

BOARD REP	PORT			NO	24-004	
DATE	January 04, 2024	_		C.D	1	
BOARD OF I	RECREATION AND P	ARK COMMIS	SIONERS			
SUBJECT:	RIO DE LOS IMPROVEMENTS (APPROVAL OF FI EXEMPTION FRO ENVIRONMENTAL GUIDELINES ARTIO STREETS, SIDEWA AND SIMILAR FAC STRUCTURES AND LOCATED ON THE SUBSTANTIALLY TO GARDENING OR EXISTING CONVENTIBLE FIRE RESISTANT L CLASS 2 AND CLAS	PRJ21462) (PNAL PLANS ADM THE IQUALITY ACTIONS AND SCAPING AND SCAPING)	RJ21447) (W.O. #I AND CALL FOR I PROVISIONS OF T (CEQA) PURSUA TION 15301(c) [EXIS RS, BICYCLE AND TION 15302 [REPLA WHERE THE NEW S THE STRUCTURE URPOSE] AND SE G, INCLUDING TH DSCAPING WITH I	E1908950 BIDS - (THE ANT TO STING HIG PEDEST ACEMENT STRUCT EREPLACECTION 1 HE REPLACECTION 1 WATER E	PROJECT CATEGORICA CALIFORNIA STATE CEQA GHWAYS ANI RIAN TRAILS OF EXISTING URE WILL BI ED AND HAVI 5304(b) [NEV ACEMENT OF EFFICIENT OF 1, CLASS 1(3)	
B. Aguirre B. Jones B. Jackson	M. Rudnick for *C. Santo Domi N. Williams	ngo DF				
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Approved	X With Corrections	Disapproved		Withdr	awn	_

RECOMMENDATIONS

- 1. Approve the final plans and specifications, substantially in the form on file with the Board of Recreation and Park Commissioners (Board) Office and as attached to this Report (Attachment 1), for the Rio De Los Angeles State Park Fields Maintenance Improvements (PRJ21462) (PRJ21447) (W.O. #E1908950) project (Project);
- 2. Approve the date to be advertised for receipt of bids as Monday, February 26, 2024 at 2:00 P.M. in the Board Office;
- 3. Approve the removal of one Western Sycamore tree located on the proposed site of the Project in Rio De Los Angeles State Park, and installation of replacement trees, as described in the Summary of this Report and in accordance with the RAP Tree Preservation Policy and Urban Forest Program, as may be amended;

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- 4. Determine that the Project is categorically exempt from the provisions of the California Environmental Quality Act (CEQA) pursuant to state CEQA Guidelines Article 19, Section 15301(c) [Existing highways and streets, sidewalks, gutters, bicycle and pedestrian trails, and similar facilities], Section 15302 [Replacement of existing structures and facilities where the new structure will be located on the same site as the structure replaced and have substantially the same purpose] and Section 15304(b) [New gardening or landscaping, including the replacement of existing conventional landscaping with water efficient or fire resistant landscaping] as well as Article III, Section 1, Class 1(3), Class 2 and Class 4(3) of the Los Angeles CEQA Guidelines and request that Bureau of Engineering staff file a Notice of Exemption (NOE) with the Los Angeles County Clerk; and.
- 5. Authorize RAP's Chief Accounting Employee or Designee to make technical corrections as necessary to carry out the intent of this Report.

SUMMARY

Submitted for the Board's approval are the final plans and specifications for the Rio De Los Angeles State Park Fields Maintenance Improvements (PRJ21462) (PRJ21447) (W.O. #E1908950) project (Project) located at 1900 West San Fernando Road, Los Angeles, 90039. The plans and specifications were prepared by the Department of Public Works, Bureau of Engineering (BOE), Architectural Division (Attachment No. 1).

Rio De Los Angeles State Park is located in the Greater Cypress Park Neighborhood Council and adjacent to Glassell Park Neighborhood Council in Council District No. 1. Rio De Los Angeles State Park is located on California Department of State Parks Land. The existing active recreation portions of the park were opened on April 21, 2007. The construction of the active recreation area project was managed and designed by the BOE, and those areas of the park are operated and maintained by RAP through a lease to the California Department of State Parks. California Department of State Parks operates and maintains the conservation area of the park.

PROJECT SCOPE

The Project encompasses improvements to three existing fields, restrooms, parking area and amenities at Rio De Los Angeles State Park in order to meet requests of the community, the latest RAP standards, Los Angeles Department of Building Safety (LADBS) Building Code, and the American with Disabilities Act (ADA) requirements.

The project scope provides improvements to the existing fields and amenities including:

- 1. Replacement of two (2) existing natural turf soccer fields at the same location & size with a slight dimensional change, with two (2) synthetic multipurpose fields
- 2. Renovate one (1) natural turf soccer field
- 3. Addition of LED sports field lighting for all three (3) fields, one (1) field has existing sports field lighting

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- 4. Demolition the existing restroom building and replace it with new prefab restroom building at the same location
- 5. Improvement of picnic areas and addition of prefab shade structures
- 6. New ADA walking pathways and access
- 7. Improved security lighting for the walking path parking area and add cameras
- 8. Parking lot renovations
- 9. Improved landscaping and additional shade trees

The Project includes a Project Labor Agreement.

This Project also includes approximately \$10,000 of landscaping work that will be performed by the Los Angeles Conservation Corps per the terms of one of the State Grant Funding Sources.

Community Outreach

This Project was developed based on direct community request and support. When the City began meeting with the community in 2018 about the new natural park at Taylor Yard G2, the community brought up the current issues with the conditions of the three natural turf soccer fields and restrooms at Rio de Los Angeles State Park. The scope of this Project was based on that initial request and then developed with community input and user feedback from five community meetings attended by a total of 472 individuals that were held in 2019 (5/02, 5/10, 6/1, 6/13, and 6/27) at Rio de Los Angeles State Park for a Prop 68 grant that was unsuccessful. After the initial grant was not successful the City, State and Partners helped identify other funding sources.

The final Project design was based on the Prop 68 public meetings and an additional virtual Community Meeting on April 13, 2022, and a final community open house on January 28, 2023. RAP posted signs at the park and shared information with all the youth and adult sports vendors that use the fields. City staff has also shared the meeting information through our 100 Acre-Partnership group that distributes a newsletter for the surrounding community and we have also emailed the three Neighborhood Councils. In addition, the Project scope and information were shared with the public at the Taylor Yard Paseo del Rio community meetings held on August 13, 2022 and August 5, 2023 at Rio de Los Angeles State Park.

PROJECT FUNDING

The City Engineer's estimate for the Project's construction cost is Seven Million Five Hundred Ninety-Five Thousand, Eight Hundred and Thirty-Two Dollars (\$7,595,832.00). The budgeted amount for construction contingency is Two Million Seven Hundred Fifty Seven Thousand, Two Hundred and Forty Nine dollars, and Seventy Nine Cents (\$2,757,249.79).

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Funds are currently available from the following funds and accounts:

Funding Source	Fund/Dept./Acct. No.	Amount	
State Specified Grant	205/89/89WRKP	\$4,750,000.00	
State Grant LOSPP	205/89/89WRKN	\$990,000.00	
Quimby	302/89/89460K-AZ	\$97,477.79	
Park Fees	302/89/89716H	\$1,631,715.00	
Park Fees	302/89/89718H	\$308,889.00	
RAP Budget Deferred Maint.	302/89/89727H-RI	\$1,545,000.00	
RAP Budget Deferred Maint.	302/89/89727H-RO	\$1,030,000.00	
	TOTAL	\$10,353,081.79	

TREES AND SHADE

The landscaping design for the Project requires the removal of one existing (14" diameter) Western sycamore (*Platanus racemose*) species tree that intrudes into the walking path area, and the installation of 31 new trees. The new trees to be planted include five (5) 36-inch box Fraxinus veluntina, fan-tex ash; ten (10) 24-inch box Quercus agrifolia, coast live oak; nine (9) 24-inch box Quercus engelmannii, Engelmann oak; and seven (7) five-gallon Juglans californica, southern California walnut.

The Western Sycamore is a protected tree under the City's Protected Tree Ordinance and as a tree greater than 10" in diameter requires replacement according to a 1:1 diameter at dbh ratio that can be achieved through one or more trees. The ten (10) 24-inch box coast live oak; nine (9) 24-inch box Engelmann oak; and seven (7) five-gallon southern California walnut trees will achieve and exceed this replacement requirement to comply with the City's Protected Tree Ordinance. RAP's tree preservation policy mandates that all protected trees that are removed must be replaced with species that are protected. The replacement trees listed above are all protected species. RAP Forestry Division has reviewed the proposed tree removal and the proposed replacement tree planting plan and concurs with the recommendation to remove the tree and the proposed planting of the replacement trees.

Approximately five hundred eighty (580) square feet of tree canopy is proposed to be removed (not including dying or invasive trees), and approximately five thousand one hundred twenty (5,120) square feet of tree canopy is projected to be provided by the new trees after five (5) years, assuming a survival rate of 75 percent.

In addition to the new proposed shade trees, new shade structures for the picnic area and bleachers will provide 3,193 square feet of shade.

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ENVIRONMENTAL IMPACT

The proposed Project consists of maintenance, and minor alteration of existing highways and streets, sidewalks, gutters, bicycle and pedestrian trails, and similar facilities; replacement of existing structures and facilities where the new structure will be located on the same site as the structure replaced and have substantially the same purpose and capacity and new gardening or landscaping.

The use of the Categorical Exemptions was evaluated and found not to be limited by State CEQA Guidelines (CCR Sec 15300.2) as detailed below.

According to the parcel profile report retrieved on November 15, this area resides in a liquefaction zone. The construction of this Project will not create conditions that could lead to liquefaction. This site is not within a coastal, methane, or historic zone. Least Bell's vireo (Vireo bellii pusillus) (LBV) is known to occur adjacent to the Project site. This Project has been designed in consultation with the US Fish and Wildlife Service (USFWS) and the California Department of Fish and Wildlife (CDFW) to avoid impacts to this species from construction noise and implement construction under a no-take plan. The soil on the Project site was previously part of the Union Pacific Railyard and contaminated but was cleaned to residential standards under the oversight of the Department of Toxic Substances Control (DTSC) when the park was originally developed. In addition, potential significant effects due to hazards and hazardous materials were previously evaluated for the construction of the Park (State Parks, 2004). As such, there is no reasonable possibility that the proposed Project may impact on an environmental resource of hazardous or critical concern or have a significant effect due to unusual circumstances.

No cumulative impacts are expected from this Project. As identified on the 100-Acre Partnership's website (https://www.100acrepartnership.org/projects) several projects in the vicinity at the nearby and adjacent G1 and G2 Parcels are in the planning stages, such as the Bowtie Demonstration Project (2.5 acres), Bowtie G1 Project (18 acres), Paseo del Rio Project at Taylor Yard (approximately 16 acres). These projects are focused on habitat creation and restoration and passive recreation and will be constructed after implementation of the proposed Project.

As of November 15, 2023, the State Department of Toxic Substances Control (DTSC) (Envirostor at www.envirostor.dtsc.ca.gov) and the State Water Resources Control Board (SWCB) (Geotracker at https://geotracker.waterboards.ca.gov/) have not listed the Project site. They have listed RB Case # 112.6020 and case 3 19470006 near the Project area (within 1,000 feet). The first was a plating operation, investigated by the Regional Water Quality Control Board (RWQCB) in March 2004. RWQCB closed the case with no further action inn May 2004. The second is one of the sections of the Union Pacific Taylor Yard, that is currently undergoing remediation. These sites are not anticipated to represent an environmental concern in connection with the Project.

The According to the Caltrans Scenic Highway Map there is no scenic highway located within the vicinity of the proposed Project or within its site. Furthermore, the proposed Project is not located in proximity of a known historical resources and will not cause a substantial adverse change in the significance of any historical resource.

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Based in this information, RAP staff recommends that the Board determines that it is categorically exempt from the provisions of the California Environmental Quality Act (CEQA) pursuant to Article 19, Sections 15301(c), 15302 and 15304(b) of California CEQA Guidelines and Article III, Section 1, Class 1(3), Class 2 and Class 4(3) of City CEQA Guidelines. Staff will file a Notice of Exemption with the Los Angeles County Clerk upon Board's approval.

FISCAL IMPACT

The Project will be funded by a combination of the aforementioned funding sources. There is no immediate fiscal impact to RAP's General Fund at this time. However, operations and maintenance costs will be evaluated and included in future RAP budget requests.

The City's liability under the contract resulting from this bid process shall only extend to the present City appropriation to fund the contract. However, if the City appropriates additional funds for any succeeding years, the City's liability shall be extended to the extent of such appropriation, subject to the terms and conditions of the contract.

STRATEGIC PLAN INITIATIVES AND GOALS

Approval of this Board Report advances RAP's Strategic Plan by supporting:

Goal No. 3: Create and Maintain World Class Parks and Facilities **Outcome No. 2**: Long-term park system planning is guided by community engagement, data, and a commitment to equity.

Key Metric: Complete capital improvement plan.

Target: 60% by 2023

This Report was prepared by Edward Belden, Project Manager, BOE Clean Water Division; Reviewed by Luz Rabelo, Civil Engineer, Christopher Johnson, Principal Civil Engineer, BOE Clean Water Division, Ohaji Abdallah, Proposition K Program Manager, BOE Architectural Division; and Darryl Ford, Superintendent, Planning, Construction and Maintenance Branch, Department of Recreation and Parks.

LIST OF ATTACHMENTS

Attachment No. 1 – Final Plans and Specifications Attachment No. 2 – CEQA Notice of Exemption

SCOPE OF WORK

DEMOLITION AND REMOVAL OF EXISTING RESTROOM, CONCRETE PAVING, FENCING, BLEACHERS, TURF FIELDS, AND ADDITIONAL ELEMENTS AS NOTED.

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INSTALL:

(2) NEW SYNTHETIC TURF SPORTS FIELDS

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RENOVATE (1) EXISTING NATURAL TURF FIELD INSTALL NEW CHAIN LINK FENCING

INSTALL PARKING LOT ASPHALT PAVING AND STRIPING (99 TOTAL STALLS [4 ADA STALLS]), AND INSTALL NEW PERMEABLE PAVERS

INSTALL NEW RESTROOM FACILITY AND ASSOCIATED CONCRETE PAVING, PICNIC TABLES, SHADE STRUCTURES, ALUMINUM BLEACHERS, WALKING PATH, OTHER MISCELLANEOUS AMENITIES.

UPGRADE AND EXTEND EXISTING SPORTSFIELD AND SECURITY LIGHTING AND SECURITY CAMERAS WITHIN THE AREA OF WORK.

INSTALL NEW IRRIGATION, AND MAKE MODIFICATIONS TO THE EXISTING SYSTEM.

BID ALTERNATE LEGEND

INSTALL NEW TURF FIELD AND CONTAINER PLANTING

THE FOLLOWING ITEMS SHALL BE BID AS ADDITIVE ALTERNATES PER INSTRUCTIONS TO BIDDERS - SEE PLANS AND NOTES FOR

DETAILED DESCRIPTION OF THE WORK TO BE INCLUDED IN EACH BID.

RENOVATE EXISTING DECOMPOSED GRANITE PAVING: REMOVE 2' OF MATERIAL FROM SURFACE, AND INSTALL NEW 'ORGANIC LOCK' DECOMPOSED GRANITE MATERIAL TO CORRECT FINISH GRADE AND PROFILE PER DETAIL E9/L407. EXISTING CONCRETE EDGING SHALL BE PROTECTED IN PLACE.

ADDRESSES/LEGAL DESCRIPTION

1900 W SAN FERNANDO ROAD, LOS ANGELES, CA 90039

1545 N SAN FERNANDO ROAD, LOS ANGELES, CA 90039 1555 N SAN FERNANDO ROAD, LOS ANGELES, CA 90039

1559 N SAN FERNANDO ROAD, LOS ANGELES, CA 90039

PROPERTY BOUNDARY DESCRIPTION

POR LOTS 2 AND 7 M B 147-22-26 AND POR J.D.HUNTER 2290.16 AC C.F.61

APNs: 5442002911

PINs: 147A215-1, 147A215-1051, 147A217-363, 147A217-365

ZONING: [Q]CM-1-CDO-RIO, [Q]M2-1-CDO-RIO

OWNER

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STATE OF CALIFORNIA - DEPARTMENT OF PARKS AND RECREATION 1925 LAS VIRGENES RD CALABASAS, CA 91302

LEASEE: CITY OF LOS ANGELES DEPARTMENT OF RECREATION & PARKS 1200 W. 7TH STREET, 4TH FLOOR

GENERAL NOTES

LOS ANGELES, CA 90017

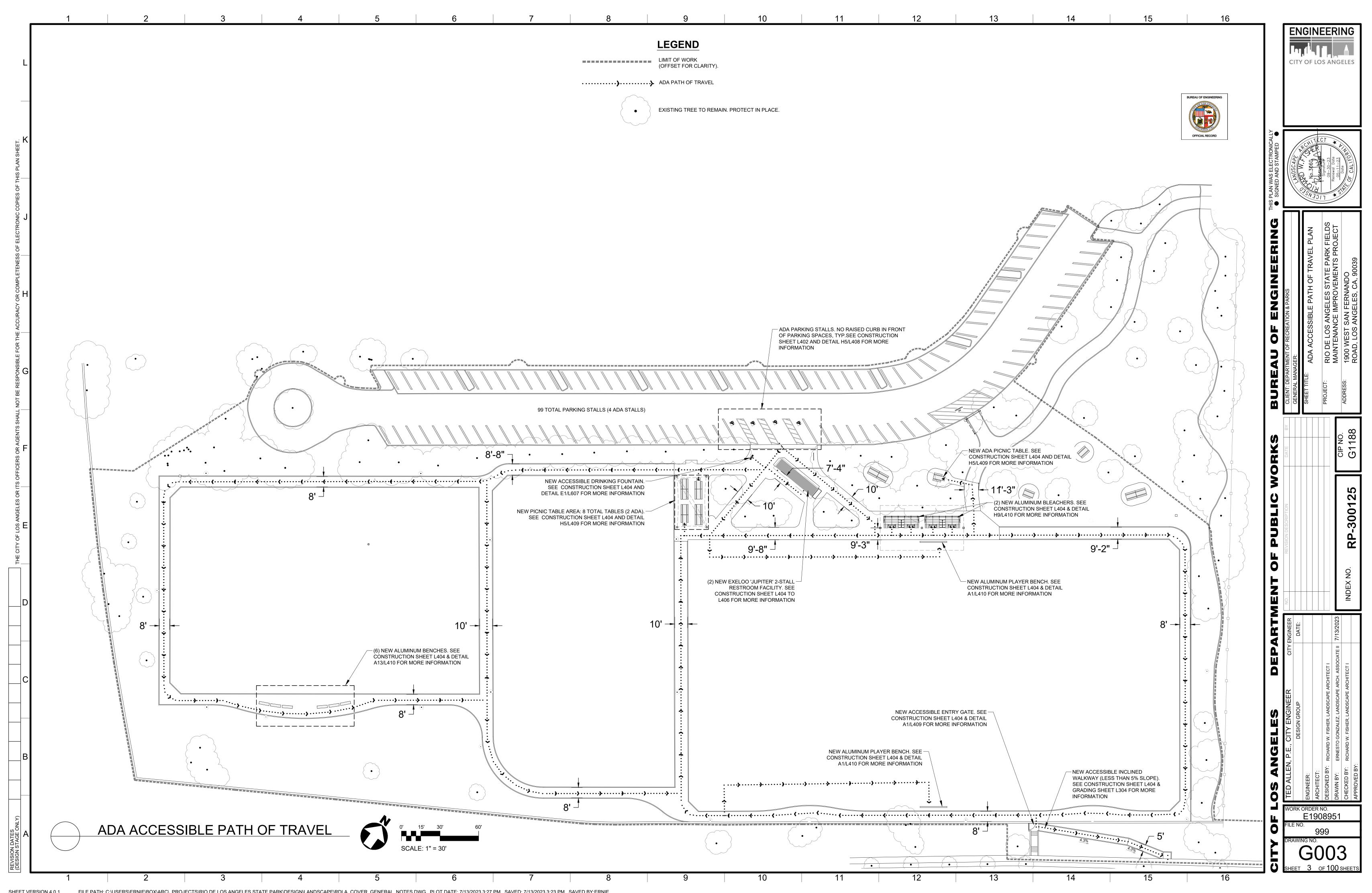
- 1. THIS IMPROVEMENT CONSISTS ONLY OF WORK CALLED FOR ON THESE CONTRACT DOCUMENTS.
- 2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING AND PAYING FOR ALL NECESSARY PERMITS. CONTRACTORS SHALL BE REIMBURSED BY THE CITY FOR PERMIT FEES.WHEN REQUIRED, "READY TO ISSUE" PERMIT PLANS SHALL BE PROVIDED BY THE CITY.
- 3. THE GENERAL CONDITIONS AND GENERAL REQUIREMENTS, THE LATEST EDITION AND SUPPLEMENTS OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION LATEST EDITION WITH CURRENT YEARLY SUPPLEMENTS, 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
- 4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING A MINIMUM 6' HIGH TEMPORARY CHAINLINK CONSTRUCTION FENCE WITH LOCKABLE GATES AROUND ALL CONSTRUCTION AREAS. CONTRACTOR SHALL REVIEW ALIGNMENT AND LOCATION OF CONSTRUCTION FENCING WITH PROJECT MANAGER FOR APPROVAL PRIOR TO INSTALLATION. CONTRACTOR SHALL KEEP FENCING IN PLACE UNTIL CITY'S FINAL ACCEPTANCE OF THE WORK AFTER COMPLETION OF ESTABLISHMENT AND MAINTENANCE PERIOD. SEE GENERAL REQUIREMENTS.
- 5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR EXAMINING AND DOCUMENTING THE SITE PRIOR TO MOBILIZATION AND THE BEGINNING OF CONSTRUCTION. ANY EXISTING ELEMENTS TO BE PROTECTED IN PLACE, WHICH SHOW ANY TYPE OF DAMAGE (E.G. CRACKED CONCRETE, DAMAGE TO TREES, ETC.), SHOULD BE DOCUMENTED AND BROUGHT TO THE ATTENTION OF THE PROJECT MANAGER. SEE GENERAL REQUIREMENT.
- 6. THE CONTRACTOR SHALL BE RESPONSIBLE TO REDUCE CONSTRUCTION WASTE IN ACCORDANCE WITH LAMC SECTION 66.32 et seq. THE CONTRACTOR SHALL INDICATE THAT CONSTRUCTION WASTE WILL BE HANDLED BY (A) CITY OF LOS ANGELES CERTIFIED HAULER, OR (B) SOURCE SEPARATED ON SITE (INCORPORATE WASTE MANAGEMENT PLAN ONTO PLANS).
- 7. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTION OF ALL EXISTING TREES TO REMAIN DURING CONSTRUCTION. SEE TREE PROTECTION REQUIREMENTS HEREIN.
- 8. THE EXISTING CONDITIONS SHOWN ON THE PLANS ARE BASED UPON AS-BUILT DRAWINGS AND FIELD SURVEY. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPORT ANY SUB-SURFACE OR PHYSICAL CONDITIONS ENCOUNTERED WHICH THE CONTRACTOR BELIEVES, OR SHOULD HAVE SUSPECTED IN THE EXERCISE OF DUE DILIGENCE AND EXTREME CARE, TO CONSTITUTE DIFFERING SITE CONDITIONS IN WRITING TO THE BCA INSPECTOR AND THE PROJECT MANAGER WITHIN TWENTY FOUR (24) HOURS OF DISCOVERY, AS SET FORTH IN THE GENERAL CONDITIONS.
- 9. SURVEYING REQUIRED FOR VERTICAL AND HORIZONTAL ALIGNMENT MUST BE PROVIDED BY THE CONTRACTOR AT HIS OWN EXPENSE, AND BE PERFORMED PER THE GENERAL REQUIREMENTS. CONTRACTOR SHALL VERIFY AND MARK ALL PROPERTY LINES OR LIMIT OF WORK LINES PRIOR TO COMMENCING WORK. CONTRACTOR SHALL BE PROVIDED DIGITAL CAD FILES BY THE CITY FOR USE IN THE LAYOUT OF WORK.
- 10. CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS AT THE JOB SITE AND NOTIFY PROJECT MANAGER IMMEDIATELY OF ANY DIMENSIONAL ERRORS, OMISSIONS, OR DISCREPANCIES BEFORE BEGINNING OR FABRICATING ANY WORK. IN THE CASE THE CONTRACTOR DOES NOT PROVIDE IMMEDIATE NOTIFICATION, ANY CORRECTIONS OR REVISIONS OF SUBSEQUENT WORK PERFORMED BY CONTRACTOR REQUIRED DUE TO THESE DISCREPANCIES SHALL BE PERFORMED AT THE CONTRACTOR'S EXPENSE.
- 11. ALL WORK SHALL COMPLY WITH THE REQUIREMENTS OF THE WORK SPECIFIED ON THE DRAWINGS AND WITHIN SPECIFICATIONS AND THE VARIOUS NOTES SHOWN HEREIN.
- 12. THE CONTRACT DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED PROJECT UNLESS OTHERWISE SHOWN; THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION IN EVERY CASE. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK, AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES.
- 13. UNAUTHORIZED CHANGES & USES: THE CITY WILL NOT BE RESPONSIBLE FOR, OR LIABLE FOR, UNAUTHORIZED CHANGES TO OR USES OF THESE PLANS. ALL CHANGES TO THE PLANS MUST BE IN WRITING AND MUST BE APPROVED BY THE PREPARER OF THESE PLANS AND THE CITY. SEE GENERAL CONDITIONS.

ENGINEERING CITY OF LOS ANGELES

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1545 – 1559 N. San Fernando Rd.

(Note: Numbers in parenthesis () refer to applicable sections of the 2020 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 that clearly indicates the soils engineer has reviewed the plans prepared by the design engineer; and, that the plans included the recommendations contained in their reports (7006.1).

All recommendations of the reports that are in addition to or more restrictive than the conditions contained herein shall be incorporated into the plans.

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 (7006.1). Submit one copy of the above reports to the Building Department Plan Checker prior to issuance of the permit.

4. A grading permit shall be obtained for all structural fill and retaining wall backfill (106.1.2).

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. Placement of gravel in lieu of compacted fill is only allowed if complying with LAMC Section 91.7011.3.

Existing uncertified fill shall not be used for support of footings, concrete slabs or new fill (1809.2, 7011.3).

7. Drainage in conformance with the provisions of the Code shall be maintained during and subsequent to construction (7013.12).

The applicant is advised that the approval of this report does not waive the requirements for excavations contained in the General Safety Orders of the California Department of Industrial Relations (3301.1).

Excavations shall not remove lateral support from a public way, adjacent property or an existing structure. Note: Lateral support shall be considered to be removed when the excavation extends below a plane projected downward at an angle of 45 degrees from the bottom of a footing of an existing structure, from the edge of the public way or an adjacent property. (3307.3.1)

10. A supplemental report shall be submitted to the Grading Division of the Department containing recommendations for shoring, underpinning, and sequence of construction in the event that any excavation would remove lateral support to the public way, adjacent property, or adjacent structures (3307.3). A plot plan and cross-section(s) showing the construction type, number of stories, and location of the structures adjacent to the excavation shall be part of the excavation plans (7006.2).

11. Prior to the issuance of any permit that authorizes an excavation where the excavation is to be of a greater depth than are the walls or foundation of any adjoining building or structure and located closer to the property line than the depth of the excavation, the owner of the Page 3 1545 – 1559 N. San Fernando Rd.

> subject site shall provide the Department with evidence that the adjacent property owner has been given a 30-day written notice of such intent to make an excavation (3307.1).

12. Unsurcharged temporary excavations over 5 feet exposing soil shall be trimmed back at a gradient not exceeding 1:1, as recommended.

13. All foundations shall derive entire support from native undisturbed soils, as recommended.

14. Pile caisson and/or isolated foundation ties are required by LAMC Sections 91.1809.13 and/or 91.1810.3.13. Exceptions and modification to this requirement are provided in Information Bulletin P/BC 2020-030.

15. When water is present in drilled pile holes, the concrete shall be tremied from the bottom up to ensure minimum segregation of the mix and negligible turbulence of the water

16. Existing uncertified fill shall not be used for lateral support of deep foundations (1810.2.1).

17. The seismic design shall be based on a Site Class D, as recommended. All other seismic design parameters shall be reviewed by LADBS building plan check.

18. The structure shall be connected to the public sewer system per P/BC 2020-027.

19. All roof, pad and deck drainage shall be conducted to the street in an acceptable manner in non-erosive devices or other approved location in a manner that is acceptable to the LADBS and the Department of Public Works (7013.10).

20. All concentrated drainage shall be conducted in an approved device and disposed of in a manner approved by the LADBS (7013.10).

21. 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 & 1705.8).

22. All friction pile or caisson drilling and excavations shall be performed under the inspection and approval of the geologist and soils engineer. The geologist shall indicate the distance that friction piles or caissons penetrate into competent material in a written field memorandum. (1803.5.5, 1705.1.2)

23. Prior to pouring concrete, a representative of the consulting soils engineer shall inspect and approve the footing excavations. The representative shall post a notice on the job site for the LADBS Inspector and the Contractor stating that the work inspected meets the conditions of the report. No concrete shall be poured until the LADBS 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)

24. Prior to excavation an initial inspection shall be called with the LADBS Inspector. During the initial inspection, the sequence of construction; pile installation; protection fences; and, dust and traffic control will be scheduled (108.9.1).

1545 = 1559 N. San Fernando Rd.

25. Installation of shoring, underpinning, slot cutting and/or pile excavations shall be performed under the inspection and approval of the soils engineer and deputy grading inspector (1705.6, 1705.8).

26. Prior to the placing of compacted fill, a representative of the soils engineer shall inspect and approve the bottom excavations. The representative shall post a notice on the job site for the LADBS Inspector and the Contractor stating that the soil inspected meets the conditions of the report. No fill shall be placed until the LADBS 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

Structural Engineering Associate

Log No. 124151 213-482-0480

ce: Geotechnical Engineering Division (GED), Project Consultant LA District Office

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Rio De Los Angeles State Park Improvements Project # 999

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31 10 00	SITE CLEARNING AND DEMOLITION
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1. 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://eng2.laCITY.org/brownbook/frame.cfm
- Where conflicts occur between the GENERAL CONDITIONS and GENERAL REQUIREMENTS and the SSPWC, the GENERAL CONDITIONS and GENERAL REQUIREMENTS shall take precedence. Where conflicts occur between these LANDSCAPE SPECIFICATIONS and the SSPWC, these LANDSCAPE SPECIFICATIONS shall take precedence.
 - Subsections included within these LANDSCAPE SPECIFICATIONS 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 herein shall be used.
- Precedence of contract documents shall be in accordance with the GENERAL CONDITIONS.
- Contract work area shall be as defined on the title sheet, or as indicated on the plans by means of a contract limit of work line.
- Permits and licenses: CONTRACTOR shall procure all required CITY, county and state permits and licenses, including municipal business license and pay all charges and fees for the same.
- These LANDSCAPE SPECIFICATIONS apply only to work described on sheets L001-L704.
- The project site shall be maintained in conformance with Section 7-8: Project Site Maintenance of the SSPWC and the requirements of the Project Manual.

1.1 PLANS AND SPECIFICATIONS

- The CONTRACTOR shall be responsible for issuing a complete set of plans and specifications to all Sub-Contractors.
- CONTRACTOR shall maintain a current set of plans reflecting all issued plan clarifications, RFI's and change orders at all times.
- GEOTECHNICAL INFORMATION: The Geotechnical Report No. 22-066 dated September 20, 2022, addendum report dated October 5, 2022 and LADBS Soils Report Approval Letter LOG# 124151 dated December 28, 2022 is a part of Project Manual. CONTRACTOR shall comply with all soils report recommendations specified and other instruction directed by the GEOTECHNICAL ENGINEER. In case of conflicts between another part of the Project Manual and Geotechnical Report the most restrictive condition shall govern unless otherwise approved by the GEOTECHNICAL ENGINEER.

1.2 SCHEDULE OF WORK

- The CONTRACTOR shall schedule all work in accordance with the GENERAL REQUIREMENTS.
- The PROJECT MANAGER, CONSTRUCTION MANAGER, ENGINEER, CONTRACTOR and Department Of Recreation & Parks (RAP) maintenance personnel shall coordinate the CONTRACTOR's schedule of work with ongoing RAP 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.

1.3 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: CONTRACTOR, PROJECT MANAGER, CONSTRUCTION MANAGER, BCA Inspector, ENGINEER, and RAP site maintenance personnel prior to the commencement of meeting to review the content of the plans and discuss the coordination of the project with RAP operations at the project site. The pre-construction meeting can be held at the same time as the job start meeting at the CONTRACTOR's discretion.

1.4 QUALITY ASSURANCE

- Labor: use adequate number of skilled laborers who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this section.
- Codes and regulations: conform to the applicable Los Angeles City Building Code and Amendments, the SSPWC latest edition, Los Angeles City Bureau of Engineering Brown Book, latest edition and provisions hereinafter specified in the Project Manual, and all other applicable codes and regulations.
- Permits: CONTRACTOR shall submit inspection/acceptance certificates required by the governing authorities and pay for all the required permits, plan check, inspections, and fees unless otherwise noted. CONTRACTOR shall arrange for and make required inspections and tests.
- Inspections: all work and materials are subject to inspection and approval by the BCA inspector, PROJECT MANAGER or project ENGINEER. Any work done without required inspection will be subject to rejection per Section 2-11 of the SSPWC.
 - The CONTRACTOR shall notify the BCA Inspector and PROJECT MANAGER three (3) days prior to requested date of inspection. See each section herein for required inspections for each type of work.
 - Pre-final inspection: Pre-final inspection shall be in accordance with Article 46 of the GENERAL CONDITIONS.
 - Contract final inspection: contract final inspection shall be in accordance with the **GENERAL CONDITIONS**
 - In-plant inspection: CONTRACTOR shall be responsible for scheduling all required in-plant inspections with the Bureau of Contract Administration. In-plant inspection requirements shall be determined by BCA materials control unit, and shall include, but not limited to, the following items:

1. Galvanizing of fabricated steel items	6. Shop welding of fabricated steel items
2. Galvanizing of chain link fabric and	7. Shop painting of fabricated steel items
hardware	
3. Steel grates and frames	
4. Portland cement concrete & base	
5. Asphalt concrete and base	

1.5 MATERIALS SUBMITTAL

The CONTRACTOR shall make required submittals in accordance with the GENERAL REQUIREMENTS.

1.6 SUBSTITUTIONS AND "OR EQUAL" SUBMITTAL

The CONTRACTOR shall make substitution submittals in accordance with the GENERAL REQUIREMENTS.

1.7 RECORD DRAWINGS (AS-BUILTS) SUBMITTALS

Record drawings shall be in accordance with the GENERAL REQUIREMENTS. See Section 32 80 00 - IRRIGATION SYSTEMS for additional requirements.

1.8 DEPARTMENT OF PUBLIC WORKS STANDARD PLANS

The following department of public works standard plans are to be included as a part of these plans:

Number

S-463-3 Handrail and Guardrail On Stairways

SSPWC

2017 edition of the Greenbook

Website: http://eng.laCITY.org/techdocs

1.9 LAYOUT OF WORK & GRADE SHEET APPROVAL

All spot elevations, grading contour lines, and grades shown on the plans for grading, pavement and drainage improvements shall be staked by a California licensed land surveyor provided by the CONTRACTOR at no additional cost to the CITY per the GENERAL REQUIREMENTS. Grade stakes shall be a minimum size of 1" x 2" and shall be driven a minimum of 12" into ground; each grade stake shall be protected by a flagged lath projecting 24" above ground; grade stakes disturbed by on-site activities shall be reset by the surveyor. If specified on the plan the CONTRACTOR shall have his surveyor provide grade sheets. The grade sheets shall be submitted to the CONSTRUCTION MANAGER for approval one week in advance of any grading operations.

1.10 PROTECTION OF PERSONS AND PROPERTY

- General: comply with provisions of Article 30 Protection of Persons And Property And Restoration Of Existing Improvements in the GENERAL CONDITIONS.
- <u>Protections of persons and property</u>: provide and install signs, barricades and other required devices or techniques at danger points in the job site to guard against accidents, etc.
- Existing improvements: protect against damage resulting from CONTRACTOR'S operations. Repair or replace damaged items to the full satisfaction of the CITY at no additional cost to the CITY.
- See: Tree Protection Requirements, sheet L017 for addition requirements.
- Existing utilities: utilities shown on the drawings are shown pursuant to a search of available records and are shown as a matter of information and not as a matter of fact. Conforming with GENERAL REQUIREMENTS and other sections of the Project Manual, the CONTRACTOR shall locate existing underground utilities in areas of work. If utilities are to remain in place, provide adequate means of support and protection during earthwork operations.
 - Should uncharted or incorrectly charted piping or other utilities be encountered during excavation, CONTRACTOR shall notify the CONSTRUCTION MANAGER 1.1 **SUMMARY** immediately for direction. CONTRACTOR shall cooperate with CITY and utility companies in keeping respective services and facilities in operation. Repair damaged utilities to satisfaction of utility company.
 - Do not interrupt existing utilities serving facilities occupied and used by CITY and others, during occupied hours, except when permitted in writing by the PROJECT MANAGER and then only after acceptable temporary utility services have been provided.
- Provide a minimum of 48-hour notice to the PROJECT MANAGER and receive written notice to proceed before interrupting any utility. Obtain clearance and notify all utility companies in the area and call underground service alert by calling (800) 422-4133. Deliver utility clearance ticket number to the BCA inspector prior to the start of any work.
- Demolish and completely remove from site existing underground utilities indicated to be removed. Coordinate with utility companies for shut-off of service if lines are active.

1.11 ENVIRONMENTAL CONTROL

CONTRACTOR shall comply with provisions of Article 5 in GENERAL REQUIREMENTS -Environmental Control and Mitigation, to include:

- Site sanitation and odor control: use means necessary to provide sanitary conditions at job site and prevent a nuisance to the public, to neighbors, and to other work being performed on or near the job site. Comply with all applicable codes and ordinances.
- <u>Dust control</u>: use means necessary to prevent dust becoming a nuisance to the public, to neighbors, and to other work being performed on or near the job site. Comply with all applicable codes and ordinances.
- Noise and vibration: comply with requirements of CITY noise ordinances and mitigation specified in general requirements.

- Storm water pollution control: the CONTRACTOR is responsible for obtaining all required permits and deploying all required storm water pollution control measures for construction activities, including when required:
- Comply with the state general construction activity storm water permit.
- 2. Wet weather erosion control plan (WWECP)
- The CONTRACTOR Stormwater Pollution Prevention Plan (SWPPP): CONTRACTOR is responsible for the payment of the notice of intent (NOI) to the State of California Water Resources Control Board to comply with the California General Construction Activity Stormwater Permit (NPDES NO. CAS000002), and the prepare and implement a Storm Water Pollution Prevention Plan (SWPPP) document, which is to be prepared by a qualified SWPPP developer (QSD). This document is to be submitted to the PROJECT MANAGER for approval and submission to the State Water Resources Control Board. The SWPPP must describe the erosion control practices being implemented during construction and the selection and implementation of appropriate BMP's to account for sitespecific and seasonal conditions. CONTRACTOR shall draft the SWPPP before start of construction and submit it to the ENGINEER for approval; no construction work shall commence without an approved SWPPP. The document is to remain on the construction site and all the measures stated in the document are to be implemented during the duration of construction. The QSD shall be responsible for creating, revising, overseeing and implementing the SWPPP and the National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities
- Migratory Bird Protection: In compliance with the Migratory Bird Treaty Act and California Fish and Game Code Sections 3503 and 3503.5, all designated tree removal shall take place outside of the nesting bird season (February 1 to September 1), unless specifically authorized by the PROJECT MANAGER in writing. In accordance with these regulatory requirements, removal of trees may be performed between September 2 and January 31 to avoid the nesting bird season. If tree removal or adjacent construction activities are to occur during the nesting bird season, all suitable habitats inside the limit of work and extending 500' beyond, shall be thoroughly surveyed for the presence of nesting birds by a qualified biologist (or a qualified arborist) at the CONTRACTOR's expense, a minimum of (3) days prior any tree removal. If any active nests are detected, tree removal will be suspended, and the area will be flagged. A minimum 250 foot (500 foot for raptors) non-disturbance buffer shall be established (a modification of this buffer may be determined by the monitoring biologist and in consultation with US Fish and Wildlife Service and California Department of Fish and Wildlife), and construction activity inside the established buffer shall be suspended until the nesting cycle has been completed, and the monitoring biologist determines that the nest has fledged. SEE SUPPLEMENTAL GENERAL REQUIREMENTS FOR ADDITIONAL INFORMATION.

SECTION 01 60 10 BUY CLEAN CALIFORNIA ACT

PART 1 - GENERAL

A. For projects that include eligible materials, CONTRACTOR shall provide current facilityspecific Environmental Product Declarations (EPDs) of eligible materials and meet the State of California maximum limits for Global Warming Potential (GWP) as listed by the State's Department of General Services after project award. Additional information regarding GWP limits may be found at the following website:

https://www.dgs.ca.gov/PD/Resources/Page-Content/Procurement-Division-Resources-List-Folder/Buy-Clean-California-Act

Eligible Materials:

- Steel: This includes structural steel (hot-rolled sections, hollow structural sections, and plates) and carbon steel reinforcement used in concrete or masonry.
- 2. Flat glass
- Mineral wool board insulation
- 4. Concrete

1.2 **SUBMITTALS**

- Submitted facility-specific Environmental Product Declarations (EPD) must be a current Type III as defined by the International Organization for Standardization (ISO) Standard 14025, and has been 3rd Party verified following applicable Product Category Rules (PCRs). Credentials of 3rd Party showing them to be subject matter experts must be provided by the CONTRACTOR upon request. Minimum stage of coverage for EPDs shall consist of the production life cycle (i.e. product stage) or "cradle to gate". PCR shall be as identified by California Department of General Services for the Buy Clean California Act (BCCA).
- The EPDs shall be submitted with each eligible material submittal for the product(s) under the technical specification sections for approval by the ENGINEER. Depending on the number of facilities, and product types, more than one (1) eligible material submittal may be required. Once approved, the CONTRACTOR must also provide a copy of the approved EPDs with the payment request to the INSPECTOR. Where a submittal is conditionally approved, pending submission of required EPD, the applicable restrictions as noted below shall apply.

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- <u>Load tickets</u>: in addition to the CONTRACTOR's copy, deliver a legible copy of each load ticket from the producer to the BCA inspector. Load ticket shall state quantities of all material in each load and shall be signed by weigh master. The BCA inspector shall record on each copy, the slump and location where placed on the job. Maintain tickets at
- Material test reports: for the following, from a qualified testing agency:
 - Aggregates: include service record data indicating absence of deleterious expansion of concrete due to alkali aggregate reactivity.

- <u>Installer qualifications</u>: CONTRACTOR shall employ on the project an installer qualified as ACI-Certified Flatwork Technician and Finisher and a supervisor who is an ACI-
- Quality control: do not commence placement of concrete until mix designs have been reviewed and approved by the PROJECT MANAGER or ENGINEER, and until copies
- Batch plant inspections: required for all structural concrete. Inspection shall be by a CITY BCA material control inspector. The CONTRACTOR shall notify the inspector at least 24 hours in advance of mixing time. The BCA materials inspector shall be present at the beginning of each day of batching and shall perform the following:
 - Check aggregate grading, characteristics, and water content.
 - Check proportioning and loading of concrete materials.

 - After verification of above, return to the jobsite for placement inspection.
- Continuous placement inspection: required for all structural concrete and to be performed by an LADBS certified deputy inspector approved by the PROJECT MANAGER. The BCA inspector shall perform the following procedures:
 - Verify condition and adequacy of forms and reinforcement placement.
- Ensure that all requirements and conditions of concrete placement are met.
- Provide written reports at regular intervals reporting concrete practices.
- Mockups: provide approx. 4-foot by 4-foot mockups to adequately portray the specified finishes, reveals, formwork, joints, etc. For each concrete finish indicated on the plans and listed below for the ENGINEER's approval prior to commencing concrete work. CONTRACTOR shall continue to construct mock-ups until an approved mock-up for each specified finish is produced at no additional cost to the CITY. Acceptable mockups shall be made the job standard for each finish, and workmanship. Protect accepted mock-ups from damage until completion and acceptance of the work represented by the mock-ups. Remove mock-up panel(s) from the site at completion of the project, unless
 - Concrete paving: medium broom finish, unless otherwise noted.

Steel reinforcement: deliver, store, and handle steel reinforcement to prevent bending and damage. Avoid damaging coatings on steel reinforcement.

- - Maintain concrete temperature below 90 deg F at time of placement. Chilled mixing water or chopped ice may be used to control temperature, provided water equivalent of ice is calculated to total amount of mixing water.
 - Fog-spray forms, steel reinforcement, and subgrade just before placing concrete. Keep subgrade uniformly moist without standing water, soft spots, or dry areas.
 - Portland Cement: all cement shall be Type II, low alkali Portland Cement conforming to ASTM C150 (201-1.2).
 - 2. Fly ash: ASTM C618, class F.
- Normal-weight aggregates: the aggregates for all concrete construction shall be fractured face aggregates obtained from a quarry that is certified non-reactive by an approved testing laboratory as approved by the Bureau of Contract Administration, (201-1.2.2). Unless otherwise noted.

- 1. Maximum coarse-aggregate size: 3/4-inch nominal.
- Water: ASTM C94/C94m and potable.

2.2 CONCRETE MIXTURES

- Concrete specified by class: placed concrete shall be Class 520-C-2500, maximum 4-inch slump unless otherwise noted on Contract Drawings. Pumped concrete shall be Class 560-E-2500, maximum 6-inch slump unless otherwise noted on Contract Drawings. A complete delivery receipt shall be required for each truckload of concrete delivered. The receipt shall be given to the BCA Inspector, (201-1.1.2).
 - 1. Minimum compressive strength: 2,500 PSI at 28 days.
 - 2. Slump limit: 4-inches, plus or minus 1-inch.

2.3 CONCRETE MIXING

- Ready-mixed concrete: measure, batch, mix, and deliver concrete according to ASTM C94/C94m and ASTM C1116/C1116m and furnish batch ticket information to BCA
 - When air temperature is between 85 and 90 deg F, reduce mixing and delivery time from 1-1/2 hours to 75 minutes; when air temperature is above 90 deg F, reduce mixing and delivery time to 60 minutes.

2.4 CONCRETE JOINT MATERIALS

- Expansion joint material: expansion joint material shall be min. 3/8-inch-thick closedcell, polyethylene low resistance joint filler, by Celltex Ltd., or approved equal.
- End of pour joints: end of pour joints shall be min. 3/8-inch-thick closed-cell, polyethylene low resistance joint filler, by Celltex Ltd., or approved equal.
- Joint urethane sealant: expansion and isolation joint sealant material shall be a urethane elastomeric sealant for concrete pavement shall be Sikaflex®-1A By Sika Corporation, or an approved equal, (201-3). Color to match concrete.

PART 3 - EXECUTION

3.1 STEEL REINFORCEMENT INSTALLATION

- General: comply with CRSI's "Manual of Standard Practice" for fabricating, placing, and supporting reinforcement.
- Clean reinforcement of loose rust and mill scale, earth, ice, and other foreign materials that reduce bond to concrete.
- Accurately position, support, and secure reinforcement against displacement. Locate and support reinforcement with bar supports to maintain minimum concrete cover. Do not tack weld crossing reinforcing bars.
- Securely fasten steel reinforcement and wire ties against shifting during concrete placement. Set wire ties with ends directed into concrete, not toward exposed concrete surfaces.

3.2 JOINTS IN CONCRETE

- General: construct joints true to line with faces perpendicular to surface plane of
- Construction joints: install so strength and appearance of concrete are not impaired, at locations indicated or as approved by ENGINEER.
 - Place joints perpendicular to main reinforcement. Continue reinforcement across construction joints unless otherwise indicated.
 - 2. Form keyed joints where indicated. Embed keys at least 1-1/2 inches into
 - Space vertical joints in walls as indicated. Locate joints beside piers integral with walls, near corners, and in concealed locations where possible
- Contraction joints in slabs-on-grade: form weakened-plane contraction joints, sectioning concrete into areas as indicated. Construct contraction joints for a depth equal to at minimum one-fourth of the concrete thickness as follows:
 - <u>Tooled joints</u>: form contraction joints after initial floating by grooving and finishing each edge of joint to a radius of 1/8-inch. Repeat tooling of contraction joints after applying surface finishes. Eliminate tool marks on concrete surfaces.
 - Saw-cut joints: form contraction joints with power saws equipped with shatterproof abrasive or diamond-rimmed blades. Cut 1/8-inch-wide joints into concrete when cutting action does not tear, abrade, or otherwise damage surface and before concrete develops random contraction cracks.



