 200 sieve), non-expansive (EI less than 20), and shall be free of organic or inorganic debris, contamination and materials with any dimension larger than 3 inches. Import material shall be tested and approved by GEO prior to importing to the job site. GEO shall be notified a minimum of three working days prior to scheduled importing of soil to the project site.

8.3.6 Fill and Backfill Placement

Fill shall only be placed on approved surfaces/subgrades prepared in accordance with Section 8.3.4 of this report. All soccer field backfill shall be compacted to a minimum of 90 percent relative compaction, as determined by ASTM Test Method D1557. The fill shall be moisture conditioned to within 1 and 3 percent above the optimum moisture content. Compaction shall be tested and recorded by a certified compaction testing agency working under the direct supervision of GEO. Compacted fill soils shall be kept moist, (at or slightly above the specified moisture content at the time of compaction) but not flooded, until covered with subsequent construction. If fill soils are softened or eroded by excessive

moisture or construction disturbance, they shall be replaced or recompact at the discretion of the Geotechnical Engineer before additional fill or construction is placed. Certification and inspection approvals for compromised soils are void and invalid.

8.3.7 Trench Backfill

Trench excavations for shallow utility and/or drainage pipes beneath the soccer field may be backfilled with onsite soils under the observation of a representative of GEO. After utility pipes have been laid, properly bedded, and covered per the project specifications, they shall be backfilled to the ground surface or design subgrade with controlled backfill. Controlled backfill shall be moisture conditioned, placed and compacted in accordance with the recommendations presented in Section 8.3.6 of this report.

8.3.8 Fill Certification

Following successful completion of the fill placement and compaction, GEO will issue a Compaction Certification.

9.0 SUPPLEMENTAL GEOTECHNICAL SERVICES

9.1 REVIEW OF PLANS AND SPECIFICATIONS

The grading plans and specifications should implement the recommendations presented in this report and should be reviewed by GEO to ensure proper interpretation and application of our recommendations.

9.2 GEOTECHNICAL OBSERVATION AND TESTING DURING CONSTRUCTION

All grading should be performed under the observation and testing of the Geotechnical Engineer at the following stages:

- Upon completion of site clearing;
- During site excavation;
- During subgrade preparation;
- During fill placement;
- During excavation and backfilling of all utility trenches; and
- When any unusual or unexpected geotechnical conditions are encountered.

10.0 CLOSURE

If there are any questions regarding this report, please contact Jose Beristain at (213) 847-0478.



Jose Beristain, RCE 79586
Civil Engineering Associate III



Easton R. Forcier, GE 2948
Geotechnical Engineer I

REFERENCES

American Society of Agronomy, Inc., 1986, Methods of Soil Analysis, Part 1, Physical and Mineralogical Methods, Second Edition, p. 758-763.

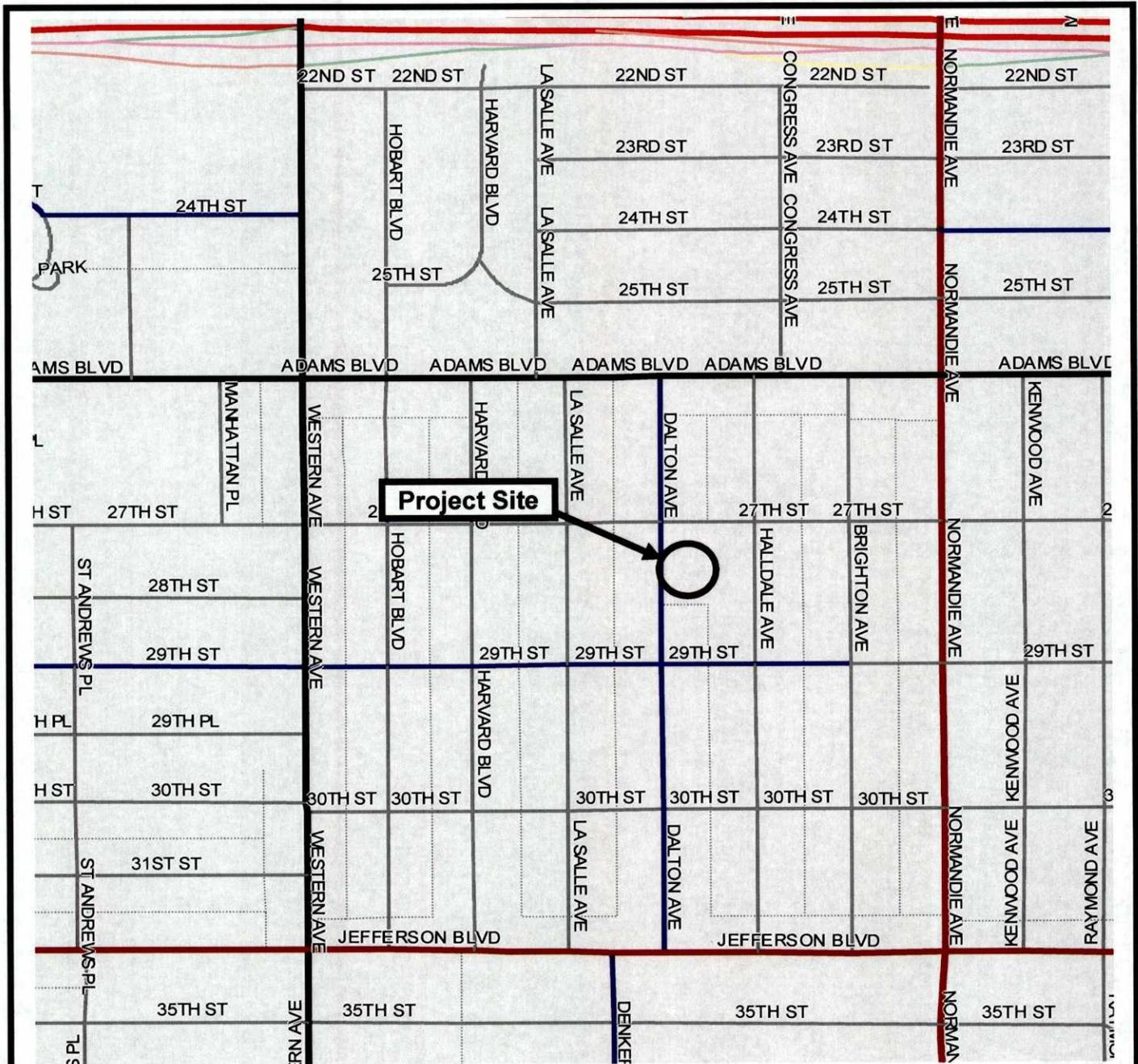
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Dibblee Jr., Thomas W., 1991, Geologic Map of the Hollywood and Burbank (South ½) Quadrangles, Los Angeles County, California.

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Reference: NavigateLA

Vicinity Map

Approximate
Scale 1:8000

**Loren Miller
Recreation Center
Synthetic Soccer Field
LOS ANGELES, CALIFORNIA**

**BUREAU OF ENGINEERING
GEOTECHNICAL ENGINEERING GROUP
(GEO)
GEO FILE No.: 13-095
DATE: February 2014**

**PLATE
No. 1**

APPENDIX A

**DEPARTMENT OF GENERAL SERVICES
STANDARDS DIVISION
REPORT OF SUBSURFACE INVESTIGATION**

GEOTECHNICAL DIVISION
ENGINEERING

2014 FEB -6 AM 10: 55

CITY OF LOS ANGELES
DEPARTMENT OF GENERAL SERVICES
STANDARDS DIVISION

LOREN MILLER RECREATION CENTER
SYNTHETIC SOCCER FIELD

LAB NO. 140-5971

W.O NO. E170171B
DECEMBER 2013

GEOTECHNICAL SERVICES FILE: 13-095

CITY OF LOS ANGELES
DEPARTMENT OF GENERAL SERVICES
STANDARDS

2319 DORRIS PLACE
LOS ANGELES, CA 90031
(213) 485-2242
fax (213) 485-5075

Lab. No. 140-5971

Received: 09-23-13

NTP: 10-07-13

Reported: 01-17-13

TO: Deborah J. Weintraub
Interim City Engineer

Attention: Christopher Johnson

Loren Miller Recreation
Center Synthetic Soccer Field
W.O. No. E170171B
File No. 13-095

Report of
SUBSURFACE INVESTIGATION

Transmitted are the results of subsurface investigation performed by Standards on the above-named project as requested by the Geotechnical Engineering Group (GEO) of the Bureau of Engineering. The logs of the test borings, the Unified Soil Classification and the results of the laboratory tests requested by the Engineer are parts of this report. The descriptions reported on the "Log of Test Boring" sheets are based on field identification procedures, examination of the samples in the laboratory and soil classification tests. The soil classification is based on the attached Unified Soils Classification System.

Two test borings were drilled on this project with a truck-mounted Central Mine Equipment Model-75HT drill rig using 9-inch diameter conventional flight augers. "Undisturbed" samples were obtained from the test borings at depths indicated on the log sheets with a 3½-inch outside diameter (O.D.) by 3-inch inside diameter (I.D.) Split Spoon sampler lined with 2⅞-inch inside diameter (I.D.) by 1-inch high brass tubes. The sampler was driven into the soil with the weight of a 300-pound automatic trip hammer falling approximately 30 inches.

The following tests were performed on samples from the test borings:

In-place Dry Density and Field Moisture (ASTM D2937)

Laboratory Maximum Dry Density and Optimum Moisture Content (ASTM D1557)

Consolidation (ASTM D2435)

Direct Shear (ASTM D3080)

Grain Size Analysis/Hydrometer (ASTM D422)

Liquid Limit (ASTM D4318 – one point method)

Plasticity Index (ASTM D4318)

Expansion Index (ASTM D4829)

Whenever possible, the in-place dry density and field moisture content were determined from the total undisturbed sample before being prepared for other laboratory tests. These are reported to the nearest 0.1 pound per cubic foot (nearest 1 pound per cubic foot on the log sheets) and 0.1 percent respectively.