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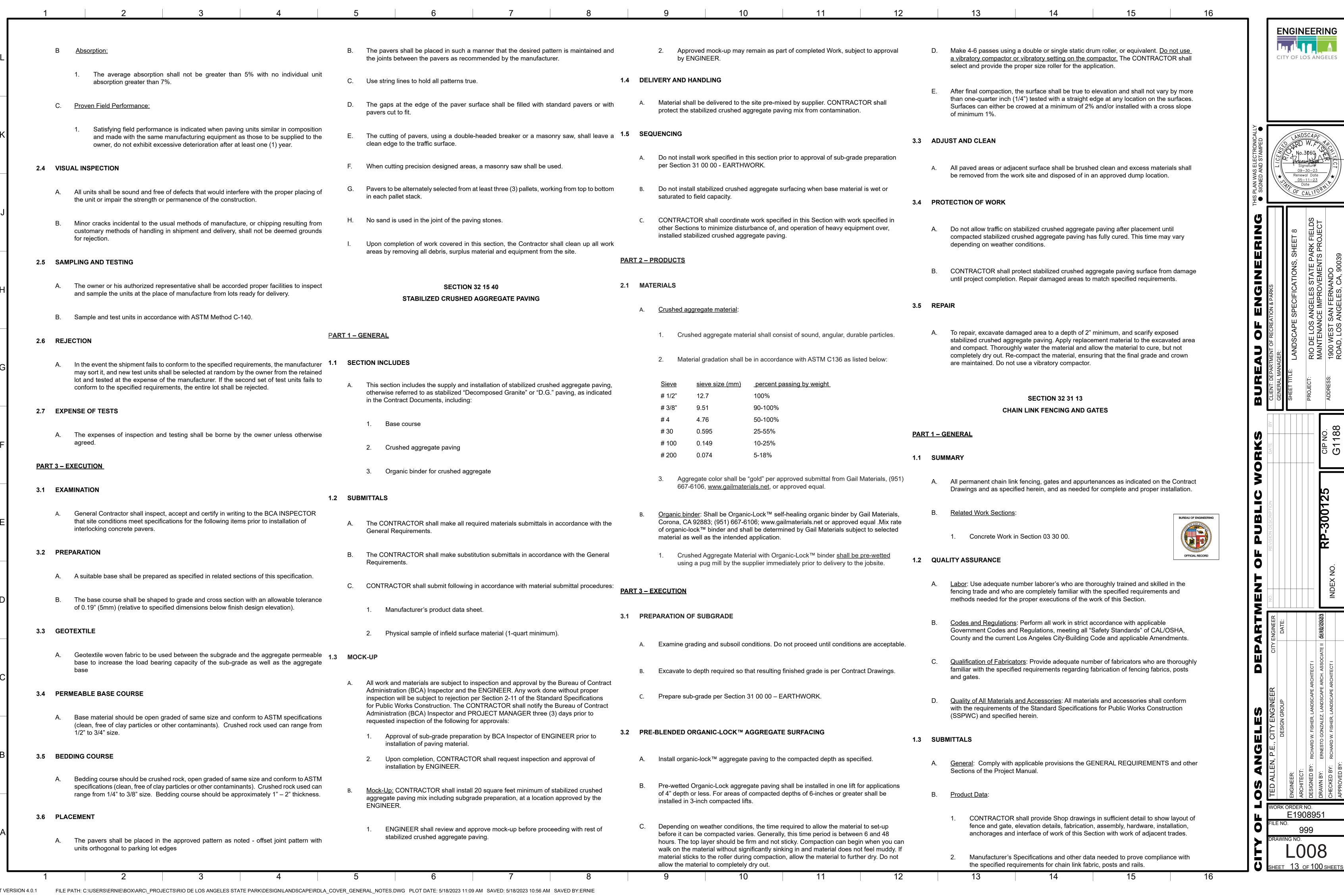
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- Domestic Cold Water Piping ABOVE GRADE: Piping shall be ASTM B88 Type "L" seamless hard drawn copper tubing with ANSI B 16.22 wrought copper fittings. Joints shall be made up with lead-free, nickel bearing alloy
- Domestic Cold Water Piping BELOW GRADE: Piping shall be ASTM B88 Type "K" seamless hard drawn copper tubing with ANSI B 16.22 wrought copper fittings. Joints shall be made up with lead-free, nickel bearing alloy
- All Pipes: Shall be homogeneous throughout and free from cracks, holes, foreign materials, blisters, deleterious wrinkles, and dents.
- Solvent-welded Schedule 40 PVC plastic pipe and fittings shall be used for pipe sizes up to and including 2½ inch for installation of irrigation pressure lines and lateral lines.
- Class 200 PVC gasketed pipe with ductile iron fittings and restraints as detailed on Contract Drawings shall be used for continuously pressurized pipe of sizes of 3-inch up to and including 6-inch diameter.
- Schedule 80 PVC plastic pipe and threaded fittings shall be used only when threaded joints are specified, or otherwise permitted by the City Engineer.
- All piping shall be permanently marked with the following: Manufacturer's name or trademark, size, schedule, and type of pipe, working pressure at 73 degrees F. and National Sanitation Foundation (N.S.F.) approval.
- Ductile iron fittings for restrained plastic pipe shall be manufactured of ductile iron, Grade 65-45-12 in accordance with ASTM A536. Fittings shall have deep bell push-on joints with gaskets meeting ASTM F477. All ductile iron fittings shall be manufactured by HARCO Fittings, or approved equal. http://www.harcofittings.com

- Valve to pipe restraints shall consist of ductile iron (ASTM A536) grip rings with machined serrations and ductile iron restraint rods. The ring that grips the pipe shall meet the requirements of UNI-B-13-94. The restraint rod nuts shall be made from low alloy steel to AWWA/ANSI C111/A21.11 or ductile iron to ASTM A536.
- Fitting to pipe restraints shall allow the full rating of the pipe on which it is used. Grip rings and restraint structures shall be made of ductile iron to ASTM A536. Grip ring serrations (gripping features) shall be fully machined or cast. Clamp bolts and nuts shall meet or exceed ASTM A307.
- Pipe to pipe restraints shall allow the full rating of the pipe on which it is used. Grip rings and bell rings shall be made of ductile iron to ASTM A536. Grip ring serrations (gripping features) shall be fully machined or cast. Restraint rod nuts shall be of low alloy steel to AWWA/ANSI C111/A21.11. Clamp bolts and nuts shall meet or exceed ASTM A307. Pipe to pipe restraint shall meet or exceed the full rating of the pipe on which it is used.
- 10. Gasket lubricant for push on fittings shall be non-toxic, odorless, tasteless and shall not support bacteria. Use 'Seal Lube", SK#87710 by IPS Weldon Corp. or

C. <u>Valves and Valve Boxes</u>:

- General: Provide valves of the type and capacity designated on the Contract Drawings and with the requirements specified herein. All valves shall be capable of continuous performance at a working pressure of 200 psi or less.
- Gate Valves and mainline isolation Valves: in sizes 2.5-inch and smaller shall be bronze type, non-rising stem, solid wedge gate valve; Nibco T-113-LF or approved equal.
- Mainline isolation Valves: in sizes 3-inch and larger shall be Nibco #P-619-RW IPS PVC push-on type resilient wedge cast iron gate valve with electrostatically applied fusion-bonded epoxy 8-20 mil. thick inside and outside, or approved
- Automatic Control Valves: Electrically operated, cast brass or bronze normally closed globe valve, capable of with manual flow control adjustment and manual operation capability, readily disassembled for servicing, slow opening and closing, and self-flushing. Reclaimed water compatible. Rainbird EFB-CP Series or Toro 220 series or approved equal.
- 5. Quick-Coupling Valves: shall be 1" type with two-piece red brass construction with a locking thermoplastic rubber cover. The Contractor shall provide one guick coupler key with hose swivel for each five quick couplers installed. Rainbird model #44LRC or approved equal.
- Valve Boxes and 2-wire cable pull boxes and terminal boxes shall be constructed of polypropylene or equivalent material for maximum durability, UV protection and corrosion resistance. The plastic body, excluding extensions, shall have pipe slots on each end and the plastic body shall have two (2) resting points for the lid to sit securely and flush. The plastic lid shall have molded diamond tread-pattern for skid resistance. Valve boxes shall have a lockable lid using a hex-bolt to secure the cover.

For Remote Control Valves and 2-wire pull/terminal boxes: The dimensions of the box shall be 14.5" L x 9.4" W. Model VB-STD-H by Rainbird, or approved equal. The lid shall be permanently heat-embossed with station number for each valve, or CW for control wire.

For Quick Couplers and Gate Valves: The dimensions of the box shall be 13.75 inches bottom diameter and 10" top diameter. Model VB-10RND-H by Rainbird, or approved equal. Boxes are to be installed per the applicable details. The lid shall be permanently heat-embossed as follows (paint is not acceptable):

Gate Valve	GV
Remote Control Valve	RCV
Quick Coupler Valve	OC.
Master Valve	MV
Flow Meter	FM
2-wire cable Pull Boxes	CW

- <u>Backflow Prevention Reduced Pressure Zone Assembly and Wye Strainer:</u>
- The Reduced Pressure Zone Assembly shall consist of two independently operating, spring loaded, "Y" pattern check valves and one hydraulically dependent differential relief valve. Mainline valve body and caps including relief valve body and cover shall be ductile iron with Fusion epoxy coated internal and external AWWA C550. Check valve and relief valve components shall be constructed so they may be serviced without removing the valve body from the line. Shutoff valves shall be flange-mounted ductile iron NRS resilient wedge gate valve AWWA C509 (Standard) with Fusion epoxy coating.

The assembly shall be rated to 175psi working pressure and water temperature range from 33°F to 140°F. The lead-free Reduced Pressure Zone Assemblies shall comply with state codes and standards, where applicable, requiring reduced lead content. The assembly shall meet the requirements of AWWA Standard Code C511; and approved by the Foundation for Cross-Connection Control and Hydraulic Hydraulic Research at the University of Southern California. The Reduced Pressure Zone Assembly shall be Febco LF860-NRS, or approved

- <u>Wye-Strainer</u>: The main body shall be flange-mounted ductile iron with fusion epoxy coating inside and outside, the strainer screen shall be 300 series stainless steel #225 mesh. Screens shall be accessible for cleaning without removing the device from the line. The "Y" type strainer shall be a Zurn Wilkins Model FSC type, or approved equal.
- Backflow Device Enclosure: shall be of a vandal resistant nature manufactured of formed cold rolled steel tubing and rod, coated with a performance polymer alloy. All locking and mounting hardware shall be manufactured entirely of stainless steel. Each enclosure shall have amounting pad which shall be used as installation frame. Enclosure hardware on the mounting frame shall be stainless steel. The backflow cage enclosure shall remain bolted to frame in open and closed positions. Enclosure and door shall close with concealed locking tab with hole to accept padlock. Enclosure shall be powder-coated dark green. By Strongbox, SBBC-CR series or approved equal. https://strongbox.com

E. <u>Irrigation Heads</u>:

- Pop-up spray head: bodies shall have a 4", 6" or 12" pop-up stroke. The body of the spray head shall be constructed of corrosion and UV-resistant, heavy-duty A.B.S. The spray head body shall have a factory-installed drain check valve capable of checking up to 10 feet in elevation change. The spray head body shall have a standard pressure-regulating device as an integral part of the popup riser maintaining a constant nozzle outlet pressure of 30 or 45 PSI with inlet pressures of up to 100 PSI. Nozzles shall be matched precipitation rate, fixed spray or multiple-stream, rotating type or other as noted on Contract Drawings. As manufactured by Rainbird Corporation, Toro Company or approved equal, models # 1804, 1806, 1812, or 1845.
- Pop-up Gear Driven Rotor Head: The body of the rotor head shall be constructed of corrosion and UV-resistant, heavy-duty A.B.S. The rotor head body shall have a factory-installed drain check valve capable of checking up to 10 feet in elevation change. The full or part-circle rotor head shall be a single stream, water lubricated, gear drive type capable of both full circle and/or part circle operation in the same unit as noted on Contract Drawings. The rotor head shall have a screen attached to the drive housing to filter inlet water, protect the drive from clogging and simplify its removal for cleaning and flushing of the system. The rotor head body shall have a 1" (26/34) female (NPT or BSP) bottom inlet. The rotor head shall have a standard rubber cover which designates each adjustment opening from the top. Pop-up height as measured from the top of the cover to the centerline of the nozzle orifice shall be at least 5 inches. The rotor shall have a stainless steel covered nozzle turret and riser stem. As manufactured by Rainbird Corporation or the Toro Company or approved equal.
- Root Watering System: The RWS assembly shall consist of a perforated polyethylene rigid mesh cylinder 18" long x 4" diameter or 10" long x 2" diameter with an integrated pressure compensating bubbler and optional check valve. The assembly shall be preconfigured with swing joint assembly or spiral barbed fittings to enable the RWS to be directly connected to PVC or polyethylene lateral drip lines, and shall have a plastic locking grate cover. Manufactured by Rainbird Corporation, or approved equal.
- SA Swing Joint Assemblies: The Swing Assemblies shall be used as a flexible swing joint assembly for 1/2" inlet sprinklers. The pipe shall be flexible black tubing constructed of linear low density polyethylene material with a wall thickness of 0.090" and an inside diameter of 0.490". The fittings shall be constructed of UV-resistant, thermoplastic material. The Swing Assembly shall have an operating pressure rating of 80 psi at 110° F. As manufactured by Rain Bird Corporation, Glendora, California or approved equal.
- TSJ (PRS) Swing Joint Assemblies: The swing joints shall be used as a height adjustable connector between lateral lines and 3/4" or 1" sprinklers or quick coupler valves. The swing joint shall be molded from rigid PVC, Type 1, cell classification 12454-B, conforming to ASTM D1784, with a pressure rating of 315 psi at 73° F when tested in accordance with ASTM D3139, including 60 minutes at 790 psi, and short term exposure of 1000 psi without leakage. All NPT threads, sockets, and spigots shall be Schedule 80 per ASTM D2464 and D2467. All components shall be factory preassembled, available with 3/4" or 1" inlet/outlet and in lengths of 12" and 18". All rotating joints shall be modified stub ACME threads. All rotating joints shall have two EPDM rubber O-rings for positive sealing and thread protection. The pressure regulating system (PRS) shall consist of the outlet elbow of a Rain Bird Turf Swing Joint (TSJ). The TSJ-PRS shall allow pressure to increase uniformly within the rotor up to the preset regulation pressure before regulation occurs. Pressure regulation shall be provided to rotors with 3/4" and 1" inlets by means of a spring-loaded diaphragm attached to a flow tube. The regulator housing shall be constructed of high strength PVC. All metal components shall be made of stainless steel. The diaphragm shall be a fabric reinforced elastomer.

F. <u>Control Wire</u>:

- Automatic Irrigation Controller: The Controller shall be of a type that combines fully automatic or manual operation with an interface to a two-wire path for decoder-based irrigation control. The controller shall provide flow sensing capability and management and a 50 station capacity expandable to 200 stations. The controller shall allow up to 8 valves to operate simultaneously per program and total for the controller including the master valves. The controller shall incorporate a FloManager feature providing real-time flow, power, and station management. FloManager shall manage the number of stations operating at any point in time based on water source capacity, station flow rate, number of valves per station, and shall incorporate the ability to provide station priorities to determine the order in which stations shall operate. The Flow Smart Module shall accept sensor decoder input from 1 - 5 flow sensors with no flow scaling device required. Controller shall include a FloWatch Learn Flow Utility which learns the normal flow rate of each station and compares the current real-time flow rate to the learned rate and takes user-defined actions if high flow, low flow, or no flow is detected. FloWatch shall automatically determine the location of the flow problem and isolate the problem turning off the affected station(s) or master valve(s). FloWatch shall be compatible with both normally closed and open master valves. A Manual Master Valve Water Window shall be provided to coordinate daytime manual watering with the flow sensing. This Water Window shall offer programmable days of the week and manual watering additional flow rate. The controller shall have features and modular options that include: ET Manager Smart Cartridge, NCC Network Communication Cartridges, and the PBC-LXD Programming Backup Cartridge. ESP-LXD, manufactured by Rain Bird Corporation or approved equal.
 - The automatic controller shall be enclosed in a Heavy Duty Stainless Steel Top Entry Enclosure model SB-22SS by Strongbox or approved equal.
 - Valve decoders: shall be Rainbird FD-TURF Series 2-Wire Decoders for ESP-LXD Two-Wire Decoder Systems with Support for 1, 2, 4, or 6 Decoder Addresses, models FD-101TURF, FD-102TURF, FD-401TURF and FD-601TURF as indicated in the Contract Drawings. Sensor decoder shall be Rainbird SD210TURF sensor decoder. Install and connect to 2wire path per manufacturer's instructions and as indicated in the Contract Drawings. All decoders must be manufactured by SAME manufacturer and compatible with the 2-wire controller
- Wire Connectors: Control wire connections shall be made with 3-M brand of DBY or DBR Direct Burial Splice kits, or approved equal. The splice kit shall consist of a onepiece malleable plastic bulb body with internal locking fingers, filled with re-enterable gel sealant and a Scotchlok Electrical Spring Connector. Materials shall be as follows:
- Connector shall be a flame retardant PVC insulator with a steel spring and shell within. Connector shall be a <u>non-crimping</u> system
- 2. Tube material shall be clear see-through polypropylene
- Gel material shall be hixotropic calcium organic complex.

Connector:	Color:	No. and Size of Wires:
3M Model DBY	Yellow	Max. 4-12 gage UF wires

4. Wire sizes and numbers of wires per connector shall be as follows:

Concrete Thrust Blocks: Provide concrete thrust blocks per details where applicable for plastic pipes with 3" inch diameter or larger, and all backflow preventer assemblies. The portland cement concrete used for concrete thrust blocks shall be 470-B-2000 concrete.

Max. 3-14 gage UF wires

PART 3 – EXECUTION

3.1 SURFACE CONDITIONS

Examine the area of work and conditions under which work of this Section will be performed. Correct any conditions detrimental to timely and proper completion of the work prior to commencing installation of irrigation equipment.

3.2 IRRIGATION SYSTEM INSTALLATION

A. <u>General</u>:

- The Irrigation system layout shown on the Contract Drawings shall be considered as diagrammatic. The Contractor shall make all necessary adjustments to conform to actual field conditions unless otherwise noted or as directed by the Engineer at no additional cost to the City.
- The CONTRACTOR shall verify that approximate finish grade is in place prior to beginning irrigation trenching or installation. If finish grade is not already achieved, CONTRACTOR shall notify the PROJECT MANAGER immediately. Any irrigation work performed by the CONTRACTOR prior to the establishment of approximate finish grade may require repair or modification at the CONTRACTOR's expense.



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DEPARTMENT

ANGELES

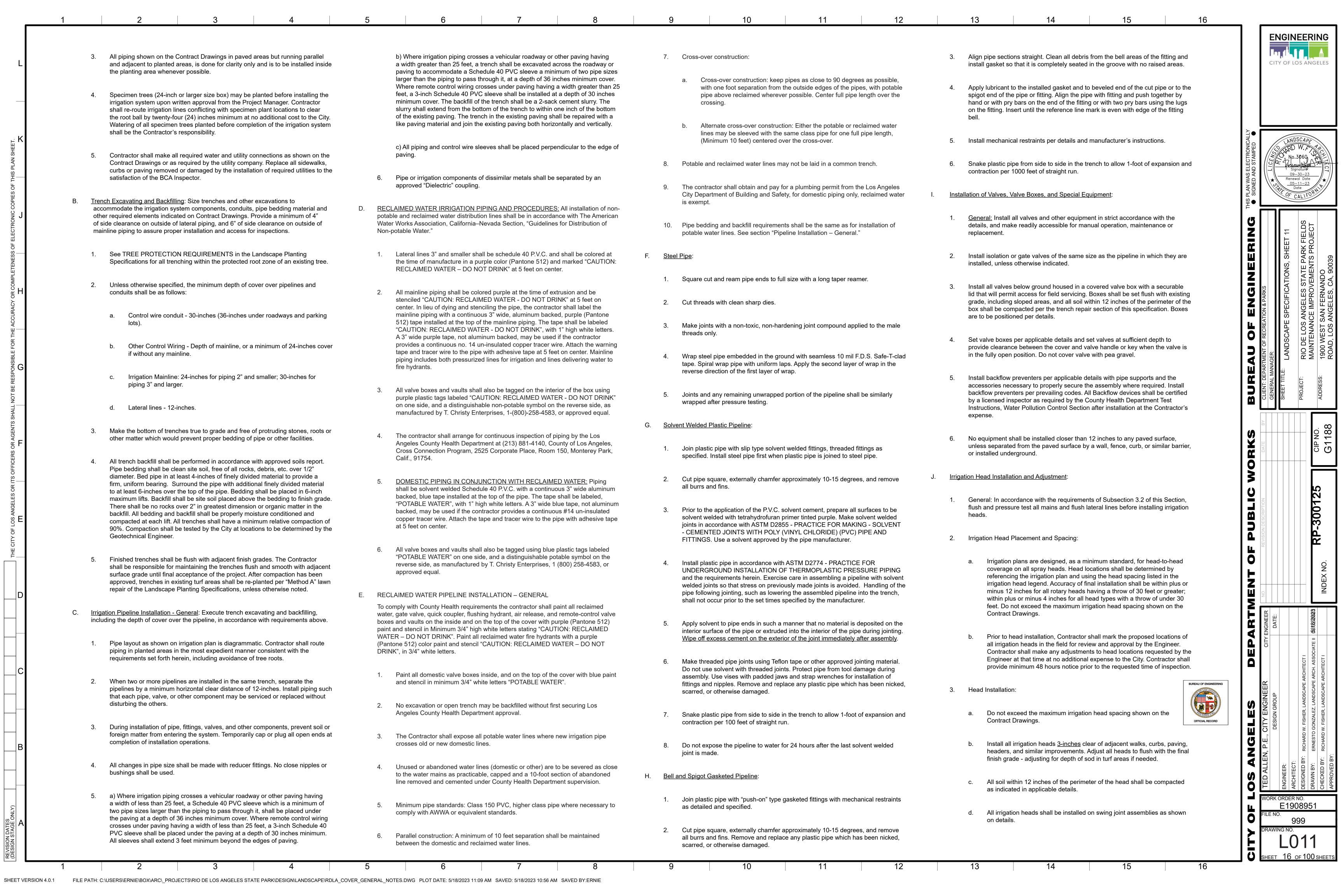
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Prior to planting, the CONTRACTOR may be directed to alter the layout of plants by direction of the ENGINEER, without additional compensation to the

For "on center" plant spacing, locate the first row of plants in areas designated at one-half the specified spacing from the edge. Do not stretch the maximum specified spacing for each species as shown on the plans.

Unless specified otherwise or recommended by the approved agricultural suitability and fertility analysis and approved by the PROJECT MANAGER, container plants shall be backfilled with 100% amended site soil.

Each plant pit shall also receive Tri-C Myco Tabs 1.7 gram 17-9-5 (N-P-K) planting tablets as shown in the relevant planting details, and as follows:

= 2 tablet

= 8 tablets

15 gallon = 10 tablets

Boxed Trees = 10 tablets per inch of trunk diameter, with a minimum of 20 tablets per tree.

Some plant species may be designated not to receive any planting tablets. Refer to legend on Planting Plan.

Tree and Shrub Planting:

Prior to planting, irrigation system installation and soil amendment shall be completed and approved. Soil shall be thoroughly irrigated beforehand, and suitably moist for planting. Do not plant in dry soil.

Make planting holes approximately square with vertical sides no greater than the depth of the plant container (or such depth as needed so that the root crown has the correct relationship to adjacent finished grade per the planting details) and approximately twice the width of the plant container or rootball and larger if necessary to permit handling and planting without injury to the root system. Lightly scarify native soil at the bottom of planting holes.

Do not plant plants with a broken or cracked rootball. Such plants shall be considered defective and rejected. Rejected plants shall be removed promptly from the job site.

4. Open and remove plant containers in such a manner that the plant roots are not injured. Do not pull plants out of the pot by the stalk.

Scarify native soil at the bottom of planting holes.

6. If soil is not adequately moist, apply water to planting hole and allow to drain. Set the plant approximately in the center of the planting hole and add backfill under rootball if needed to adjust the root crown to correct grade.

Backfill the balance of the planting hole with moist, amended site soil; firming the backfill by hand or with tools to assure all air pockets have been removed, and settlement will be minimized. After planting, all plants shall be plumb with the root crown at its natural depth with respect to finish grade.

Prune or remove any broken or damaged minor limbs. Any major damage to plant material shall be brought to the attention the ENGINEER for evaluation. Trees or shrubs with major broken limbs shall be considered defective and rejected. Rejected plants shall be removed promptly from the job site.

For any trees installed prior to completion of irrigation system: form a circular watering basin 6-inches high and slightly larger than the planting hole to accommodate temporary hand watering. Make the bottom of the basin level with surrounding finish grade. Watering basin berms shall be removed during fine grading process and before application of top-dress mulch.

10. <u>Tree Edging</u>: Where trees are planted in lawn area, a minimum 4-foot diameter circle around each tree shall be maintained free of lawn area to avoid the growth-reducing effects of lawn area on trees. Mulch shall be placed in the circle. This circle shall be kept clear of lawn area by the CONTRACTOR for the duration of the maintenance period.

11. Install vines per planting detail. Remove nursery stakes and affix all branches to walls or fences per notes and details on Contract Drawings.

<u>Turf Planting</u>: Soil amendment, irrigation installation, weed abatement, and fine grading shall be completed and approved before seeding or sod installation.

Hand-Seeded Turf Planting - Trench Repair: Do not seed when the wind velocity exceeds five miles per hour or is detrimental to the uniform distribution of the

Lightly rake the planting area to provide an appropriate seed bed. Sow seed at a rate of: (7) pounds of Stovers Pro Sports Field Saline™ per 1,000 sf. or approved equal. Mulch all seed with 1/4" (or 3/4 cubic yard per 1,000 sq. ft.) of Type 1 organic Soil Amendment. Apply seed in two operations with the spreader set to sow one-half the specified amount with each operation. The second sowing shall be at the right angles to the first. After sowing, evenly cover the area to a depth of 1/4 inch to 1/2 inch with an approved Type 1 Organic Soil Amendment. Water the seeded area in a manner so as not to cause surface erosion. Keep the newly seeded surfaces moist continuously throughout the germination period.

Sod Planting: The type of sod and the area to be sodded shall be in accordance with the Contract Drawings. Sod shall be machine cut to between 3/8" and 5/8" thick, not including top growth or thatch.

Site shall be fine graded to the specified thickness of the sod below finish grades. Soil conditioning and fine grading shall be completed before sodding. No heavy equipment shall operate over the site after grading is completed.

The site shall be moist but not wet when sod is laid. Sod shall be laid with closely fitted joints, and the ends of the strips shall be staggered forming a running bond pattern. Openings shall be plugged with sod or topsoil. Within 2 hours after installing sod and before rolling, the sod shall be lightly irrigated. All seams and joints shall then be rolled with a 200-300 lb. water ballast roller until the sod is well bonded to the soil below.

The sodded areas shall then be watered thoroughly to penetrate the subsoil at least 8 inches. Watering shall be repeated as necessary to keep the sod moist until rooted into the subgrade. Sodded areas shall be protected against all traffic until the sod is well established.

<u>Turf Repair</u>: All trenches shall be fully compacted, and the grade brought flush with the adjacent undisturbed finish grade. This repair shall include areas of irrigation or other piping trenches, conduit trenches or where vehicles or equipment has damaged the existing turf. Turf repair shall be accomplished using "Method A" hand seeding: or existing sod shall be carefully cut, removed, and reused to re-sod trenches after backfilling and compaction. CONTRACTOR shall use seed/sod to match existing turf type in areas being repaired unless directed otherwise by the ENGINEER

3.7 TREE STAKING AND GUYING

<u>Tree Staking</u>: See planting legend for what type of staking shall be used for each tree type, if any shall be used. Stake trees with 2" diameter x 10' long lodgepole pine stakes as indicated on the Drawings and details.

1. After planting, all trees shall be re-staked promptly per details.

2. Remove any existing nursery stakes first before installing new lodgepole stakes.

3. All trees in turf areas shall be triple staked unless noted otherwise. Stakes shall be placed in a circular pattern around tree, evenly spaced 1/3 circle apart.

4. All trees in non-turf areas shall be double staked, unless noted otherwise. Align stakes with the direction of strongest seasonal winds.

5. DO NOT drive stakes into the rootball of any newly planted trees.

Guying: Guy any boxed trees indicated on planting legend. Install guying immediately after planting per detail.

3.8 MAINTENANCE AND PLANT ESTABLISHMENT

General Maintenance: Maintain all areas Inside of work on a continuous basis as they are completed during the progress of the work and during the plant establishment period.

CONTRACTOR shall maintain the entire area of work until final acceptance of the Contract by the CITY. Maintenance activities shall include continuous operations of picking up trash, watering, weeding (including all broadleaf weeds in lawn areas), mowing, rolling, edging, fertilization, spraying & pest control of insects and rodents, reseeding & plant replacement (irrespective of cause), or any other operations necessary to provide normal healthy plant growth.

Any malfunctions of, or damage to the irrigation system due to workmanship or materials or as caused by the CONTRACTOR in the execution of his work shall be repaired by the CONTRACTOR within 24 hours at his own expense. The CONTRACTOR is responsible for keeping all plant material sufficiently watered during any irrigation failures.

B. Plant Establishment Period:

The Plant Establishment Period shall be for a minimum period of 90 days unless extended as described in this section. The Plant Establishment Period shall be started when all planting and irrigation related work has been completed in accordance with the contract documents and approved by the PROJECT MANAGER. CONTRACTOR shall request a review of completed work by the PROJECT MANAGER at the appropriate time to determine if the Plant Establishment period may begin. A field notification will be issued to the CONTRACTOR to establish the effective beginning date of the plant establishment period.

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 specifications. All extensions of the plant establishment period shall be subject to the assessment of liquidated damages, (801-6).

All lawns shall be of the grass seed or sod specified and shall be free from all broadleaf weeds. The lawn shall not be allowed to grow higher than three (3) inches and shall be moved to a $1\frac{1}{2}$ " - 2" inch height. The lawn shall be moved at least weekly 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. 60 days after commencement of Plant Establishment Period, 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 and irrigate immediately afterwards. The fertilizer shall be applied in the presence of the BCA Inspector.

All trees and shrubs shall be healthy and vigorous in appearance throughout the duration of the Plant Establishment Period. Upon notice from the PROJECT MANAGER, the CONTRACTOR shall replace within seven (7) days of such notice at his own expense, any and all plant materials and/or sod which, for any reason dies or is damaged while under the CONTRACTORS care, or does not meet or exceed the quality of appearance and growth condition at the time of planting. Replacement shall be made with the same plant species and varieties as indicated or specified for the original planting. All replacement plants are subject to the same inspection requirements set forth in these specification for the original plant installation.

During the plant establishment period, all damage caused by erosion shall be repaired by the CONTRACTOR at his own expense within three (3) working

Broken or vandalized tree stakes shall be repaired or replaced by the CONTRACTOR at his own expense within seven (7) days.

During the plant establishment period, the irrigation system shall be operated in the automatic mode, unless otherwise permitted by the ENGINEER. No hand watering or manual station operations should be performed without notifying the ENGINEER. CONTRACTOR shall be responsible for setting an appropriate watering schedule for all irrigation zones, such as to provide adequate watering for each plant type, but not so much as to create any wasteful or unhealthful growing conditions. CONTRACTOR shall be responsible for modifying the watering schedule as needed to accommodate changing weather conditions.

C. <u>Final Inspection/Final Acceptance</u>:

Upon completion of the plant establishment period, a final inspection for acceptance will be performed by the BCA Inspector and ENGINEER or authorized representative. The CONTRACTOR shall request for inspection at least three (3) working days prior to the anticipated date. For this inspection, the site must be thoroughly cleared of all debris and excess material removed. If work fails to pass final inspection, any subsequent inspection must be rescheduled as per above, and will be charged to the CONTRACTOR.

If the plant establishment period is satisfactorily completed ahead of other work included in the Contract, the plants establishment shall be extended and shall be the responsibility of the CONTRACTOR until all other work has been completed and accepted by the CITY.

3.9 GUARANTEE

General: 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. CONTRACTOR shall provide a written guarantee for the above materials as a part of the final close out package.

<u>Deficiencies:</u> Should any deficiencies develop within the specified guarantee period, CONTRACTOR shall correct such deficiencies to the full satisfaction of the ENGINEER without added expense to the CITY. All replacement plants shall be subject to a new guarantee for a period as described herein above.

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HYDROMULCHING

PART 1 - GENERAL

1.1 DESCRIPTION

A. <u>Work Included</u>:

2. All labor, materials, equipment, and tools necessary to provide and execute application of hydromulch as indicated on the Contract Drawings, specified

1.2 SUBMITTALS

Product Data: Within 35 calendar days after the Contractor has received the City's "Notice to Proceed", submit:

Materials list of items proposed to be provided under this Section and other related Sections

Manufacturer's Specifications and other data needed to prove compliance with the specified requirements

Manufacturer's recommended installation procedures which, when approved by the City Engineer or the Consultant, will become the basis for accepting or rejecting actual installation procedures used on the Work.

ENGINEERING CITY OF LOS ANGELES

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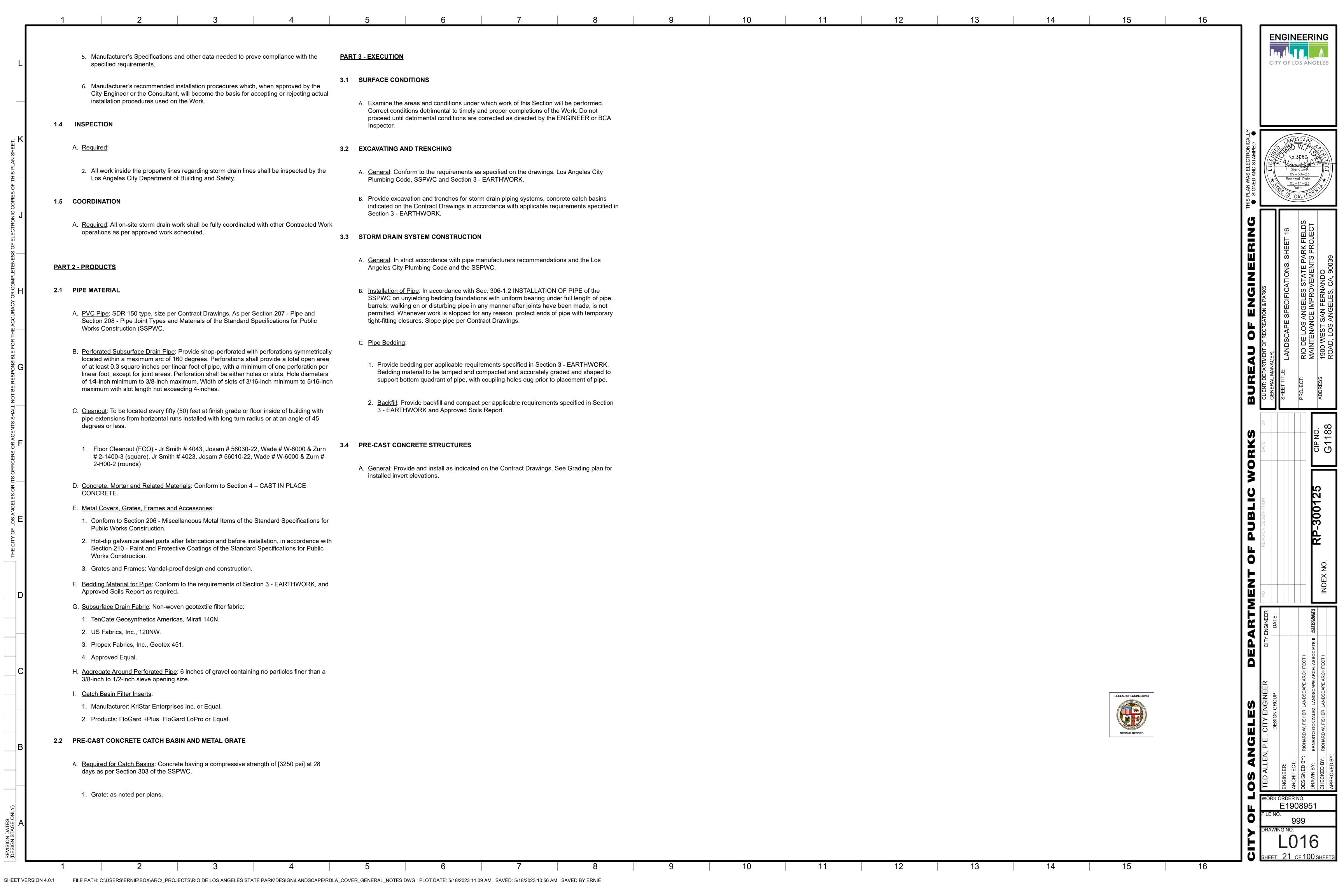
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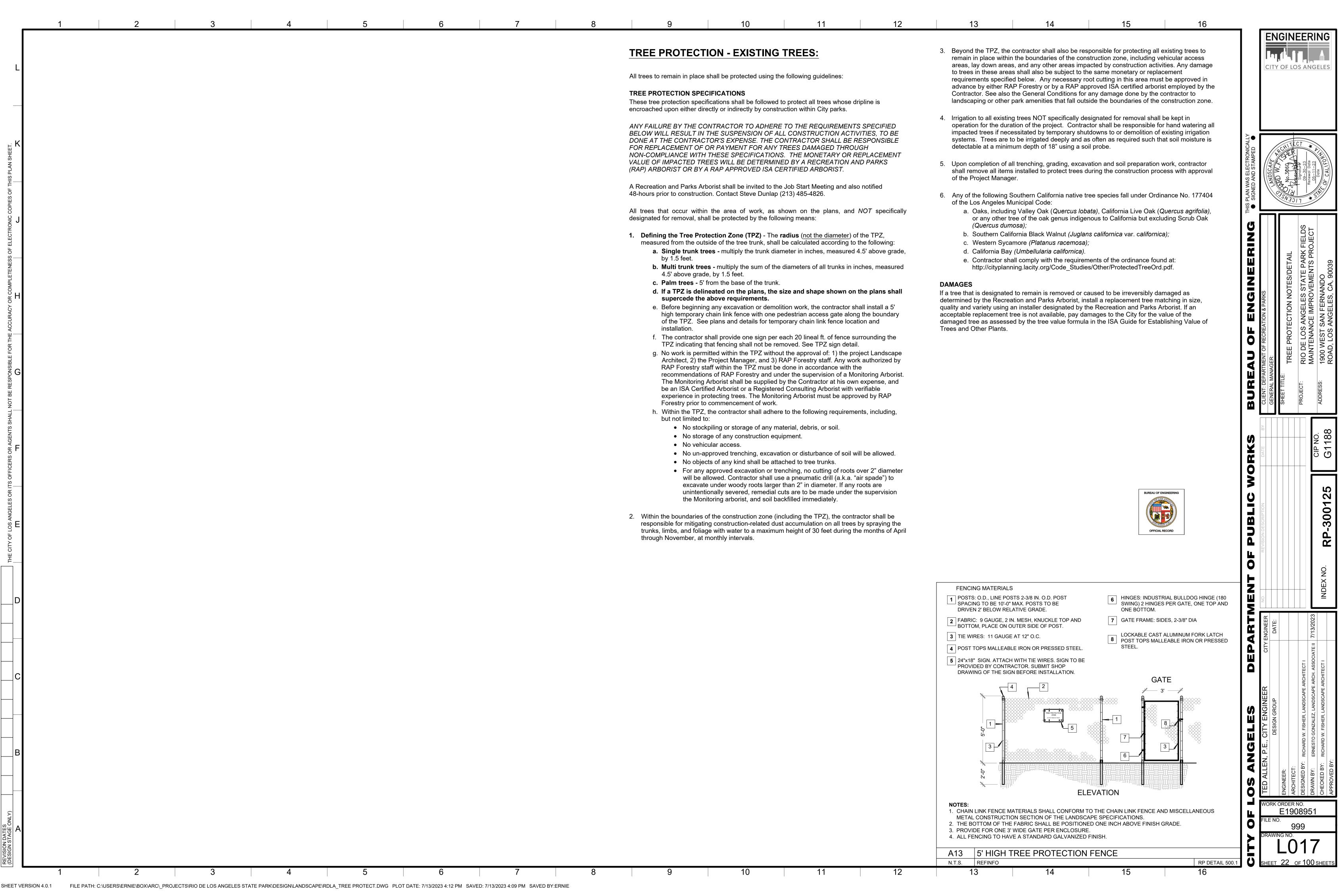
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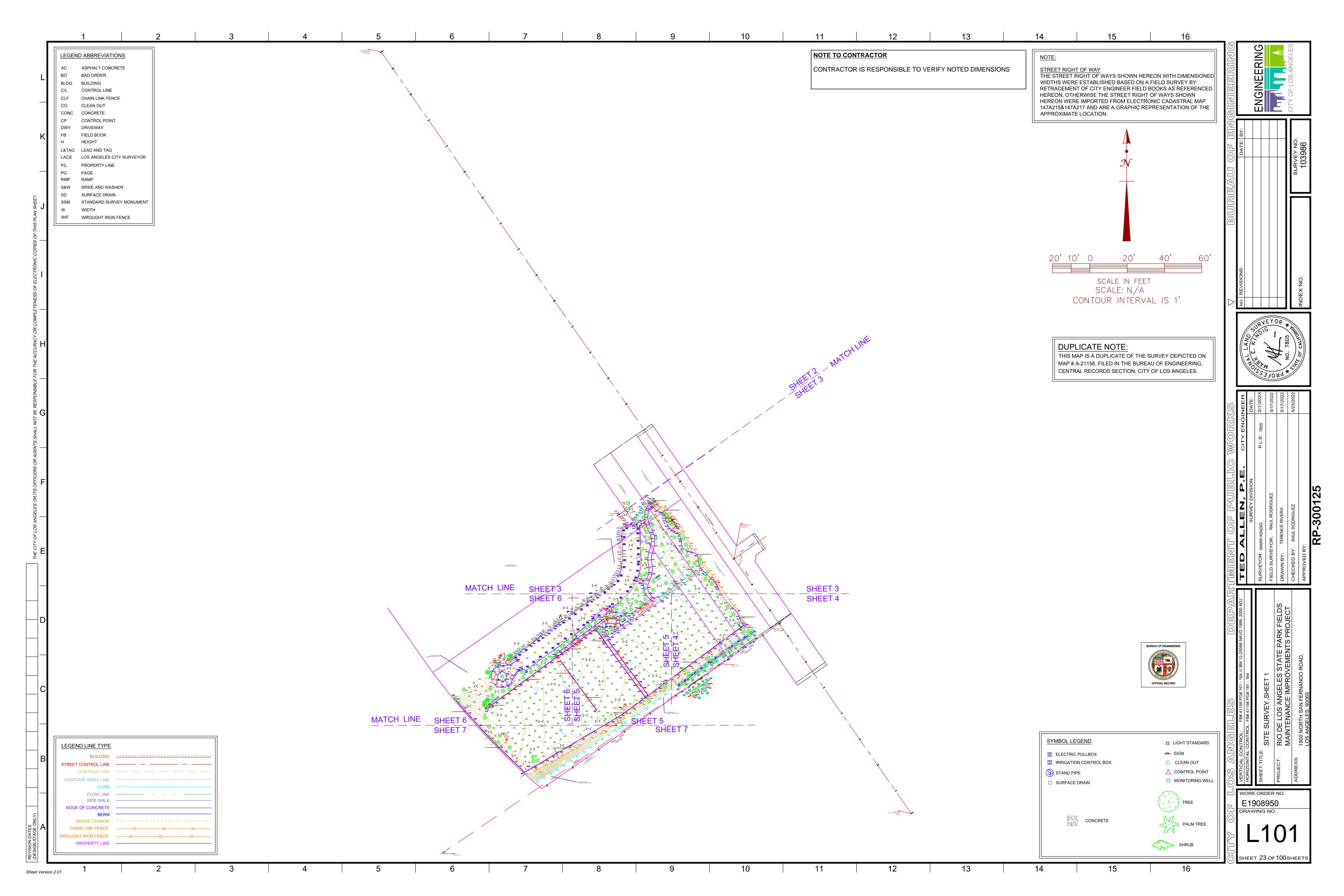
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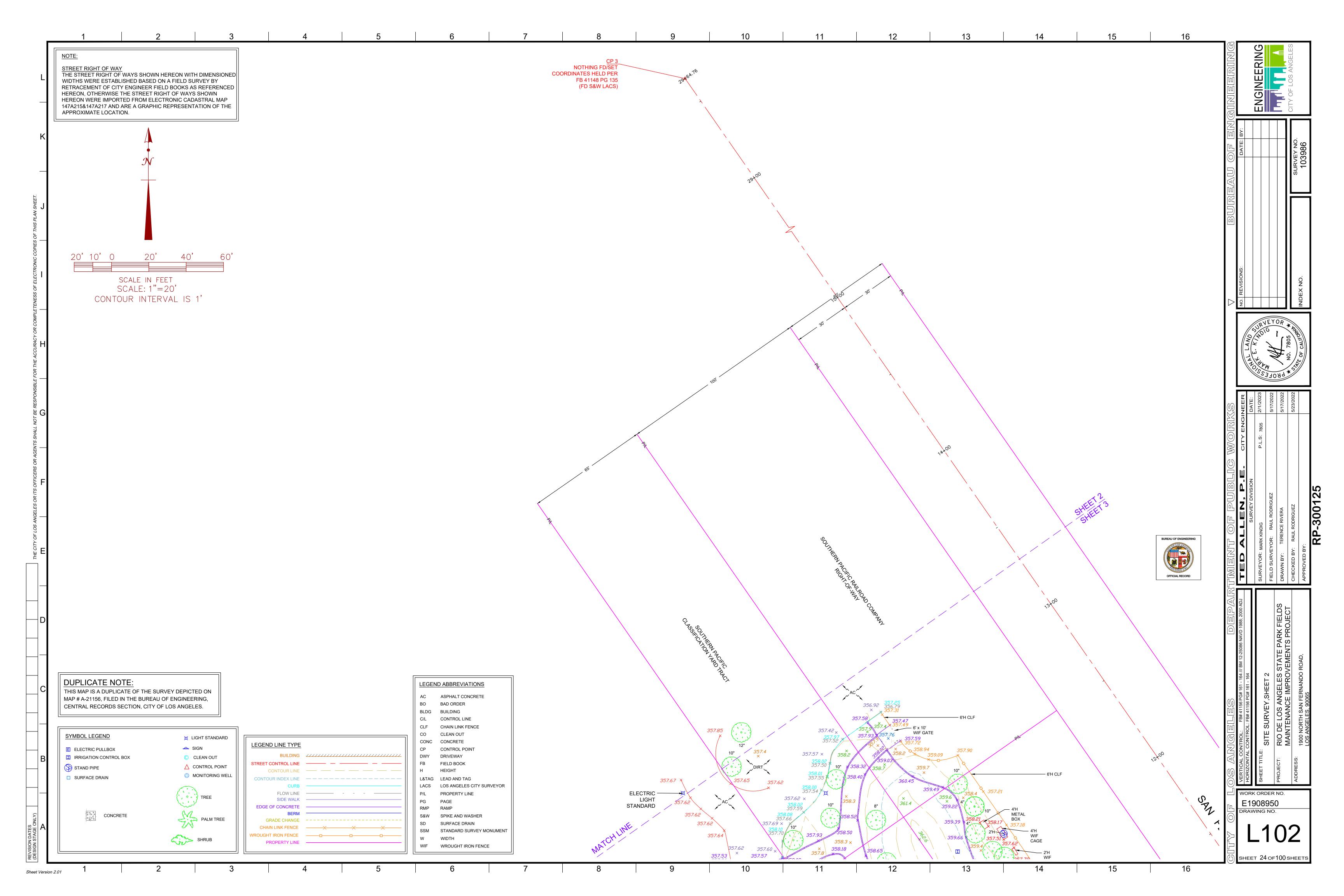
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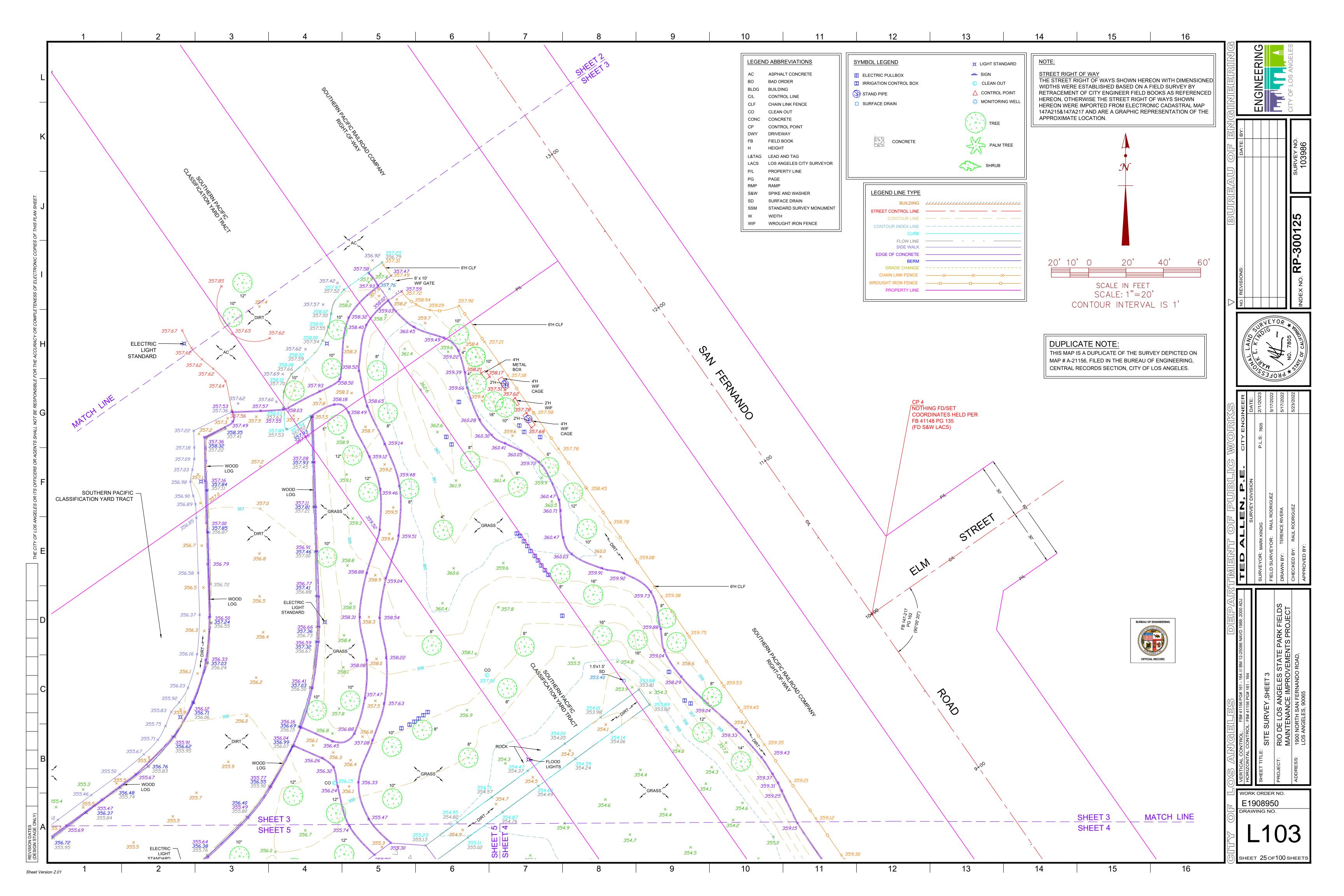
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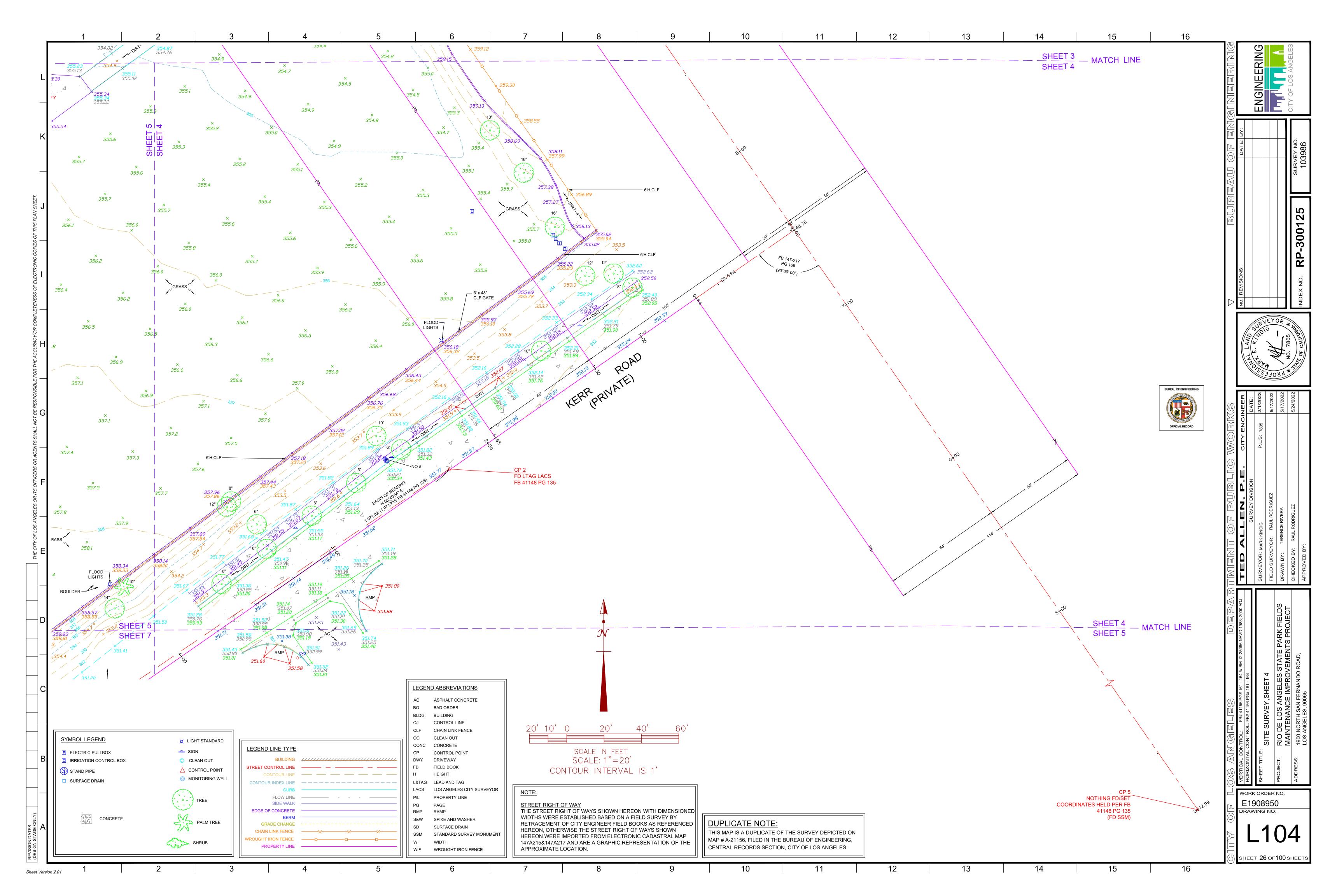


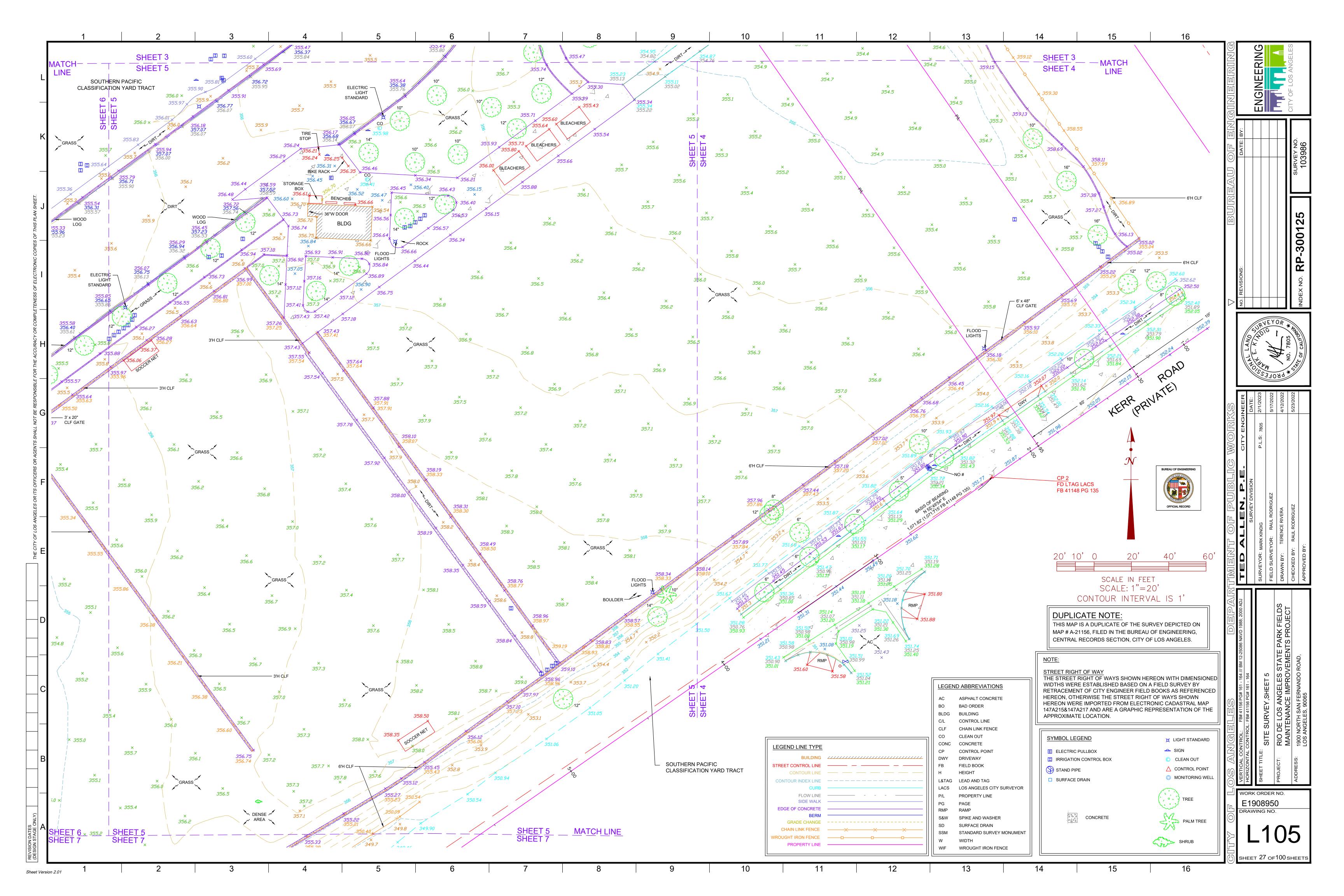


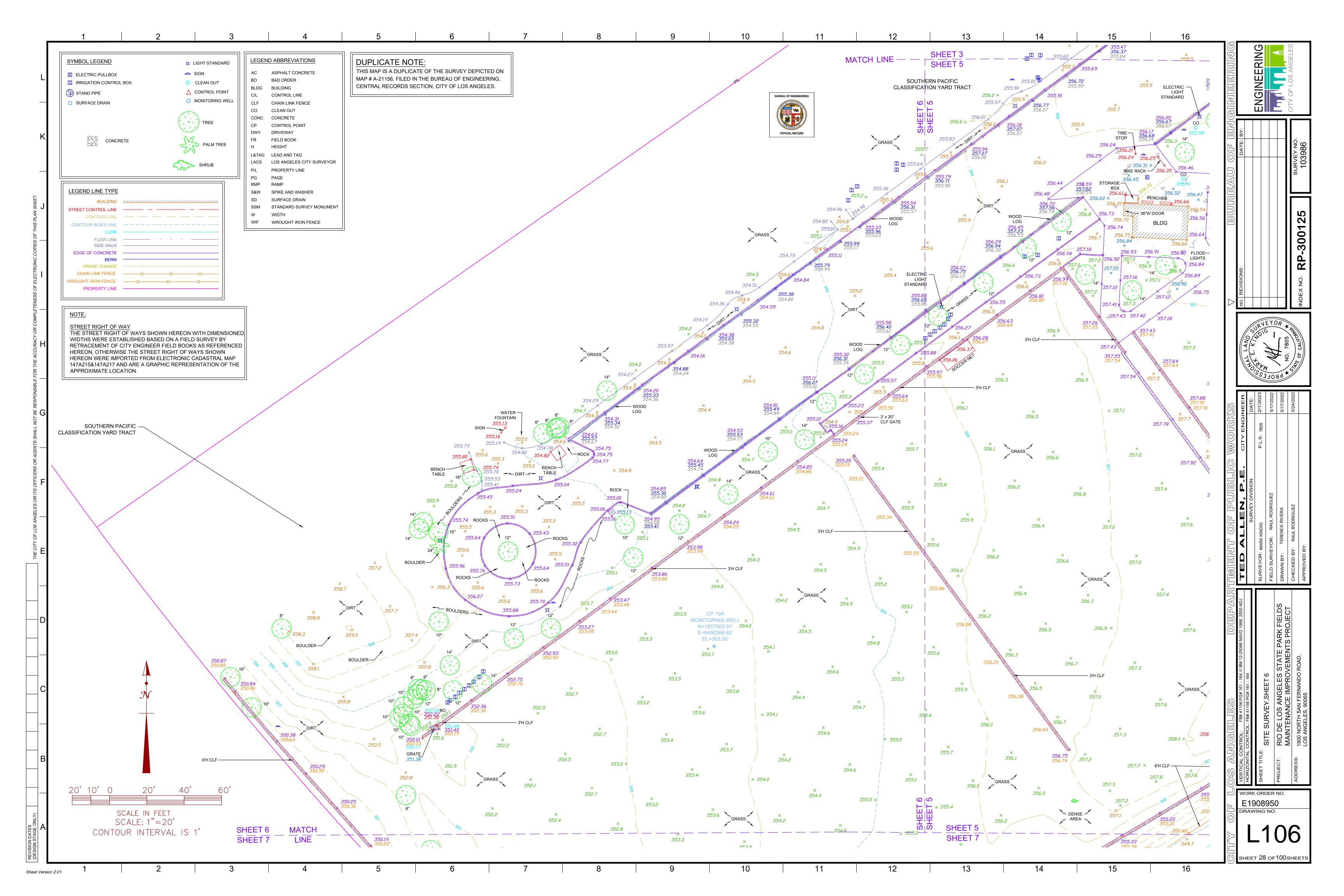


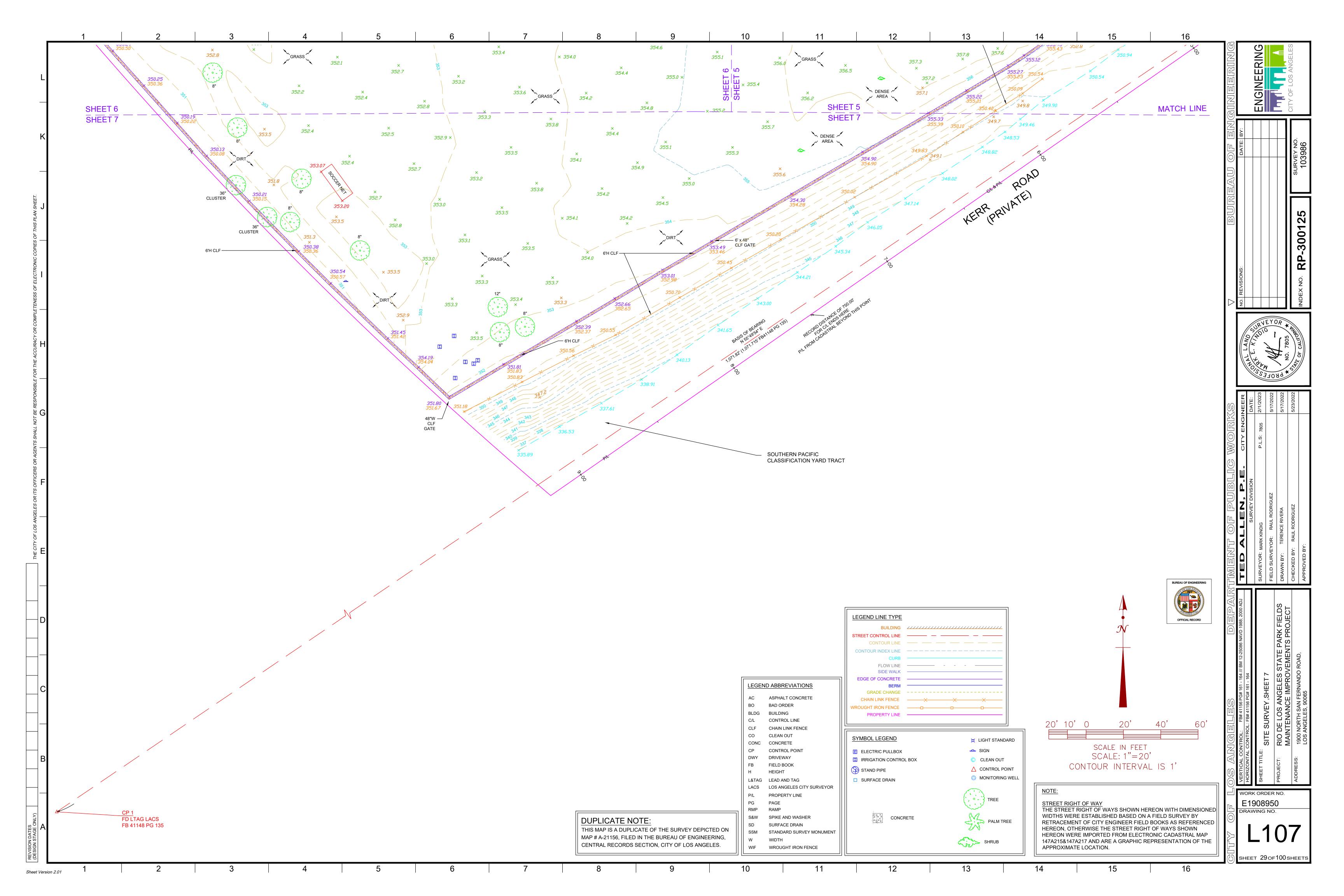


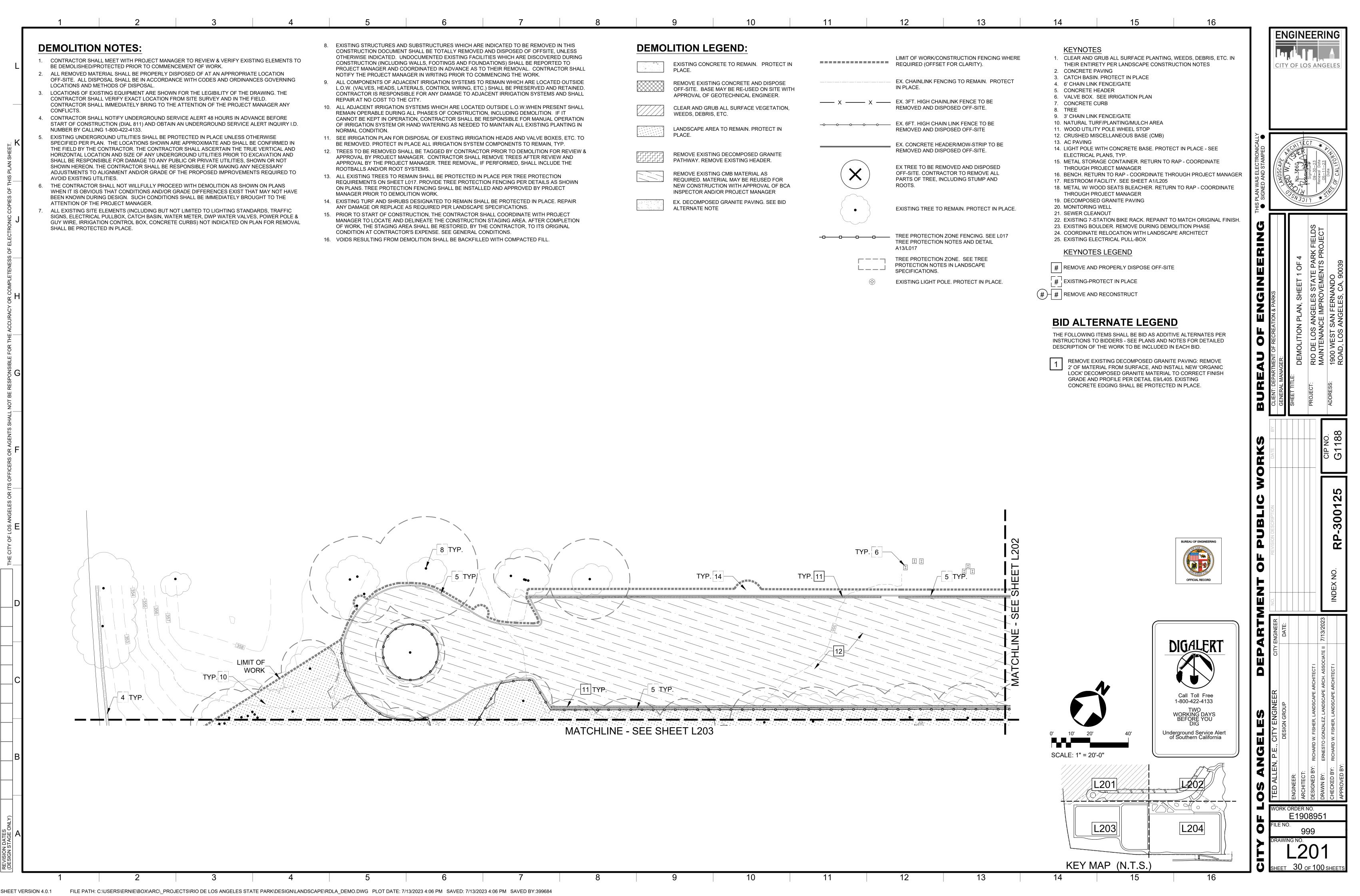


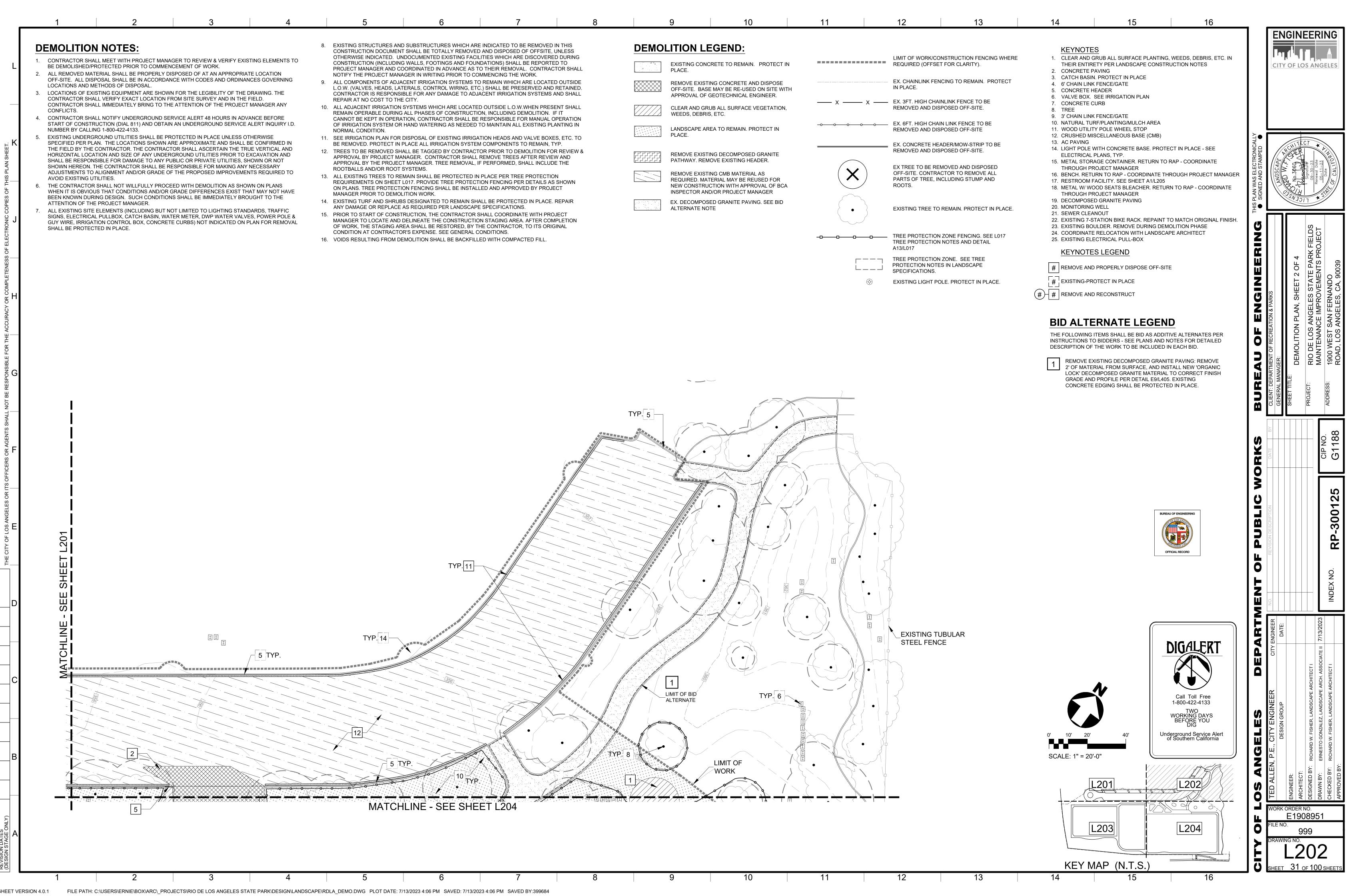


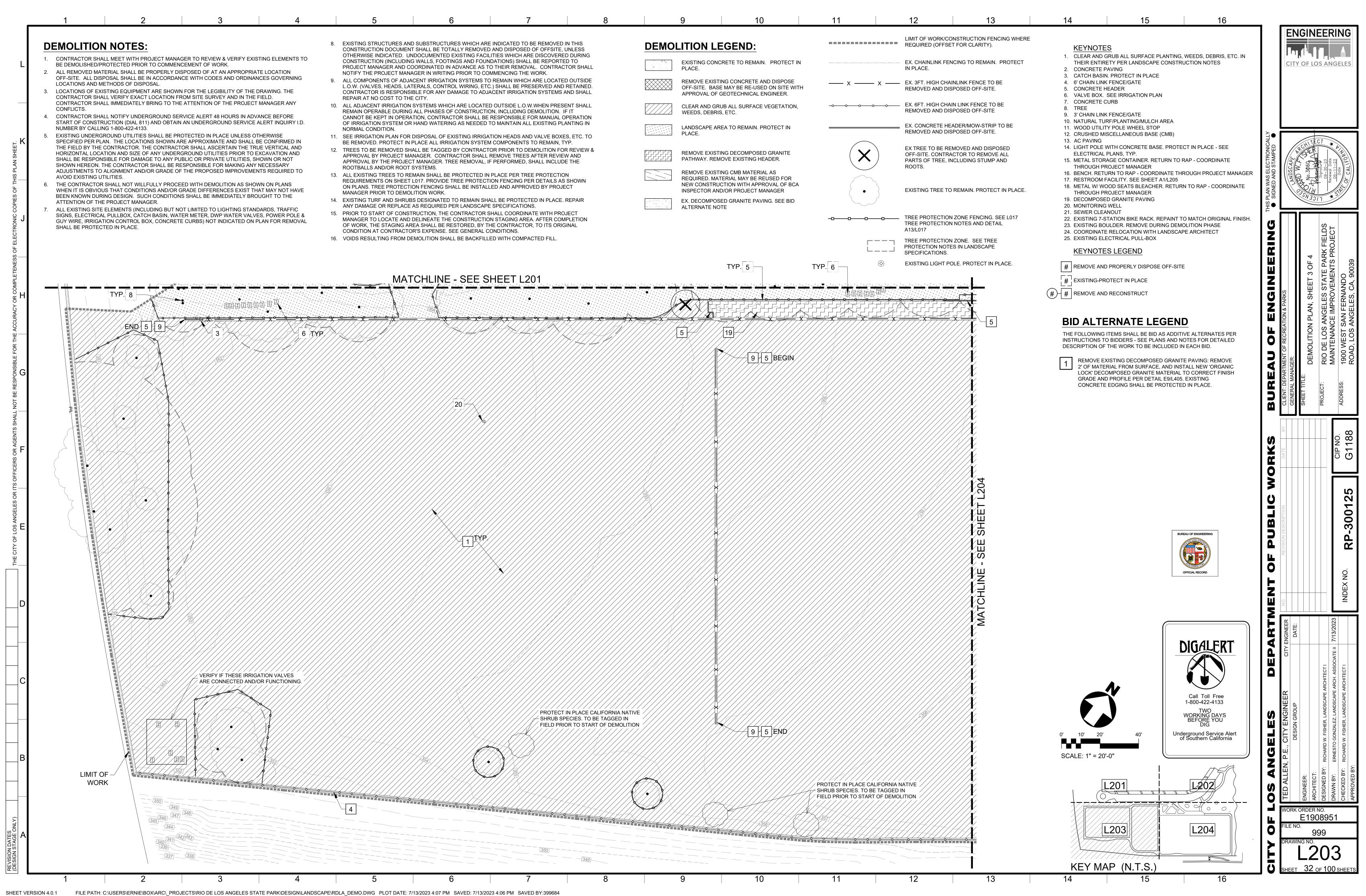


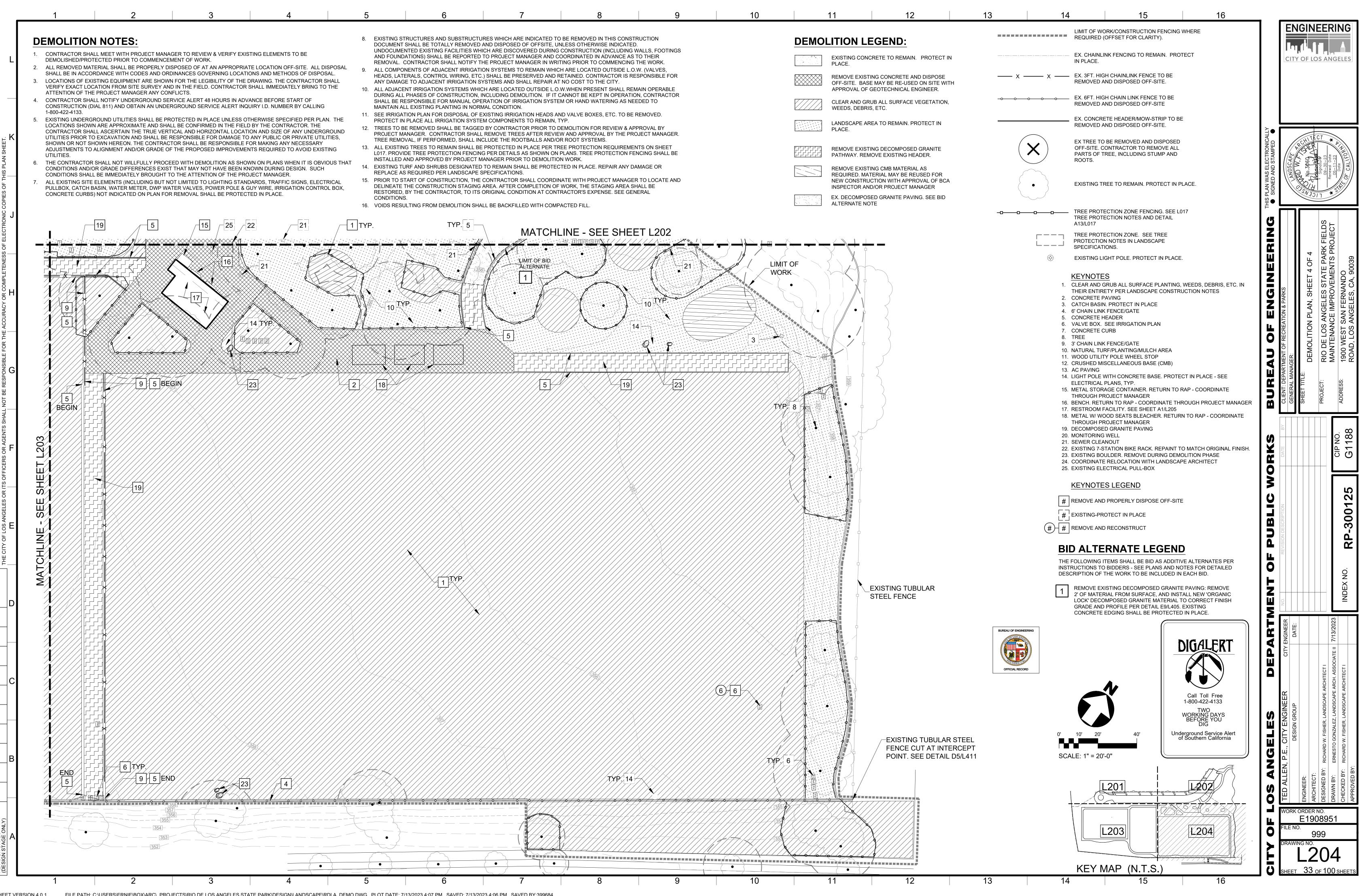


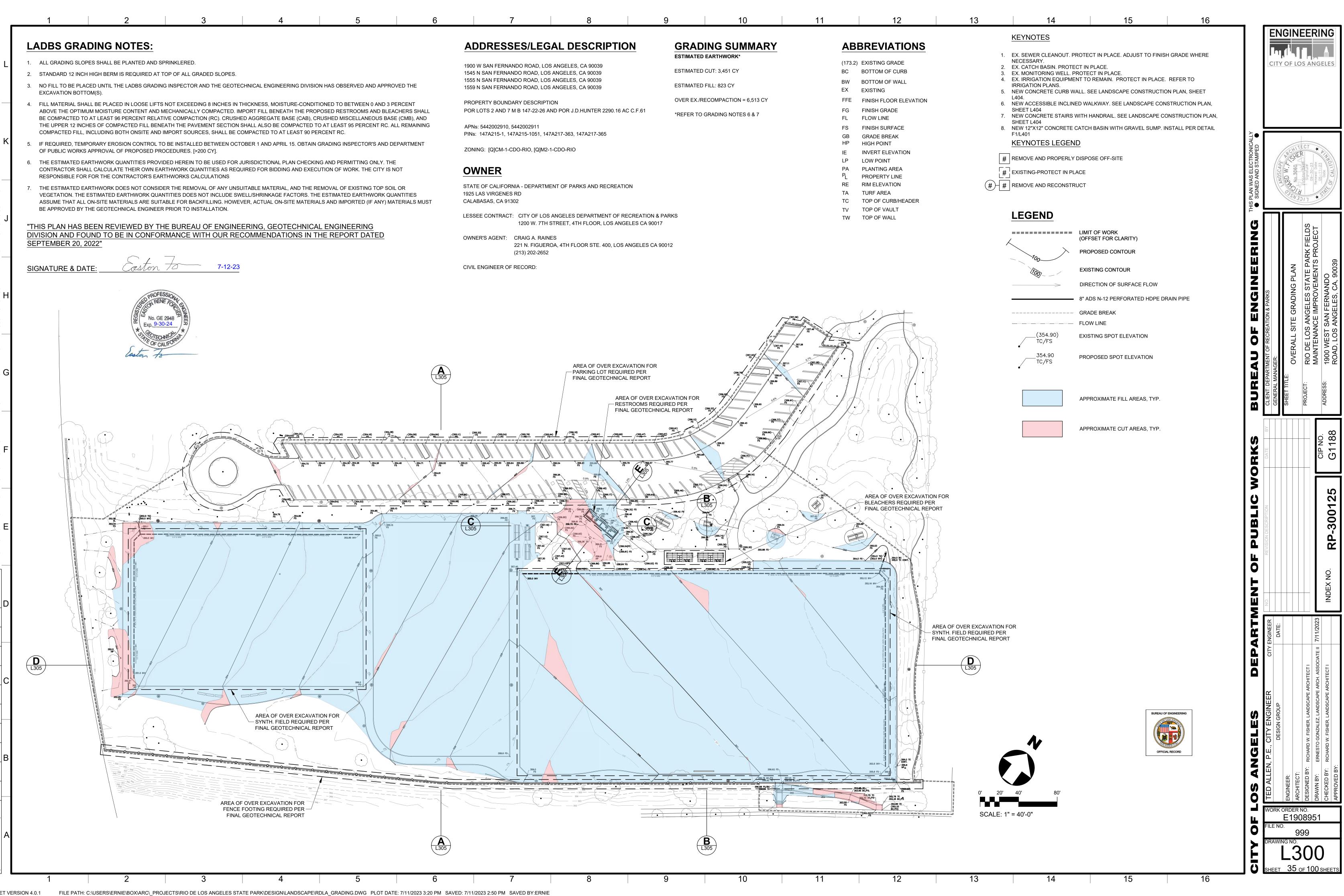


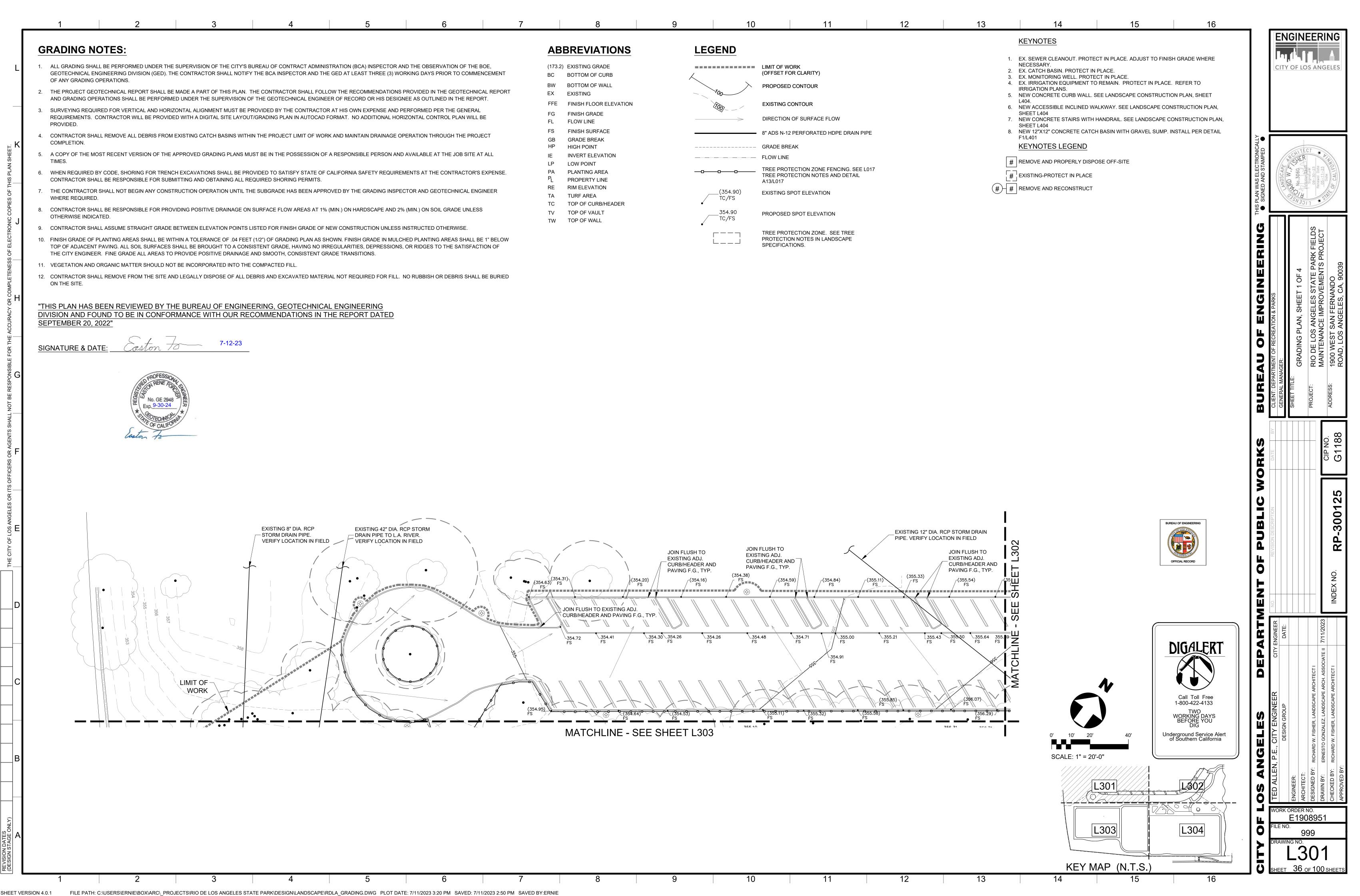


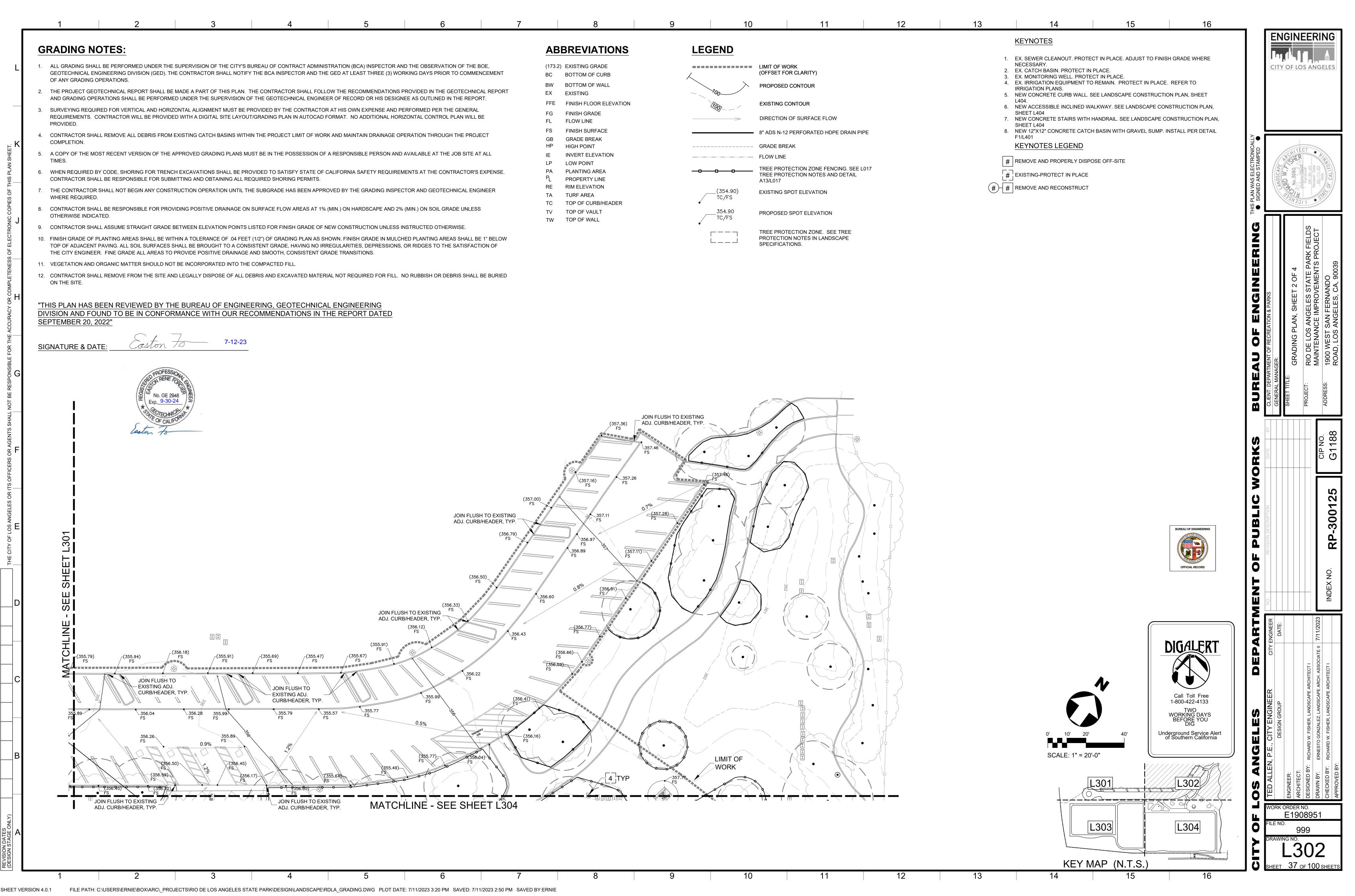


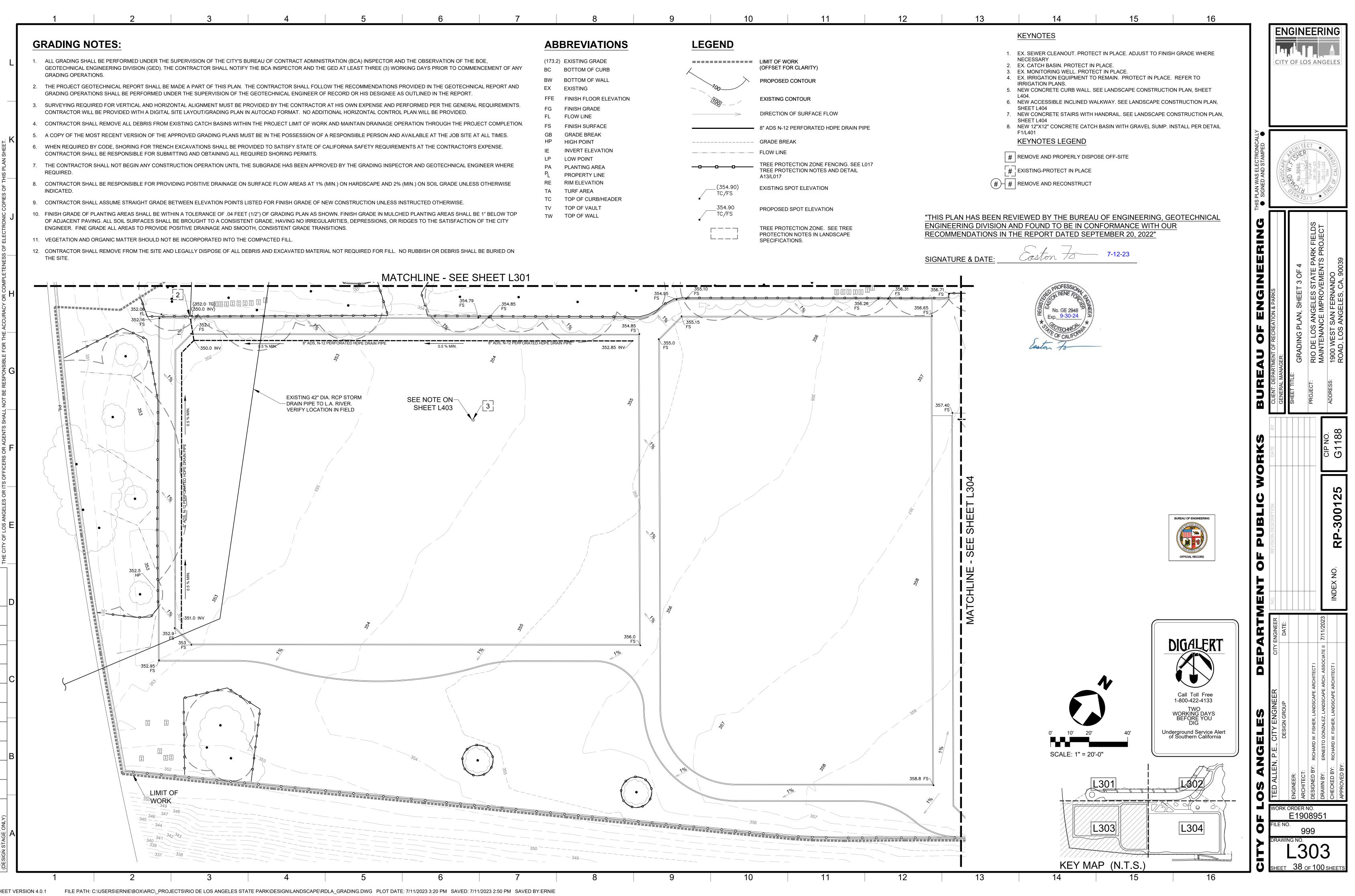


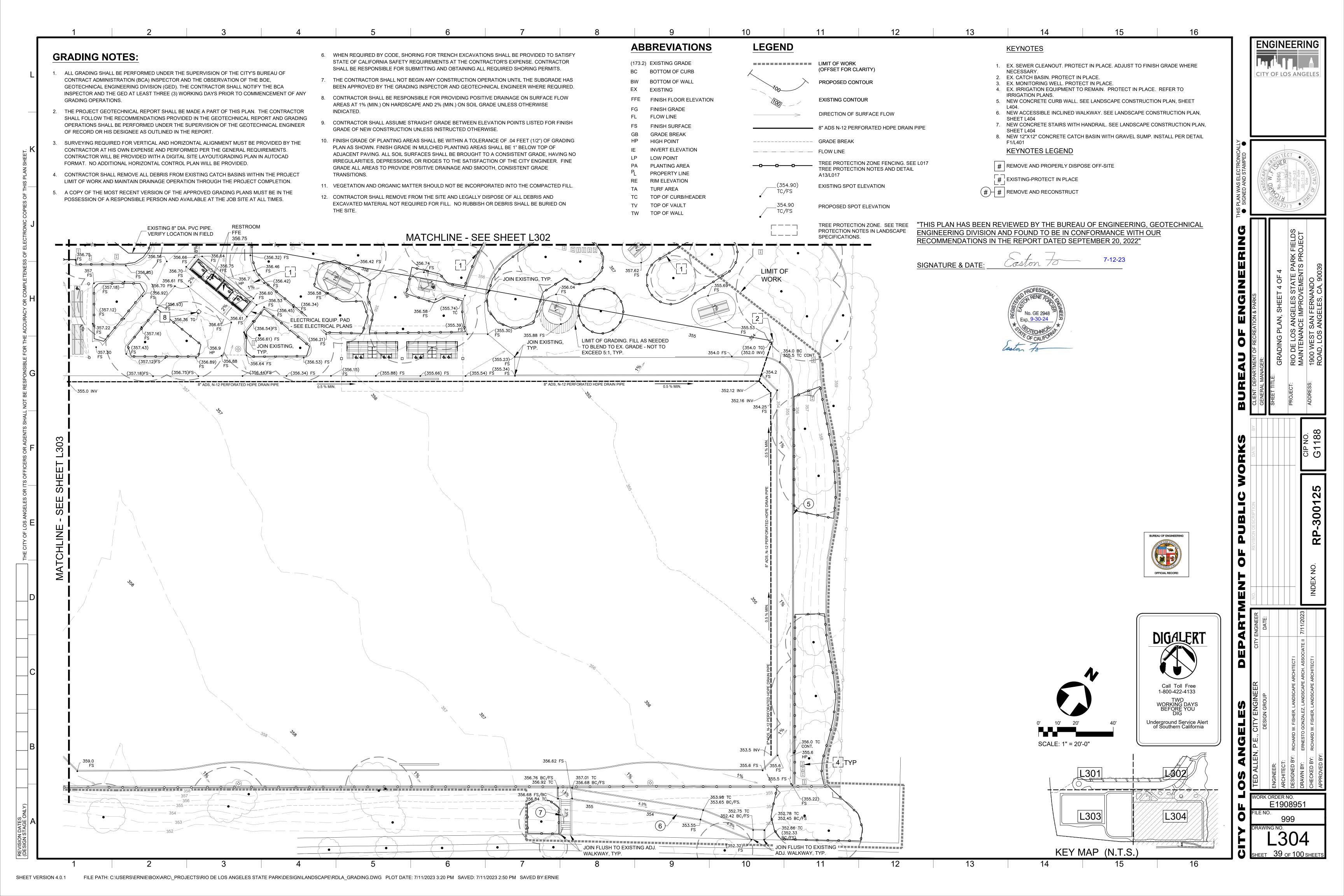


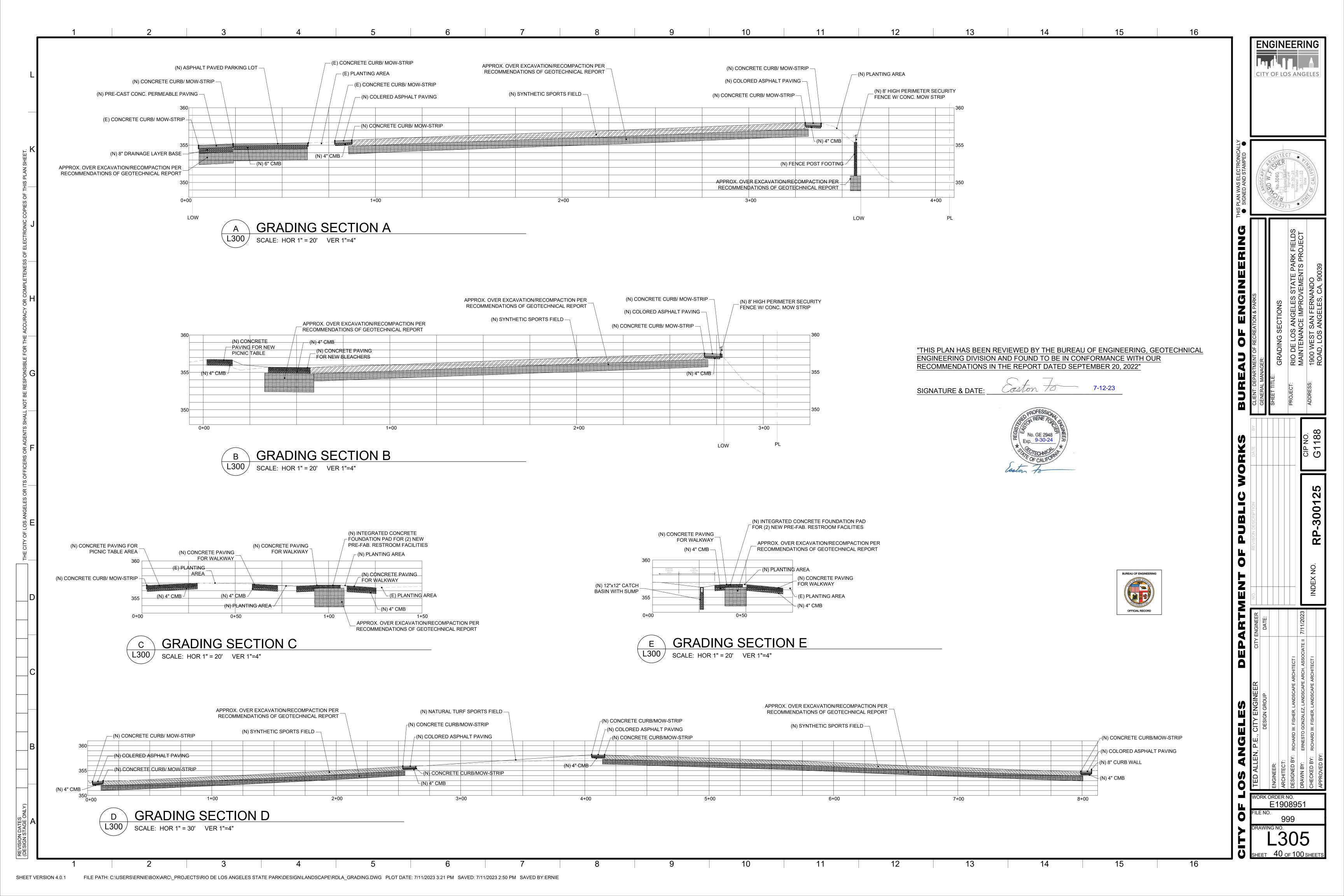


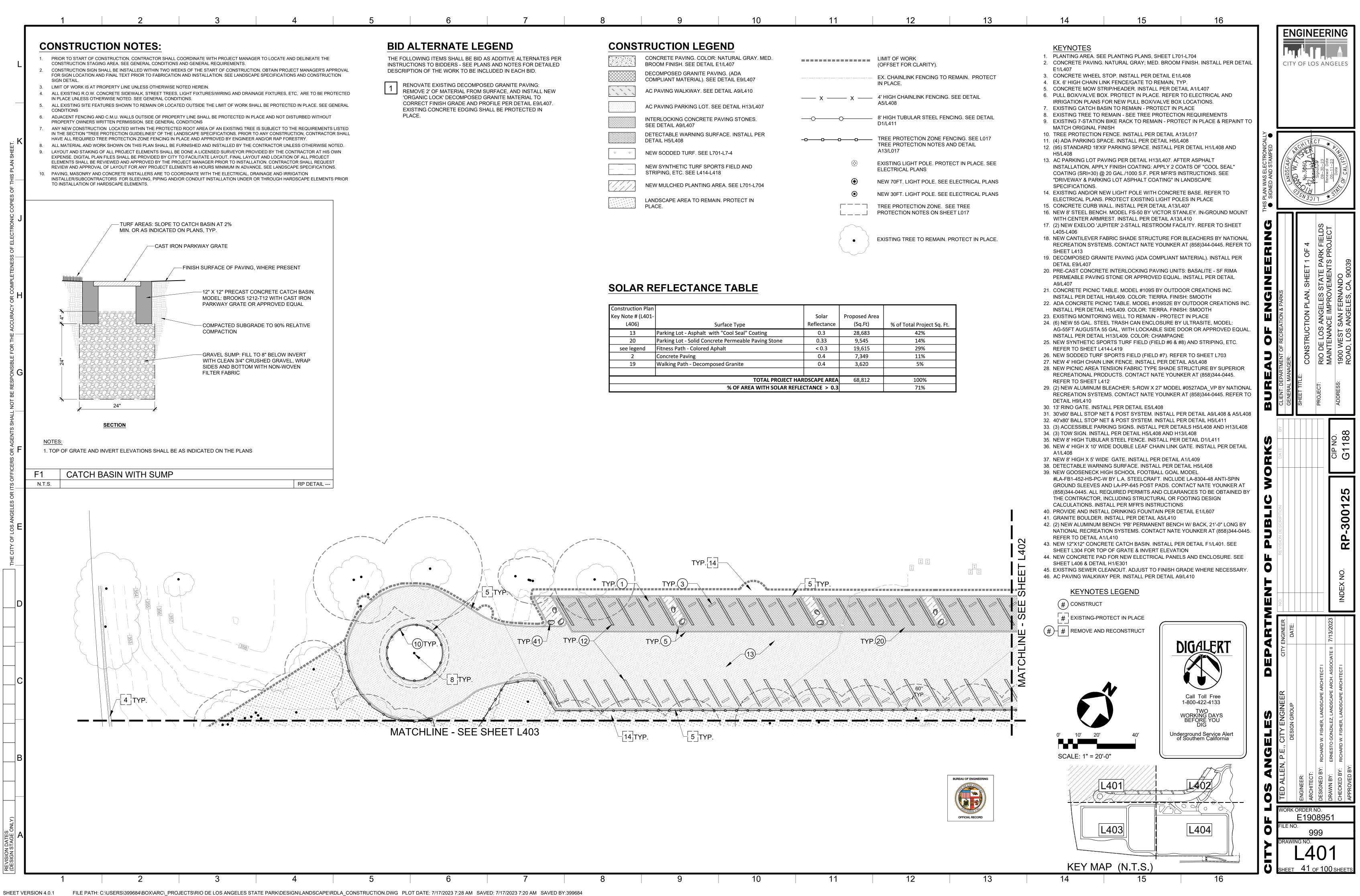


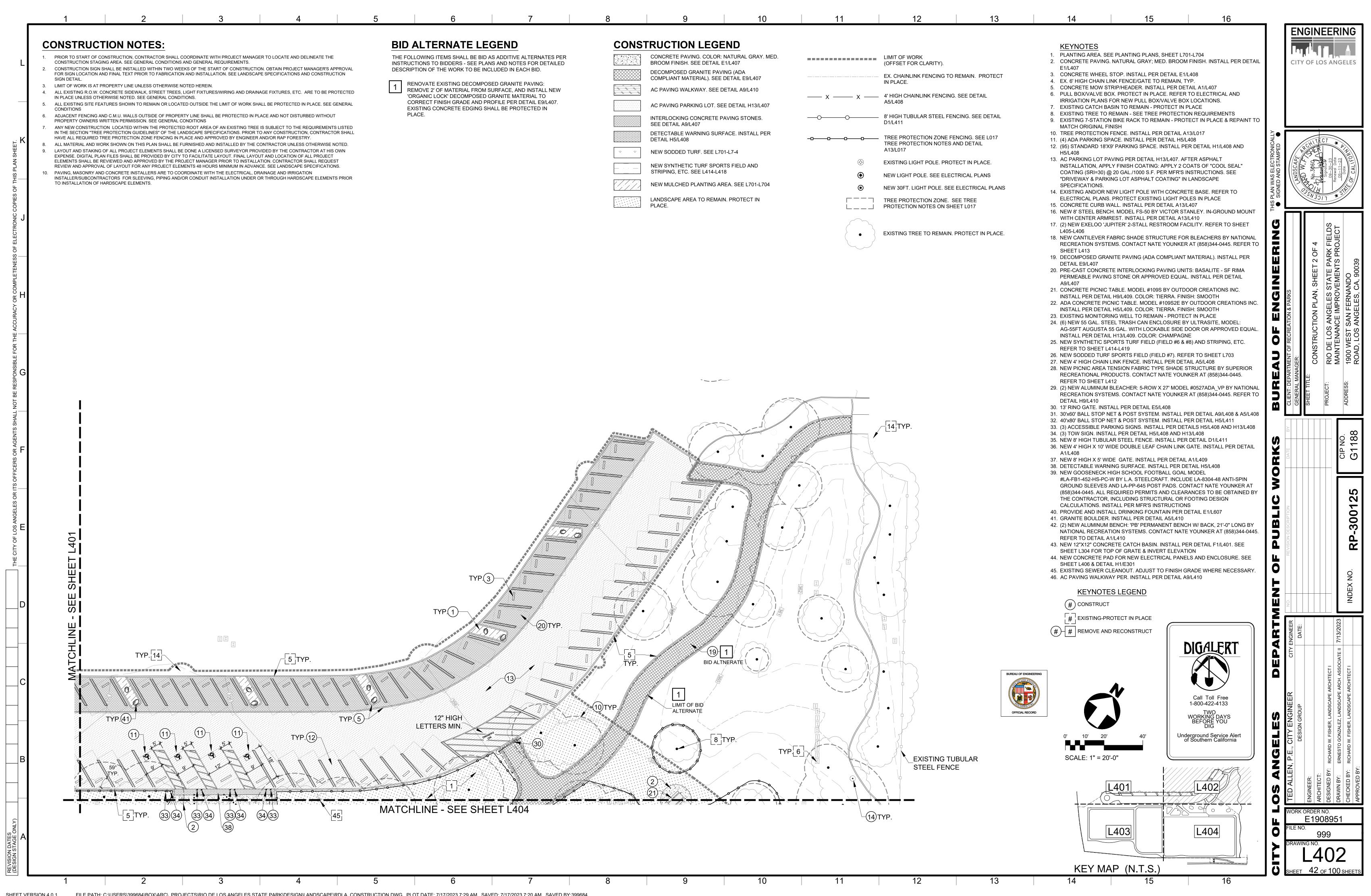


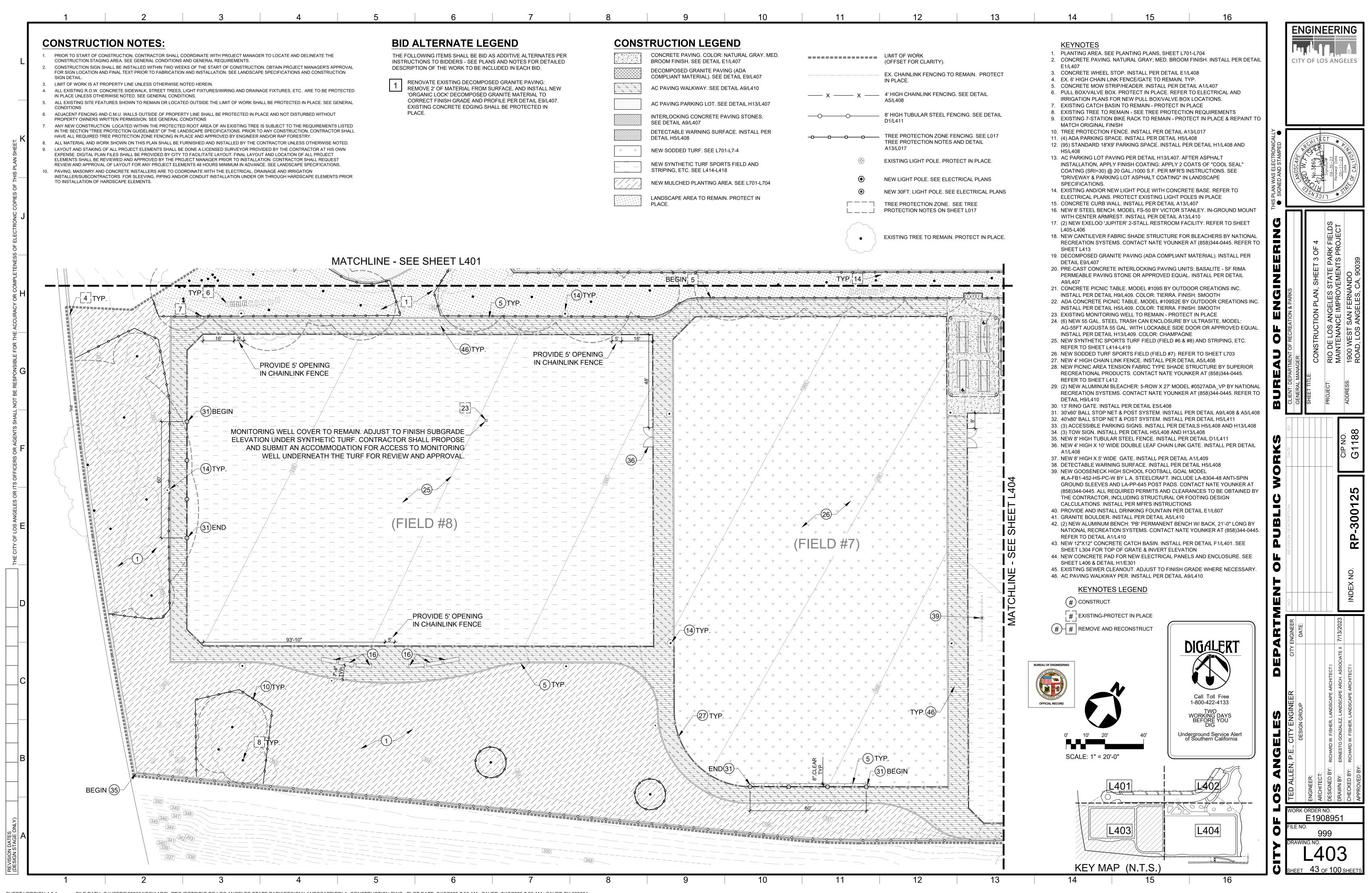


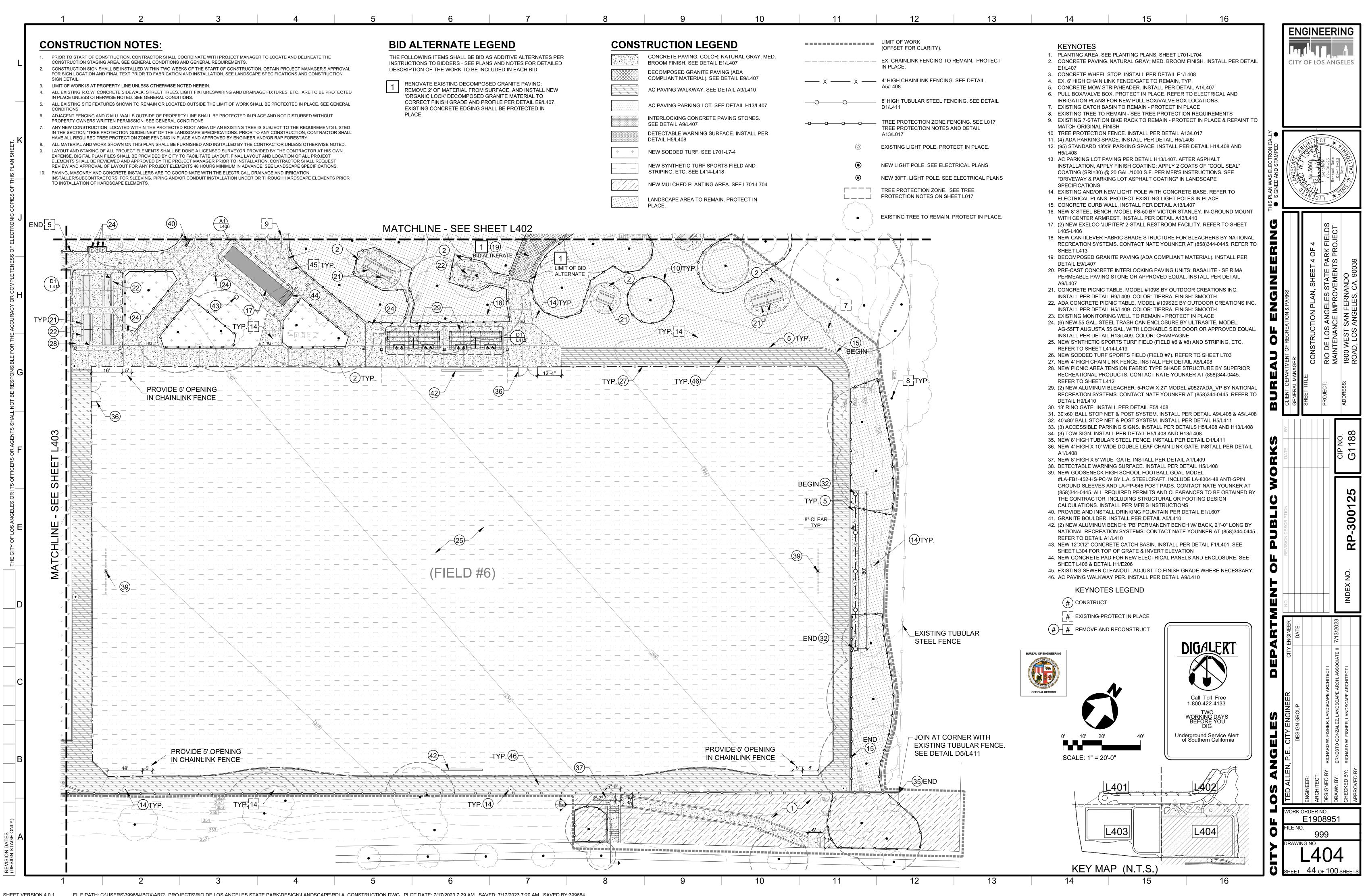


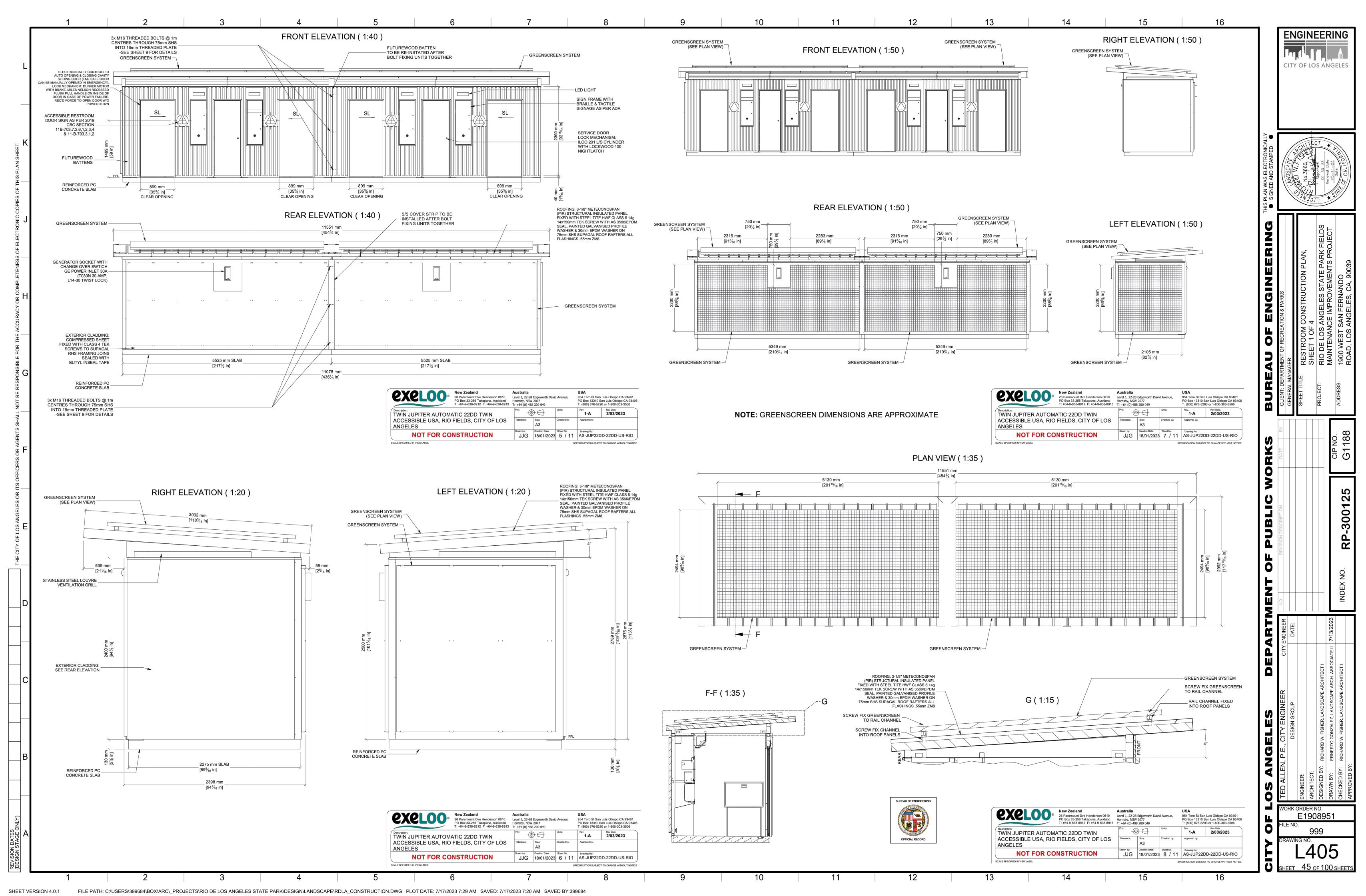


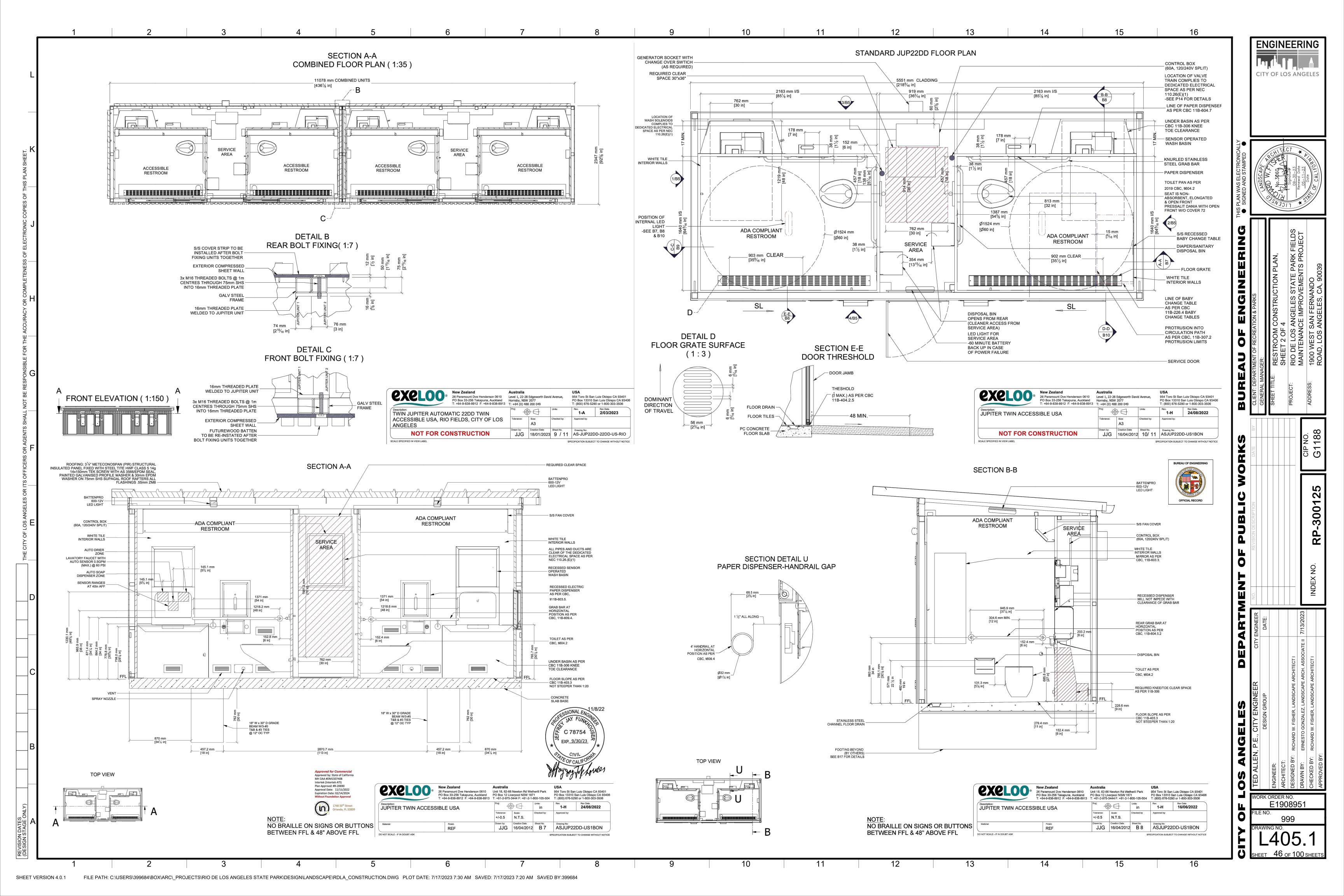


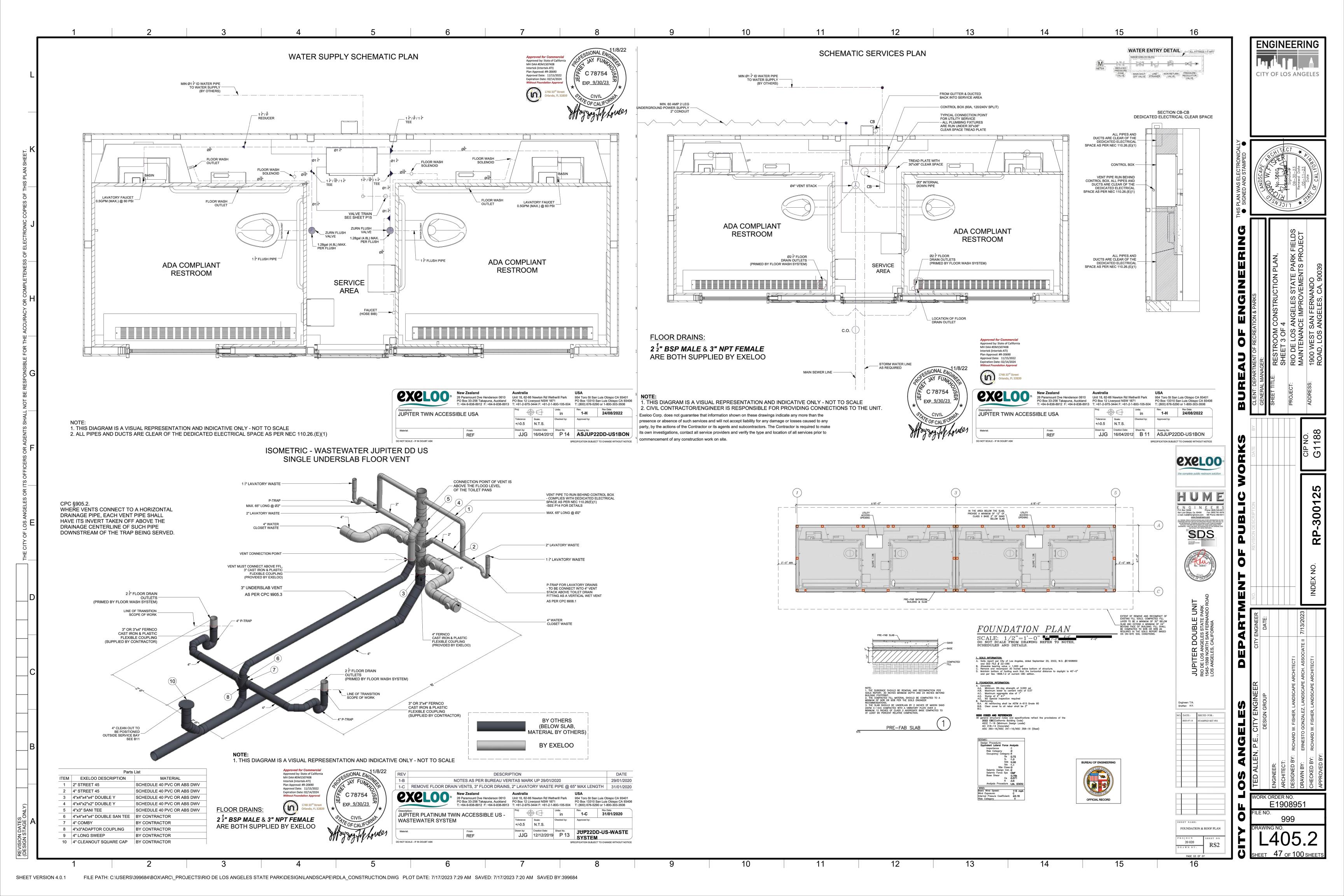


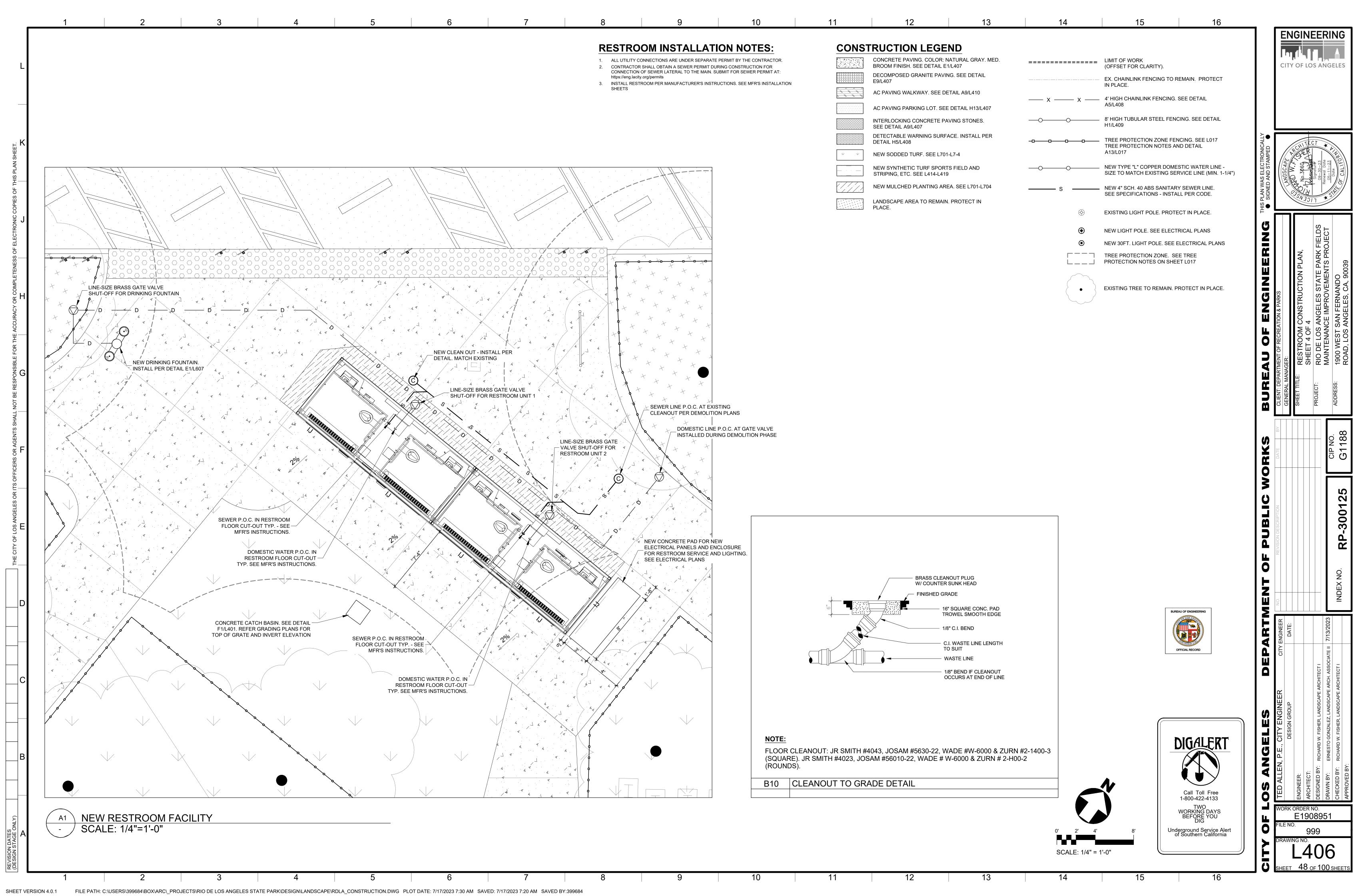


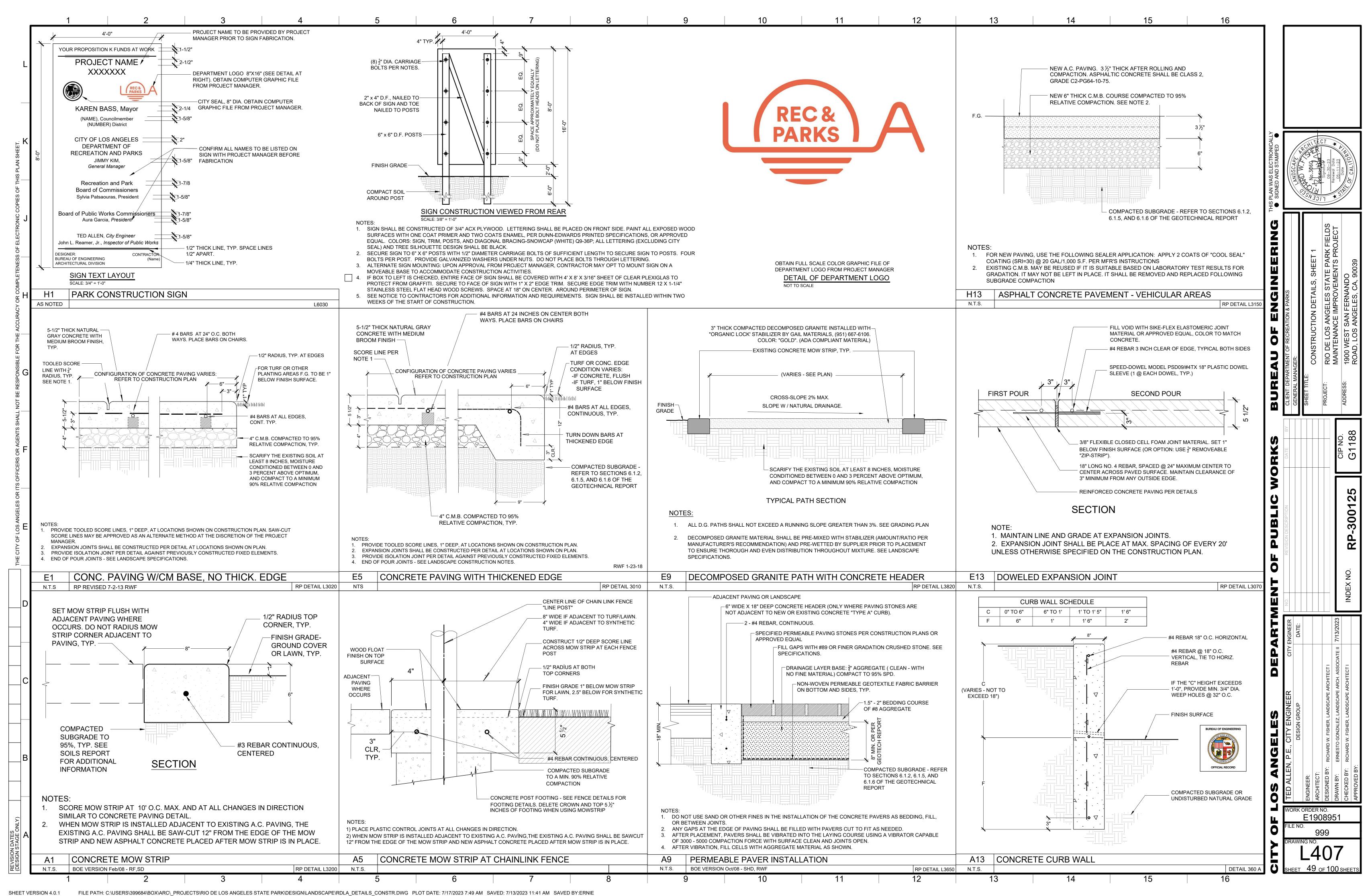


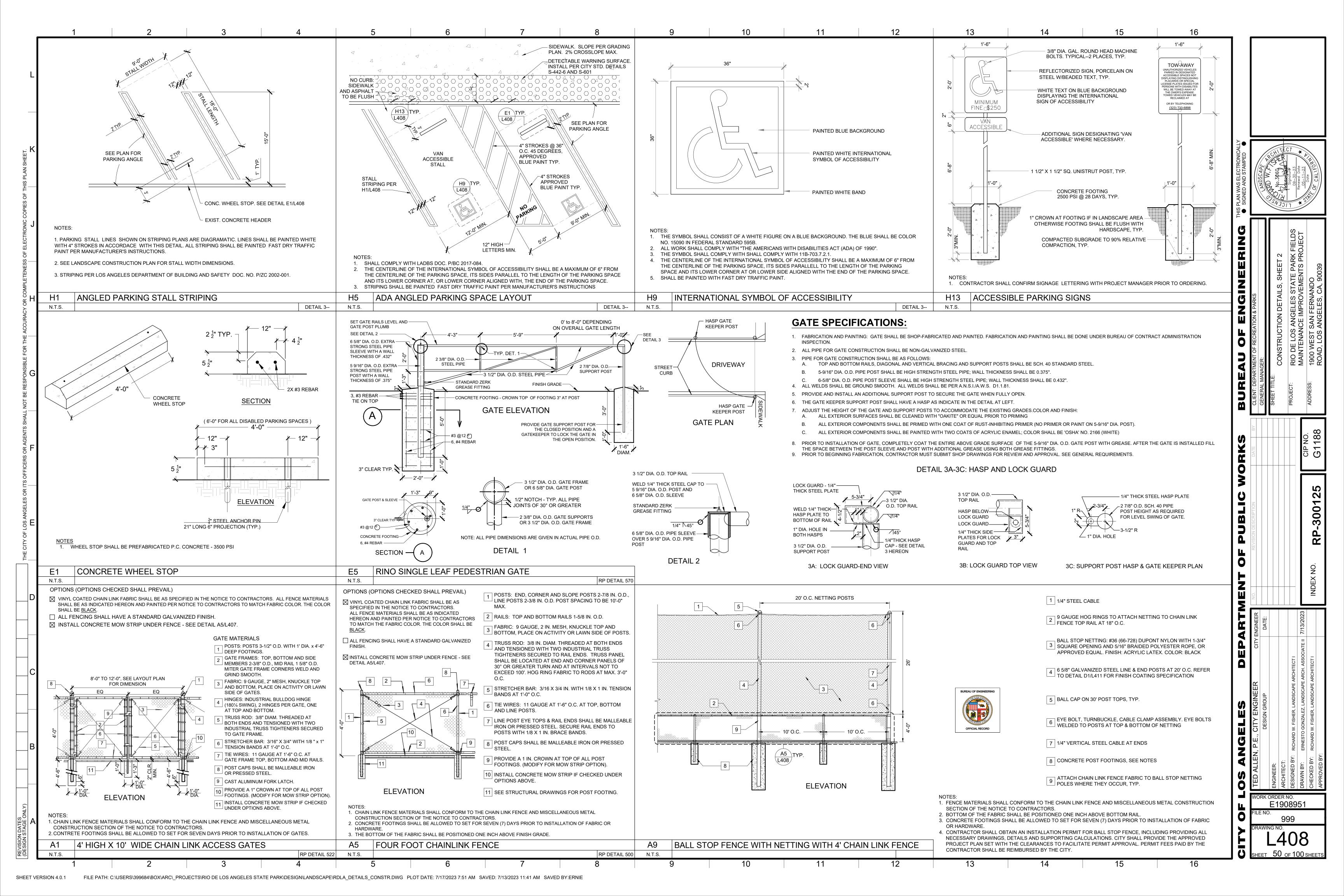


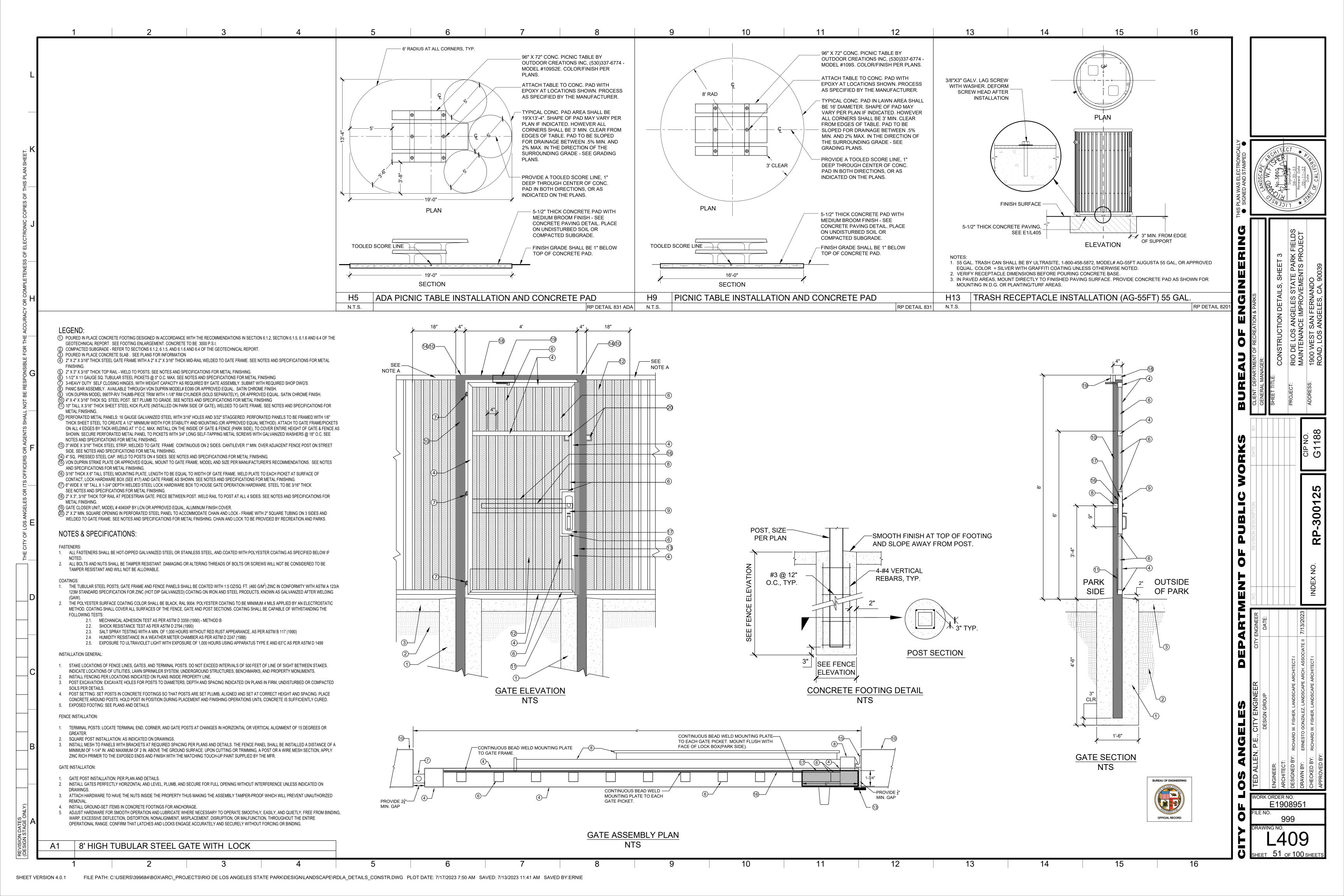


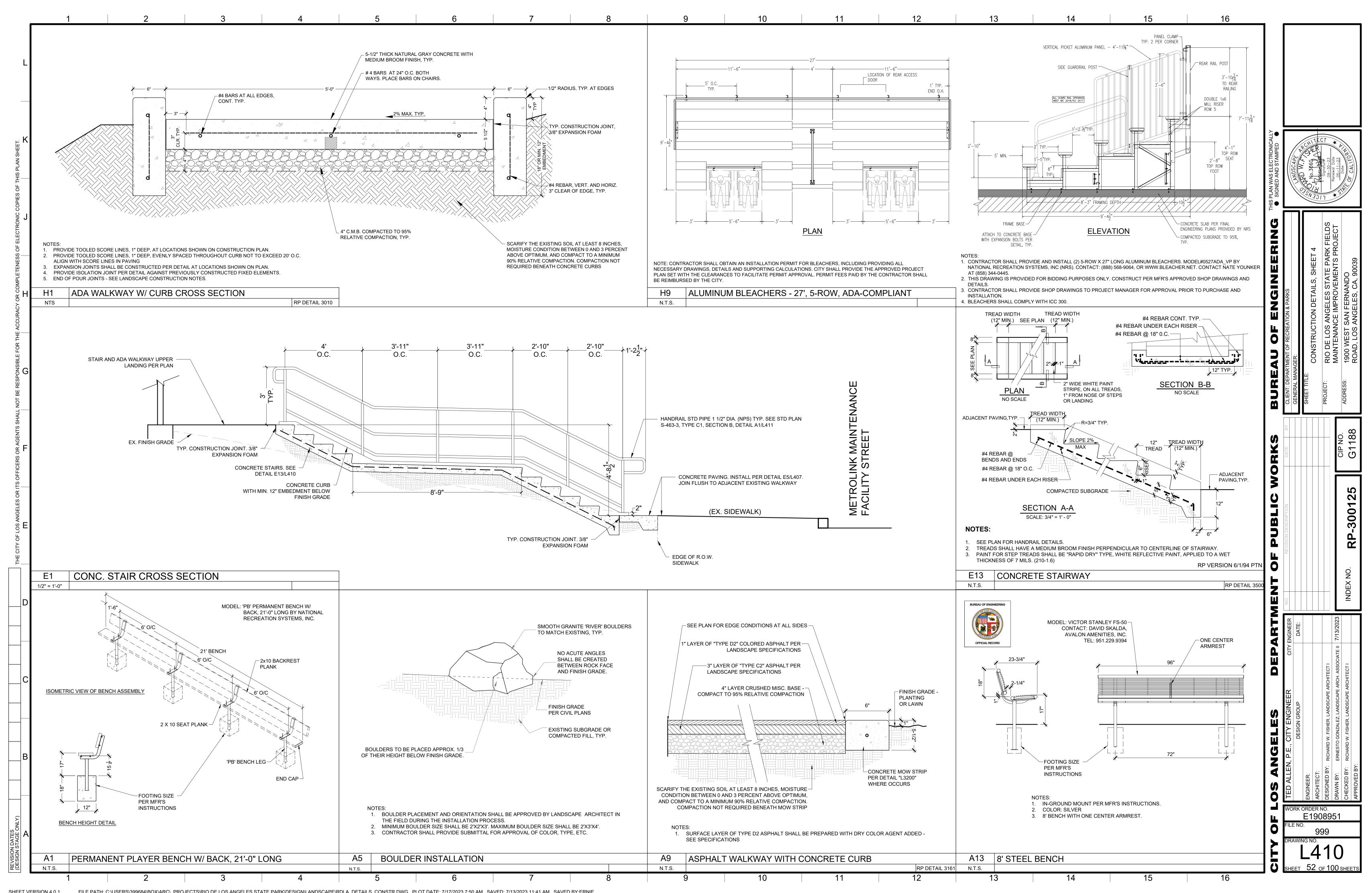


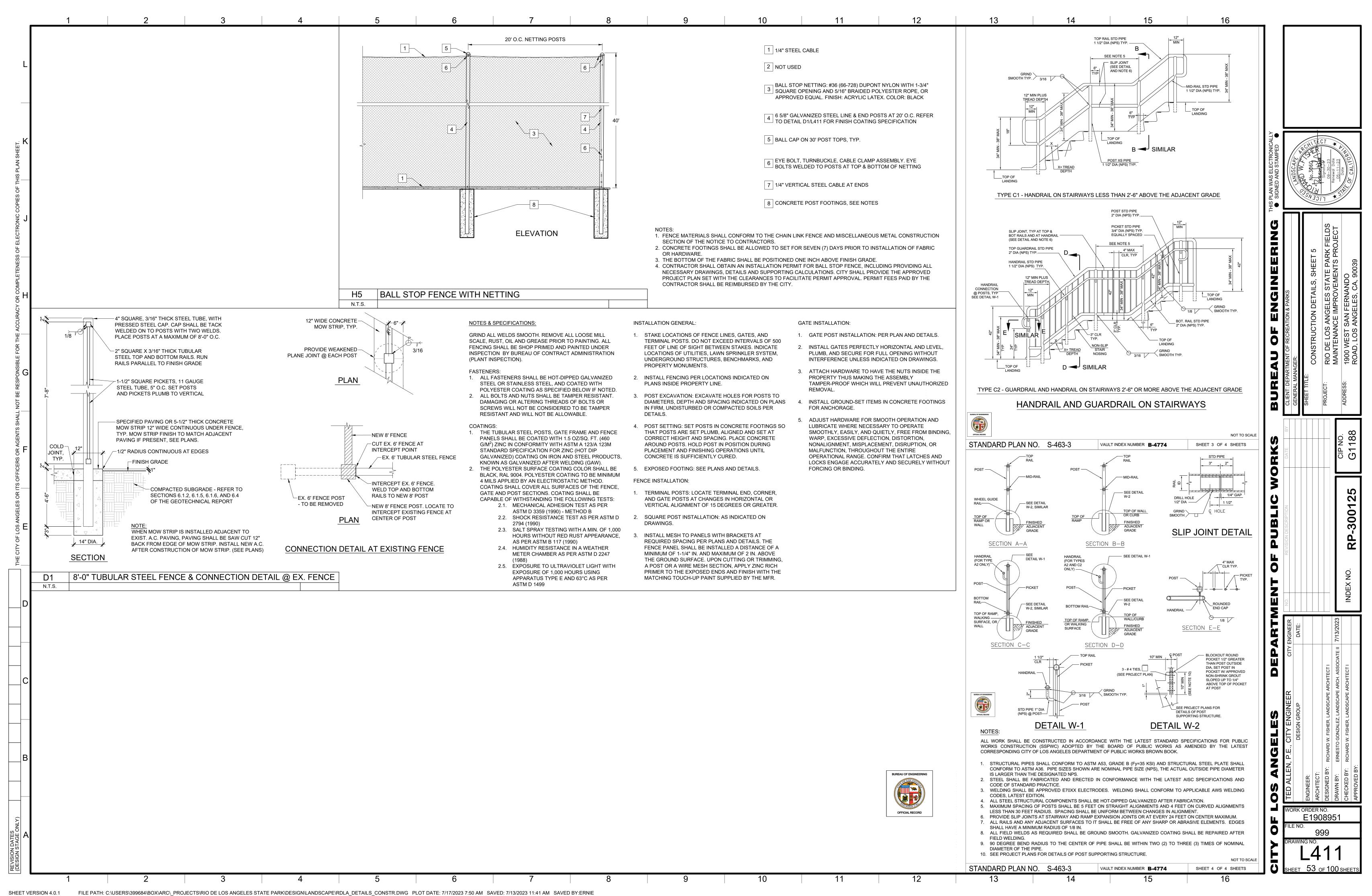


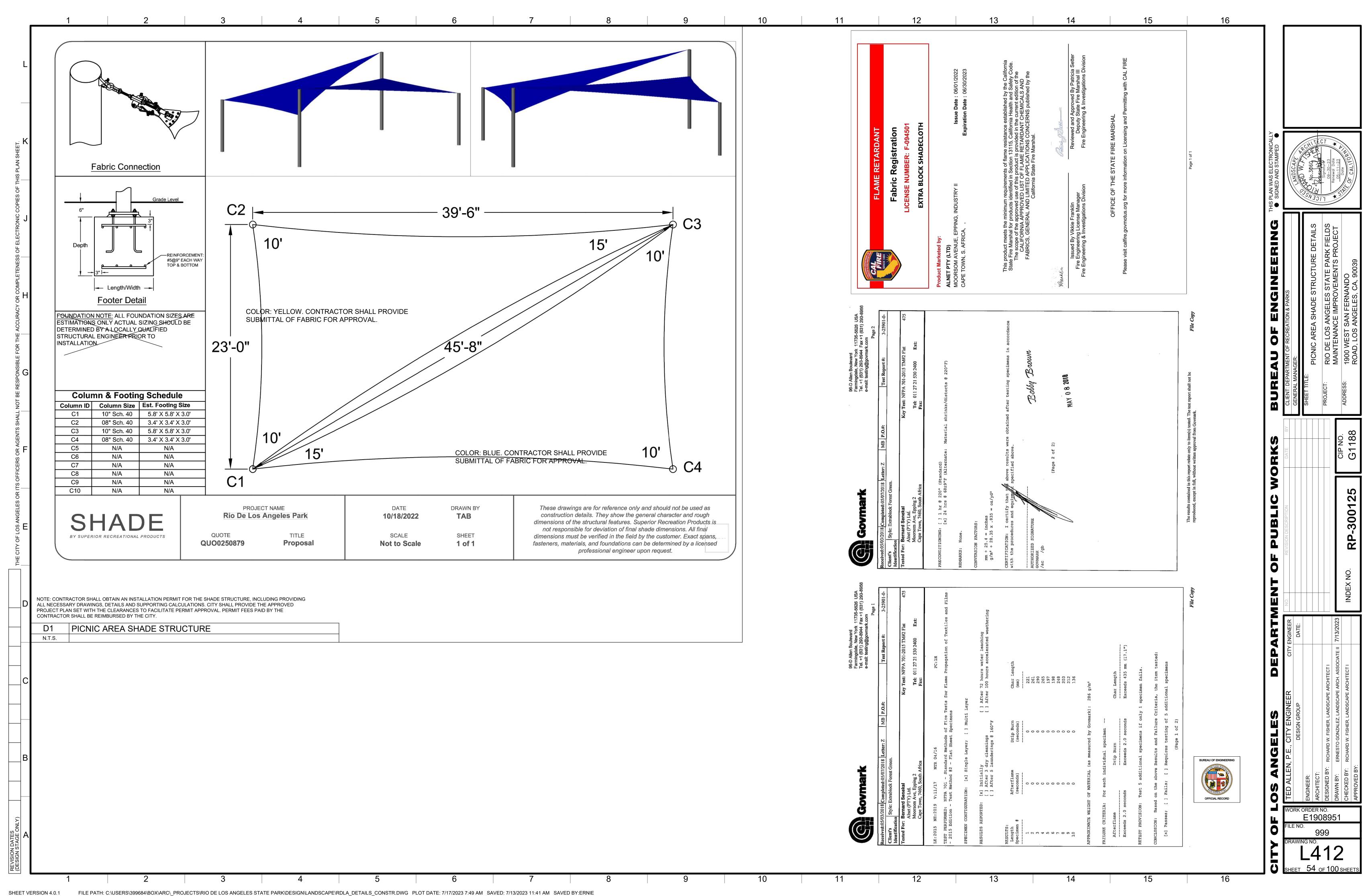


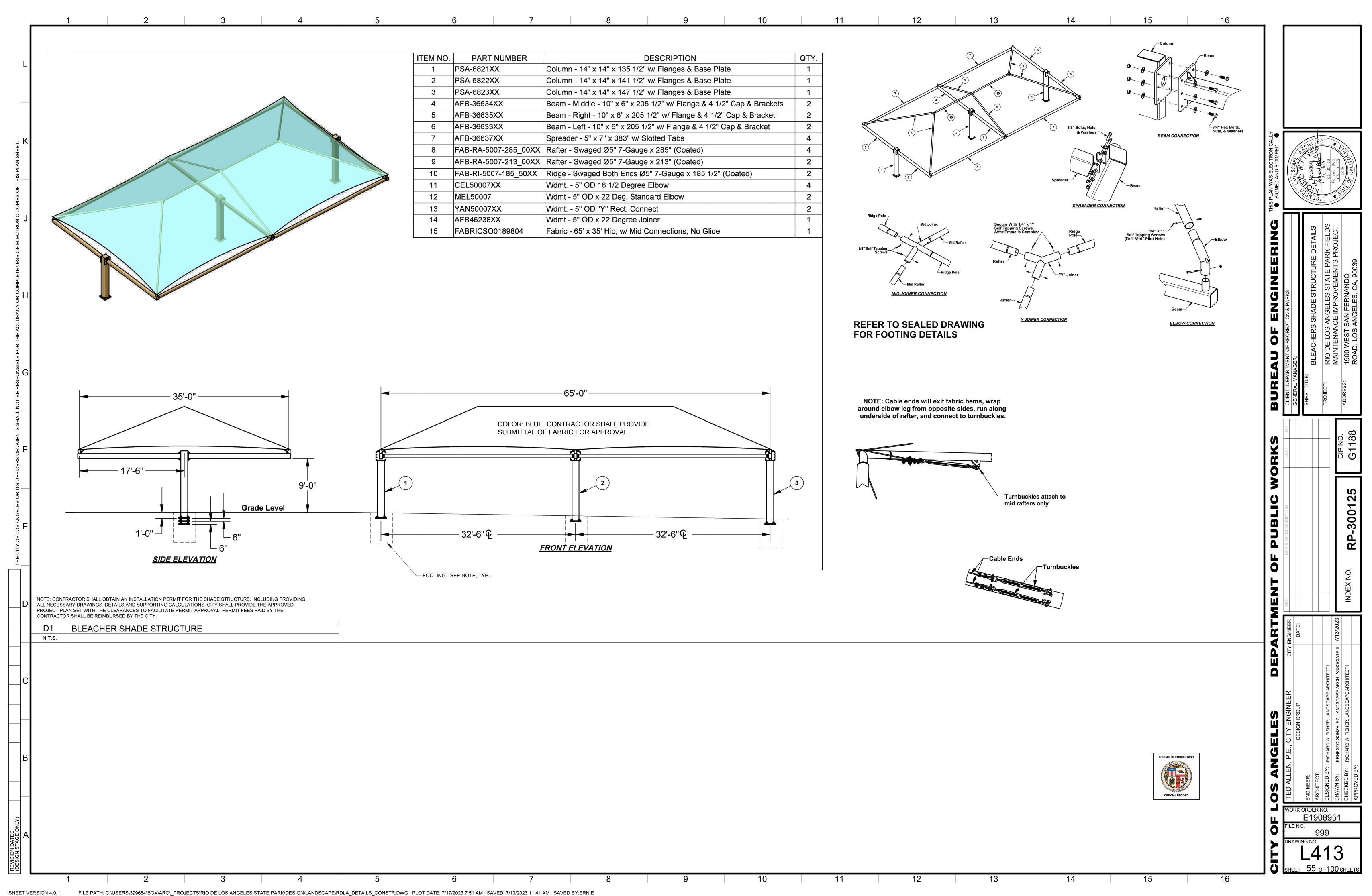


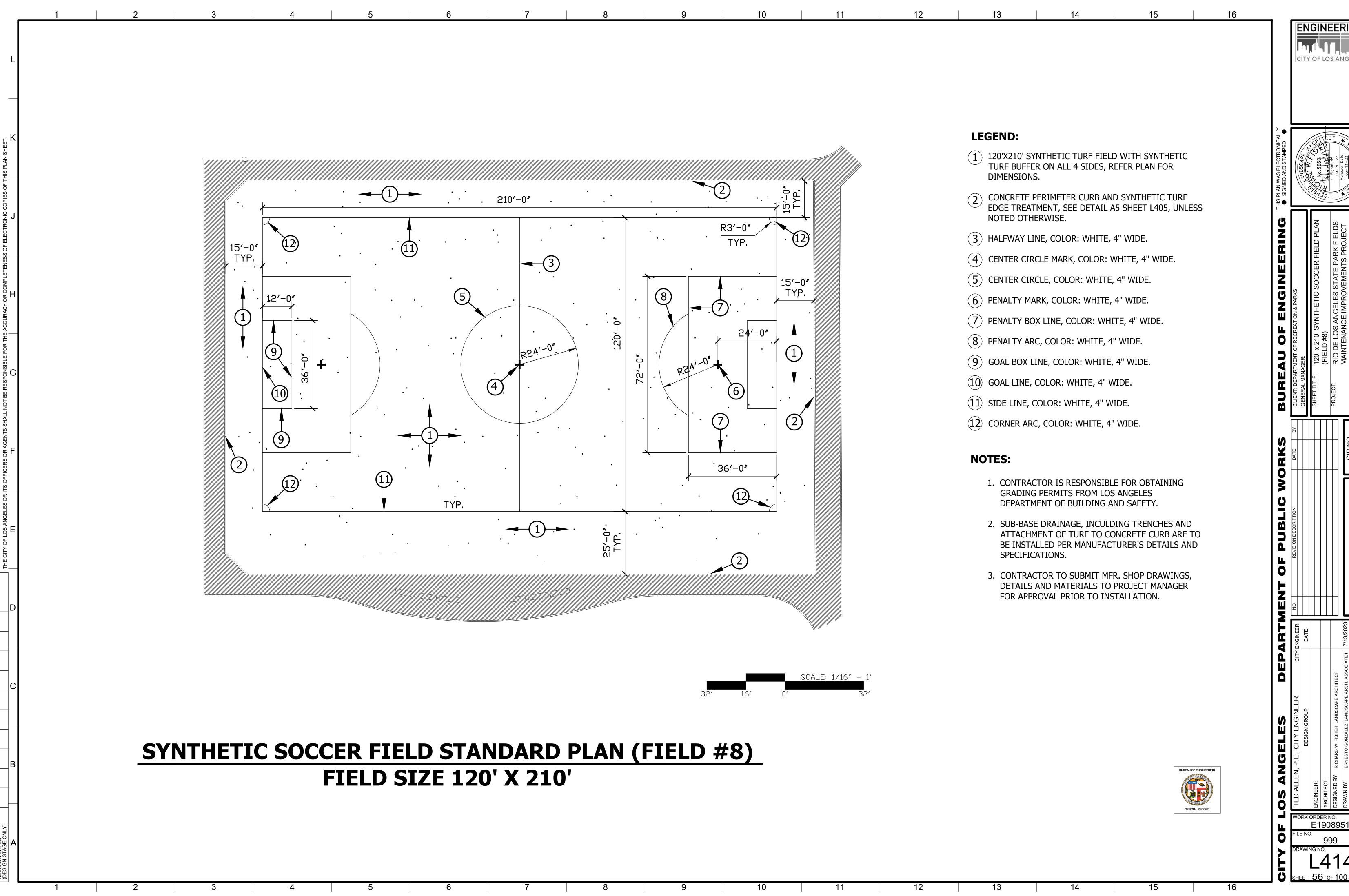




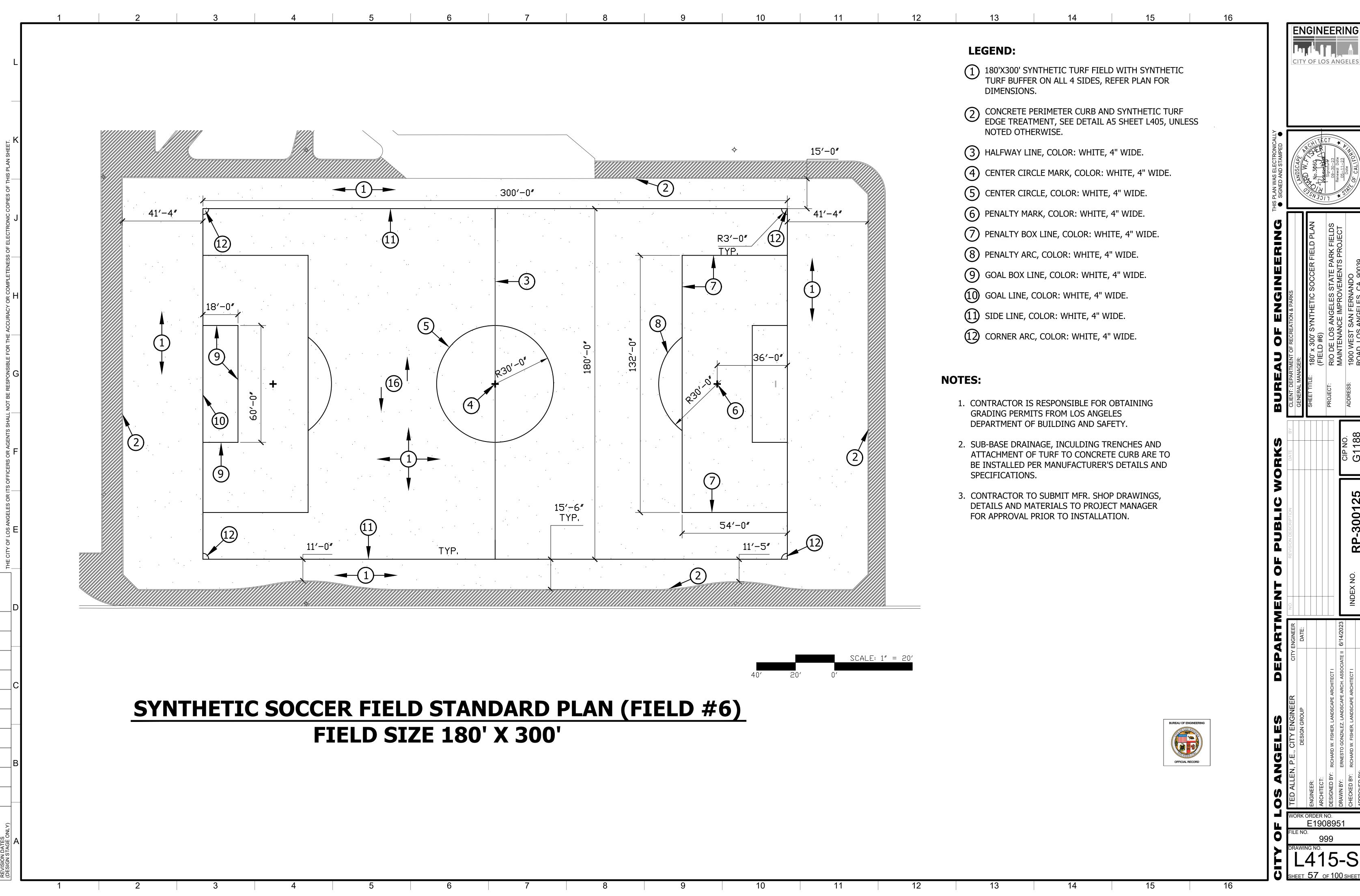


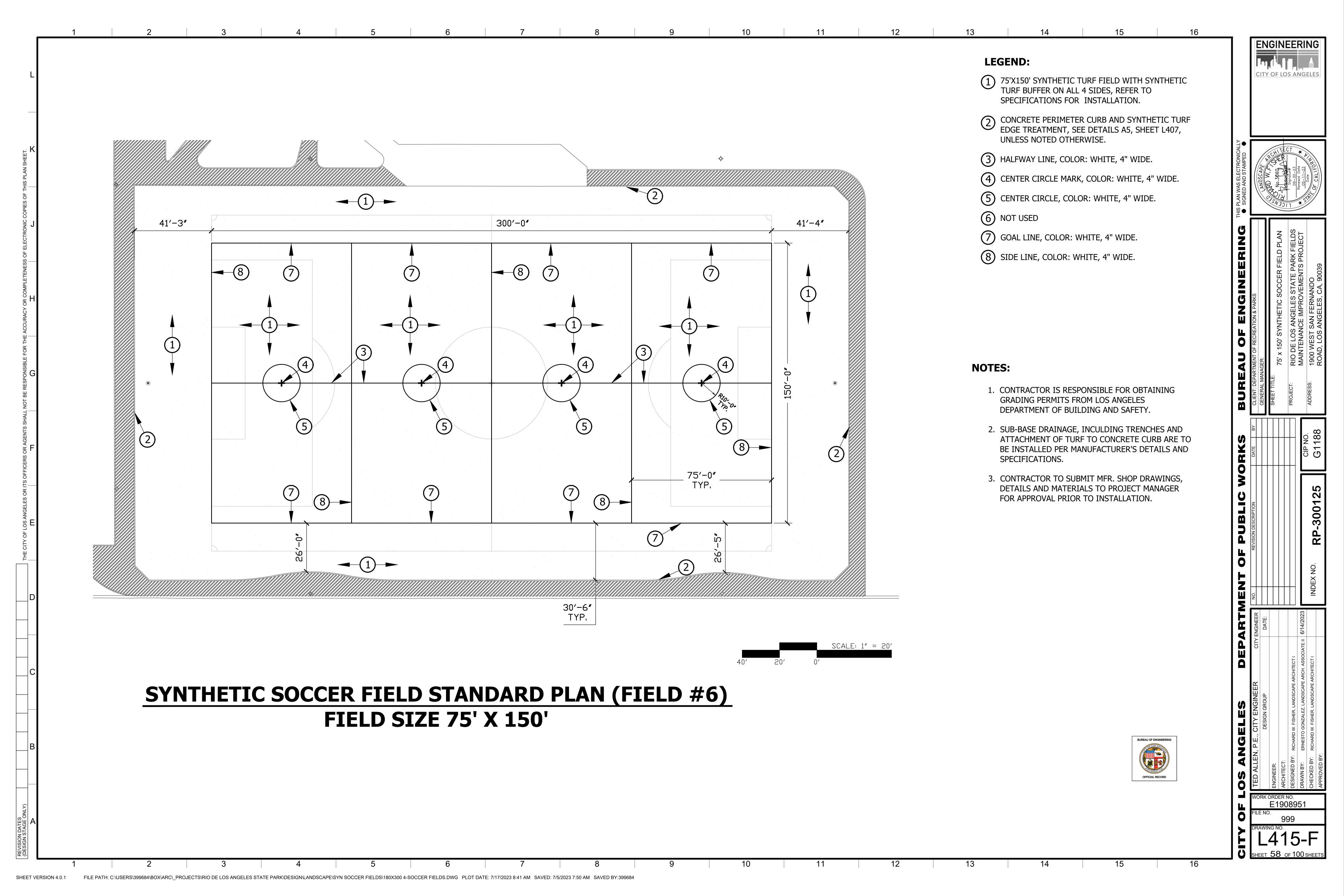






ENGINEERING CITY OF LOS ANGELES





wrinkling larger than 5mm is not acceptable.

- 4. Any soil isolation fabric nailed, stapled, damaged in any way will be replaced by contractor.
- B. TRENCH SOIL ISOLATION FABRIC
- 1. The soil isolation fabric is a polypropylene-based material with a minimum gage 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
- 1. Drainage piping is a perforated HDPE pipe, diameter specified on plans.
- D. PERIMETER CURB
- 1. 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 95% compaction. 1) Fine grade to specified tolerance
- B. REQUIRED CONTRACTOR EXPERIENCE
- 1. The Contractor shall demonstrate experience on at least eight (8) sub-grade stabilization projects of 60,000 square feet or larger.

PART II: MATERIALS

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

PART III:EXECUTION

- A. BASE CONSTRUCTION
- 1. 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
- 4. Fine grade to a 5mm 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.
- 5. Contractor to notify City inspection and Third Party inspection prior to compaction testing is completed. If the starting to ensure proper contractor does not notify City inspection or Third Party inspection in timely manner any and all re-testing and corrective work will be completed and cost associated to all parties will be reimbursed by 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

PART III: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 location. 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 F2898 (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 ¾" 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 strafed 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 95% 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 5mm over a 10' span. Final contour shall be plotted on a table of 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 3/4" 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 18" (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 D: PERIMETER CURBING AND TURF ATTACHMENT

PART I: GENERAL

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
- 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 (Tapcons, 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.
- 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 based 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. The turf manufacture shall also submit on letter head that sub/contractor workmanship (installation of the all-weather turf) is covered for the warranty period as specified herin.

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- 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 a TEN (10) year guarantee against ultra-violet ray fading, degradation, or defects, such as excessive wear or defibrillation. 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 150 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. The Contractor or Manufacture must supply the City with a performance bond or warranty covering workmanship for the installation of the pad and all-weather turf system.
- 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
- 5. Fiber shall be Parallel Slit 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.

7. Pile Yarn Type	62 oz. Polyethylene parall oz. HD nylon mono filamer	
Yarn Denier	ASTM D-1577	it liber triaterriayer
Yarn Breaking Strength	ASTM D-2256	
Yarn Melting Point	ASTM D-789	
Pile Height	ASTM D-418	BUREAU OF ENGINI
Pile Weight	ASTM D-418	OF LOS AND
Total Weight	ASTM D-418	
Backing Perforations	ASTM D-418	
Tuft Bind (Without in-fill)	ASTM D-1335	ONDED V
Tuft Bind (With in-fill)	ASTM D-1335	OFFICIAL RECO
Grab Tear Strength	ASTM D-1682	
Impact Attenuation	ASTM D-355	
Pill Burn Test	ASTM D-2859	



***FTIR Lisport Test: Turf and Pile composition for not less than 100,000 cycles to be performed. The fibers have already been tested. Contractor shall supply this test at the time of submittals

- 8. Maintenance and Operating Data: Submit to the Project Manager a copy of maintenance and operating data for the All-weather grass system. Provide descriptions of all equipment recommended for the maintenance, repair, citing turf and activities not recommended relative to the warranty. Include maintenance recommendations including coverings for special events, small repair procedures, minor seam repair, discussion of the precautions to be practiced, general maintenance and uses to avoid to protect the turf system.
- 9. Site Acceptance: As a part of this contract, this contractor shall be responsible to oversee the installation of the base and drainage and to comment on any problems or conflicts that may be discovered. Upon completion of the base work, submit a letter confirming the site inspection has been performed, noting any discrepancies, problems and/or conflicts. A summary of certification of the acceptance of the base and drainage shall be submitted.
- C. STANDARD SPECIFICATIONS FOR LAYOUT AND RULES All markings shall be performed using selected colors of turf materials.

D. FIELD SLOPE

Each field shall be installed with a SLOPED surface. The slope of the field may not exceed a finish profile of 0.75% grade for the Base Bid. This will be maintained throughout. Any modification to this slope shall be submitted in advance to the Project Manager for final review and approval.

E. DELIVERY, STORAGE AND HANDLING

- 1. 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.
- 2. Bulk Materials: Deliver materials in clean, washed and covered trucks to eliminate contamination during transportation. On site stockpiling locations to be coordinated with the City of Los Angeles. Stockpile only in areas free of debris and away from drainage routes. Cover all materials with plastic or geotextile if materials are to be stockpiled more than 48 hours.

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.

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.

H. PROTECTION OF UTILITIES AND STRUCTURES This Contractor shall take special care to protect all field and stadium structures and utilities. **ENGINEERING** CITY OF LOS ANGELES

STATE PARK FIELDS

GINEE

WORK ORDER NO E1908951

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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 or manufacture 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 education exercises

e. Physical education activities

f. Lacrosse

g. Field Hockey

h. Rugby

i. Pneumatic rubber tired maintenance and service equipment

i. 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.

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.

- 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 5% 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 150 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 150 G's maximum shall be at a relatively uniform rate not to exceed 10 G's in any single year. HIC testing shall not exceed 900 from a 1.2M fall height during the warranty period.
- 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 15 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.
- 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 at 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 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.

PART II: MATERIALS

A. GENERAL