Each consolidation test was performed on 2 $\frac{7}{8}$ -inch diameter by 1-inch one high undisturbed or remolded soil specimen in a floating ring type consolidometer. The specimen was retained in the 2 $\frac{7}{8}$ -inch I.D. brass ring during the test and porous disks were placed on the top and bottom of the specimen. The specimen was initially tested at field moisture to the normal load indicated on the data sheet. When the testing at field moisture was completed, sufficient water was added to cover the specimen and the consolidation test was continued with the specimen under water. At the conclusion of the test, the submerged specimen was allowed to rebound by decreasing the load in decrements shown on the data sheet, concluding with the normal load of 0.1 ton per square foot, and the corresponding rebound readings taken.

Each direct shear test was performed on 2 $\frac{7}{8}$ -inch diameter by 1-inch high undisturbed or remolded soil specimens that were soaked for at least 24 hours before being tested. During soaking the specimens were confined between two perforated brass plates to prevent swelling. The specimens were tested under various normal loads, with a different specimen being used for each normal load, while submerged in water. The rate of shearing is listed on the data sheet. Peak shear load values (represented by solid symbols) and ultimate shear load values at 0.250-inch displacement of the sheared specimens (represented by symbols which are not solid) are reported.

Percolation test was also performed at boring locations TW-1 and TW-2 from 11/01/13 to 11/15/13. Standards Division personnel followed GEO's Infiltration Testing Procedure that was transmitted to Standards on 09-23-13. The raw percolation test data sheets were faxed to GEO at the end of each test day. GEO was responsible to review the data sheets and analyze the test results. Tabulated data sheets for the percolation test are attached to this report for informational purposes only.

Geotechnical Engineering Group gave the Notice to Proceed with the subsurface investigation to Standards on 10-07-13. Jose Beristain of your Bureau was notified at least 48 hours prior to the drilling and sampling operations. A boring location map is included in this report.

All soil samples for the above-named project that were delivered to the Standard Foundation Laboratory are presently being stored. These samples will be discarded 45 days after the date of this report unless a specific written request to retain the samples for additional testing or for a longer storage period is submitted by your Bureau.


RAY H. SOLOMON, Director
General Services/Standards



RHS:JV:KSN: m



Legend:

- = Test Boring Location
- BGS = Below Ground Surface
- ENG = Engineering Sampling (Split Spoon)

Test Hole No., Location

- TW-1, 31' E/o ECF Dalton Av & 253' S/o SCF 27th St
- TW-2, 150' E/o ECF Dalton Av & 293' S/o SCF 27th St

PROJECT TITLE: Loren Miller Recreation Center-Synthetic Soccer Field

W.O. NO. E170171B

CITY OF LOS ANGELES
DEPARTMENT OF GENERAL SERVICES
STANDARDS DIVISION

TEST BORING
LOCATION MAP
& AERIAL PHOTO

LAB. NO. 140-5971

Checked By: JV/KSN

DATE: 12-20-13

Sheet 1 of 1

LOG OF TEST BORING

LAB NO.: 140- 5971 **PROJECT:** LOREN MILLER RECREATION CENTER - Synthetic Soccer Field

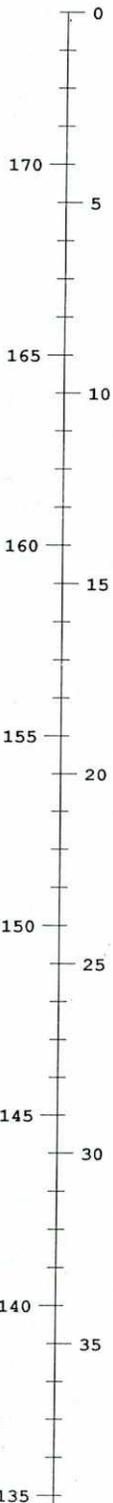
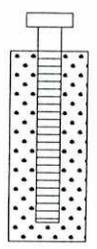
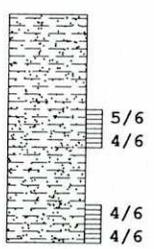
BORING NO.: TW-1 **ELEV.:** 174' MSL **DATE:** 10-17-2013

BORING LOCATION: 31' E/o ECF Dalton Av & 253' S/o SCF 27th St

DRILL RIG TYPE: CME-75HT using 9" diameter conventional flight augers

DRILLER: Cooksey **LOGGER:** Roth **ENGINEER:** None present

DEPTH TO WATER: None **DEPTH TO WATER SEEPAGE:** None

ELEVATION / DEPTH (ft)	WELL DETAILS	SOIL SYMBOLS, SAMPLER SYMBOLS AND BLOWS/INCHES	USCS	Field Description	Moist. %	Dens. Pcf
			SM	<p>Dark brown clayey sand with a trace of gravel; moist and dense.</p> <p>Soil color changed to reddish brown at 4' depth with decreasing silt but increasing in gravel content.</p> <p style="text-align: center;">--- No free water. ---</p> <p style="text-align: center;">Test Boring Location Coordinates: 34° 01' 48.46" North 118° 18' 13.92" West ---</p> <p>Installed a 4" diameter PVC infiltration test well to a depth of 6½', 5' slotted pipe, top of well is 12" below grade; boring was backfilled with # 3 sand.</p>	5.7 13.5 6.5	 119 121

LOG OF TEST BORING

LAB NO.: 140- 5971 **PROJECT:** LOREN MILLER RECREATION CENTER - Synthetic Soccer Field

BORING NO.: TW-2 **ELEV.:** 175' MSL **DATE:** 10-17-2013

BORING LOCATION: 150' E/o ECF Dalton Av & 293' S/o SCF 27th St

DRILL RIG TYPE: CME-75HT using 9" diameter conventional flight augers

DRILLER: Cooksey **LOGGER:** Roth **ENGINEER:** None present

DEPTH TO WATER: None **DEPTH TO WATER SEEPAGE:** None

ELEVATION / DEPTH (ft)	WELL DETAILS	SOIL SYMBOLS, SAMPLER SYMBOLS AND BLOWS/INCHES	USCS	Field Description	Moist. %	Dens. Pcf
<div style="display: flex; flex-direction: column; align-items: center;"> <div style="margin-bottom: 10px;">175 — 0</div> <div style="margin-bottom: 10px;">170 — 5</div> <div style="margin-bottom: 10px;">165 — 10</div> <div style="margin-bottom: 10px;">160 — 15</div> <div style="margin-bottom: 10px;">155 — 20</div> <div style="margin-bottom: 10px;">150 — 25</div> <div style="margin-bottom: 10px;">145 — 30</div> <div style="margin-bottom: 10px;">140 — 35</div> </div>			<p>SM</p>	<p>2" Bermuda grass.</p> <p>FILL MATERIAL. Dark brown silty fine-medium sand with gravel and some glass fragments; moist and dense.</p> <p>Silty sand with gravel.</p> <p>Encountered a few cobbles from 8' to 11' depth.</p> <p style="text-align: center;">--- No free water. ---</p> <p style="text-align: center;">Test Boring Location Coordinates: 34° 01' 48.46" North 118° 18' 13.92" West ---</p> <p>Installed a 4" diameter PVC infiltration test well to a depth of 11½', 10' slotted pipe, top of well is 12" below grade; boring was backfilled with # 3 sand.</p>	<p>3.9</p> <p>4.5</p> <p>2.5</p> <p>2.8</p>	<p>120</p> <p>120</p> <p>128</p> <p>128</p>