- 1. The field surfacing system shall be a vertically draining permeable All-weather grass system consisting of an All-weather grass like pile that shall be tufted into a double layer All-weather backing. The final coating shall be a polyurethane based material.
- 3. All material shall arrive "wrinkle free" during roll out and shall remain "wrinkle free" during the installation prior to infill and post infill. Any wrinkling of the material exceeding 3mm can be rejected after review. No additional cutting of the material or field repair will be accepted for "wrinkled materials".
- The suppliers listed are capable vendors for the specified material. This specification will supersede any references to the vendors' specifications or product literature. The specification is meant to identify the quality and quantity of the specific components and performance results. Any material exceeding the specifications shall be considered as an equal. Any material with variations from the specifications shall be approved by the Owner prior to acceptance under this specification and contract.

The All-weather Grass Producers:

A. Challenger Industries, Inc, Dalton, GA

B. Astroturf, Dalton, GA C. Hellas Construction, Austin TX

D. Controlled Products, Dalton, GA

Equal Producers approved by the City of Los Angeles only

- 3. The entire system shall be resistant to weather, insects, rot, mildew, fungus growth and be non-allergenic and non-toxic. The entire system shall be constructed to maximize dimensional stability, to resist damage and normal wear and tear from its designated uses and to minimize the ultra-violet degradation.
- 4. All adhesives used in bonding the system together shall be resistant to moisture, bacterial and fungus attacks, and resistant to ultra-violet rays at any location upon installation.
- 5. Include all labor, materials, equipment, transportation and services to install complete All-weather All-weather grass system.
- B. Zeolite Infill: as supplied by KMI, Product lead time is 30 days minimum. Contact KMI directly for materials. Mesh size 12 - 20.

General Chemical Formula

Na6[Al6Si30O72]24H2O 97%+ Clinoptilolite Content

Exchange 1.6 - 2.0 meg/g Cation

Capacity (CEC)

Form Granules Shape Angular

Color Gray - green Pore Diameter 4.0 - 7.0 angstroms

1.89 Specific Gravity 50 - 65 lbs/ft3 Bulk Density

7.0 pH (natural) Alkali Stability pH of 7 - 10 pH of 3 - 7 Acid Stability

4.2 - 4.5 Mohs Hardness

Swelling Index

C. Dynamic Cushioning Requirements of the All-weather Grass System

C. Dynamic Cushioning Requirements of the All-weath	ier Grass System
SECTION 1: ORIGIN, QUALITY AND PROPERTIES	
Specification	Reference Standards
Product must be made in United States of America.	
Manufacturer must demonstrate successful installations in the United States for at least 5 million square 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.	
Material is to be manufactured in an ISO-9000 certified facility. No exceptions allowed.	ISO 9000
Minimum material thickness minimum 23mm - Product material thickness tolerance must be within +/- 2mm from declared value.	
Seams should be mechanically locked into place by hand without use of additional materials, glue, fasteners or secondary processes and equipment.	
Tensile Strength >60 psi	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 56 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./ 1° C	ASTM D696-03
Water Absorption <1.5% after 24hrs immersion	DIN 52 438 / ASTM D570

Specification	Reference Standards / Specificaitons
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 6010B TCLP/SPLP ICP Meta (Aqueous) EPA 7470A TCLP/SPLP Mercury (Aqueous) EPA 7471A Mercury (Solid) EPA 8270C Semi-Volatile Organic (Solid) EPA 8270C TCLP/SPLP Semi-volatile Organics (Aqueous) EPA 8260B Volatile Organics (Sol EPA 8260B SPLP Volatile Organic (Aqueous)
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
Manufacturer must provide documentation of material content and approved standard MSDS sheet for submittal package	

SECTION 3: PERFORMANCE & SAFETY	
REQUIREMENTS	SpecificationReference Standards / Specifications
Vertical drainage >100" / hr	ASTM 1551: Suffix-DIN 18-035, Part 6
Vertical Deformation 5.0mm - 9MM	EN14809
Force Reduction 55% - 60%	EN14808
Provide guarantee of maximum field average G-Max of field of 130 during warranty period of the specified infilled 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. Testing documentation from 3rd party supplied with turf material having been run at 100,000 lipsport cycles. Turf system must match this specification.	ASTM F355-E / ASTM F1292
Provide minimum interface friction coefficient of >0.6 in wet and dry conditions with specified infilled turf system	

- . Acceptable manufacturers / systems of drain-mat, or approved equal (to be installed over the
- a. Brock Systems, YSRII PowerBase Series, by Brock USA, Boulder, CO, www. Brockusa.com (877)276-2587. Brock Power Base: 0.95" thick.
- b. Proplay 23D by Schmitz Foam Products

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

- 2. 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 150 G's over the warranty period.
- 3. 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
- 4. The in-fill system shall have not less than 2.5 pounds of Zeolite, 12 20 mesh sieve size.
- g. The material shall have a MOHS hardness of 4.2 to 4.8.
- b. The initial infilling shall be at 1.6 pounds per square foot.
- c. The remaining 0.4 pounds per square foot shall be installed after 60 days.
- D. PERMEABILITY REQUIREMENTS OF THE ALL-WEATHER GRASS SYSTEM
- 1. 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
- 1. Adhesive material to adhere the All-weather turf shall be:
- a. Mapai Ultrabond PU 1K(single component) or two compenet, Mapai, Deerfield Beach, FL.
- 2. The adhesive shall have the same warranty period as the All-weather grass system.
- F. ALL-WEATHER TURF PILE SURFACE
- 1. 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.
- 2. 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

- 1. Pile fibers shall resemble freshly grown natural grass in appearance, texture and color (except for the color turf for markings).
- 2. Fibers shall be a combination of 62 oz. of Polyeythlene parallel slit film (1.5mm pattern) having a denier of 8,000 and fiber thickness of 100 micron (before the oven), with 38 oz. HD (30) nylon (650 denier) monofilament as a thatch zone. Total fiber weight shall be not less than 95 ounces per square yard.
- 3. Pile surface shall be nominally uniform in length not less than 1-3/4".
- 4. The fibers are tufted through a two layer (one woven and one non-woven) All-weather backing
- 5. 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 acceptable. The secondary backing or polyurethane coating shall be uniform and monolithic when cured.
- 6. 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.
- 7. 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.
- 8. 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.
- 9. On-site perforations are to be inspected prior to installation of the product.

10. Fabric surface shall be constructed and installed in minimum widths of 15 feet with no longitudinal or transverse seams, except for inlaid 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 Poin	tASTM 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	11 lbs./sq.ft.
7.Tuft Bind (with in-fill)	ASTM D1335	25 lbs./sq.ft.
8.Pile Height	ASTM D418	1-3/4" minimum
9.Fiber Face Weight	ASTM D418	95 oz./sq. yard total
10.Fiber Construction	ASTM D418	Fibers shall be a combination of 62 oz. polyeythlene parallel slit film (1.5 mm pattern) having a denier 8,000 and a fiber thickness of 100 micron (before the oven) with 38 oz. HD (30) nylon (650 denier) monofilament as a thatch zone. Total fiber weight shall be not less than 95 ounces per square yard.
11.Gauge Width	ASTM D418	3/16" min to ¼" 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 film100 microns Nylon 80 microns (minimum thickness) before the

14.Fibers (Yarn):

Tencate XP+: Color Shall be determined by Owner Bonar Ultra HD: Color shall be determined by Owner Any additional yarns must be approved by City prior to bid time.

15.Secondary Backing ASTM D418

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 addition to the infill depth measurement.

- J. Post Installation Testing Requirements:
- 1. After 60 days of the installation the Contractor shall have the field tested for performance within two weeks.
- 2. The testing requirements shall be according to the STC (Synthetic Turf Council).

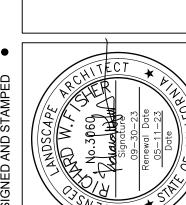


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FICATIONS, SHEET 2
E LOS ANGELES STATE PARK FIELDS
ENANCE IMPROVEMENTS PROJECT
VEST SAN FERNANDO
LOS ANGELES, CA, 90039

ORK ORDER NO. E1908951

SHEET 60 OF 100 SHEETS

6. Arrival of in-fill with a dry, loose condition, and contained in large sacks or bags without tears

1. 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.

conforming to the specifications. This will be done at the sole expense of the contractor.

3. Any testing performed by the City of Los Angeles will be at the City of Los Angeles's expense. The

1. After acceptance of the base materials, any turf material with less than the 20 oz. secondary backing shall have a the 6 oz. non-woven geotextile membrane is 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.

a. All panel seams shall be securely sewn using a double stitch bagger seam and/or glued to a backing material of nylon or mylar.

b. All panel seams spacing are to be held to a minimum of 15 feet unless prior approval of seaming diagram indicates a lesser panel.

c. All inlaid areas shall have full fastenings and no loose areas. At no time can pulling on the section separate the material.

d. All seams and inlaid areas shall be brushed thoroughly before infill materials are installed.

3. 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

1. In-fill material shall consist of 2.5 lbs. per square foot of Zeolite. Zeolite must be approved by the City's third party inspector prior to installation.

2. 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".

3. The Contractor shall be required to return to the site after not less than 30 days to inspect and add in-fill

4. No in-fill materials shall be installed until the turf system is fully installed with all lines and markings.

5. The entire synthetic turf installation shall be thoroughly brushed with a minimum of 10 passes to remove any wrinkles and defibrillate the slit film prior to the installation of the in-fill material.

6. The in-fill materials shall be installed in layers not to exceed 0.375 pound per square foot per layer.

7. The turf system shall be power-washed at completion of the infill installation.

B. GENERAL CLEANUP

1. 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.

2. 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

1. 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:

2. 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.

3. 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.

a. The Owner will notify the contractor in writing of any issues that require remedial work on the field area.

b. 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.

c. 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.

d. The warranty requires that in case of any major repair or replacement, the contractor is to schedule such

e. Any replacement or repair area shall match (as close as possible) the appearance of the existing turf.

f. Any expenses resulting from the failure to honor the requirements of this warranty shall be the responsibility of the contractor.

4. 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:

a. Provide a TEN (10) year warranty from the manufacturer for the turf product for all work performed under

b. Provide an TEN (10) year warranty for the fibers from the fiber manufacturer for all work performed under this contract.

c. Provide a TEN (10) year surfacing manufacturer and installer written guarantee for the All-weather grass.

d. 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

e. The City of Los Angeles shall be listed as additionally insured.

f. Policy is non-prorated with no allowances for deductibles.

work as to not interfere with the Owner's primary use or schedule.

g. Documents shall be submitted to the City of Los Angeles Department of Recreation and Parks prior to

final payment.

5. 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.

6. This warranty does not cover excessive wear of the surface caused by misuse. The City of Los Angeles will be given an 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 EUIPMENT

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.

1. SW48-A Sweep-N-Clean grooming unit with motorized brush unit.

2. 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.

3. One super sack (2500 lbs.) of the infill material used for this project.

END OF ALL-WEATHER TURF SPECIFICATION

ENGINEERING CITY OF LOS ANGELES

BUREAU OF ENGINEERING

FABRIC LINER PER

SPECIFICATIONS

3/4" CRUSHED WASHED STONE

PERMEABLE ISOLATION FABRIC

8" ADS, N-12 PERFORATED HDPE

DRAIN PIPE OR APPROVED EQUAL.

(90% COMPACTION)

LINER. SEE NOTE NO. 2

ALL WEATHER TURF -

COMPACTED SUBGRADE

(90% AVERAGE COMPACTION)

GRADE BETWEEN CONCRETE

COUNTER-SLOPED TO THE FIELD PER ELEVATIONS ON

DRAINAGE TRENCH SHOULD BE

36" TYP

1. SEE SPECIFICATIONS FOR MATERIAL QUALITY AND OTHER INSTALLATION REQUIREMENTS.

2. USE IMPERMEABLE ISOLATION FABRIC LINER WHEN SOIL CONDITIONS REQUIRE. SEE PLANS.

TYPICAL TURF PROFILE AND PERIMETER DRAINAGE

LINERS 12"

SLOPE PER

GRADING PLAN

PERIMETER CURB AND

GRADING PLAN.

CONCRETE-

PERIMETER

CURB PER

ADJACENT

POLYMER COMPOSITE

COMPACTED SUBGRADE

REFER TO SECTIONS 6.1.2,

6.1.5, AND 6.1.6 OF THE

REFINFO

GEOTECHNICAL REPORT

TURF HEADER

FINISH GRADE

N.T.S.

WITH ZEOLITE INFILL SEE SPECIFICATIONS

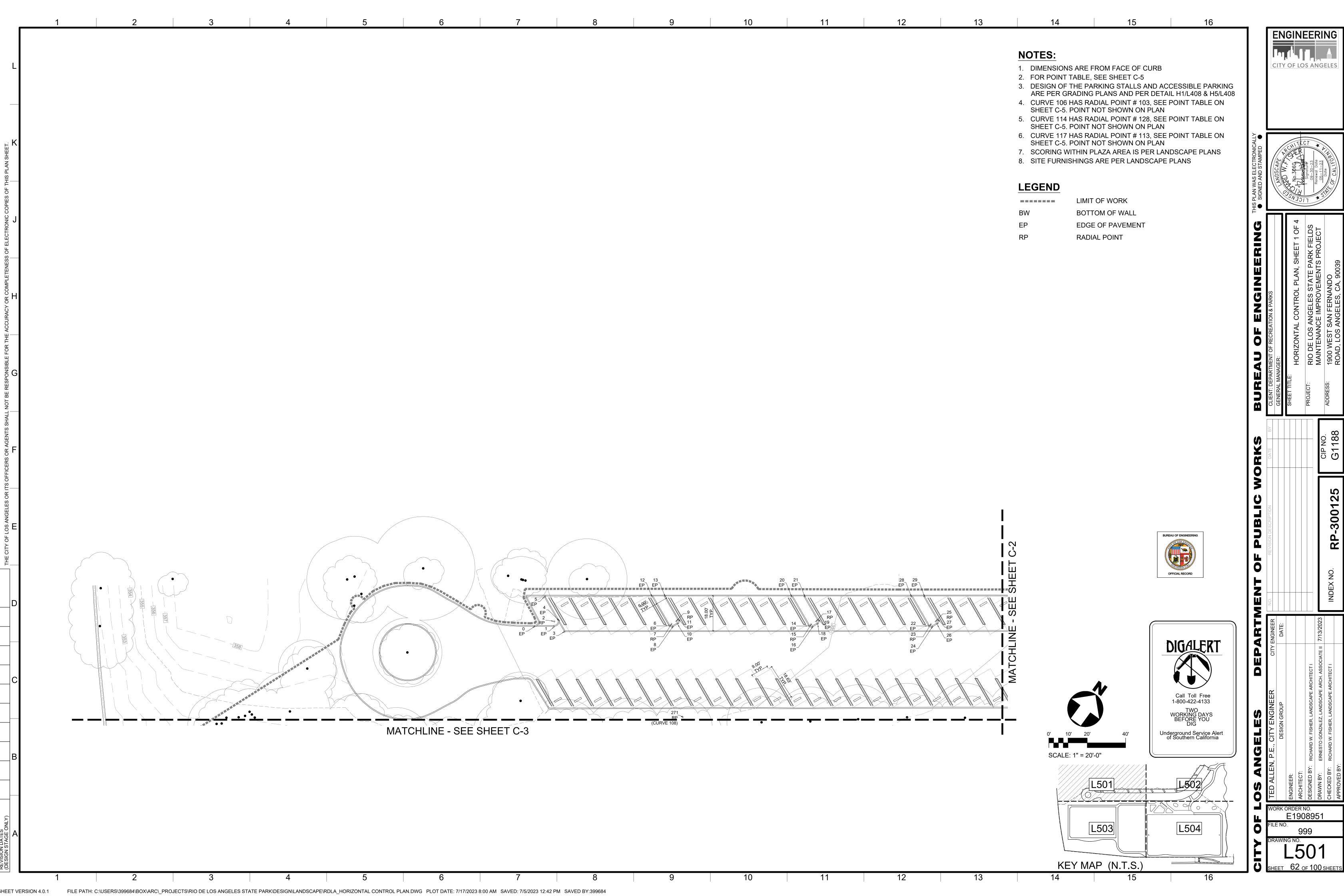
UNDERLAYMENT PAD -1" THICK LEVELING COURSE 8" THICK CEMENT STABILIZED IMPERMEABLE ISOLATION 8" THICK CEMENT STABILIZED BASE 3" THICK LAYER OF 3/6" CRUSHED WASHED STONE (90% COMPACTION)

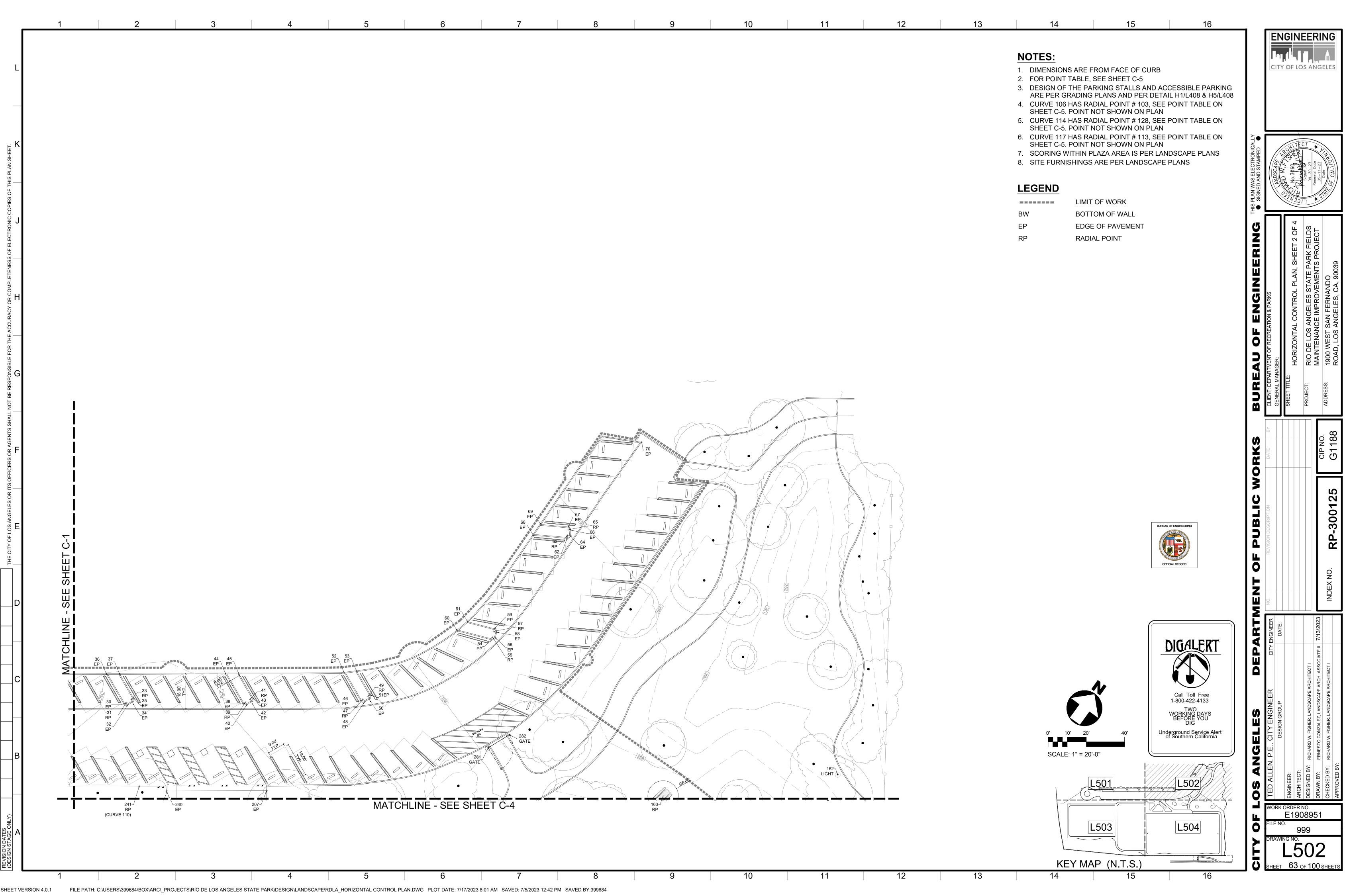
SEE GRADING PLAN FOR INVERT ELEV

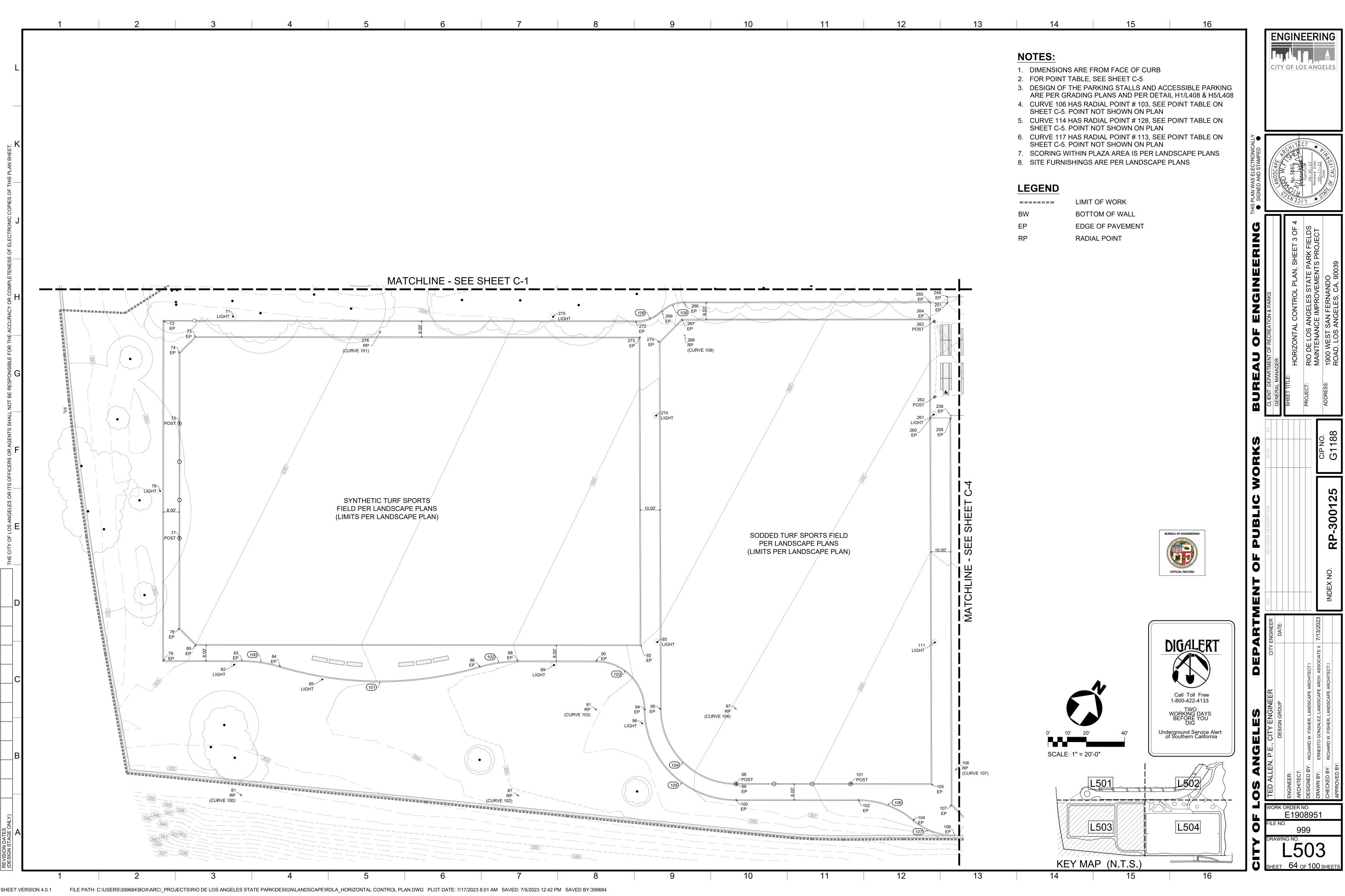
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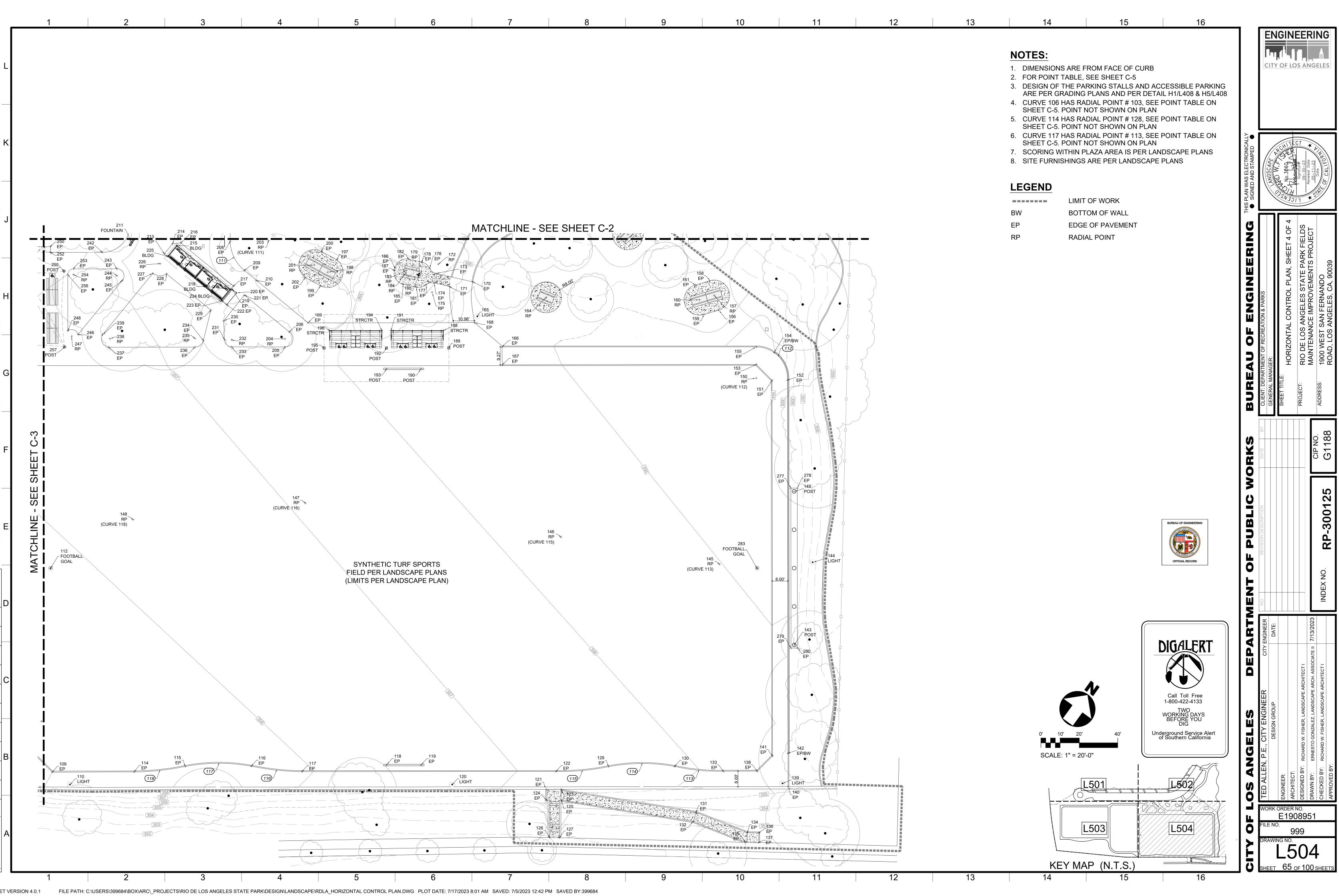
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SHEET 61 OF 100 SHEETS









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1. INFORMATION PROVIDED BY LADWP ON 05/05/2023. THE IRRIGATION SYSTEM DESIGN IS BASED ON A MINIMUM OPERATING PRESSURE OF 50 P.S.I. AND A MAXIMUM FLOW DEMAND OF 46.4 G.P.M. THE CONTRACTOR SHALL VERIFY AVAILABLE WATER PRESSURE PRIOR TO CONSTRUCTION, AND REPORT ANY DIFFERENCE BETWEEN WATER PRESSURE AND AVAILABLE FLOW INDICATED ON THE DRAWINGS AND THE ACTUAL READING AT THE IRRIGATION POINT OF CONNECTION IMMEDIATELY TO THE PROJECT MANAGER. BEFORE COMMENCING ANY EXCAVATION, THE CONTRACTOR SHALL OBTAIN AN UNDERGROUND SERVICE ALERT I.D. NUMBER BY CALLING 1-800-422-4133. PROVIDE TWO (2) WORKING DAYS AFTER THE NUMBER IS OBTAINED AND BEFORE THE EXCAVATION WORK IS STARTED SO THAT UTILITY OWNERS CAN BE NOTIFIED. THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL EXISTING UTILITIES, STRUCTURES AND SERVICES BEFORE COMMENCING WORK. THE LOCATIONS OF ANY UTILITIES, STRUCTURES AND SERVICES SHOWN IN THESE PLANS ARE APPROXIMATE ONLY. ANY DISCREPANCIES BETWEEN THESE PLANS AND ACTUAL FIELD CONDITIONS SHALL BE REPORTED TO THE PROJECT MANAGER IMMEDIATELY. THE CONTRACTOR SHALL PROMPTLY REPAIR OR REPLACE ANY EXISTING OR NEWLY CONSTRUCTED UTILITIES OR SITE FEATURES DAMAGED BY HIS WORK AT HIS OWN EXPENSE. THESE IRRIGATION PLANS ARE FOR THE MODIFICATION OF AN EXISTING IRRIGATION SYSTEM THAT INCLUDES EXTENSIVE AREA OF IRRIGATION EQUIPMENT LOCATED OUTSIDE THIS LIMIT OF WORK. CONTRACTOR SHALL INTERCEPT EXISTING MAINLINES AND CONTROL WIRES AT DESIGNATED P.O.C. LOCATIONS SHOWN IN PLANS AND VERIFIED IN THE FIELD. CONTRACTOR SHALL ENSURE THE NORMAL OPERATION OF ALL EXISTING IRRIGATION SYSTEMS LOCATED OUTSIDE THIS LIMIT OF WORK DURING THE PERIOD OF CONSTRUCTION. IN THE CASE OF ANY INTERRUPTION OF THE EXISTING IRRIGATION OUTSIDE THE L.O.W. CAUSED BY THE CONTRACTOR, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING IRRIGATION TO THOSE AREAS BY ANY MEANS NECESSARY, AND REPLACEMENT OF ANY PLANT MATERIAL OR TURF DAMAGED BY THE INTERRUPTION OF WATERING. ANY EXISTING IRRIGATION SYSTEM COMPONENTS DEPICTED HEREIN ARE BASED UPON AS-BUILT RECORD DRAWINGS, AND ARE SHOWN HERE FOR INFORMATIONAL PURPOSES ONLY. CONTRACTOR SHALL VERIFY THE LOCATION OF ALL EXISTING SYSTEM COMPONENTS TO REMAIN PRIOR TO BEGINNING IN CONSTRUCTION ACTIVITIES. CONTRACTOR SHALL IMMEDIATELY NOTIFY PROJECT MANAGER OF ANY SUBSTANTIAL DISCREPANCIES BETWEEN AS-BUILT AND EXISTING CONDITIONS. THE CONTRACTOR SHALL NOT WILLFULLY INSTALL ANY EQUIPMENT AS SHOWN ON THE PLANS WHEN IT IS OBVIOUS IN THE FIELD THAT CONDITIONS OR OBSTRUCTIONS EXIST THAT WERE UNKNOWN AT THE TIME THESE PLANS WERE PREPARED. CONTRACTOR SHALL IMMEDIATELY NOTIFY THE PROJECT MANAGER OF ANY SUCH CONDITIONS PRIOR TO PERFORMING ANY AFFECTED WORK. IN THE EVENT THAT THIS NOTIFICATION IS NOT GIVEN, THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ANY NECESSARY MODIFICATIONS TO COMPLETED WORK.