KEY TO SYMBOLS

Symbol Description

Strata symbols

 Silty sands, sand-silt mixtures

 Bermuda Grass

Soil Samplers

 Split Spoon

Monitor Well Details

 covered riser

 slotted pipe w/ sand

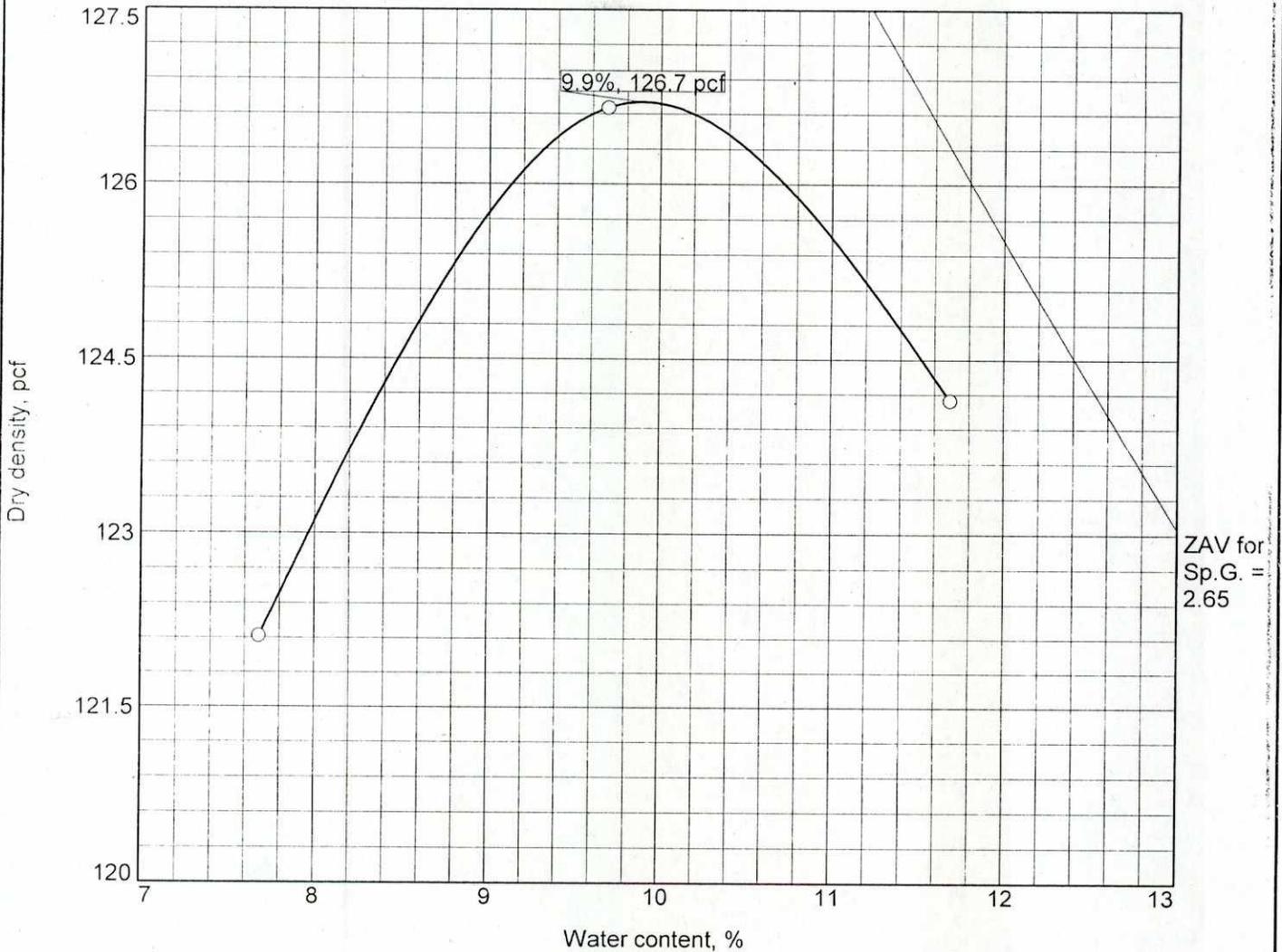
 silica sand, no pipe (end plug)

Notes:

1. Two exploratory borings were drilled on 10/17/2013 with a CME-75HT drill rig using 9" diameter conventional flight augers.
2. Water was not encountered during the drilling of this project.
3. Boring locations were provided by Geotechnical Engineering Group and verified by Standards.
4. Abbreviations used on logs:

N/o = north of	NCF = north curb face	NE = northeast
S/o = south of	SCF = south curb face	NW = northwest
E/o = east of	ECF = east curb face	SE = southeast
W/o = west of	WCF = west curb face	SW = southwest
CL = center line	PL = property line	
AC = asphalt concrete	PCC = Portland cement concrete	
OVA = organic vapor analyzer	LEL = lower explosive limit	
PPM = parts per million	HT = high torque	
5. The stratification lines indicated on the boring maps and profiles represent the approximate boundary between material types and the transition may be gradual.
6. The materials, boundaries, and conditions have been established only at the boring locations, and are not necessarily representative of subsurface conditions elsewhere across the site.

COMPACTION TEST REPORT



Test specification: ASTM D 1557-12 Method B Modified

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > 3/8 in.	% < No.200
	USCS	AASHTO						
0-2.5'				2.65				

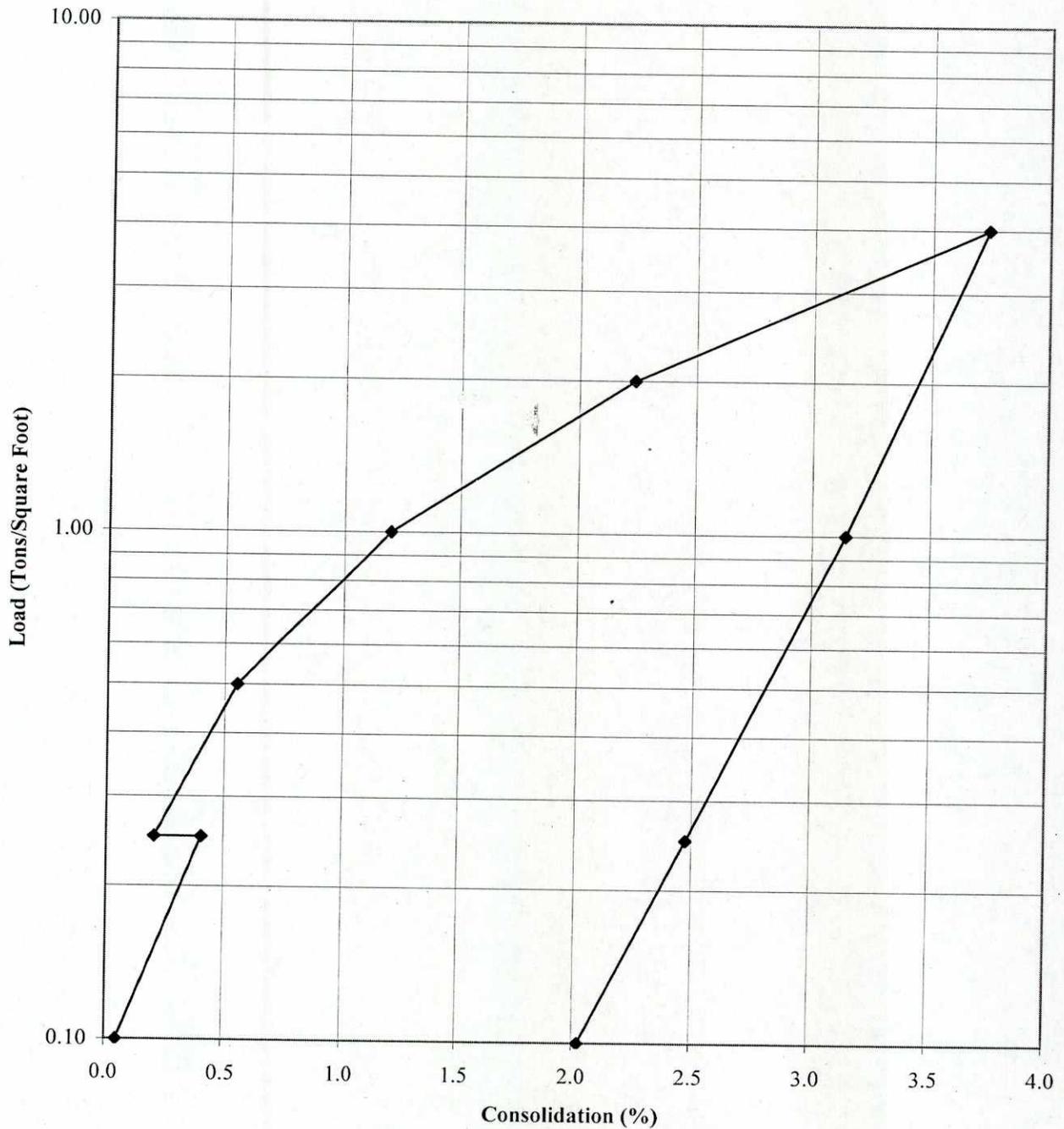
TEST RESULTS	MATERIAL DESCRIPTION
Maximum dry density = 126.7 pcf Optimum moisture = 9.9 %	Clayey Sand
Project No. E170171B Client: GEO/PW Project: LOREN MILLER RECREATION CENTER Sample Number: TW-1 @ 0-2.5'	Remarks: Date Sampled: 10-17-2013 Project: 140-5971
CITY OF LOS ANGELES - STANDARDS DIVISION	

CONSOLIDATION DIAGRAM

Job Title: LOREN MILLER RECREATION CENTER - Synthetic Soccer Field

W.O. NO.: E170171B

BORING No.	DEPTH (Feet)	LOAD WATER ADDED (Tons per Square Foot)	IN-PLACE DRY DENSITY (Pounds per Cubic Foot)	MOISTURE, %	
				START	END
TW-1	2.5	0.25	117.0	13.5%	16.1%