7. THIS DESIGN IS DIAGRAMMATIC. ALL PIPING, VALVES, ETC. SHOWN WITHIN PAVED **IRRIGATION NOTES** AREAS ARE FOR CLARITY ONLY AND SHALL BE INSTALLED IN PLANTING AREAS. SET ALL VALVES AND QUICK COUPLERS ADJACENT TO WALKS OR PAVED SURFACES PER DETAILS. ALL IRRIGATION PRESSURE AND LATERAL LINES AND CONTROL WIRING HIGH STATIC PRESSURE - 166 PSI THAT PASS UNDER PAVING SHALL BE SLEEVED PER LANDSCAPE CONSTRUCTION NOTES. ALL IRRIGATION SPRAY HEADS SHALL BE 24-INCHES AWAY FROM ANY LOW STATIC PRESSURE - 148 PSI NON-PERMEABLE SURFACE.

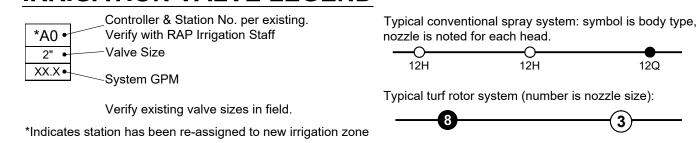
> 8. ANY TRENCHES DUG TO ACCOMMODATE NEW IRRIGATION LINES OR CONTROL WIRE CONDUIT THAT PASS INSIDE THE PROTECTED ROOT AREA OF AN EXISTING TREE ARE SUBJECT TO THE REQUIREMENTS LISTED IN THE SECTION "TREE PROTECTION GUIDELINES" OF THE SPECIFICATIONS.

- 9. CONTRACTOR SHALL COORDINATE HIS WORK WITH OTHER CONTRACTORS FOR THE LOCATION AND INSTALLATION OF PIPE SLEEVES AND LATERALS UNDER PAVING IN A TIMELY MANNER. SEE TRENCHING DETAIL FOR SLEEVING REQUIREMENTS.
- 10. THE CONTRACTOR SHALL FLUSH AND PRESSURE TEST ALL MAINLINES PER IRRIGATION SPECIFICATIONS. CONTRACTOR SHALL FLUSH ALL LATERAL LINES AND IRRIGATION HEADS PER THE IRRIGATION SPECIFICATIONS.
- 11. THE INTENT OF THESE IRRIGATION PLANS IS TO PROVIDE 100% COVERAGE TO ALL PLANTING AREAS. AS PART OF THE SCOPE OF WORK, CONTRACTOR SHALL PROVIDE ANY ADDITIONAL HEADS, SPECIAL NOZZLES, OR PATTERNS TO ACHIEVE PROPER COVERAGE WITH A MINIMUM OF OVERSPRAY AT NO ADDITIONAL COST TO THE CITY.
- 12. UPON COMPLETION OF INSTALLATION, CONTRACTOR SHALL CONDUCT A COVERAGE TEST PER IRRIGATION SPECIFICATIONS. CONTRACTOR SHALL NOTIFY PROJECT MANAGER TO REQUEST THE TEST, WHICH WILL BE SCHEDULED AT THE SOONEST DATE POSSIBLE PER AVAILABILITY OF RAP AND CITY STAFF.
- 13. REFER TO LANDSCAPE IRRIGATION SPECIFICATIONS FOR ADDITIONAL INFORMATION REGARDING THIS SECTION OF WORK.
- 14. ALL NEW VALVES SHALL USE EXISTING VALVE & STATION NUMBERING PER AS-BUILT IRRIGATION PLAN. VERIFY WITH RAP IRRIGATION STAFF.
- 15. ALL IRRIGATION EQUIPMENT (HEADS, VALVES, ETC. NOT INCLUDING PIPE OR CONTROL WIRE) DESIGNATED TO BE REMOVED SHALL BE SALVAGED BY THE CONTRACTOR. UPON NOTIFICATION BY THE CONTRACTOR, THE PROJECT MANAGER SHALL NOTIFY RAP MAINTENANCE STAFF, AND THEY WILL TAKE POSSESSION OF ANY SALVAGED MATERIALS THEY WISH TO RE-USE. THE CONTRACTOR SHALL DISPOSE OF ALL REMAINING MATERIAL PER GENERAL REQUIREMENTS AND SPECIFICATIONS.
- 16. PRESSURE REGULATING DEVICES ARE REQUIRED IF WATER PRESSURE IS BELOW OR EXCEEDS THE RECOMMENDED PRESSURE OF THE SPECIFIED IRRIGATION DEVICES
- 17. CHECK VALVES OR ANTI-DRAIN VALVES ARE REQUIRED ON ALL SPRINKLER HEADS WHERE LOW POINT DRAINAGE COULD OCCUR.

IRRIGATION EQUIPMENT LEGEND

SYMBOL	DESCRIPTION				
W	EX 4" RECYCLED water meter (Not shown on plan - refer to original irrigation plan for location)				
A	Existing Controller A: Calsense ET-1-RR-G (Not shown on plan - refer to as-built irrigation plan for location)				
\oplus	Existing Remote Control Valve to remain - protect in place				
\bigoplus	Existing Remote Control Valve to be removed. (Cap mainline P.O.C. for valve, typ. Leave valve box in place.)				
•	New Remote Control Valve: Rainbird EFB brass valve - see plan callout for valve size. Install per detail H13/L606. P.O.C. for all new remote control valves is at location of existing valve as indicated - Connect new remote control valve to existing control wiring, Typ. Remove existing valve and salvage per irrigation notes & specifications. Controller station number shall remain the same				
	Existing Irrigation Mainline/lateral to be abandoned in place				
	Existing CL 200 gasketed mainline pipe. Location shown on plan per original irrigation drawings - Verify location in field.				
	New PVC Class 200 gasketed pipe with restrained fittings as required per details A1/L606 and E5/L606. Size per plan.				
	Existing PVC sch. 40 Lateral Line piping. Location shown on plan per original irrigation drawings - Verify location in field.				
	New PVC sch. 40 Lateral Line piping; solvent weld. Size as noted. Install per detail E5/L606				
	Existing PVC sch. 40 Lateral Line piping				
	PVC sch. 40 Sleeve under paving. Sleeve shall be two pipe sizes greater than piping which is to run in the sleeve.				
(Existing Quick Coupling Valve. Protect in place unless noted otherwise				
•	Rainbird 44-NP 2-Piece 1" Brass Quick Coupling Valve with non-potable cover. Provide one quick coupler key with brass hose swive for each 5 valves installed. See detail E1/L606				
\bigoplus	Existing Manifold gate valve. Protect in place.				
\bigcirc	New line-sized Manifold gate valve. Install per detail H9/L606				
	Existing Isolation valve. Protect in place.				
M	New line-sized Isolation valve. Install per detail H1/L606				

IRRIGATION VALVE LEGEND



IRRIGATION HEADS LEGEND

SYMBOL	DESCRIPTION	GPM	SPACING	NOZZLE PRESSURE	PRECIP. RATE	DETAIL
6	Rainbird 6504-PC-SS-NP (with non-potable cover) Pop-up spray body with #6 nozzle as noted, typ.	4.9	43'	50 psi	0.47 in/hr	A1 L6
10	Rainbird 6504-FC-SS-NP (with non-potable cover) Pop-up spray body with #10 nozzle as noted, typ.	8.1	46'	50 psi	1.20 in/hr	A1 L6
10	Rainbird 6504-PC-SS-NP (with non-potable cover) Pop-up spray body with #10 nozzle as noted, typ.	8.1	46'	50 psi	0.60 in/hr	A1 L6
\bigcirc	Rainbird 5012-PCSAMRNP-MPR 12" POP UP with non-potable cover, internal check valve, and pressure regulation. install MPR nozzle with arc and radius as noted for each head.	(var)	25'-35'	30 psi	(var)	E1 L6
	Existing Rainbird 12" POP UP Spray Head Refer to original irrigation drawings for specific nozzle model. See plan callout for further instructions.	(var)	12'-18'	30 psi	(var)	E1 L6
•	Rainbird 1806-SAM-PRS (with non-potable cover) Pop-up spray body with Rain Bird 5-series MPR multi-stream bubbler nozzle (5CST-B)	0.5	5'	30 psi		E1 L6
Φ	Rainbird 1806-SAM-PRS (with non-potable cover) Pop-up spray body with Rain Bird 15-strip series end strip pattern nozzle (15EST). Turn down adjustment screw to adjust radius to an approximate 7' radius.	0.61	5'	30 psi		E1 L6
A	Rainbird RWS-M-B-C-1402 Root watering system assembly with pressure compensating bubbler with non-potable cover.	0.5				A9 L6
\otimes	Existing Head To be removed. Cap lateral line after removal of spray body if indicated on plans.					

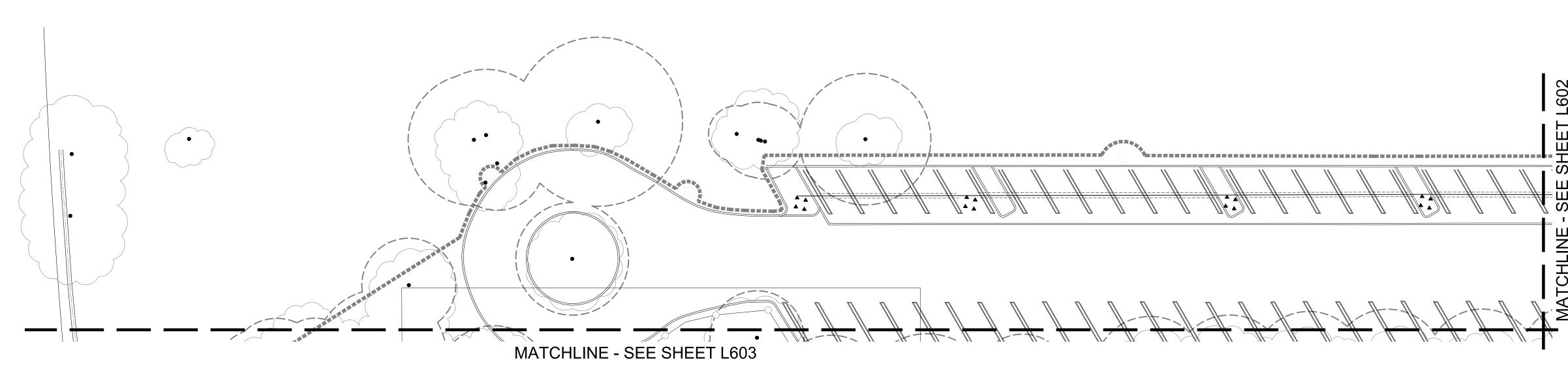
MP Rotator Nozzle Legend: by Hunter Industries, Inc.

BK	MP2000 90-210 deg. (BLACK)
MR	MP1000 90-120 deg. (MAROON)
OL	MP1000 360 deg. (OLIVE)

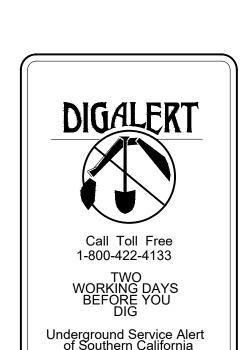
MPSS-530 Side Strip (BROWN) LCS MPLCS-515 Left Corner Strip (IVORY) MPRCS-515 Right Corner Strip (COPPER)

KEYNOTES

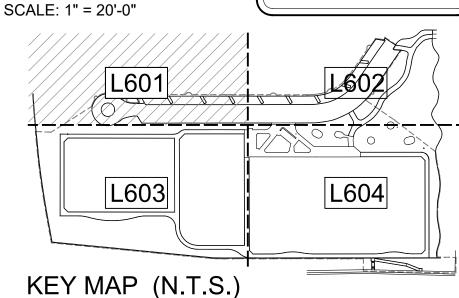
- 1. FOR EXISTING TURF FIELDS: REMOVE ALL SURFACE IRRIGATION EQUIPMENT AND CAP LATERAL LINES AT REMOTE CONTROL VALVE. ABANDON ALL LATERAL LINES IN PLACE SALVAGE IRRIGATION HEADS PER IRRIGATION SPECIFICATIONS.
- 2. MODIFY LOCATION OF EXISTING IRRIGATION MAINLINE AS SHOWN ON PLAN TO ENSURE THAT NO PORTION OF MAINLINE SHALL BE WITHIN THE FOOTPRINT OF THE NEW SYNTHETIC TURF SPORTS FIELDS. REFER TO ORIGINAL IRRIGATION PLANS FOR APPROXIMATE LOCATION OF EXISTING MAINLINE. FIELD VERIFY, TYP.











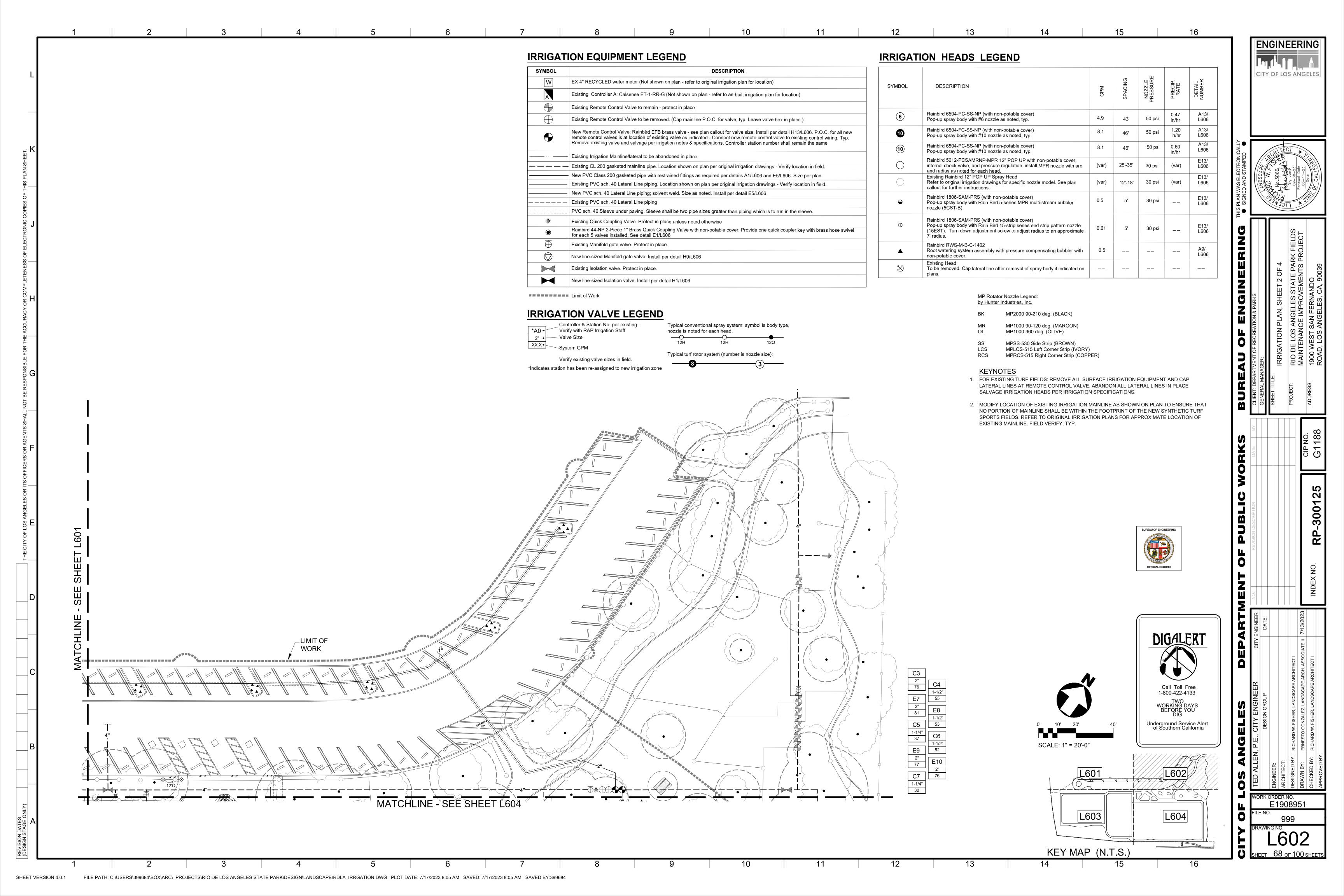
KEY MAP (N.T.S.)

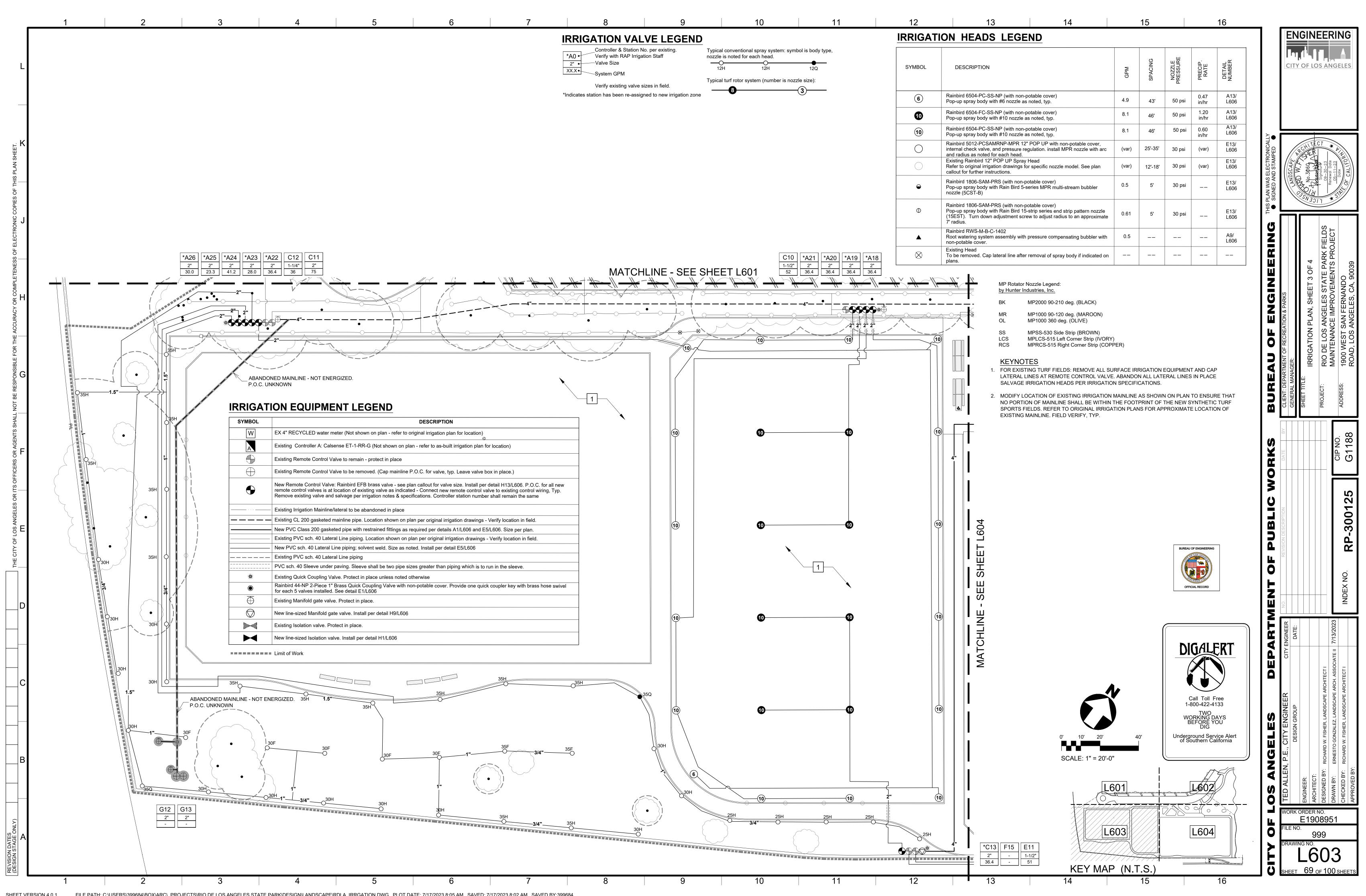
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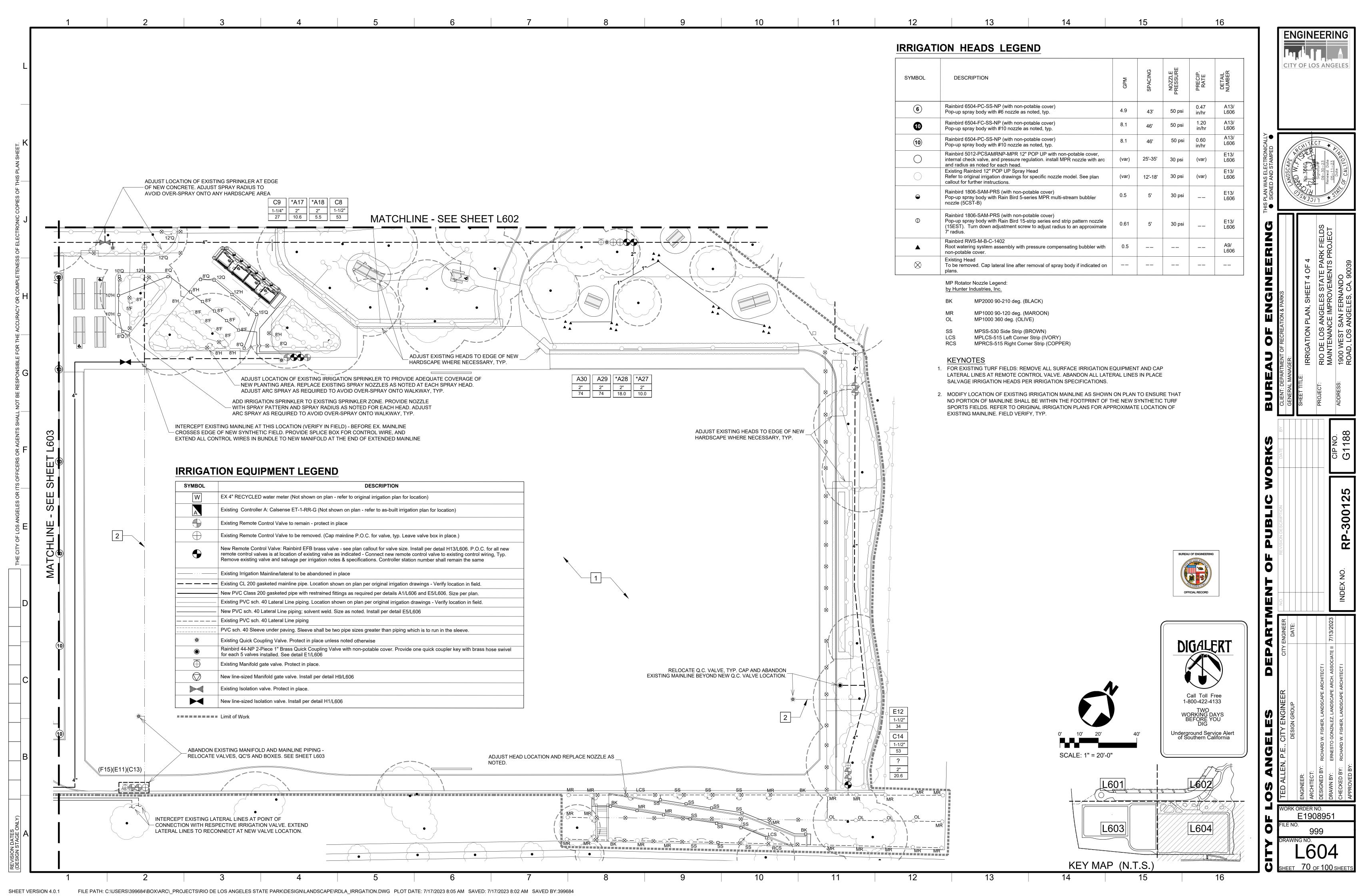
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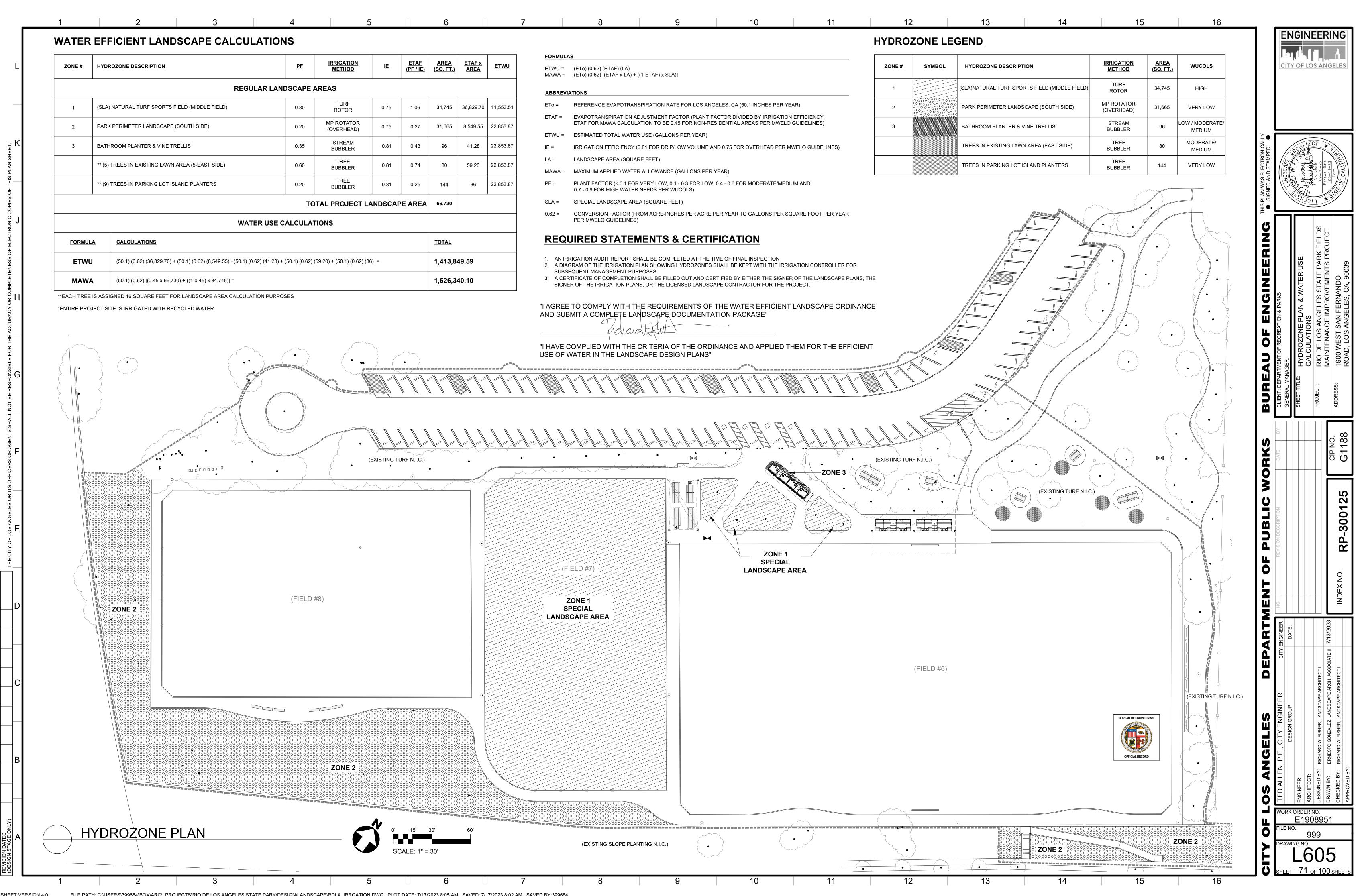
ENGINEERING

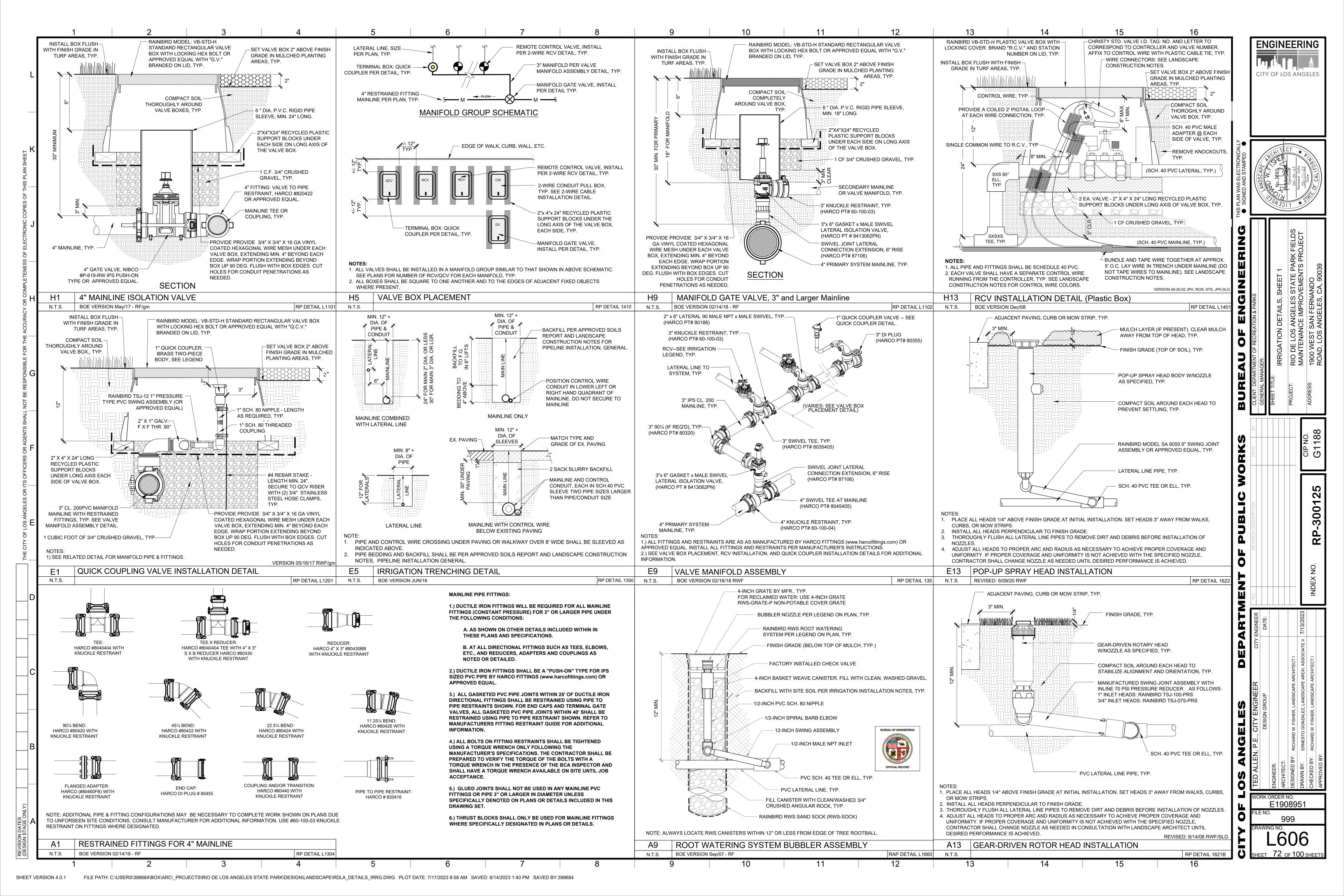
CITY OF LOS ANGELES

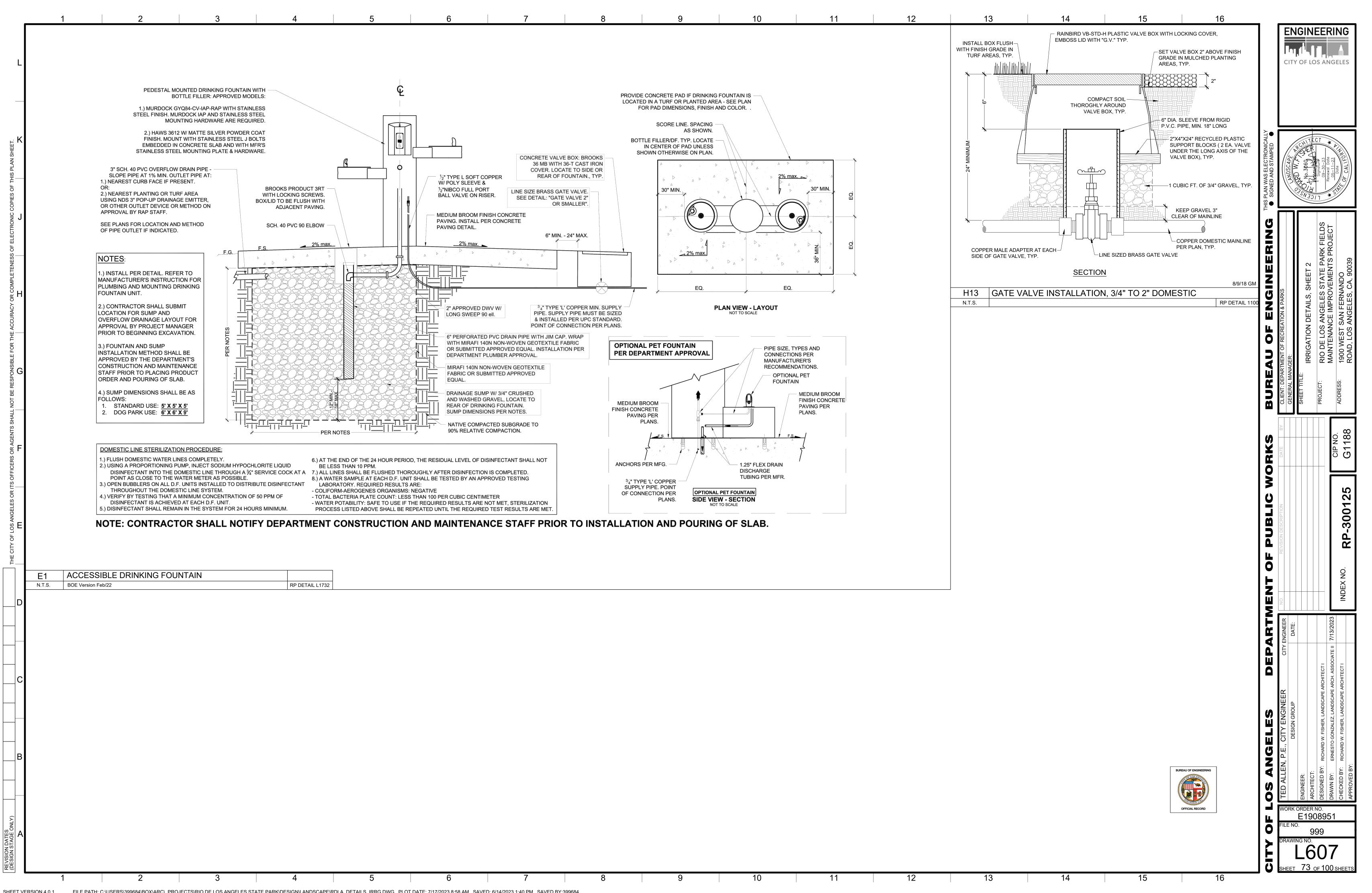




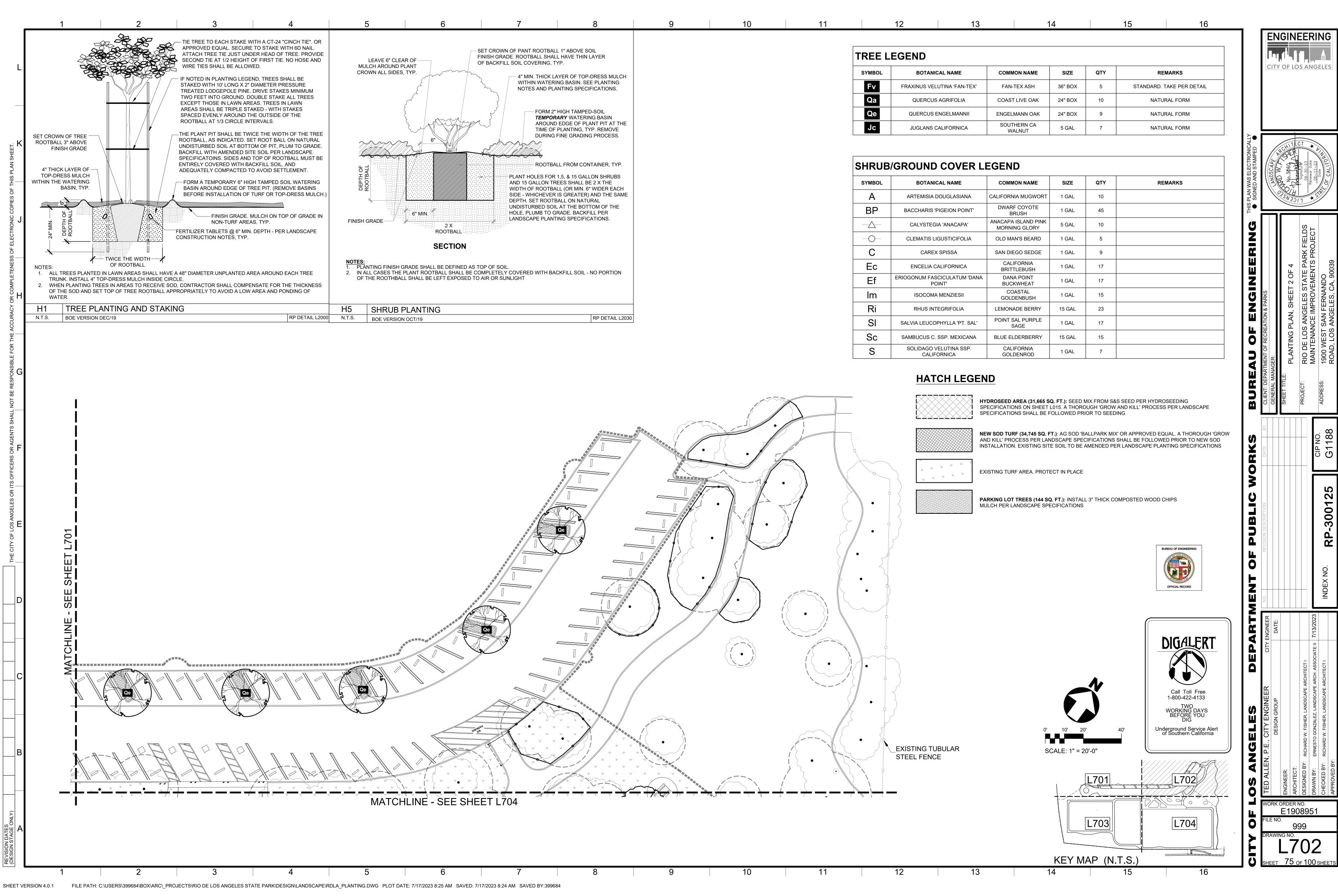


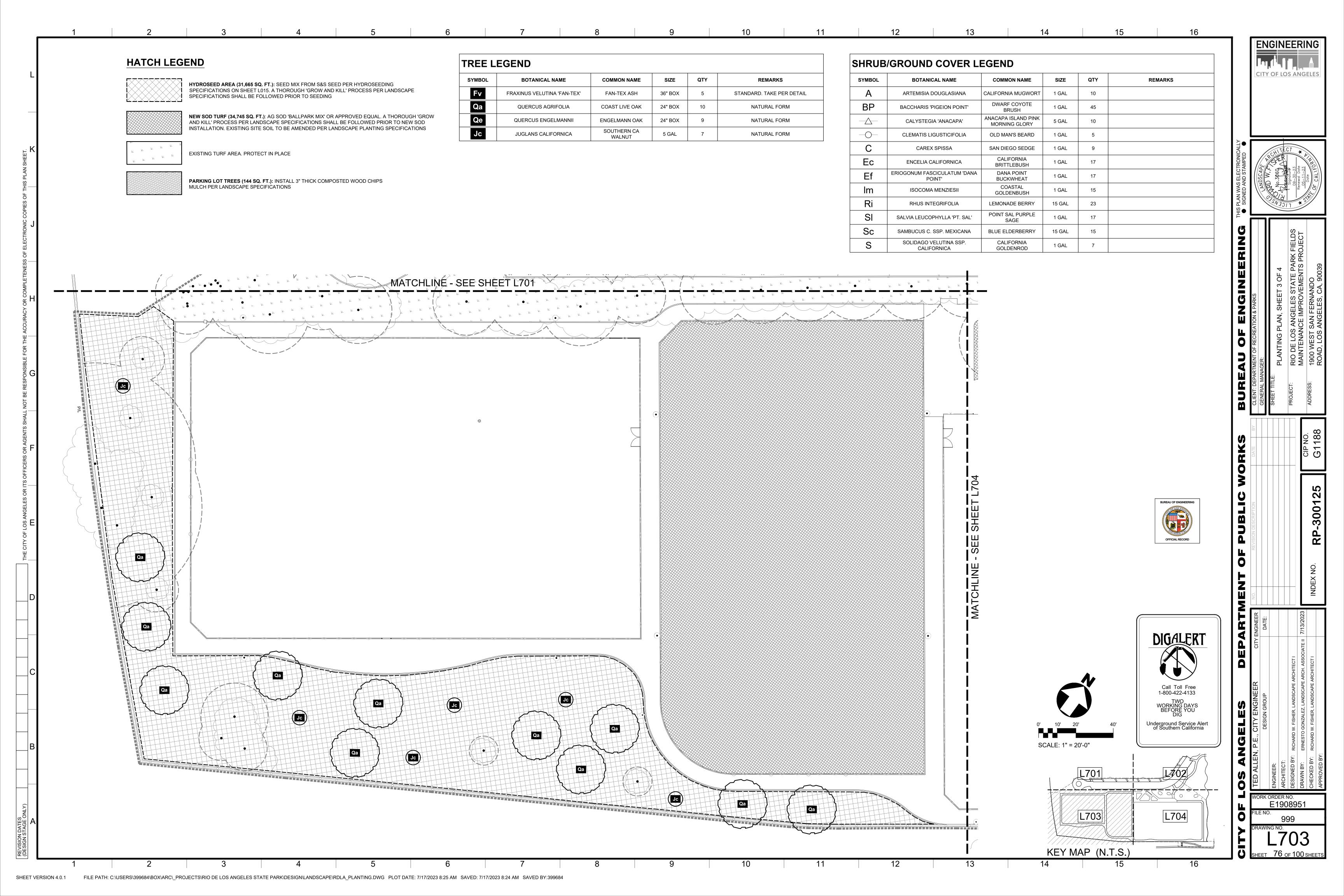


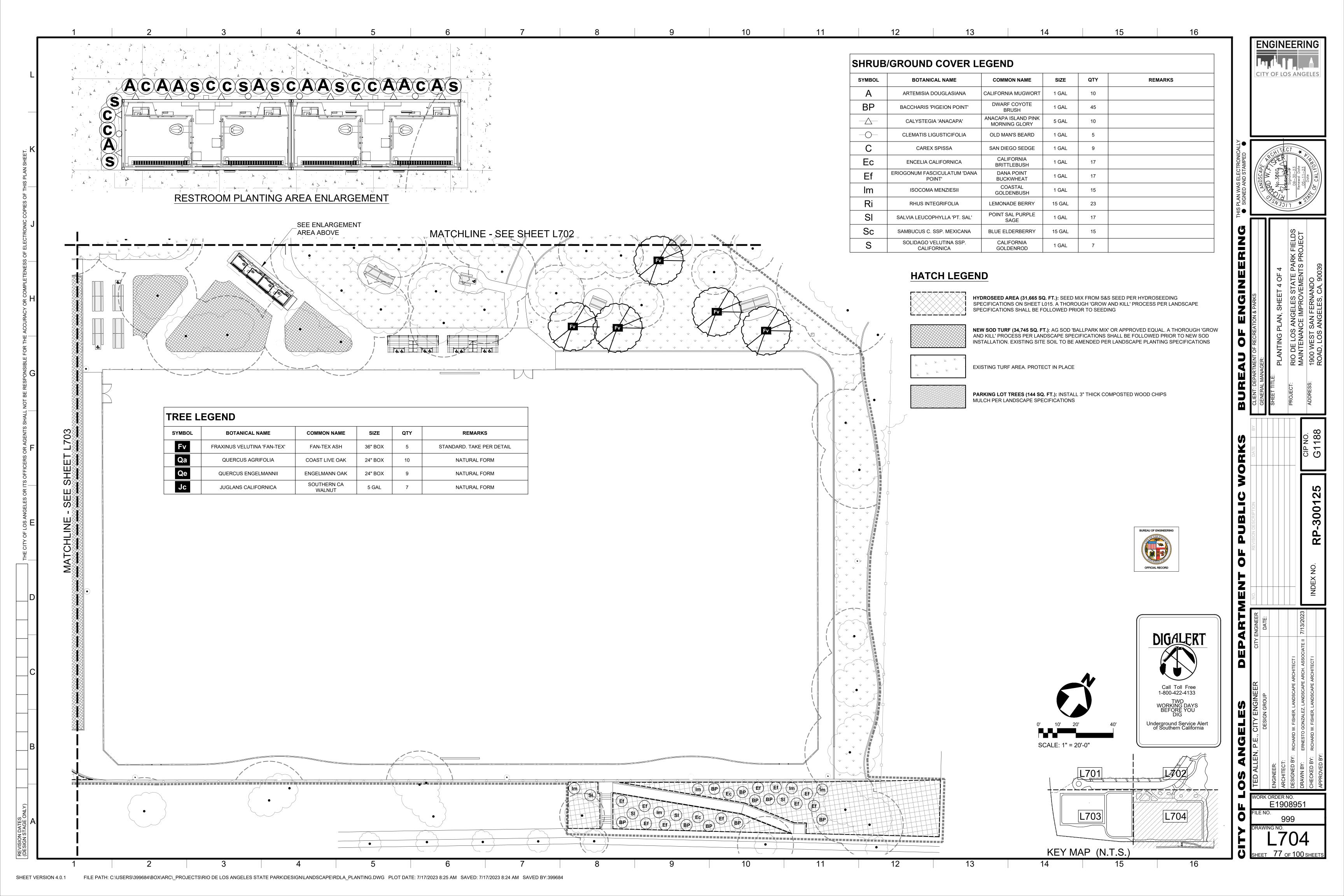




ENGINEERING PLANTING NOTES TREE LEGEND 1. EXISTING TREE PROTECTION: SEE TREE PROTECTION SECTION IN SPECIFICATIONS. 10. SEE THE LANDSCAPE PLANTING SPECIFICATIONS FOR REQUIRED INSPECTIONS OF PLANT MATERIALS PRIOR TO CITY OF LOS ANGELES 2. ALL PLANTING AREAS SHALL RECEIVE SOIL PREPARATION PER THE LANDSCAPE CONSTRUCTION NOTES. AREAS INSIDE INSTALLATION. QTY SYMBOL **BOTANICAL NAME COMMON NAME** SIZE REMARKS TREE PROTECTION ZONES SHALL RECEIVE ALTERNATE SOIL PREPARATION METHODS AND MATERIALS PER THE 11. AFTER PLANT MATERIALS ARE INSPECTED AND APPROVED, AND PLANTING AREA IS READY FOR PLANTING, SPECIFICATIONS WHERE DESIGNATED. FRAXINUS VELUTINA 'FAN-TEX' CONTRACTOR SHALL PLACE ALL CONTAINER PLANTS IN A GIVEN AREA - STILL INSIDE THEIR RESPECTIVE NURSERY FAN-TEX ASH 36" BOX STANDARD. TAKE PER DETAIL 3. FOR SOILS LESS THAN 6% ORGANIC MATTER IN THE TOP 6 INCHES OF SOIL, COMPOST AT A RATE OF A MINIMUM OF CONTAINERS - IN THE PLANTING AREAS PER THE LAYOUT SHOWN ON THE PLANTING PLAN FOR INSPECTION AND FOUR CUBIC YARDS PER 1,000 SQUARE FEET OF PERMEABLE AREA SHALL BE INCORPORATED TO A DEPTH OF SIX APPROVAL BY THE LANDSCAPE ARCHITECT. NO PLANTING SHALL BE INSTALLED (OR PLANTING HOLES EXCAVATED) QUERCUS AGRIFOLIA COAST LIVE OAK 24" BOX NATURAL FORM 10 UNTIL THE PLANT TYPE, QUALITY AND LOCATION HAS BEEN APPROVED BY THE LANDSCAPE ARCHITECT. ANY PLANTS INSTALLED PRIOR TO APPROVAL ARE SUBJECT TO REMOVAL AND RE-PLANTING OR REPLACEMENT AT THE 4. SOIL PREPARATION, HYDROSEEDING, OR PLANTING FOR EACH AREA SHALL NOT BE PERFORMED UNTIL THE QUERCUS ENGELMANNII ENGELMANN OAK 24" BOX NATURAL FORM CONTRACTOR'S EXPENSE. PROJECT MANAGER SHALL BE NOTIFIED MINIMUM 48 HOURS IN ADVANCE OF REQUESTED IRRIGATION SYSTEM IS COMPLETED, INSPECTED AND APPROVED PER THE LANDSCAPE PLANTING SPECIFICATIONS. SOUTHERN CA JUGLANS CALIFORNICA 5 GAL NATURAL FORM 5. HYDROSEEDING, SOD OR CONTAINER PLANTING SHALL NOT BE INSTALLED UNTIL AFTER SOIL PREPARATION, FINE 12. A MINIMUM 3-INCH LAYER OF MULCH SHALL BE APPLIED ON ALL EXPOSED SOIL SURFACES OF PLANTING AREAS WALNUT GRADING AND "GROW AND KILL" WEED ABATEMENT PER THE LANDSCAPE PLANTING SPECIFICATIONS ARE COMPLETED EXCEPT TURF AREAS, CREEPING OR ROOTING GROUNDCOVERS, OR DIRECT SEEDING APPLICATIONS WHERE MUCH IS AND APPROVED. SPECIMEN TREES IN PAVED AREAS MAY BE EXEMPTED AT THE DISCRETION OF CITY ENGINEER. CONTRAINDICATED. APPLY PER THE PLANTING DETAILS AND THE LANDSCAPE PLANTING SPECIFICATIONS MATERIALS 6. TREE PLANTING SHALL BE PERFORMED PER DETAIL H1/L701. 13. PRIOR TO PLACING MULCH, PRE-EMERGENT HERBICIDE SHALL BE APPLIED TO THE SOIL PER LANDSCAPE 7. SHRUB PLANTING SHALL BE PERFORMED PER DETAIL H5/L701. SHRUB/GROUND COVER LEGEND CONSTRUCTION NOTES. 8. PLANTING LEGEND AS SHOWN ON EACH PLANTING PLAN SHEET IS FOR THE ENTIRE PROJECT, AND IS INCLUDED FOR 14. MULCH SHALL BE SPREAD EVENLY THROUGHOUT PLANTING BEDS. DO NOT BURY PLANT CROWNS. THE CONVENIENCE OF THE CONTRACTOR. IN CASE OF DISCREPANCIES, THE QUANTITY OF SYMBOLS FOR EACH PLANT SHOWN ON THE PLANTING PLAN SHALL TAKE PRECEDENCE. CONTRACTOR IS RESPONSIBLE TO VERIFY ALL QUANTITIES SYMBOL **BOTANICAL NAME** QTY REMARKS **COMMON NAME** SIZE 15. SEE LANDSCAPE PLANTING SPECIFICATIONS FOR PLANTING MAINTENANCE AND ESTABLISHMENT PERIOD AS SHOWN ON THE PLANTING PLAN. REQUIREMENTS. 9. AVAILABILITY & SUBSTITUTIONS: NO SUBSTITUTIONS OF PLANT SPECIES, TYPE, CULTIVAR, SIZE ETC. WILL BE ARTEMISIA DOUGLASIANA Α CALIFORNIA MUGWORT 1 GAL ACCEPTED WITHOUT PRIOR APPROVAL OF PROJECT MANAGER. CONTRACTOR IS EXPECTED TO UTILIZE ALL APPROPRIATE NURSERY RESOURCES IN THE SOUTHERN CALIFORNIA REGION BEFORE DETERMINING IF A SPECIFIED DWARF COYOTE BACCHARIS 'PIGEION POINT' 1 GAL MATERIAL IS UNAVAILABLE. SEE LANDSCAPE PLANTING SPECIFICATIONS. BRUSH ANACAPA ISLAND PINK $-\Delta$ CALYSTEGIA 'ANACAPA' 5 GAL MORNING GLORY GINEERIN $-\bigcirc$ CLEMATIS LIGUSTICIFOLIA OLD MAN'S BEARD 1 GAL **REQUIRED STATEMENTS & CERTIFICATION** C CAREX SPISSA 1 GAL SAN DIEGO SEDGE 1. AN IRRIGATION AUDIT REPORT SHALL BE COMPLETED AT THE TIME OF FINAL INSPECTION CALIFORNIA Ec ENCELIA CALIFORNICA 1 GAL 2. A DIAGRAM OF THE IRRIGATION PLAN SHOWING HYDROZONES SHALL BE KEPT WITH THE IRRIGATION CONTROLLER FOR BRITTLEBUSH SUBSEQUENT MANAGEMENT PURPOSES. ERIOGONUM FASCICULATUM 'DANA DANA POINT 3. A CERTIFICATE OF COMPLETION SHALL BE FILLED OUT AND CERTIFIED BY EITHER THE SIGNER OF THE LANDSCAPE PLANS, THE 1 GAL BUCKWHEAT POINT' SIGNER OF THE IRRIGATION PLANS, OR THE LICENSED LANDSCAPE CONTRACTOR FOR THE PROJECT. COASTAL ISOCOMA MENZIESII lm 1 GAL GOLDENBUSH "I AGREE TO COMPLY WITH THE REQUIREMENTS OF THE WATER EFFICIENT LANDSCAPE ORDINANCE RHUS INTEGRIFOLIA LEMONADE BERRY 15 GAL 23 AND SUBMIT A COMPLETE LANDSCAPE DOCUMENTATION PACKAGE" POINT SAL PURPLE SALVIA LEUCOPHYLLA 'PT. SAL' 1 GAL SAGE SAMBUCUS C. SSP. MEXICANA **BLUE ELDERBERRY** 15 GAL "I HAVE COMPLIED WITH THE CRITERIA OF THE ORDINANCE AND APPLIED THEM FOR THE EFFICIENT SOLIDAGO VELUTINA SSP. CALIFORNIA 1 GAL CALIFORNICA GOLDENROD USE OF WATER IN THE LANDSCAPE DESIGN PLANS" **HATCH LEGEND** HYDROSEED AREA (31,665 SQ. FT.): SEED MIX FROM S&S SEED PER HYDROSEEDING SPECIFICATIONS ON SHEET L015. A THOROUGH 'GROW AND KILL' PROCESS PER LANDSCAPE SPECIFICATIONS SHALL BE FOLLOWED PRIOR TO SEEDING NEW SOD TURF (34,745 SQ. FT.): AG SOD 'BALLPARK MIX' OR APPROVED EQUAL. A THOROUGH 'GROW AND KILL' PROCESS PER LANDSCAPE SPECIFICATIONS SHALL BE FOLLOWED PRIOR TO NEW SOD INSTALLATION. EXISTING SITE SOIL TO BE AMENDED PER LANDSCAPE PLANTING SPECIFICATIONS EXISTING TURF AREA. PROTECT IN PLACE PARKING LOT TREES (144 SQ. FT.): INSTALL 3" THICK COMPOSTED WOOD CHIPS MULCH PER LANDSCAPE SPECIFICATIONS DIGALERI 1-800-422-4133 SCALE: 1" = 20'-0" MATCHLINE - SEE SHEET L703 E1908951 L704 KEY MAP (N.T.S.) FILE PATH: C:\USERS\399684\BOX\ARC_PROJECTS\RIO DE LOS ANGELES STATE PARK\DESIGN\LANDSCAPE\RDLA_PLANTING.DWG PLOT DATE: 7/17/2023 8:24 AM SAVED: 7/17/2023 8:24 AM SAVED BY:399684







DIVISION GENERAL PROVISIONS FOR DEPARTMENT OF RECREATIONS AND PARKS AND THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTIONS (SSPWC). THE LOS ANGELES CITY ELECTRICAL CODE (LATEST EDITION) ARE MADE A PART OF THESE PLANS AND SPECIFICATIONS.

WHERE CONFLICTS OCCURS BETWEEN DIVISION 1 DEPARTMENT OF RECREATION AND PARKS AND THE SSPWC THE DIVISION 1 DEPARTMENT OF RECREATION AND PARKS DEPARTMENT SHALL TAKE PRECEDENCE. CATALOG SPECIFICATIONS WHEN DESCRIBED BY MODEL NUMBER ARE HEREBY MADE A PART OF THESE SPECIFICATIONS WHERE OPTIONS FOR MATERIALS AND OR METHODS APPEARS IN THE STANDARD SPECIFICATIONS. OR THE LOS ANGELES ELECTRICAL CODE, THE OPTION DEFINED HEREIN SHALL BE USED. ANY DISCREPANCIES SHALL BE RESOLVED WITH THE FINAL DECISION MADE BY THE GENERAL MANAGER OF THE DEPARTMENT OF RECREATION AND PARKS OR AUTHORIZED REPRESENTATIVE.

. GENERAL SCOPE OF WORK

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

CLEANING, INSTALLATION AND REMOVAL OF RUBBISH

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

- A. CLEAN ALL ELECTRICAL EQUIPMENT AND DEVICES, REMOVE STAINS, DUST, DIRT, PLASTER, PAINT AND ETC. B. REMOVE ALL SPOTS, SOILS, PLASTERS AND PAINTS FROM ALL EXISTING WORK AND CLEAN TO ORIGINAL
- CONDITION. C. PROTECT AND CLEAN ALL FIXTURES AND EQUIPMENT.
- 3. CONSTRUCTION WATER, LIGHT AND POWER
- A. THE DEPARTMENT WILL FURNISH AT NO COST TO CONTRACTOR WATER AND ELECTRICITY AS IT EXISTS ON THE SITE. CONTRACTOR SHALL FURNISH AND MAINTAIN ALL TEMPORARY LINES, FIXTURES AND EQUIPMENT FOR WATER AND ELECTRICITY AND REMOVE SAME AT COMPLETION OF WORK AT HIS/HER OWN EXPENSE
- B. THE DEPARTMENT WILL NOT BE HELD RESPONSIBLE FOR FAILURE OF EXISTING SOURCES TO SUPPLY CONTINUOUS WATER OR POWER, NOR WILL THE DEPT. BE HELD RESPONSIBLE FOR THE EXISTING SOURCES TO SUPPLY ADEQUATE DEMAND AS REQUIRED BY THE CONSTRUCTION OF THIS WORK.

4. MAIN SERVICE

A. REQUIRED:

- 1. UNDERGROUND SERVICE CONDUIT FOR LIGHT AND POWER FROM MAIN SWITCHBOARD TO PROPERTY LINE AS DIRECTED BY THE DEPARTMENT OF WATER AND POWER
- 2. INSTALLATION OF CURRENT TRANSFORMER IN SWITCHBOARD. THE TRANSFORMER TO BE FURNISHED BY THE DEPARTMENT OF WATER AND POWER.
- B. NOT INCLUDED IN CONTRACT: 1. UNDERGROUND SERVICE CONDUITS FROM PROPERTY LINE TO UTILITY SOURCE TO BE INSTALLED BY THE DEPARTMENT OF WATER AND POWER AND TO BE PAID FOR BY THE CITY.
- 2. MAIN SERVICE UNDERGROUND CONDUCTORS FROM UTILITY SOURCE TO MAIN SWITCHBOARD.
- 3. CURRENT TRANSFORMERS FOR SWITCHBOARD.
- 4. SERVICE CONNECTIONS TO CURRENT TRANSFORMERS AND METERS.
- 6. EXCESS CABLE CHARGES TO BE PAID BY THE CITY.
- J. SHOP DRAWINGS: BEFORE ANY FABRICATION OF SWITCHBOARD IS BEGUN, SHOP DRAWINGS INDICATING THE MATERIALS AND DETAILS OF CONSTRUCTION AND EQUIPMENT AND UL LISTING SHALL BE APPROVED BY THE DEPARTMENT OF WATER AND POWER PRIOR TO THEIR SUBMITTAL TO THE DEPT. OF RECREATION AND PARKS
- K. GROUNDING: PROVIDE AND INSTALL A DRIVEN GROUND COPPER ROD 5/8" IN DIAMETER BY 10 FT. LONG FOR SERVICE GROUNDING REQUIREMENTS LOCATED INSIDE THE ENCLOSURE. ALSO PROVIDE AND USE OTHER GROUNDING ELECTRODES AS INDICATED ON PLAN OR AS REQUIRED BY CODE. EACH ELECTRODE SHALL BE BONDED TOGETHER TO FORM THE GROUNDING ELECTRODE SYSTEM. THE BONDING JUMPER SHALL BE INSTALLED IN ACCORDANCE WITH THE APPLICABLE SECTIONS OF THE CODE, ARTICLE 250. TIGHTEN CONNECTORS TO COMPLY WITH TIGHTENING TORQUES SPECIFIED IN UL STD. 486 TO ASSURE PERMANENT AND EFFECTIVE GROUND.

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

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

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

7. CONTROLS

- 1. CIRCUIT BREAKERS SHALL BE THERMAL MAGNETIC. EACH BREAKER SHALL BE EQUIPPED WITH A DEVICE FOR INDIVIDUAL PADLOCKING.
- 2. ELECTRONIC TIME SWITCH SHALL BE INTERMATIC MODEL NO. ET70215C ASTRONOMICAL ELECTRONIC TIME CONTROL WITH AUTOMATIC DAYLIGHT SAVING TIME AND LEAP YEAR ADJUSTMENTS.
- 3. AUTOMATIC SHUT-OFF TIMER SHALL BE INTERMATIC MODEL NO. FF12HC. IT SHALL BE SOLID STATE WITH ADJUSTABLE TIMER RANGE FROM FIVE MINUTES TO 12 HOURS. THE CONTROL SHALL BE RATED FOR 20
- AMPS, 125 VAC, 60 HZ. 4. LOCAL SWITCHES - SHALL BE SPECIFICATION GRADE, HUBBLE 1221-1 SERIES OR EQUIVALENT LEVITON
- MODEL OR EQUAL. 5. LIGHTING CONTACTORS - AMPERE RATING , NUMBER OF POLES, LINE VOLTAGE, CONTROL VOLTAGE, MOMENTARY OR MAINTAINED CONTACT AS INDICATED ON DRAWINGS, OR AS REQUIRED, SQUARE D CLASS 8903, OR EQUIVALENT AUTOMATIC SWITCH CO. MODEL OR EQUAL
- 6. PUSH BUTTON STATIONS HEAVY DUTY CONTROL STATIONS, LOCATE IN RECREATION DIRECTORS OFFICE (UNLESS OTHERWISE INDICATED) FOR REMOTE CONTROL OF FIELD LIGHTING. SQUARE D CLASS 9001, TYPE B IN NEMA 4 ENCLOSURE FOR OUTSIDE INSTALLATIONS OR EQUIVALENT FURNAS MODEL OR EQUAL. LOCATE PUSH BUTTON AS SPECIFIED ON THE PLAN OR DETAIL.
- B. IDENTIFICATION ALL CONTROL DEVICES SHALL BE IDENTIFIED BY ENGRAVED PLATES DESIGNATING THE EQUIPMENT CONTROLLED. MOTORS AND EQUIPMENT SHALL BEAR NEAT, LEGIBLE AND PERMANENT IDENTIFICATION CORRESPONDING WITH THAT ON THE CONTROL DEVICES USING ENGRAVED LAMINATED PLASTIC NAMEPLATES AFFIXED WITH A MINIMUM OF TWO ESCUTCHEON PINS OR SCREWS.
- C. LOCATIONS FOR OUTDOOR INSTALLATION, TIME SWITCHES AND CONTACTORS SHALL BE LOCATED IN A SEPARATELY PARTITIONED SPACE INSIDE THE RAINPROOF ENCLOSURE, OR AS INDICATED IN THE PLAN.

8. BOXES

- A. TYPES: WEATHERPROOF CAST BOXES: FOR OUTDOOR AND SURFACE WIRING AND WHERE INDICATED ON THE DRAWINGS BY SYMBOL "WP". CROUSE-HINDS FD OR RUSSELL-STOLL FD SERIES OUTLET BOXES OR EQUAL. CONCRETE PULL BOX SHALL BE PROVIDED WITH A "MR. STEEL SECURITY LID" FOR UNDERGROUND INSTALLATION. BROOKS PRODUCT MODEL 5PB OR EQUAL, OR AS INDICATED ON THE PLAN.
- B. ACCESSORIES: WEATHERPROOF FOR CROUSE-HINDS FD SERIES OUTLET BOXES OR RUSSELL-STOLL FD SERIES OR EQUAL.
- C. UNDERGROUND PULL BOXES: AVOID INSTALLATION AT THE LOWEST SPOT OF THE SURROUNDING AREAS. PULL BOX SHOULD SIT ON 2"x4" FRAMED REDWOOD AND SHALL HAVE AT LEAST 12" LAYER OF PEA GRAVEL BENEATH

9. RECEPTACLES

- A. TYPES: ALL RECEPTACLES SHALL BE SPECIFICATION GRADE AND SHALL MEET NEMA WD-1-1974 TESTS. B. FLUSH WALL TYPE, HUBBELL 5262-1, 15 AMPERE, 125 VOLTS OR HUBBELL 8300-1, 20 AMPERE, 125 VOLT, OR EQUIVALENT LEVITON MODEL OR EQUAL.
- C. CONNECTIONS SHALL BE SCREW TERMINAL TYPE. NO PUSH-IN TYPE CONNECTIONS ARE PERMITTED.

10. OUTLET PLATES

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

11. INSTALLATION OF POLES

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

12. CONDUIT

- A. REQUIRED: ALL WIRING SHALL BE IN RIGID OR PVC COATED STEEL CONDUIT EXCEPT AS FOLLOWS:
- 1. PVC MAYBE USED UNDERGROUND FROM PVC COATED STEEL CONDUIT STUBS LOCATED 3 FEET OUTSIDE
- 2. EMT MAYBE USED ABOVE GROUND INSIDE BUILDINGS WHERE NOT ENCASED IN MASONRY OR CONCRETE AND NOT SUBJECT TO PHYSICAL DAMAGE.
- 1. RIGID STEEL CONDUIT: IN ACCORDANCE WITH USA STD C80.1 AND ASTM B-6.
- 2. ELECTRICAL METALLIC TUBING: IN ACCORDANCE WITH USA STD C80-3 & ASTM B-6
- 3. PVC CONDUIT: SHALL CONFORM TO NEMA STANDARD TC-6-1967, WC-1094 AND UL STANDARD 651, 1974 HEAVY WALL SCHEDULE 40 BURIED NOT LESS THAN 24 INCHES BELOW GRADE.
- 4. PVC EXTERNALLY COATED RIGID STEEL CONDUIT, RIGID STEEL ZINC COATED WITH ADDITIONAL COATING OF PVC CONFORMING TO ANSI C-80 & NEMA RN1.
- C. FITTINGS AND ACCESSORIES:
- 1. FOR RIGID STEEL CONDUIT: APPROVED TYPES: ERICSON COUPLING OR THREADLESS CONNECTORS FOR JOINING RUNS. GROUNDING BUSHINGS SHALL BE THOMAS & BETTS OR APPLETON MALLEABLE IRON INSULATED GROUNDING BUSHINGS, UL FILE E14814A. FACTORY ELLS SHALL NOT BE USED UNDERGROUND.
- 2. FOR ELECTRICAL METALLIC TUBING: COMPRESSION GLAND OR STEEL SET SCREW TYPE COUPLINGS AND CONNECTORS WITH INSULATED THROAT.
- D. SIZES: MINIMUM OF 3/4" CONDUIT UNLESS NOTED ON THE PLAN
- E. CONCRETE COVER: UNDERGROUND CONDUIT RUNS IN RECREATION AND PARKS PROPERTY INSTALLED WITH SCHEDULE 40 PVC SHALL HAVE A MINIMUM 3" TOP COVER OF CONCRETE OVER ITS ENTIRE LENGTH (EXCEPT UNDER CONCRETE SIDEWALKS) AND SHALL HAVE AN EQUIPMENT GROUNDING CONDUCTOR SIZED ACCORDING TO THE PREVAILING CODE, BUT NOT LESS THAN SHOWN ON THE PLAN. CONCRETE COVER SHALL BE A MINIMUM OF CLSM (SLURRY) MIX OR AS REQUIRED BY DWP.

13. CONDUIT INSTALLATION

- A. ALL CONDUITS SHALL BE CONCEALED EXCEPT WHERE OTHERWISE INDICATED ON THE DRAWINGS.
- B. PVC COATED STEEL CONDUIT WHICH WILL BE BURIED IN THE GROUND SHALL HAVE WATER TIGHT JOINTS. JOINTS SHALL BE ASSEMBLED WITH LEAD PLATE (ANTI-SEIZE METALLIC LEAD BASE) MIL-A-907 AS MANUFACTURED BY ARMITE LABORATORIES.
- C. INSTALL EXPANSION FITTINGS IN ALL RACEWAYS WHENEVER EXPANSION JOINTS ARE CROSSED. FITTINGS SHALL BE EQUAL TO "OZ" TYPE "XZ" OR "TX".
- D. NO HORIZONTAL CONDUIT SHALL BE INSTALLED IN CONCRETE SLABS-ON-GRADE. SLEEVES FOR CONDUIT PENETRATING FLOORS SHALL TERMINATE 3 INCH ABOVE THE FLOOR. CONDUITS SHALL BE PROTECTED FROM CORROSION BY ONE OF THE FOLLOWING METHODS. (EXTEND 3" ABOVE AND 3" BELOW TOP OF CONCRETE).
- 1. PVC EXTERNALLY COATED STEEL CONDUIT BY ROBROY INDUSTRIES.
- 2. SPIRAL WRAPS WITH 40 MIL HALF LAP PLASTIC TAPE.
- PVC PIPE SLEEVE.
- E. TOPS OF UNDERGROUND CONDUIT RUNS OUTSIDE OF BUILDING OR UNDER CONCRETE SLABS SHALL NOT BE LESS THAN 24" BELOW FINISHED GRADE, NOR LESS THAN THAT REQUIRED BY THE DEPARTMENT OF WATER AND POWER. UNDERGROUND CONDUIT SHALL NOT PASS OVER TANKS OR OTHER UNDERGROUND EQUIPMENT OR THROUGH FOOTINGS EXCEPT AS DETAILED ON THE STRUCTURAL DRAWINGS.
- F. ALL CONDUIT BENDS INSTALLED UNDERGROUND SHALL BE THE LONG RADIUS TYPE WITH RADII NOT LESS THAN 10 TIMES THE INTERNAL DIAMETER OF THE CONDUIT AND WITH NOT MORE THAN TWO 90° BENDS AND ONE 45° SWEEP IN ANY RUN. EXCEPTION: FOR POWER AND LIGHT CONDUIT ABOVE GROUND, FACTORY ELLS ARE PERMITTED.
- G. EACH RUN SHALL BE TESTED IMMEDIATELY AFTER INSTALLATION TO ASSURE FREEDOM FROM OBSTRUCTION AND EACH END PLUGGED AFTER THE TESTING IS COMPLETED. A GALVANIZED IRON PULL WIRE NO. 12 AWG OR 1/8-INCH NYLON POLYPROLENE CORD SHALL BE INSTALLED IMMEDIATELY AFTER CONDUIT INSTALLATION IN EACH CONDUIT IN WHICH THE CONDUCTORS WILL NOT BE IMMEDIATELY INSTALLED.
- H. CONDUITS "JACK-THRU" AND/OR BORED THRU UNDERGROUND SHALL BE MINIMUM 1" RIGID STEEL CONDUIT.
- I. CONDUITS IN UNDERGROUND PULL BOXES SHALL BE SEALED WITH "LHD1" OR "LHD5" DUCT SEAL AS MANUFACTURED BY DOTTIE CO. OR APPROVED EQUAL.

- A. TYPE THHN/THWN, 600 VOLTS INSULATION PER UL 83 FOR ALL GENERAL WIRING SUBJECT TO TEMPERATURES AT 75°C MINIMUM, WET OR DRY LOCATIONS.
- B. TYPES:
- COPPER WIRE FOR ALL CONDUCTORS.
- 2. FOR GENERAL WIRING USE SOLID WIRE FOR NO. 10 AWG AND SMALLER.
- 3. STRANDED FOR WIRES NO. 8 AWG AND LARGER OR FOR FLEXIBILITY WHERE INDICATED ON THE DRAWINGS AS FLEXIBLE CONDUIT CONNECTION.
- 4. NO CONDUCTORS SMALLER THAN NO 12 AWG EXCEPT FOR CONTROL WIRES WHICH SHALL BE NO 14 AWG OR AS INDICATED ON THE PLAN.
- 5. CONDUCTORS FROM BASE OF NEW OR EXISTING POLES UP TO LUMINAIRES SHALL BE NO. 10 AWG MINIMUM UNLESS OTHERWISE NOTED ON THE PLAN. PROVIDE APPROXIMATELY 18" SLACK IN HAND HOLE AND PULL BOXES.
- 6. FOR IRRIGATION CONTROL WIRES, REFER TO IRRIGATION SPECIFICATIONS.

C. SPLICES:

. BRANCH AND FEEDER CONDUCTOR JOINTS SHALL BE LOCATED ONLY IN OUTLET BOXES, PANELBOARD GUTTERS, FIXTURES OR PULL BOXES. CONDUCTOR JOINTS SHALL NOT BE MADE IN CONDUIT FITTINGS.

2. ALL SPLICES IN UNDERGROUND PULL BOXES SHALL BE SCOTCH BAGGED AND WATER TIGHT

D. COLOR CODE:

- 1. FOR POLYPHASE CIRCUITS, IDENTIFY EACH PHASE THROUGHOUT THE CIRCUIT WITH DESIGNATION PHASE A (BLACK), PHASE B (RED) AND PHASE C (BLUE).
- INSULATION COLOR. TAGGING PAINT OR OTHER MARKINGS SHALL NOT BE USED FOR COLOR.. E. INSPECTION: CONTRACTOR SHALL NOTIFY THE GENERAL MANAGER OR AUTHORIZED REPRESENTATIVE 48 HOURS PRIOR TO START OF PULLING WIRE THROUGH ANY OF THE UNDERGROUND CONDUIT RUNS. THE CONTRACTOR SHALL START PULLING WIRE ONLY AFTER THE AUTHORIZED REPRESENTATIVE INSPECTS AND FIND THAT: THE WIRE CONTAINS NO SPLICES, THE NEUTRAL WIRE IS WHITE AND THE EQUIPMENT GROUND WIRE IS GREEN.

2. FOR CONDUCTORS SMALLER THAN NO. 6 AWG COLOR CODING SHALL BE ACCOMPLISHED BY INHERENT

REQUIRED ON BOTH HOT AND NEUTRAL WIRES OF ALL CIRCUITS IN SWITCHBOARD AND PANELBOARDS, AT PULL, JUNCTION AND OUTLET BOXES, AT EACH DEVICE OR LIGHTING FIXTURE. TAGGING SHALL PROVIDE POSITIVE AND PERMANENT IDENTIFICATION AND SHALL BE SCOTCH NUMERAL TAPE BY THE MINNESOTA MINING AND MANUFACTURING CO.

16. EQUIPMENT AND ELECTRICAL CONNECTIONS

- A. PROVIDE ALL THE INSTRUMENTS, EQUIPMENT AND LABOR REQUIRED FOR THE SPECIFIED TESTS. CONDUCT ALL THE TESTS IN THE PRESENCE OF THE GEN. MANAGER OR AUTHORIZED REPRESENTATIVE. CONDUCT THE TEST
- SUCH TIME AS THE GEN. MANAGER MAY DIRECT OR AS SPECIFIED. TESTS FAILING TO CONFORM TO THE REQUIREMENTS OF THE DRAWING AND SPECIFICATIONS, AND ANY PIECE OF EQUIPMENT THAT FAILS THE TEST DESCRIBED HEREIN WILL BE REJECTED AND SUITABLE EQUIPMENT SHALL BE PROVIDED AND INSTALLED. TABULATE AND FORWARD TO THE PROJECT MANAGER IN TRIPLICATE ALL THE PERTINENT TEST DATA. INCLUDE THE DATE OF THE TEST, IDENTIFICATION OF ALL THE ITEMS TESTED, READINGS FOR EACH TEST, COMMENTS WHERE REQUIRED AND THE SIGNATURES OF THE INDIVIDUAL CONDUCTING THE TEST AND OF THE GEN....
- B. THE FOLLOWING TESTS SHALL BE PERFORMED IN THE PRESENCE OF THE DEPT. INSPECTOR OR
- REPRESENTATIVE. TABULATE TEST RESULTS FOR THE DEPT. OF RECREATION AND PARKS RECORDS 1. CONDUCTORS 600-VOLT CLASS: AFTER WIRING IS COMPLETED AND CONNECTED FOR OPERATION, BUT PRIOR TO PLACING SYSTEMS IN SERVICE AND BEFORE ANY BRANCH CIRCUIT BREAKERS ARE CLOSED, PERFORM INSULATION RESISTANCE TESTS IN ALL CIRCUITS. MEASURE THE INSULATION RESISTANCE BETWEEN EACH CONDUCTORS AND GROUND. TAKE READINGS AFTER THE VOLTAGE HAS BEEN APPLIED FOR A MINIMUM OF ONE MINUTE. THE MINIMUM INSULATION RESISTANCE BASED ON THE ALLOWABLE AMPACITY OF THE

CONDUCTOR AS FIXED BY NFPA 70 SHALL BE AS FOLLOWS: OHMS AMPERES 25 THROUGH 50 250000 51 THROUGH 100 100000 101 THROUGH 200 201 THROUGH 400

- 2. HIGH VOLTAGE CONDUCTORS (ABOVE 600 VOLTS): AFTER INSTALLATION AND BEFORE SPLICING AND TERMINATING, PERFORM A FIELD ACCEPTANCE TEST ON CABLES. PRIOR TO TESTING, THE CABLES SHALL NOT BE CONNECTED TO ANY EQUIPMENT. THE TEST PROCEDURE SHALL BE IN ACCORDANCE WITH AEIC AND NEMA. FIELD ACCEPTANCE TEST SHALL BE 15 KV FOR DC FOR 15 MINUTES. IF CABLE FAILS TO PASS INITIAL TEST, PERFORM SUBSEQUENT ACCEPTANCE TESTS UNTIL THE WORK IS IN COMPLIANCE WITH THE..
- 3. GROUND RODS: GROUND RESISTANCE TEST SHALL BE PERFORMED IN NORMALLY DRY WEATHER NOT LESS THAN 48 HOURS AFTER RAINFALL. GROUND RESISTANCE SHALL BE MEASURED FOR EACH PIECE OF EQUIPMENT TO THE GROUND ELECTRODE. USE A PORTABLE GROUND TESTING MEGGER TO TEST EACH GROUND OR GROUP OF GROUNDS. THE EQUIPMENT SHALL BE EQUIPPED WITH A METER READING DIRECTLY IN OHMS OR FRACTIONS THEREOF TO INDICATE THE GROUND VALUE OF THE GROUND ELECTRODE UNDER...

17. LIGHTING FIXTURES

- 1. AS INDICATED HEREINAFTER AND IN THE LIGHTING FIXTURE LIST, ALL FIXTURES MUST BE UL LISTED AND SUPPORTING MEMBERS SUCH AS RODS AND PIPES MUST BE APPROVED BY THE CITY OF LOS ANGELES
- 2. ALL FIXTURES USED AS RACEWAYS SHALL CONFORM TO THE CODE REQUIREMENTS FOR MAXIMUM NUMBER OF CONDUCTORS PERMITTED. BOX TEMPERATURES SHALL NOT EXCEED 75 DEGREES CELCIUS ADJACENT
- B. FITTINGS AND ACCESSORIES: AS NECESSARY FOR PROPER INSTALLATION AND OPERATION.
- D. SPORTS LIGHTING FIXTURES: SUBMIT AN AIMING DIAGRAM FROM FIXTURE MANUFACTURER TO THE DEPARTMENT FOR APPROVAL PRIOR TO INSTALLATION, CONTRACTOR SHALL ENSURE THAT FIXTURES ARE

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

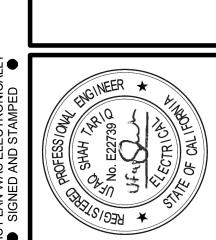
MANUAL FOR ALL ELECTRICAL EQUIPMENT. B. THE CONTRACTOR SHALL EXPLAIN IN DETAIL ALL MANUALS FOR THE OPERATION AND MAINTENANCE OF ALL

- B. DEMO LIGHT FIXTURES FROM 4 EXISTING LIGHT POLES AND ADD 8 NEW LIGHT POLES AND FOUNDATIONS.
- C. REPLACE EXISTING LIGHT FIXTURES WITH LED FIXTURES ON 4 EXISTING LIGHT POLES. ADD 8 NEW LED LIGHT FIXTURES FOR 8
- D. REPLACE EXISTING RESTROOM WITH NEW ADA COMPLIANT SELF-CLEANING RESTROOMS. PROVIDE POWER TO NEW RESTROOMS.
- NEW PANELS "LAF3A", "LAF3B", "P2", & NEW TRANSFORMER "TP2".
- G. PROVIDE NEW SECURITY LIGHTING AND CAMERAS WHERE NEEDED. PROVIDE POWER TO SECURITY LIGHTING AND CAMERAS.
- A. ELECTRICAL EQUIPMENT SHALL BE LISTED OR CERTIFIED BY A CITY OF LOS ANGELES RECOGNIZED ELECTRICAL TESTING
- LABORATORY OR APPROVED BY THE DEPARTMENT.
- C. PROVIDE AND MAINTAIN REQUIRED WORK SPACE, ADEQUATE ILLUMINATION, ACCESS TO WORKSPACE AND HEAD ROOM
- D. FUSES SHALL BE PROVIDED WITH REJECTION TYPE FUSE HOLDERS IN COMPLIANCE WITH NEC ARTICLE 240.60 (B).
- E. ELECTRICAL INSTALLATION SHALL COMPLY WITH LA CITY ELECTRICAL CODE.

ELECTRICAL GENERAL NOTES

- 1. THE CONTRACTOR SHALL VISIT THE JOB SITE PRIOR TO SUBMISSION OF BID TO BECOME FAMILIAR WITH THE EXISTING CONDITIONS AND EXTENT OF THEIR WORK, SUBMISSION OF A PROPOSAL OR BID ACKNOWLEDGES FULL RESPONSIBILITY FOR FURNISHING A COMPLETE
- AND PROPERLY FUNCTIONING SYSTEM. 2. IT IS INTENT OF THESE PLANS AND SPECIFICATIONS THAT A COMPLETE AND WORKABLE ELECTRICAL INSTALLATION BE PROVIDED FOR ALL EQUIPMENT DESCRIBED. ANY
- INCONSISTENCY SHALL BE BROUGHT TO THE PROJECT MANAGER'S ATTENTION FOR CLARIFICATION, CONTRACTOR SHALL PROVIDE ALL MATERIALS AND LABOR, COORDINATE ALL WORK WITH OTHER TRADES AND COMPLY WITH ALL APPLICABLE CODES. 3. CONTRACTOR SHALL OBTAIN AND PAY FOR ALL NECESSARY PERMITS PRIOR TO JOB START
- AND OBTAIN FINAL INSPECTION APPROVAL FROM THE DEPARTMENT OF BUILDING AND SAFETY PRIOR TO FINAL ACCEPTANCE OF THE PROJECT. 4. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF ALL ELECTRICAL EQUIPMENT AND MATERIALS TO THE DEPARTMENT FOR APPROVAL PRIOR TO ORDERING AND SHALL BE
- RESPONSIBLE FOR ANY DELAYS INCURRED DUE TO REJECTED ITEMS. 5. ANY DAMAGES DONE IN THE COURSE OF CONSTRUCTION SHALL BE REPAIRED AT
- CONTRACTOR'S EXPENSE SATISFACTORY TO THE PROJECT MANAGER. 6. CONDUIT RUNS ARE SHOWN DIAGRAMMATICALLY AND MAYBE VARIED IN THE FIELD. MINIMUM CONDUIT SIZE SHALL BE 3/4"-INCH UNLESS NOTED ON THE PLAN. EXPOSED CONDUIT SHALL BE PAINTED TO MATCH THE ADJACENT FINISH.
- 7. CONTRACTOR SHALL FURNISH TO THE DEPARTMENT A VANDAL PROOF SCREW DRIVER FOR EACH TYPE OF VANDAL PROOF SCREWS USED IN THE PROJECT.
- 8. PVC INSTALLED UNDERGROUND SHALL BE 24-INCHES DEEP AND COVERED WITH AT LEAST 3-INCH 100-E-100 CONCRETE MIX.





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BUREAU OF ENGINEERING

E1908951

FILE PATH: C:\USERS\ERNIE\BOX\ARC\ PROJECTS\RIO DE LOS ANGELES STATE PARK\DESIGN\LANDSCAPE\RDLA ELECTRICAL.DWG PLOT DATE: 7/6/2023 9:50 AM SAVED: 7/6/2023 9:42 AM SAVED BY:ERNIE

A. TYPES:

3. ALL FIXTURES SHALL BE UL LISTED FOR THE PURPOSE, WET LOCATION FOR OUTDOOR INSTALLATION, AND DAMP LOCATION FOR SHOWERS AND CANOPIES.

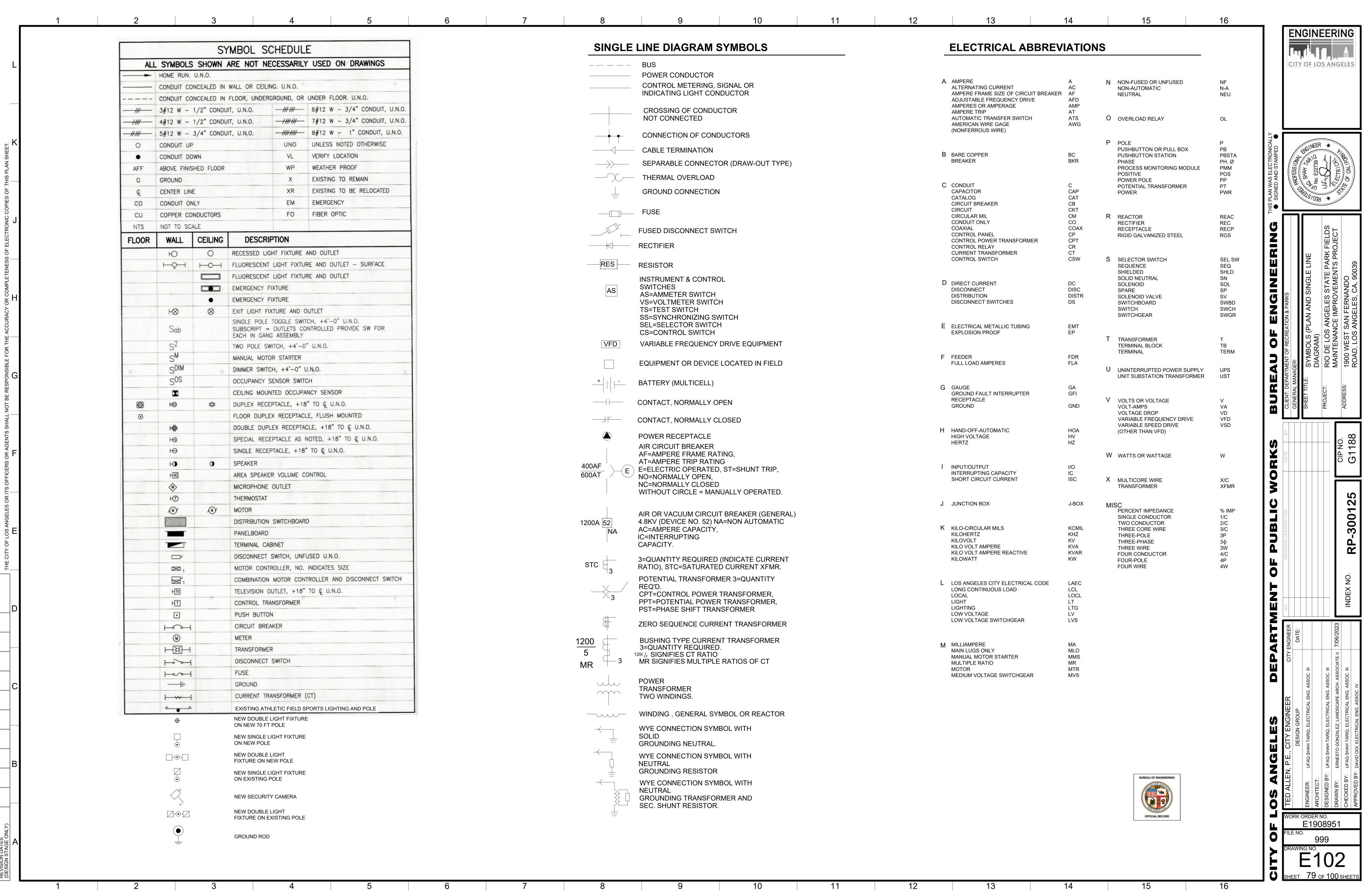
C. DEVIATION SHALL BE SUBMITTED TO THE DEPARTMENT FOR APPROVAL PRIOR TO PURCHASE AND. INSTALLED IN ACCORDANCE TO APPROVED AIMING DIAGRAM (IF APPLICABLE).

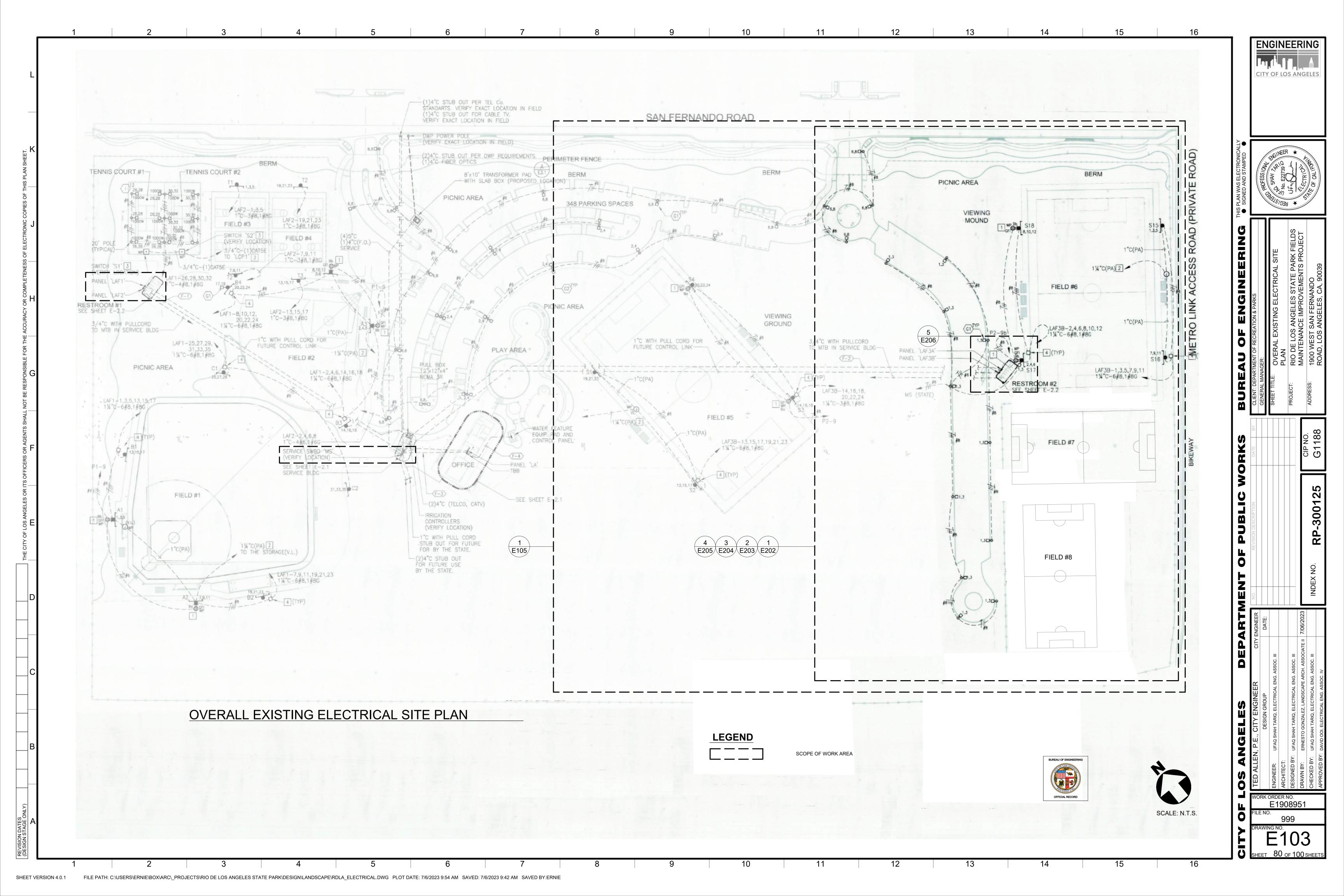
- DIMENSION TO BUILDING CORNERS OR OTHER PERMANENT MONUMENTS THE EXACT LOCATION OF ALL.
- 19. OPERATING MANUALS AND INSTRUCTIONS A. THE CONTRACTOR SHALL FURNISH TO THE CITY FOUR BOUND COPIES OF OPERATING AND MAINTENANCE

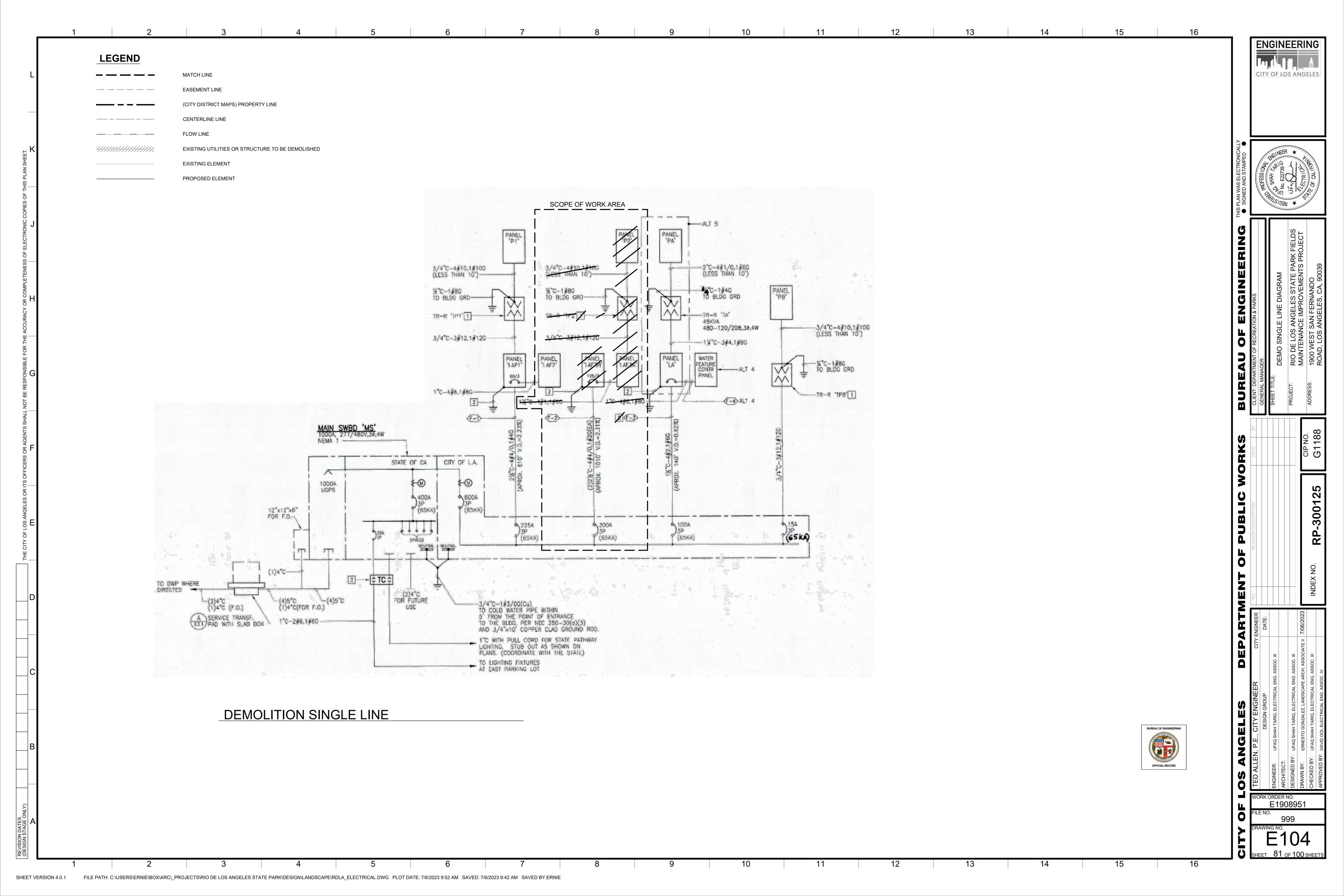
EQUIPMENT TO THE RECREATION AND PARKS MAINTENANCE PERSONNEL BEFORE COMPLETION AND ACCEPTANCE OF THE PROJECT.