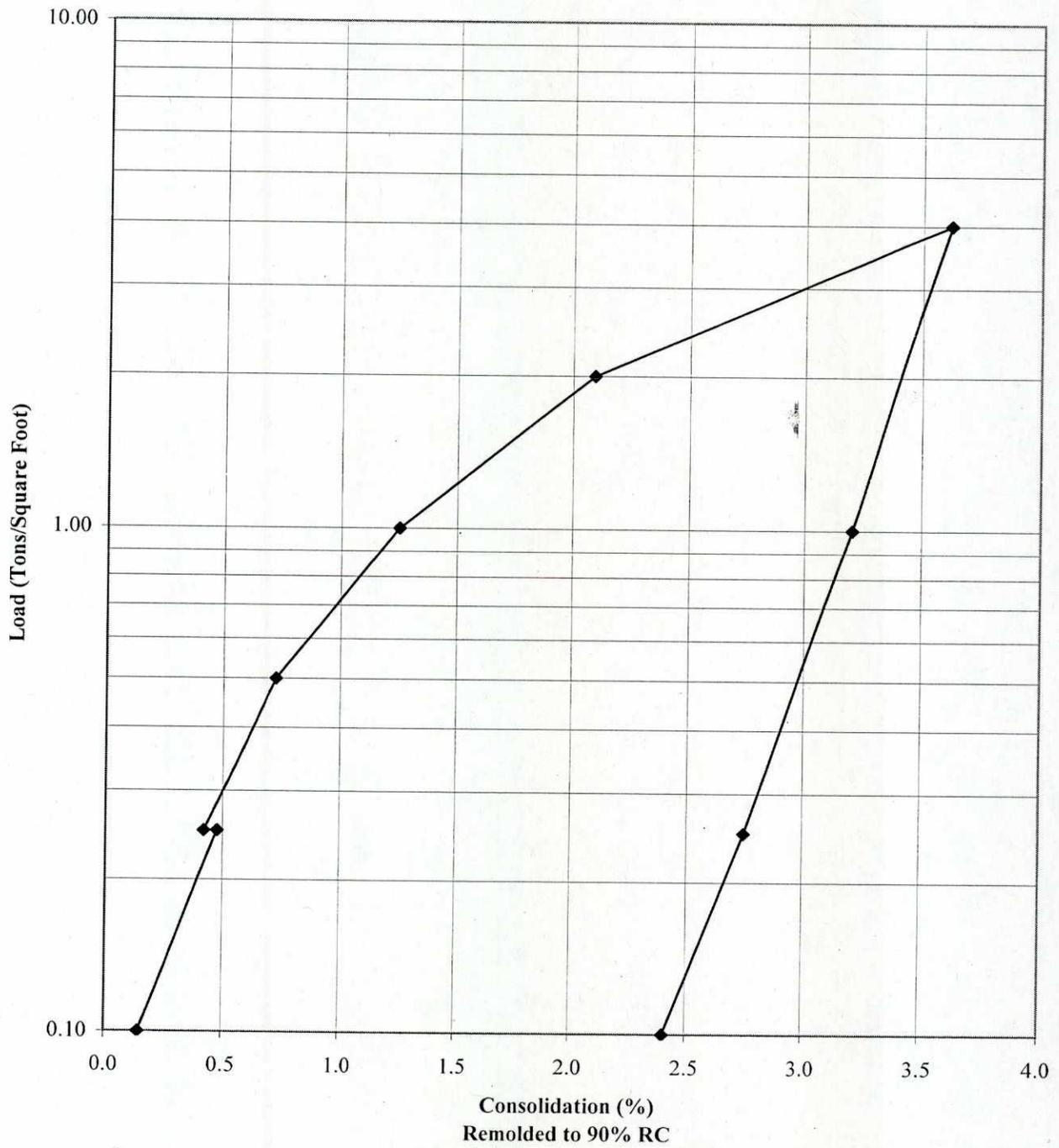


CONSOLIDATION DIAGRAM

Job Title: LOREN MILLER RECREATION CENTER - Synthetic Soccer Field

W.O. NO.: E170171B

BORING No.	DEPTH (Feet)	LOAD WATER ADDED (Tons per Square Foot)	IN-PLACE DRY DENSITY (Pounds per Cubic Foot)	MOISTURE	
				START	END
TW-1	0-2.5	0.25	114.4	9.9%	17.1%

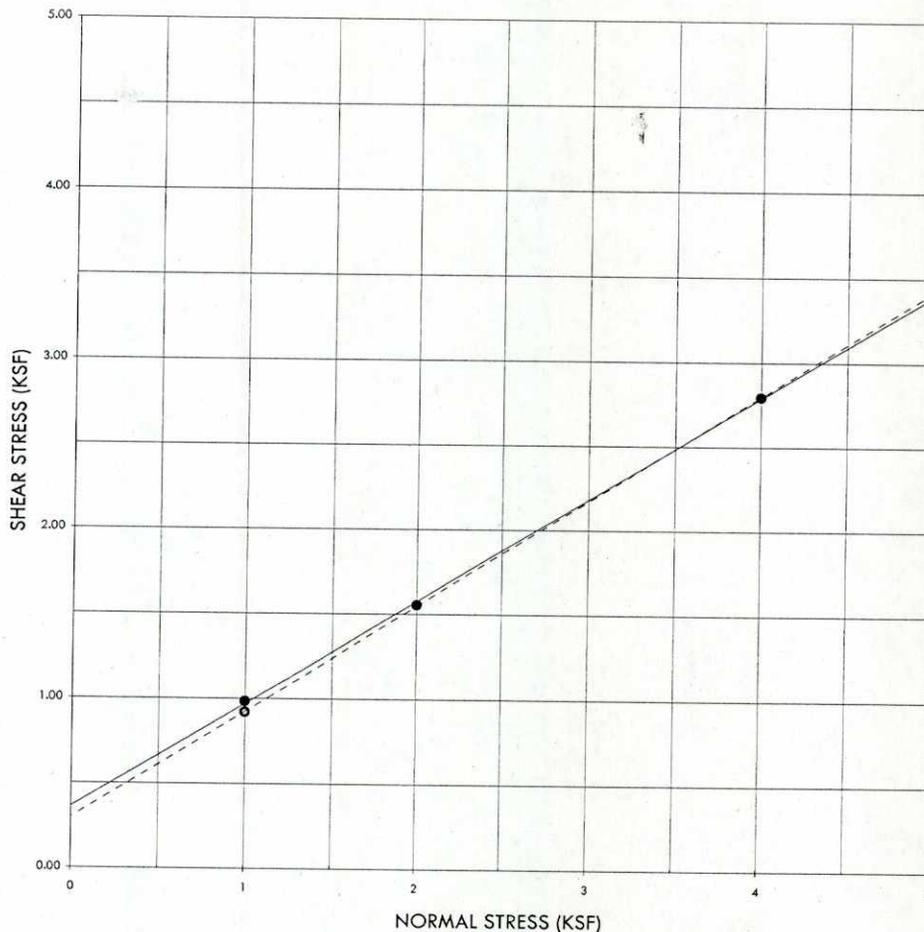


CITY OF LOS ANGELES
DEPARTMENT OF GENERAL SERVICES
 STANDARDS DIVISION, SOILS TESTING LAB
 2319 DORRIS PLACE, LOS ANGELES, CA 90031
 (213) 485-2242

DIRECT SHEAR TEST REPORT (ASTM D 3080)

Project No.:	140-5971
WO No.:	E170171B
Project Title:	LOREN MILLER RECREATION CENTER - Synthetic Soccer Field
Boring No.:	TW-1
Depth, feet:	0-2.5
Date Sampled:	10/17/2013
Diameter, in:	2.847
Soil Description:	Silty clayey sand with some gravel.
Disp. Rate, in/min:	0.002
Dry Density, PCF:	114.4
Initial Moisture, %:	9.9%
Final Moisture, %:	17.1%
Test By:	mnr/egj
Remarks:	Remolded to 90% RC 126.7 pcf @ 9.9% MC (LAB MAX)

SHEAR TEST RESULTS		
legend:	—●—	--○--
NORMAL STRESS, KSF	PEAK SHEAR STRESS, KSF	FINAL SHEAR STRESS, KSF
1	0.98	0.92
2	1.56	1.56
4	2.79	2.79
C =	0.36 ksf	0.30 ksf
TAN Φ =	0.61	0.62
Φ =	31.2°	32.0°

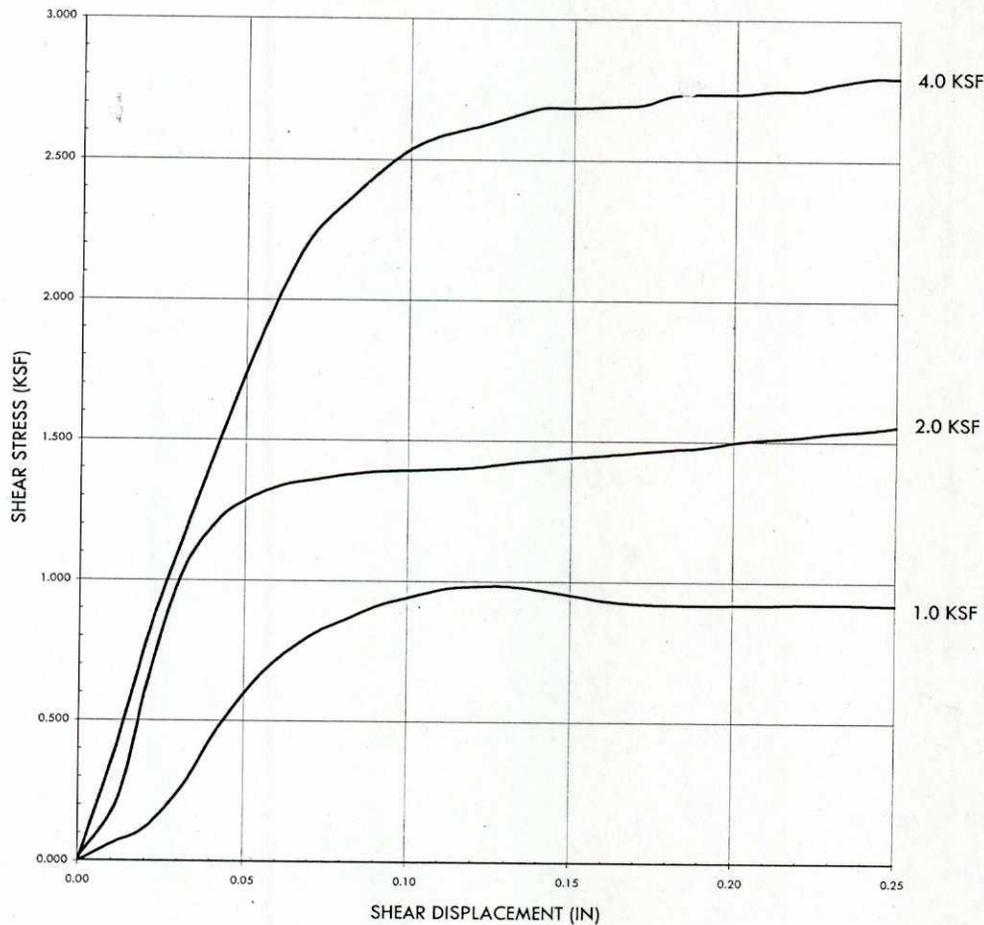


CITY OF LOS ANGELES
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STANDARDS DIVISION, SOILS TESTING LAB
 2319 DORRIS PLACE, LOS ANGELES, CA 90031
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DIRECT SHEAR TEST REPORT (ASTM D 3080)

Project No.:	140-5971
WO No.:	E170171B
Project Title:	LOREN MILLER RECREATION CENTER - Synthetic Soccer Field
Boring No.:	TW-1
Depth, feet:	0-2.5
Date Sampled:	10/17/2013
Diameter, in:	2.847
Soil Description:	Silty clayey sand with some gravel.
Disp. Rate, in/min:	0.002
Dry Density, PCF:	114.4
Initial Moisture, %:	9.9%
Final Moisture, %:	17.1%
Test By:	mnr/egj
Remarks:	Remolded to 90% RC 126.7 pcf @ 9.9% MC (LAB MAX)

SHEAR TEST RESULTS		
NORMAL STRESS, KSF	PEAK SHEAR STRESS, KSF	FINAL SHEAR STRESS, KSF
1	0.98	0.92
2	1.56	1.56
4	2.79	2.79
C =	0.36 ksf	0.30 ksf
TAN Φ =	0.61	0.62
Φ =	31.2°	32.0°

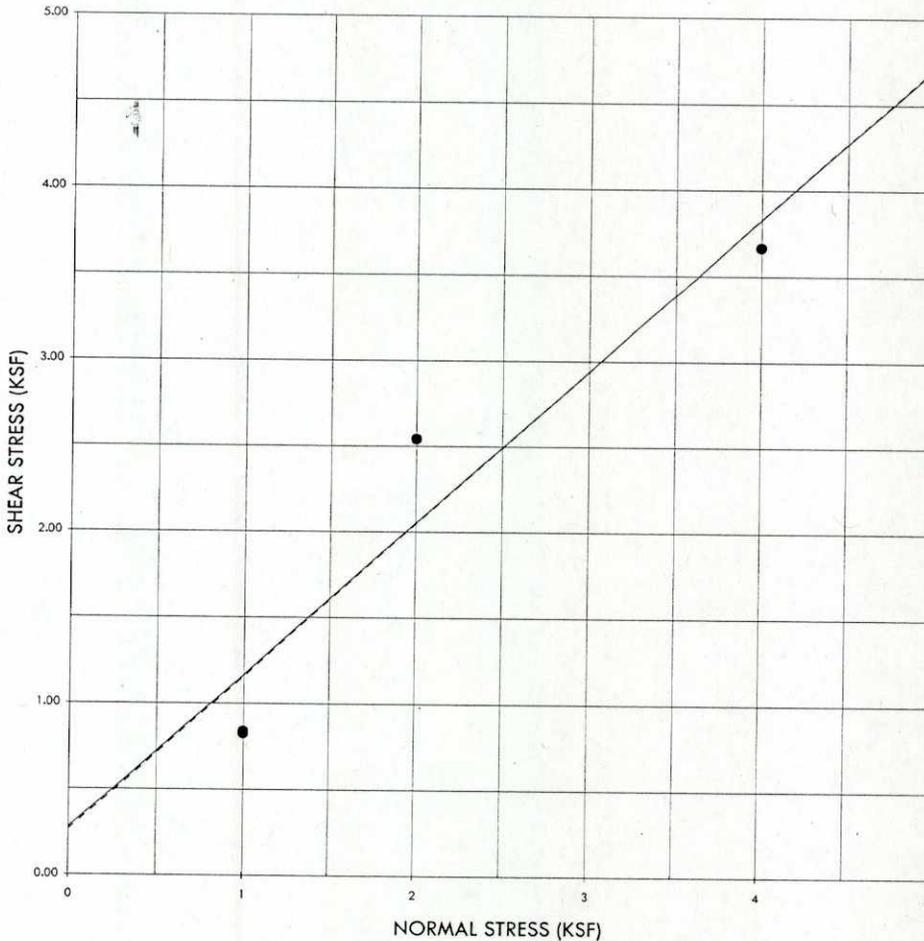


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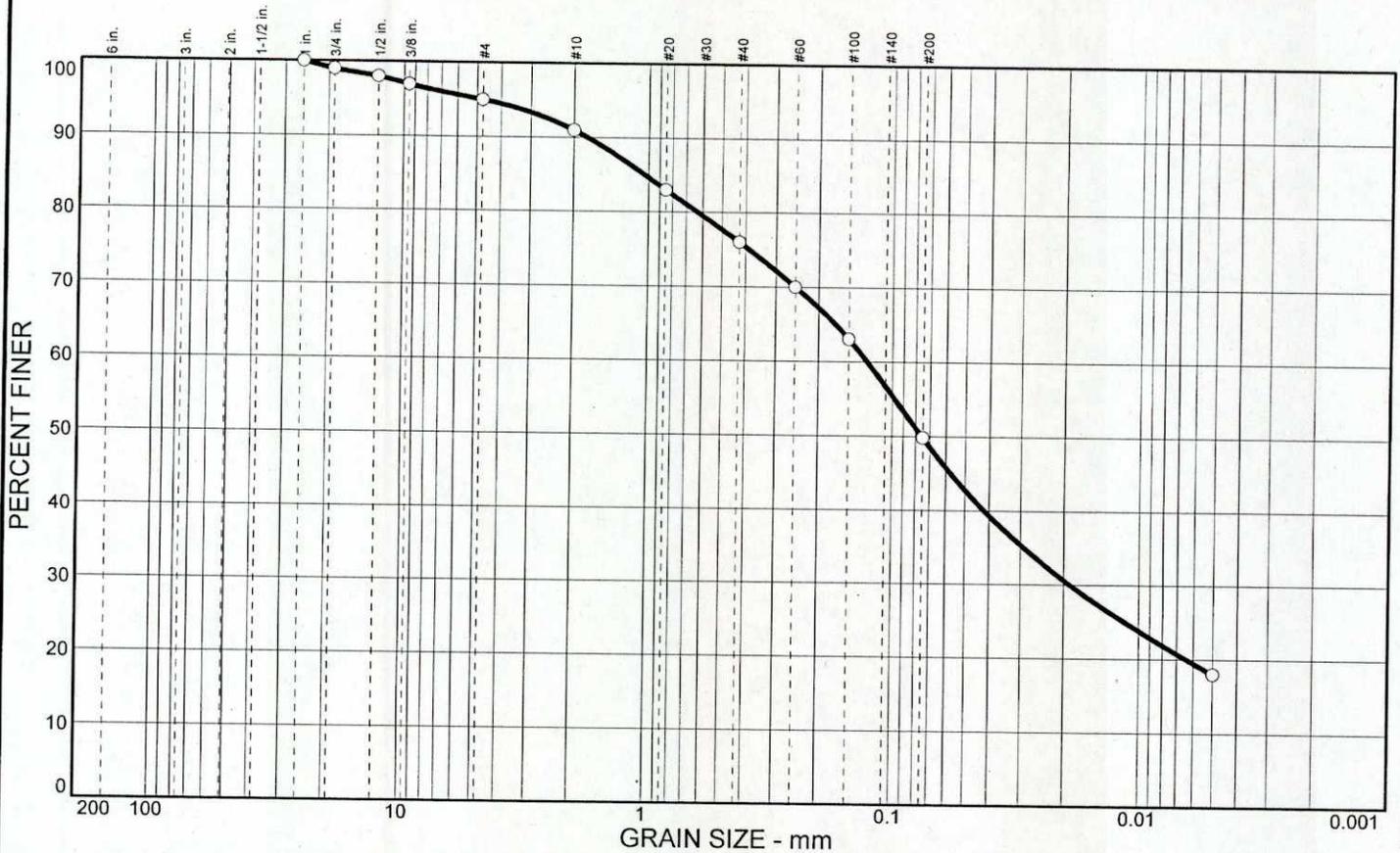
DIRECT SHEAR TEST REPORT (ASTM D 3080)

Project No.:	140-5971
WO No.:	E170171B
Project Title:	LOREN MILLER RECREATION CENTER - Synthetic Soccer Field
Boring No.:	TW-2
Depth, feet:	5
Date Sampled:	10/17/2013
Diameter, in:	2.847
Soil Description:	Silty sand with gravel.
Disp. Rate, in/min:	0.01
Dry Density, PCF:	119.9
Initial Moisture, %:	4.5%
Final Moisture, %:	15.3%
Test By:	mnr/egj
Remarks:	Undisturbed

SHEAR TEST RESULTS		
legend:	—●—	--○--
NORMAL STRESS, KSF	PEAK SHEAR STRESS, KSF	FINAL SHEAR STRESS, KSF
1	0.84	0.83
2	2.54	2.54
4	3.66	3.66
C =	0.28 ksf	0.27 ksf
TAN Φ =	0.89	0.89
Φ =	41.6°	41.7°



STANDARDS DIVISION: Particle Size Distribution Report

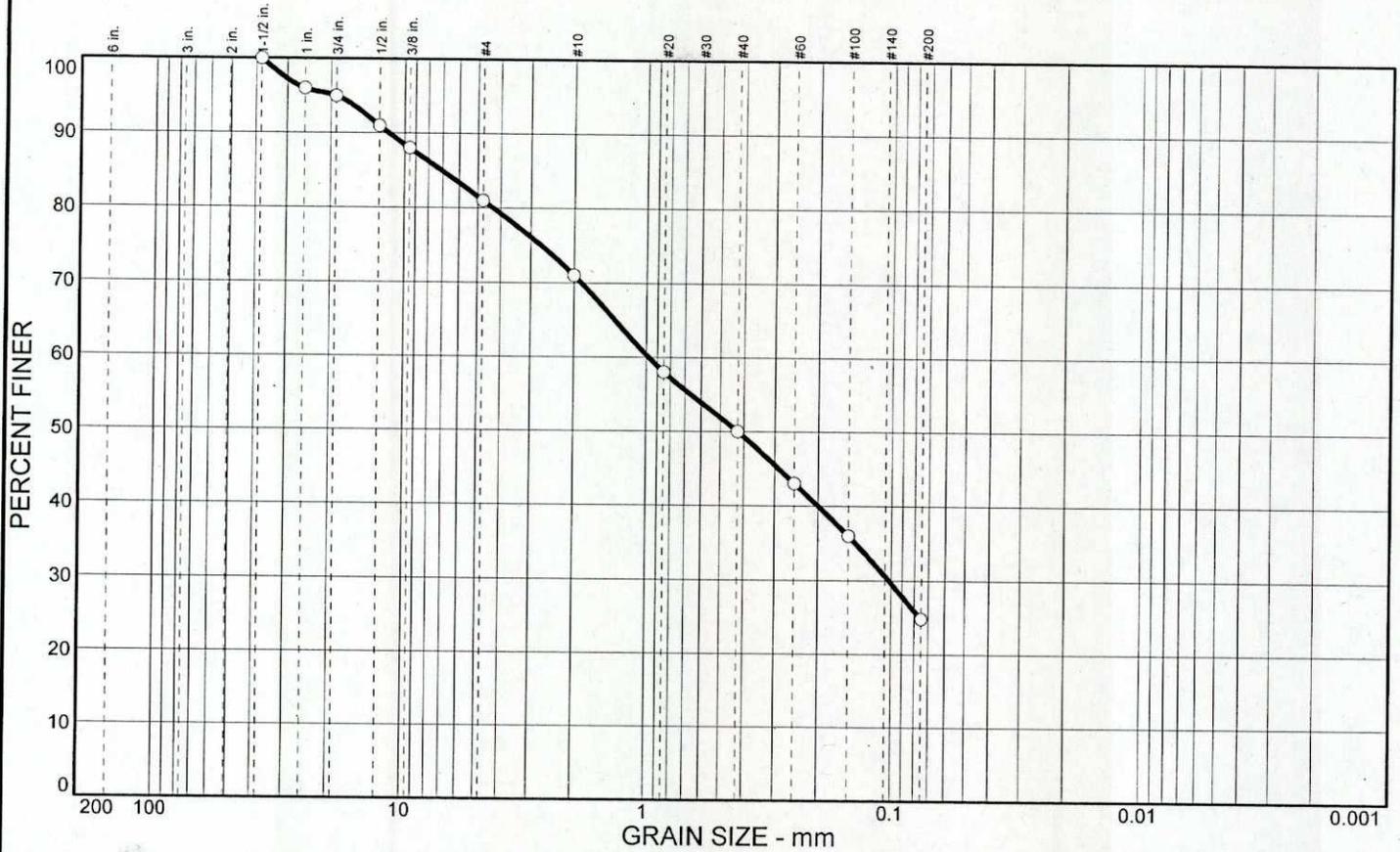


% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY	USCS	AASHTO	PL	LL
	5.0	45.2	31.8	18.0	SC		15	25

SIEVE inches size	PERCENT FINER			SIEVE number size	PERCENT FINER			SOIL DESCRIPTION ○ Clayey sand
	○				○			
1	100.0			#4	95.0			REMARKS: ○ Field moisture (%): 5.7
3/4"	99.0			#10	91.0			
1/2"	98.0			#20	83.0			
3/8"	97.0			#40	76.0			
GRAIN SIZE				#60	70.0			
D ₆₀	0.126			#100	63.0			
D ₃₀	0.0189			#200	49.8			
D ₁₀				COEFFICIENTS				
COEFFICIENTS				C _c				
C _c				C _u				

○ Location: T.H. NO. TW-1 @ 0-2.5 DEPTH

STANDARDS DIVISION: Particle Size Distribution Report



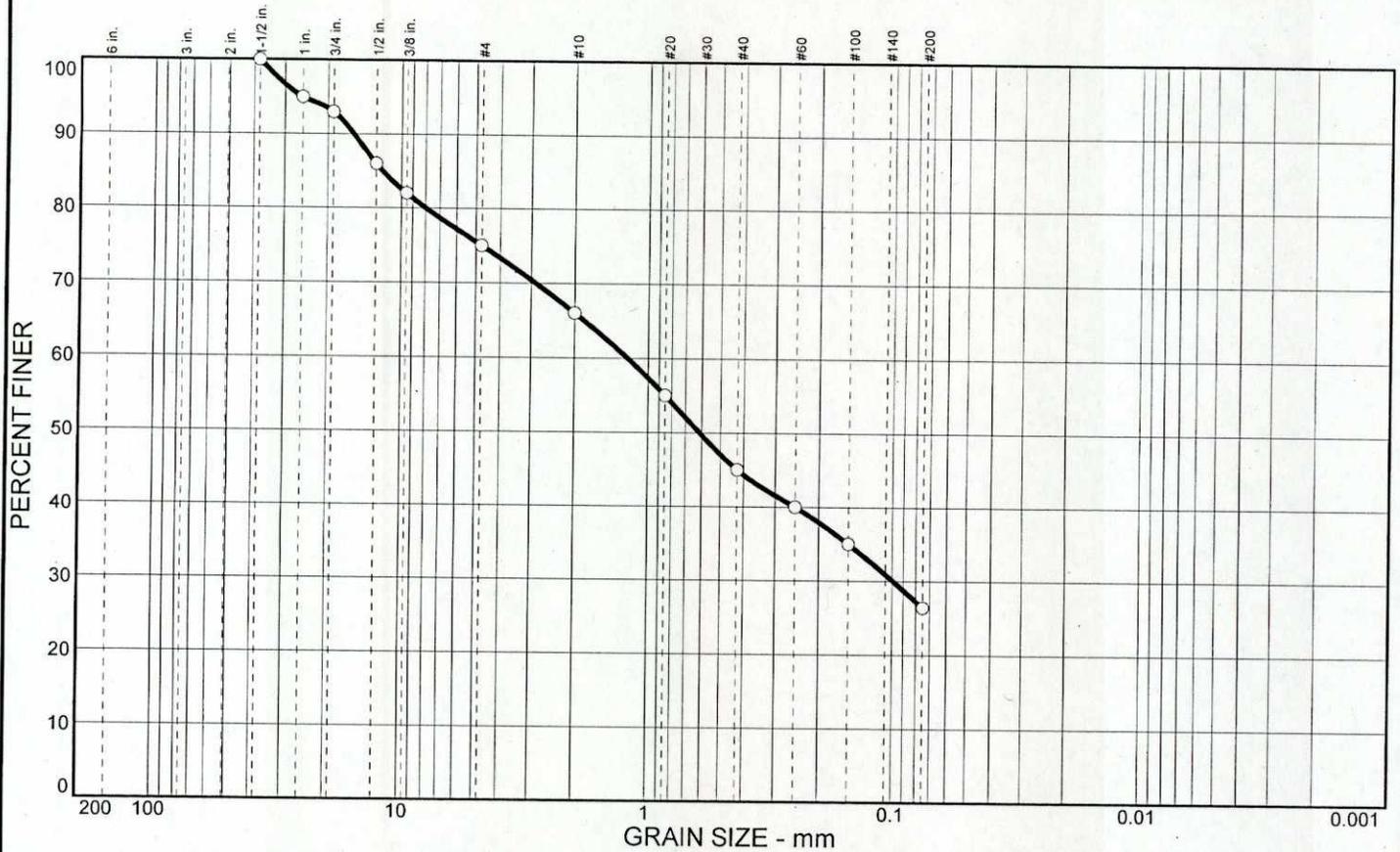
% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY	USCS	AASHTO	PL	LL
	19.0	56.2	24.8		SM		17	20

SIEVE inches size	PERCENT FINER			SIEVE number size	PERCENT FINER			SOIL DESCRIPTION ○ Silty sand with gravel
	○				○			
1-1/2"	100.0			#4	81.0			
1"	96.0			#10	71.0			
3/4"	95.0			#20	58.0			
1/2"	91.0			#40	50.0			
3/8"	88.0			#60	43.0			
				#100	36.0			
				#200	24.8			
GRAIN SIZE								
D ₆₀	0.981							
D ₃₀	0.102							
D ₁₀								
COEFFICIENTS								
C _c								
C _u								
REMARKS:								○

○ Location: T.H. NO. TW-1 @ 5 DEPTH

CITY OF LOS ANGELES - STANDARDS DIVISION	Client: Geotechnical Engineering Group
	Project: LOREN MILLER RECREATION CENTER - Synthetic Soccer Field
	Project No.: E170171B
	Figure 1@5

STANDARDS DIVISION: Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY	USCS	AASHTO	PL	LL
○	25.0	48.6	26.4		SM		16	19

SIEVE inches size	PERCENT FINER		
	○		
1-1/2"	100.0		
1	95.0		
3/4"	93.0		
1/2"	86.0		
3/8"	82.0		
GRAIN SIZE			
D ₆₀	1.22		
D ₃₀	0.0990		
D ₁₀			
COEFFICIENTS			
C _c			
C _u			

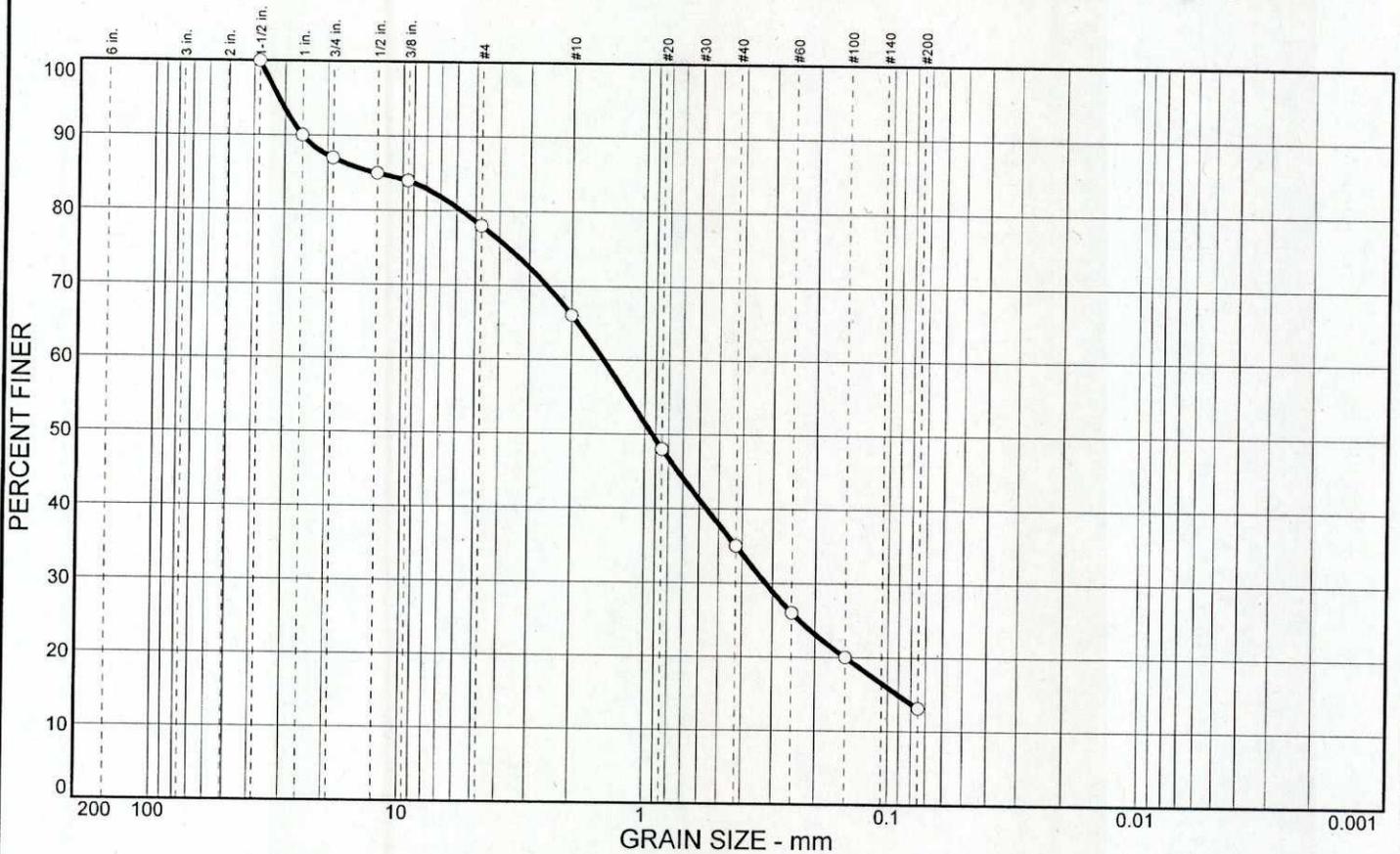
SIEVE number size	PERCENT FINER		
	○		
#4	75.0		
#10	66.0		
#20	55.0		
#40	45.0		
#60	40.0		
#100	35.0		
#200	26.4		

SOIL DESCRIPTION
○ Silty sand with gravel

REMARKS:
○

○ Location: T.H. NO. TW-2 @ 5 DEPTH

STANDARDS DIVISION: Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY	USCS	AASHTO	PL	LL
	22.0	64.9	13.1		SM		NP	NP

SIEVE inches size	PERCENT FINER		
	○		
1-1/2"	100.0		
1	90.0		
3/4"	87.0		
1/2"	85.0		
3/8"	84.0		
GRAIN SIZE			
D60	1.48		
D30	0.321		
D10			
COEFFICIENTS			
Cc			
Cu			

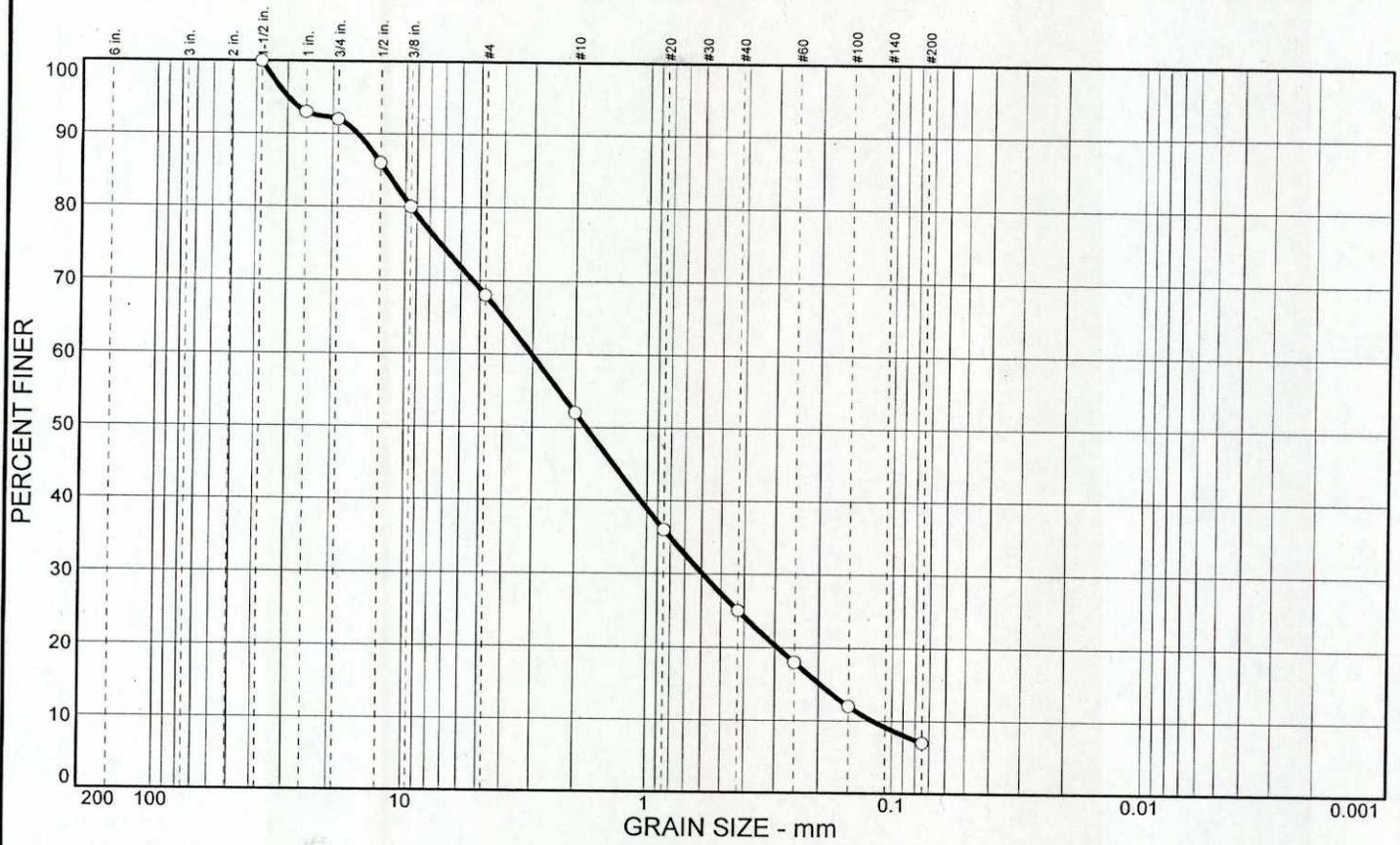
SIEVE number size	PERCENT FINER		
	○		
#4	78.0		
#10	66.0		
#20	48.0		
#40	35.0		
#60	26.0		
#100	20.0		
#200	13.1		

SOIL DESCRIPTION
○ Silty sand with gravel

REMARKS:
○

○ Location: T.H. NO. TW-2 @ 7.5 DEPTH

STANDARDS DIVISION: Particle Size Distribution Report



% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY	USCS	AASHTO	PL	LL
0	32.0	61.0	7.0		SP-SM		NP	NP

SIEVE inches size	PERCENT FINER	
	○	
1-1/2"	100.0	
1	93.0	
3/4"	92.0	
1/2"	86.0	
3/8"	80.0	
GRAIN SIZE		
D ₆₀	3.04	
D ₃₀	0.593	
D ₁₀	0.119	
COEFFICIENTS		
C _c	0.97	
C _u	25.52	

SIEVE number size	PERCENT FINER	
	○	
#4	68.0	
#10	52.0	
#20	36.0	
#40	25.0	
#60	18.0	
#100	12.0	
#200	7.0	

SOIL DESCRIPTION
○ Poorly graded sand with silt and gravel

REMARKS:
○

○ Location: T.H. NO. TW-2 @ 10 DEPTH

PERCOLATION TEST DATA

Project Title: LOREN MILLER RECREATION CENTER - Synthetic Soccer Field

Work Order No.: E170171B

Location ID: TW-1

Date: 11/1/2013

Total Borehole Depth: 78"

Test Personnel: J. Kunesh

Comments: Percolation Zone from 24"-78" depth

(Official Test)

GPS Coordinates: North 34° 01' 48.46"

West 118° 18' 13.92"

Clock Time (hh:mm)	Total Test Time (min)	Increment of Time (min)	Total Cumulative Water added (gallons)	Incremental Water Added (gallons)	Average Incremental Flow Rate (gal/min)
7:50	0	0	0	0	0.000
7:55	5	5	4.88	4.88	0.976
8:00	10	5	10.25	5.37	1.074
8:05	15	5	15.42	5.17	1.034
8:10	20	5	20.60	5.18	1.036
8:15	25	5	25.91	5.31	1.062
8:20	30	5	31.13	5.22	1.044
8:25	35	5	36.44	5.31	1.062
8:30	40	5	41.75	5.31	1.062
8:35	45	5	47.24	5.49	1.098
8:40	50	5	52.86	5.62	1.124
8:45	55	5	58.20	5.34	1.068
8:50	60	5	63.70	5.50	1.100
8:55	65	5	68.88	5.18	1.036
9:00	70	5	74.24	5.36	1.072
9:05	75	5	79.58	5.34	1.068
9:10	80	5	85.00	5.42	1.084
9:15	85	5	90.48	5.48	1.096
9:20	90	5	95.81	5.33	1.066
9:25	95	5	101.30	5.49	1.098
9:30	100	5	106.36	5.06	1.012
9:35	105	5	111.60	5.24	1.048
9:40	110	5	116.76	5.16	1.032
9:45	115	5	121.84	5.08	1.016
9:50	120	5	126.97	5.13	1.026
9:55	125	5	132.08	5.11	1.022
10:00	130	5	137.26	5.18	1.036
10:05	135	5	142.44	5.18	1.036
10:10	140	5	147.51	5.07	1.014
10:15	145	5	152.64	5.13	1.026
10:20	150	5	157.66	5.02	1.004
10:25	155	5	162.93	5.27	1.054
10:30	160	5	168.20	5.27	1.054
10:35	165	5	173.28	5.08	1.016

PERCOLATION TEST DATA

Project Title: LOREN MILLER RECREATION CENTER - Synthetic Soccer Field Work Order No.: E170171B
 Location ID: TW-1 Total Borehole Depth: 78"
 Comments: Percolation Zone from 24"-78" depth
(Official Test)
 GPS Coordinates: North 34° 01' 48.46" West 118° 18' 13.92"

Clock Time (hh:mm)	Total Test Time (min)	Increment of Time (min)	Total Cumulative Water added (gallons)	Incremental Water Added (gallons)	Average Incremental Flow Rate (gal/min)
10:40	170	5	178.37	5.09	1.018
10:45	175	5	183.40	5.03	1.006
10:50	180	5	188.52	5.12	1.024
11:00	190	10	198.98	10.46	1.046
11:10	200	10	209.40	10.42	1.042
11:20	210	10	219.70	10.30	1.030
11:30	220	10	229.90	10.20	1.020
11:40	230	10	240.04	10.14	1.014
11:50	240	10	250.10	10.06	1.006
12:00	250	10	260.44	10.34	1.034
12:10	260	10	270.33	9.89	0.989
12:20	270	10	280.12	9.79	0.979
12:30	280	10	289.92	9.80	0.980
12:40	290	10	299.56	9.64	0.964
12:50	300	10	309.32	9.76	0.976
13:00	310	10	319.01	9.69	0.969
13:10	320	10	328.80	9.79	0.979
13:20	330	10	338.38	9.58	0.958
13:30	340	10	348.19	9.81	0.981
13:40	350	10	358.00	9.81	0.981
13:50	360	10	367.70	9.70	0.970
14:05	375	15	381.65	13.95	0.930
14:20	390	15	396.41	14.76	0.984
14:35	405	15	411.30	14.89	0.993
14:50	420	15	425.93	14.63	0.975
15:05	435	15	440.51	14.58	0.972
15:20	450	15	454.61	14.10	0.940
15:35	465	15	468.71	14.10	0.940
15:50	480	15	482.91	14.20	0.947

END OF TEST

Notes:

- a) 6 Gallons of water added prior to test period - establish head 12" below ground surface
- b) Diameter of percolation zone - 9 inches

PERCOLATION TEST DATA

Project Title: LOREN MILLER RECREATION CENTER - Synthetic Soccer Field
 Work Order No.: E170171B

Location ID: TW-2
 Total Borehole Depth: 138"

Date: 11/15/2013
 Test Personnel: J. Kunesch

Comments: Percolation Zone from 24"-138" depth
(Official Test)

GPS Coordinates: North 34° 01' 48.05" West 118° 18' 12.54"

Clock Time (hh:mm)	Total Test Time (min)	Increment of Time (min)	Total Cumulative Water added (gallons)	Incremental Water Added (gallons)	Average Incremental Flow Rate (gal/min)
7:25	0	0	0	0	0.000
7:30	5	5	66.50	66.50	13.300
7:35	10	5	133.10	66.60	13.320
7:40	15	5	199.50	66.40	13.280
7:45	20	5	264.30	64.80	12.960
7:50	25	5	329.10	64.80	12.960
7:55	30	5	392.30	63.20	12.640
8:00	35	5	456.00	63.70	12.740
8:05	40	5	518.10	62.10	12.420
8:10	45	5	579.20	61.10	12.220
8:15	50	5	640.00	60.80	12.160
8:20	55	5	701.00	61.00	12.200
8:25	60	5	761.00	60.00	12.000
8:30	65	5	821.00	60.00	12.000
8:35	70	5	880.50	59.50	11.900
8:40	75	5	940.00	59.50	11.900
8:45	80	5	999.30	59.30	11.860
8:50	85	5	1057.00	57.70	11.540
8:55	90	5	1115.00	58.00	11.600
9:00	95	5	1173.10	58.10	11.620
9:05	100	5	1229.70	56.60	11.320
9:10	105	5	1286.70	57.00	11.400
9:15	110	5	1343.60	56.90	11.380
9:20	115	5	1400.50	56.90	11.380
9:25	120	5	1457.80	57.30	11.460
9:30	125	5	1514.80	57.00	11.400
9:35	130	5	1571.90	57.10	11.420
9:40	135	5	1629.00	57.10	11.420
9:45	140	5	1686.40	57.40	11.480
9:50	145	5	1743.00	56.60	11.320
9:55	150	5	1798.30	55.30	11.060
10:00	155	5	1855.00	56.70	11.340
10:05	160	5	1910.80	55.80	11.160
10:10	165	5	1966.70	55.90	11.180

PERCOLATION TEST DATA

Project Title: LOREN MILLER RECREATION CENTER - Synthetic Soccer Field Work Order No.: E170171B
 Location ID: TW-2 Total Borehole Depth: 138"
 Comments: Percolation Zone from 24"-138" depth
(Official Test)
 GPS Coordinates: North 34° 01' 48.05" West 118° 18' 12.54"

Clock Time	Total Test Time	Increment of Time	Total Cumulative Water added	Incremental Water Added	Average Incremental Flow Rate
(hh:mm)	(min)	(min)	(gallons)	(gallons)	(gal/min)
10:15	170	5	2022.60	55.90	11.180
10:20	175	5	2078.60	56.00	11.200
10:25	180	5	2134.20	55.60	11.120
10:35	190	10	2245.70	111.50	11.150
10:45	200	10	2355.90	110.20	11.020
10:55	210	10	2467.70	111.80	11.180
11:05	220	10	2579.60	111.90	11.190
11:15	230	10	2691.30	111.70	11.170
11:25	240	10	2802.00	110.70	11.070
11:35	250	10	2912.00	110.00	11.000
11:45	260	10	3022.50	110.50	11.050
11:55	270	10	3132.10	109.60	10.960
12:05	280	10	3242.10	110.00	11.000
12:15	290	10	3352.10	110.00	11.000
12:25	300	10	3462.10	110.00	11.000
12:35	310	10	3570.50	108.40	10.840
12:45	320	10	3678.90	108.40	10.840
12:55	330	10	3786.40	107.50	10.750
13:05	340	10	3893.50	107.10	10.710
13:15	350	10	4000.10	106.60	10.660
13:25	360	10	4106.00	105.90	10.590
13:40	375	15	4262.00	156.00	10.400
13:55	390	15	4418.00	156.00	10.400
14:10	405	15	4574.30	156.30	10.420
14:25	420	15	4730.80	156.50	10.433
14:40	435	15	4885.70	154.90	10.327
14:55	450	15	5039.00	153.30	10.220
15:10	465	15	5191.60	152.60	10.173
15:25	480	15	5344.00	152.40	10.160

END OF TEST

Notes:

- 192 Gallons of water added prior to test period - establish head 12" below ground surface
- Diameter of percolation zone - 9 inches

TEST BORING DATA

Job Title: Loren Miller Recreation Center - Synthetic Soccer Field Work Order No: E170171B

Test Boring No.	TW-1			TW-2			
	0-2.5	2.5	5	2.5	5	7.5	10
Sample Depth, ft.				2.5	5	7.5	10
In Place Dry Density, pcf		118.9	120.9	120.4	119.9	127.7	128.4
Field Moisture, %	5.7	13.5	6.5	3.9	4.5	2.5	2.8
Lab Max Dry Density, pcf	126.7						
Lab Optimum Moisture, %	9.9						
Expansion Index, EI	5.0						
Mechanical Analysis (% passing)							
1 1/2"	100		100		100	100	100
3/4"	99		95		93	87	92
No. 4	95		81		75	78	68
No. 10	91		71		66	66	52
No. 20	83		58		55	48	36
No. 40	76		50		45	35	25
No. 60	70		43		40	26	18
No. 100	63		36		35	20	12
No. 200	49.8		24.8		26.4	13.1	7.0
5 μ (micron), %	18						
Liquid Limit, %	25		20		19	NP	NP
Plasticity Index, %	10		3		3	NP	NP