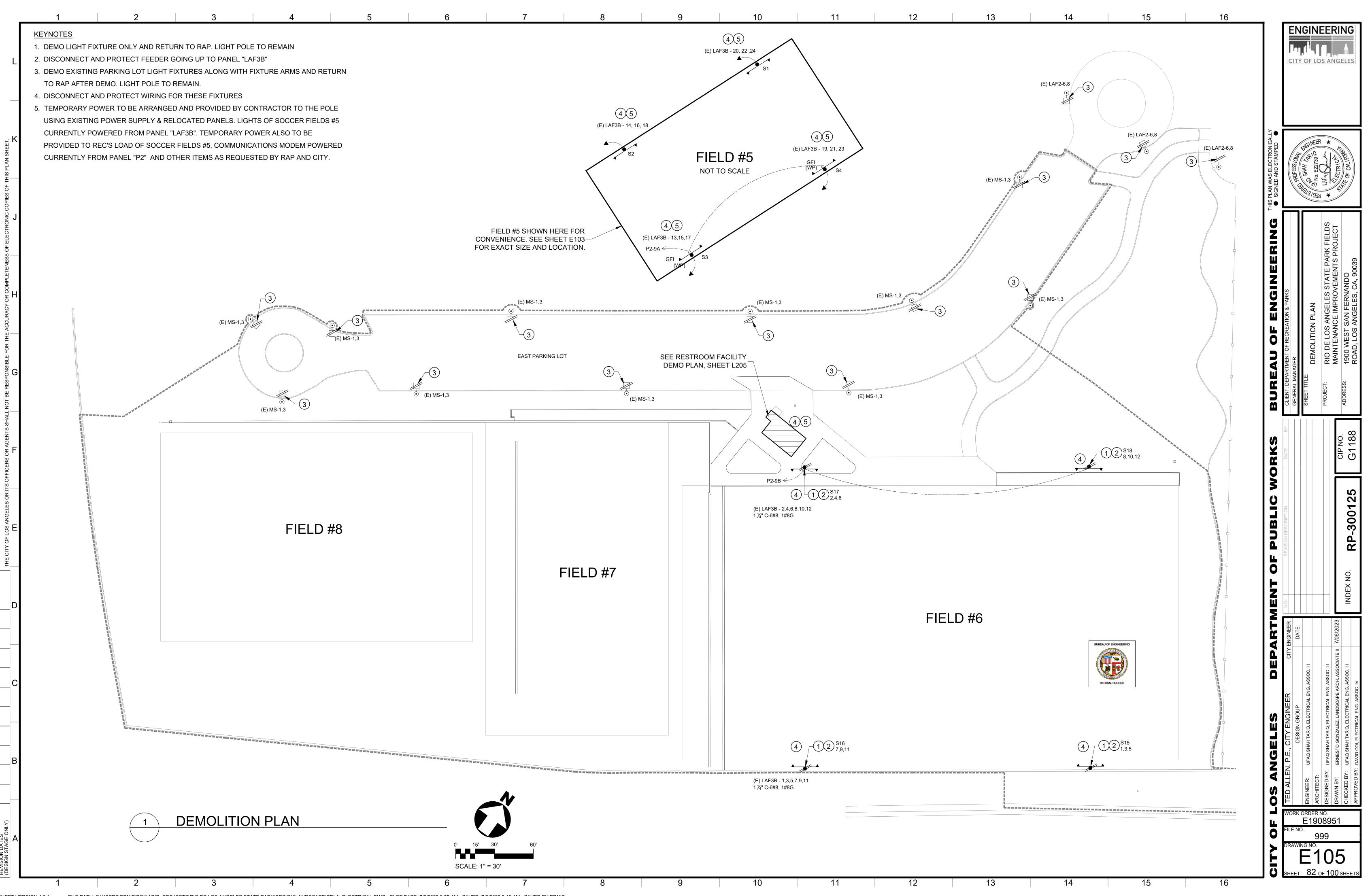
- 20. SCOPE OF WORK
- A. RENOVATION OF 3 FIELDS. INSTALL NEW LIGHTING AND PROVIDE POWER FOR NEW LIGHTING IN ALL 3 FIELDS (FIELD #6, 7, & 8).
- NEW LIGHT POLES.
- E. REPLACE EXISTING PARKING LOT LIGHT FIXTURES WITH LED LIGHTS. REPLACE EXISTING PANELS AND TRANSFORMER "TP2" WITH
- F. ADD NEW PATHWAY POLES, ADD NEW LED LIGHT FIXTURES ON THESE POLES.

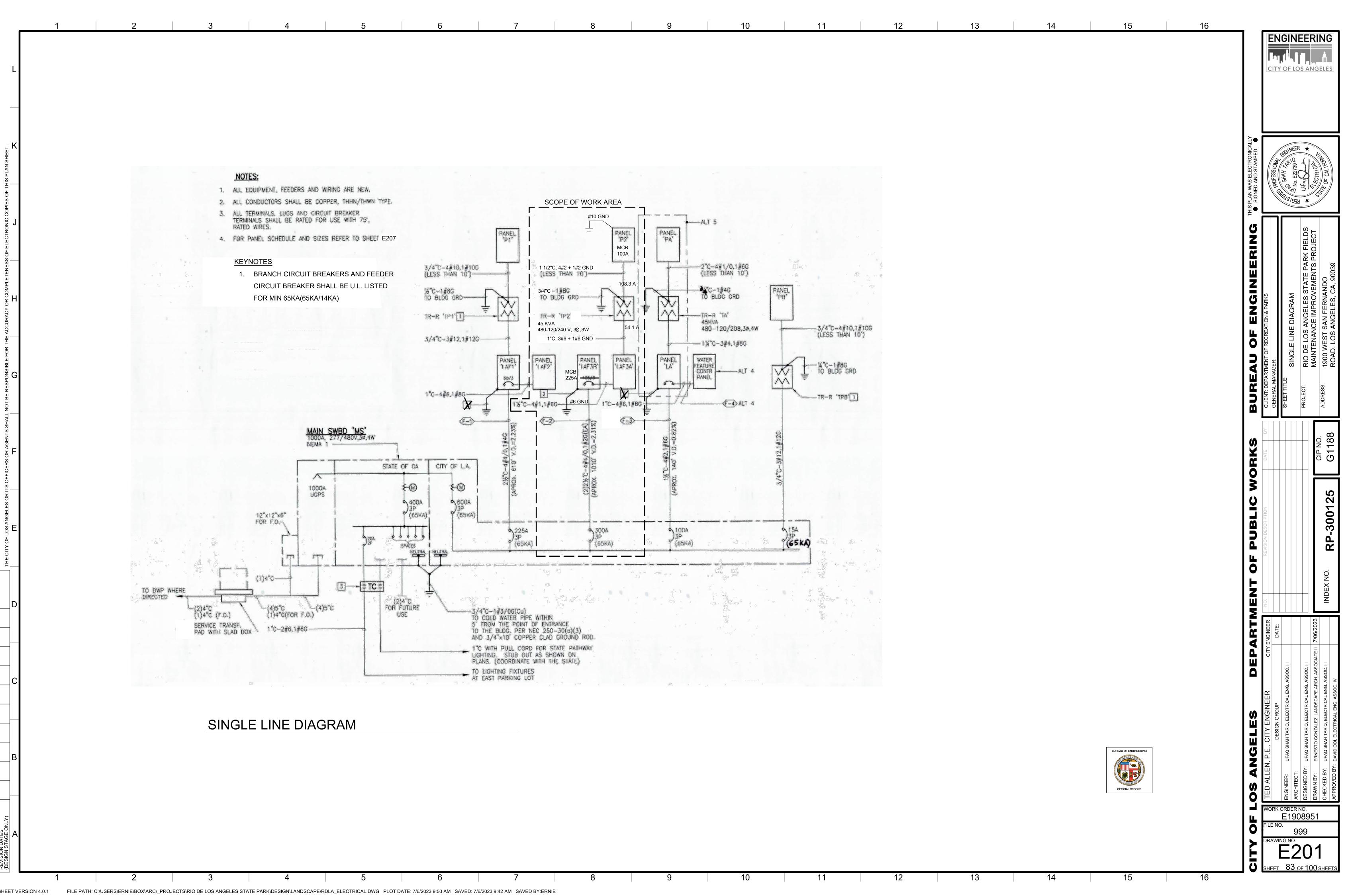
- 21. CITY OF LOS ANGELES DEPARTMENT OF BUILDING AND SAFETY NOTES
- B. NO PIPING, DUCTS OR EQUIPMENT FOREIGN TO ELECTRICAL EQUIPMENT SHALL BE PERMITTED TO BE LOCATED WITHIN THE DEDICATED SPACE ABOVE THE INDOOR/OUTDOOR ELECTRICAL EQUIPMENT.
- ABOUT ELECTRICAL EQUIPMENT.

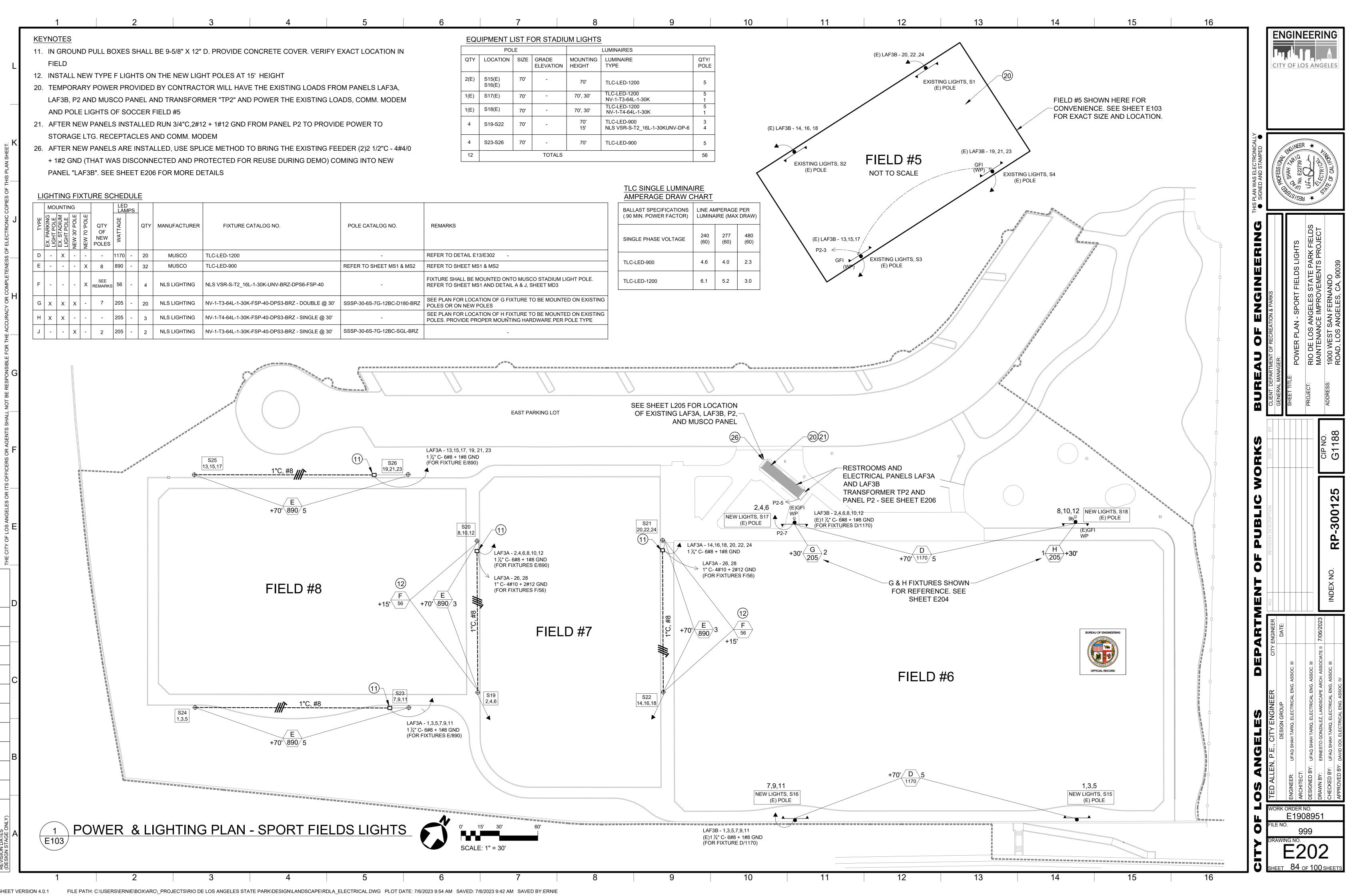


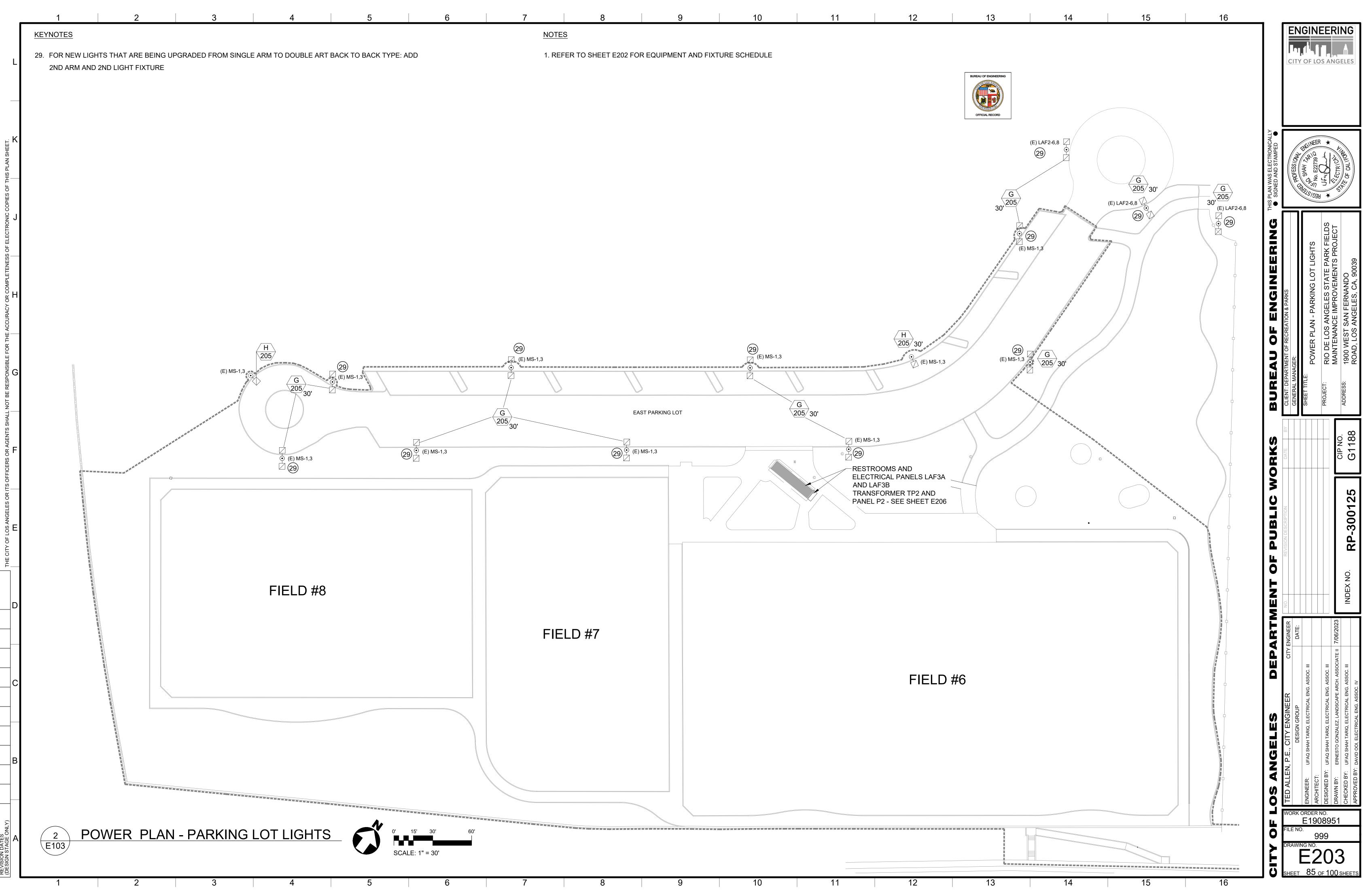


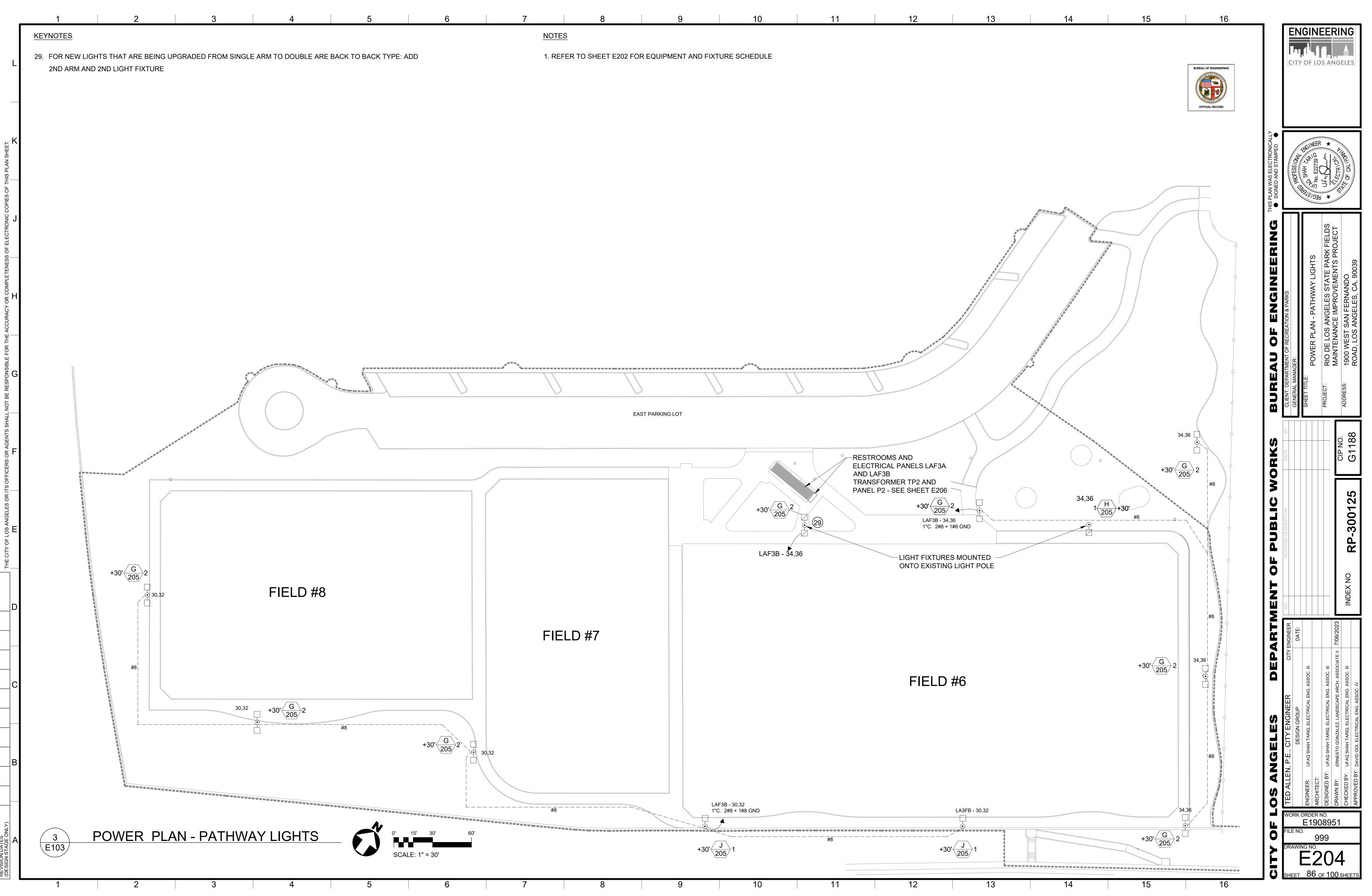


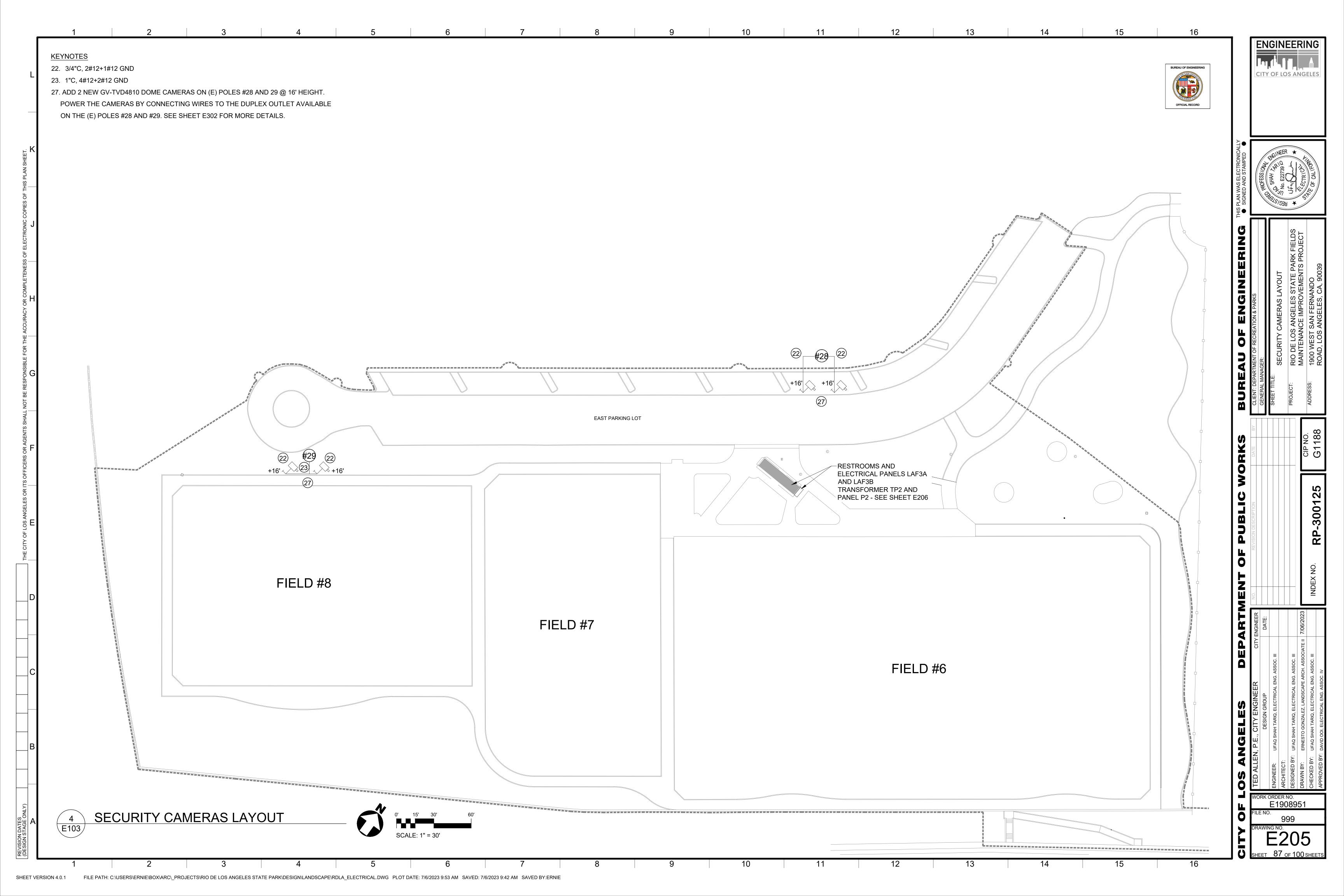


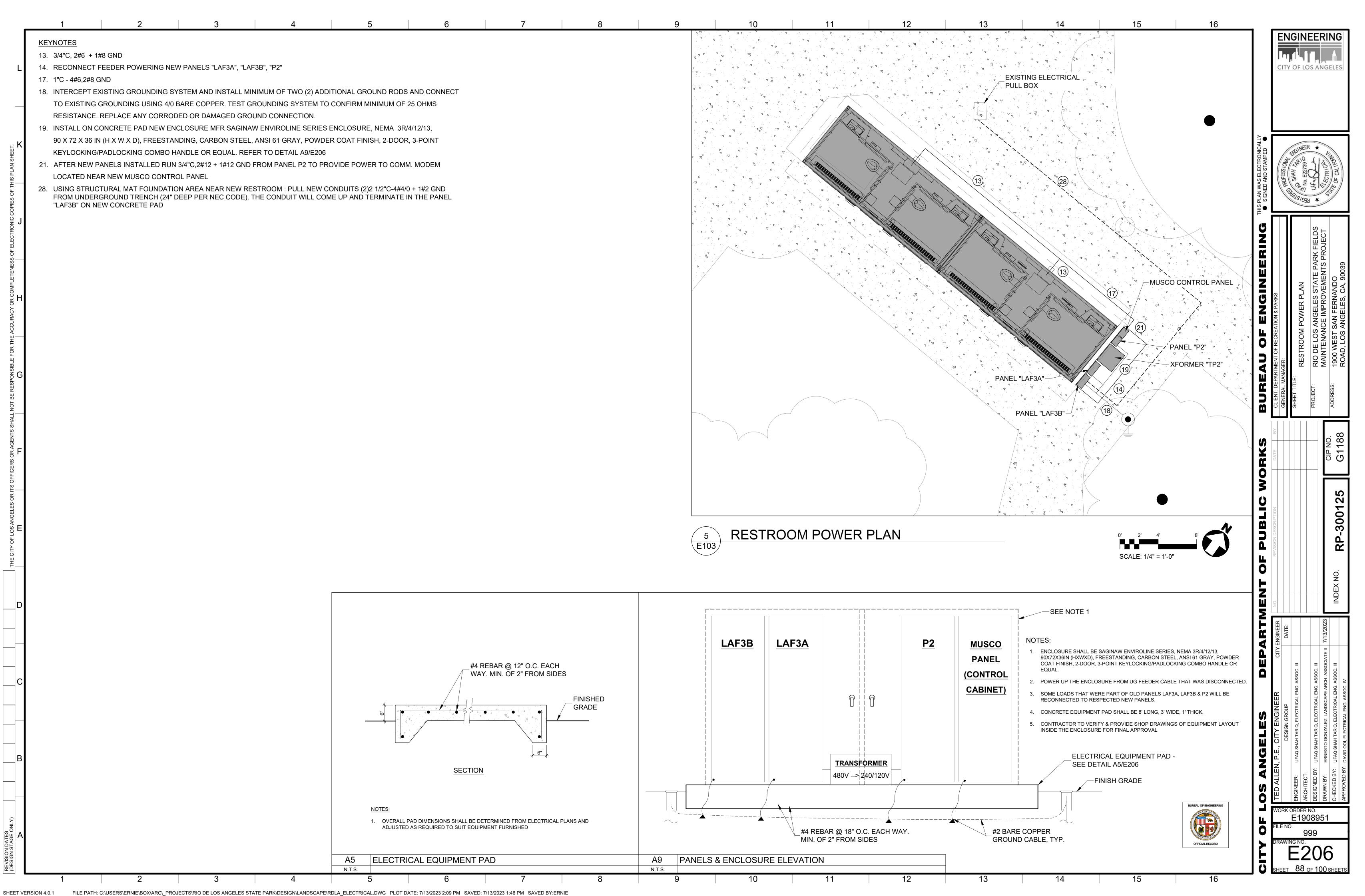












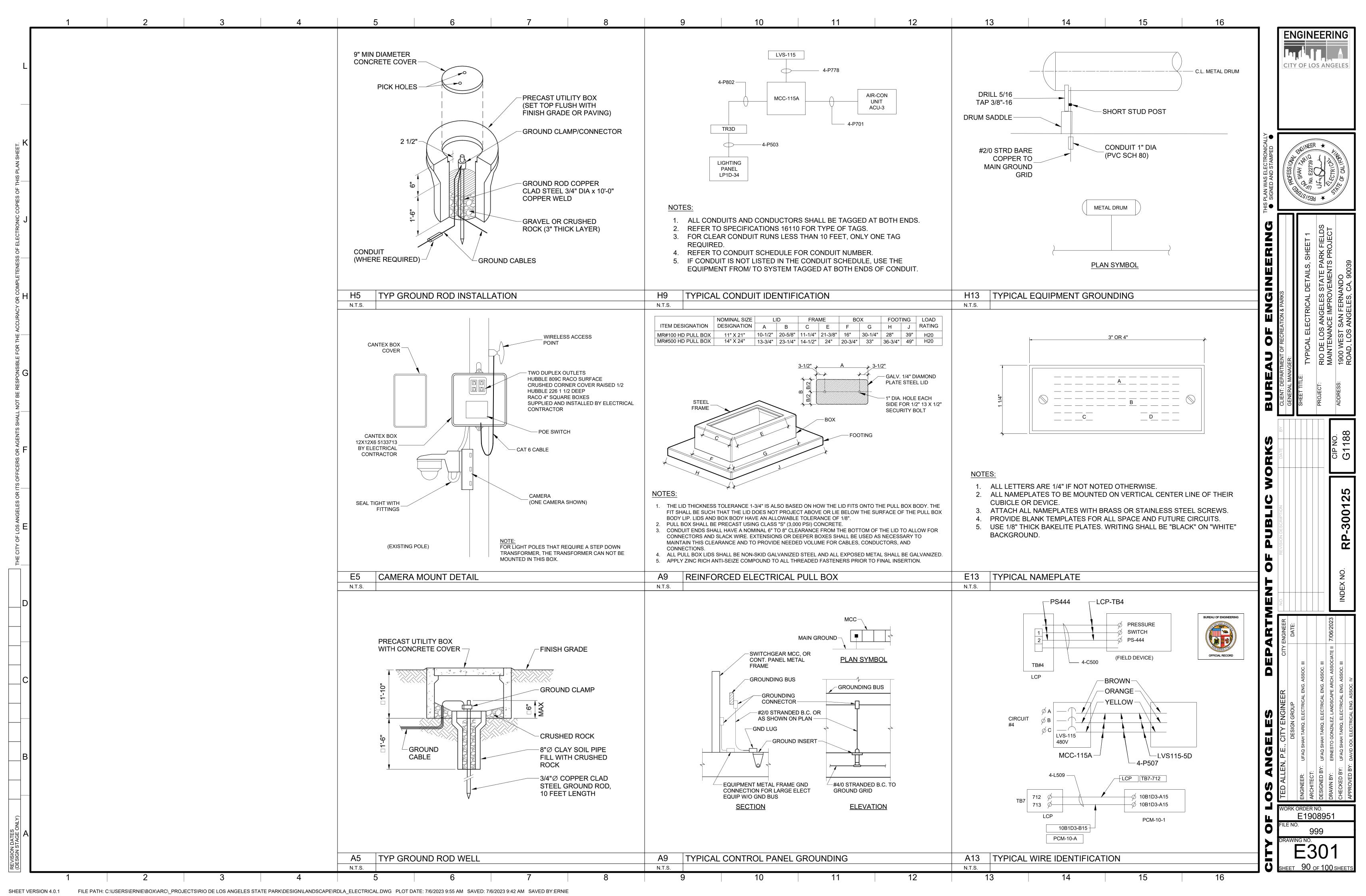
ENGINEERING CITY OF LOS ANGELES LOCATION: NEW ENCLOSURE BESIDES PANEL "P2" LOCATION: OUTSIDE RESTROOM 2 MOUNTING: SURFACE MOUNTING: SURFACE **ENCLOSURE:** PANEL "LAF3A" VOLTAGE: 277/480 VAC, 3 PH, 4W **NEW RESTROOM** VOLTAGE: 120/240 VAC, 3 PH, 3W SOURCE: PANEL "LAF3B" BUS RATING: 125 A MIN. SYMM. AIC RATING: 14,000A MAIN CB SIZE: 100 A SOURCE: TRANSFORMER TP2 BUS RATING: 125 A MIN. SYMM. AIC RATING: 10,000A MAIN CB SIZE: 100A OUTLETS LOAD (VA) LOAD (VA) OUTLETS LOAD (VA) LOAD (VA) LCL BKR OUTLETS LCL скт. CKT DESCRIPTION DESCRIPTION DESCRIPTION DESCRIPTION NO. ∣ NO. |-P AMP LTG REC MISC AMP LTG REC MISC NEW LIGHT POLE S24 NEW LIGHT POLE S19 890 SOCCER#5 REC'S EXELOO RESTROOM #1 5400 IGINEER * 1500 4 890 STORAGE LTG. RECEPTACLE 5400 1500 | 5 | 890 1 20 | COMM. MODEM 300 | 5 SPARE NEW LIGHT POLE S23 1500 3 20 X NEW LIGHT POLE S20 SOCCER#6 REC'S 8 890 1 20 | SPARE EXELOO RESTROOM#2 2 60 SPARE 1500 | 11 | 12 890 SPARE 5400 11 SPARE NEW LIGHT POLE S25 NEW LIGHT POLE S21 14 890 SPARE SPARE 15 1500 16 SPARE 1 1 20 1 15 SPARE 1500 | 17 | 890 SPARE SPARE - 17 NEW LIGHT POLE S26 NEW LIGHT POLE S22 1500 19 20 890 3 20 X 1 | 20 | SPARE 20 SPARE 1 20 21 22 SPARE SPARE 1 20 1 20 1500 23 SPARE SPARE STATE PARK FIELDS OVEMENTS PROJECT 25 3 20 NLS LIGHTING POLES 19---22 SPARE (SINGLE PHASE) 26 75 SPARE SPARE 27 SPARE (SINGLE PHASE) 1 20 28 75 (FIELD 7) ENGINEERIN SPARE 27 SPARE | 1 | 20 | 1 20 29 31 SPARE (SINGLE PHASE) SPARE SPARE SPARE (THREE PHASE) 3 20 32 3 20 SPARE (THREE PHASE) SPACE SPACE 33 34 SPACE 33 SPACE 35 37 SPACE SPACE TRANSFORMER TP2 X | 3 | 60 | SPACE SPACE 37 38 39 SPACE 15000 SPACE SPACE 15000 | 41 | SPACE SPACE 41 SPACE 42 SUBTOTAL CONNECTED LOAD (VA) 21000 | 21000 | 21000 | 3635 3635
 SUBTOTAL CONNECTED LOAD (VA)
 24635
 24635
 24635
 TOTAL CONNECTED LOAD (KVA): 73.905 LONG CONTINUOUS LOAD, LCL (VA) 24635 24635 24635 25% X LONG CONTINUOUS LOAD, LCL (VA) 6159 6159 **0** 25% LARGEST MOTOR LOAD (VA) AVERAGE CURRENT (A): 88.9 SUBTOTAL CONNECTED LOAD (VA) | 2000 | 5700 | 5700 | TOTAL CONNECTED LOAD (VA) 30793.75 30793.75 30793.75 SUBTOTAL CONNECTED LOAD (VA) 7400 11100 5700 TOTAL CONNECTED LOAD (KVA): 24.2 TOTAL LINE CURRENT (A) 111.2 111.2 111.2 LONG CONTINUOUS LOAD, LCL (VA) 0 0 0 25% X LONG CONTINUOUS LOAD, LCL (VA) 0 0 0 25% LARGEST MOTOR LOAD (VA) AVERAGE CURRENT (A): 67.2 TOTAL CONNECTED LOAD (VA) 7400 11100 5700 TOTAL LINE CURRENT (A) 61.7 92.5 47.5 LOCATION: BESIDES NEW RESTROOM MOUNTING: SURFACE PANEL "LAF3B" VOLTAGE: 277/480 VAC, 3 PH, 4W #2 BLDG SOURCE: SWITCHBOARD "MS" BUS RATING: 300 A MIN. SYMM. AIC RATING: 14,000A MAIN CB SIZE: 225 A LOAD (VA) LOAD (VA) OUTLETS CKT. DESCRIPTION DESCRIPTION NEW LIGHT (E) POLE S15 NEW LIGHT (E)POLE S17 1950 5 1950 NEW LIGHT (E) POLE S18 NEW LIGHT (E)POLE S16 1950 8 1950 3 | 20 | X | 9 1950 SOCCER FIELD #5 LIGHT (E)POLE S2 14 4267 SOCCER FIELD #5 LIGHT (E)POLE S3 4267 15 16 4267 4267 17 18 SOCCER FIELD #5 LIGHT (E)POLE S4 20 4267 3 | 30 | X | SOCCER FIELD #5 LIGHT (E)POLE S1 4267 SPARE (2 POLE BREAKER) 27 28 30 29 820 PATHWAY LIGHTING 31 32 820 SPACE SPACE 820 PATHWAY LIGHTING 38 19,635 SPACE PANEL LAF3A 39 SPACE 40 41 SPACE 42 19,635 SUBTOTAL CONNECTED LOAD (VA) 12434 | 12434 | 12434 | 33709 32889 SUBTOTAL CONNECTED LOAD (VA) 45323 45323 46143 TOTAL CONNECTED LOAD (KVA): 136.789 LONG CONTINUOUS LOAD, LCL (VA) 45323 45323 46143 25% X LONG CONTINUOUS LOAD, LCL (VA) 11331 25% LARGEST MOTOR LOAD (VA) AVERAGE CURRENT (A): 164.5 TOTAL CONNECTED LOAD (VA) 56653.75 56653.75 57678.75 TOTAL LINE CURRENT (A) 204.5 204.5 208.2 E1908951

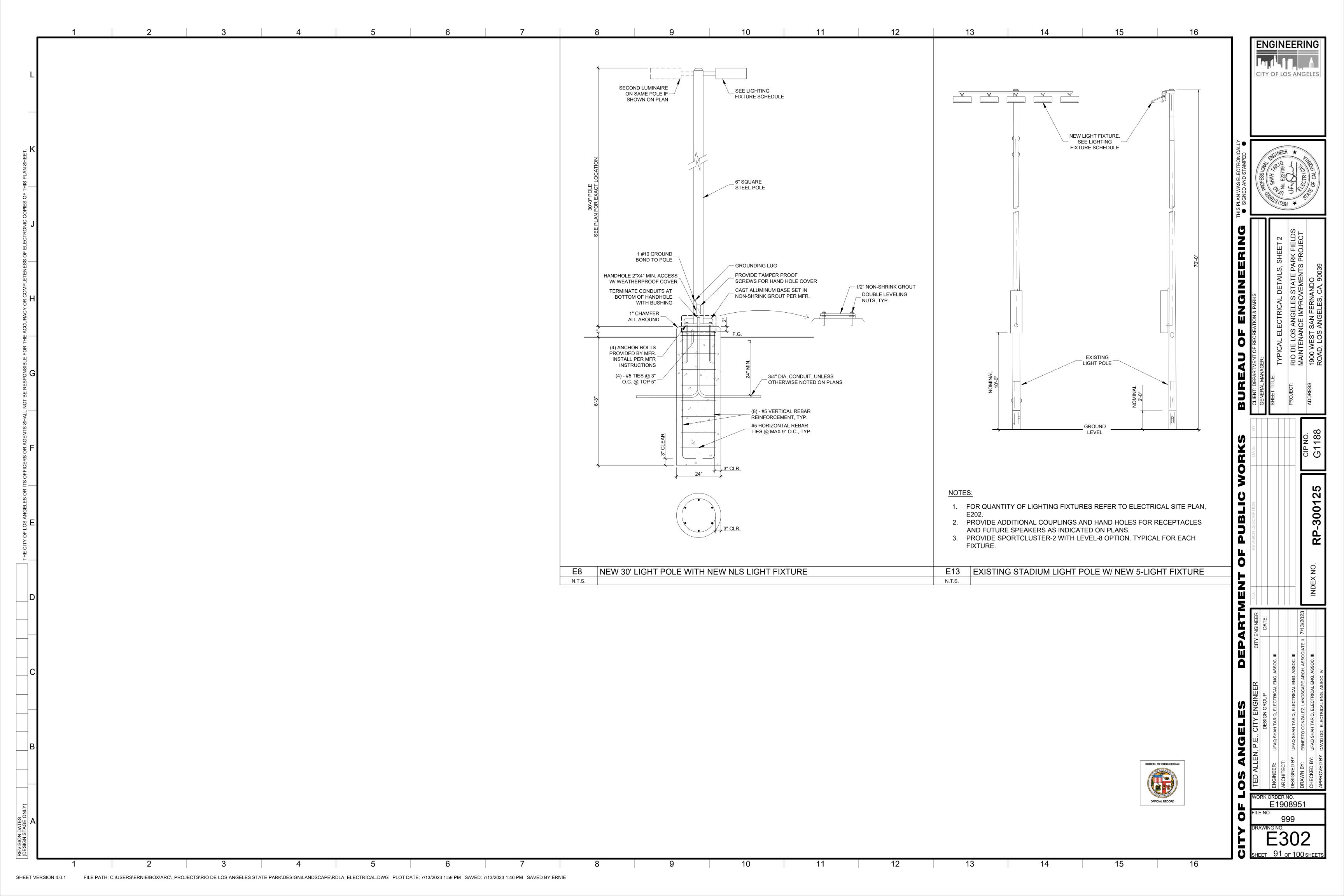
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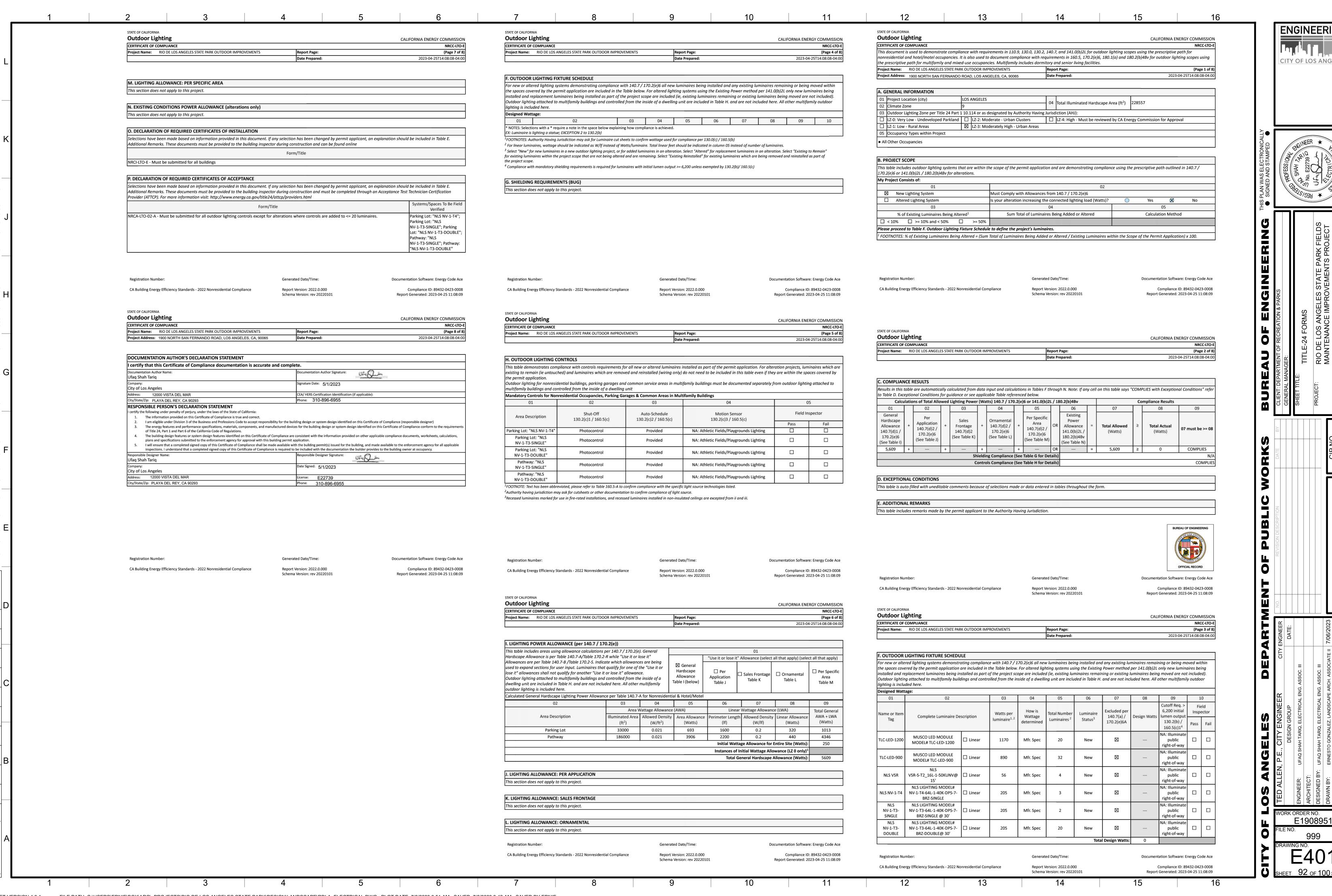
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- 1. All construction and workmanship shall conform to the following codes.
- 2. 2020 Los Angeles City Building Code (LABC).
- 3. This pole and foundation standard has been designed for lateral loads on the completed structure as follows:
- 4. Wind ASCE 7-16; Vult = 95 mph (Exposure C); Vasd = 74 mph (Exposure C); Risk
- 5. Maximum total effective area (EPA) for luminaires per pole class (Fixtures Only):
 - LSS70A 6.0 SQ.FT.; LSS70C 9.0 SQ.FT.
- 6. Seismic: $S_s = 2.103$, $S_1 = 0.753$, $S_{DS} = 1.683$, $S_{D1} = 0.853$, Risk Category = II; I = 1.0; Site Class = D; R = 1.5; Seismic Category = D; $C_s = 0.402 (70A)$; 0.426 (70C). Strength Level typical;
 - $\rho = 1.0$; Seismic Force Resisting System = Non-Building Structures, not similar to Buildings; Analysis Procedure = Equivalent Lateral Force Procedure.
- 7. Maximum weight per luminaire: LED1200 = 45 pounds; LED900 = 40 pounds.

GENERAL CONSTRUCTION

- 8. These notes shall be used in conjunction with the plans and any discrepancies shall be brought to the attention of the Engineer.
- 9. Contractor must check all dimensions, clearances and job conditions before starting work. Engineer shall be notified immediately of any discrepancies or possible deficiencies.
- 10. The drawings and specifications représent the finished structure. All bracing, temporary supports, shoring, etc., is the sole responsibility of the Contractor. Observation visits to the job site by the Engineer do not include inspection of construction procedures. The Contractor is soley responsible for all construction methods and for safety conditions at the worksite. These visits shall not be construed as continuous and detailed inspections.
- 11. Design, material, equipment, and products other than those described below or indicated on the drawings may be considered for use, provided prior approval is obtained from the City of Los Angeles.
- 12. Installation shall comply with all applicable L.A. city zoning ordinances and its provisions. 13. All changes in approved plans shall be made by addenda or change orders approved by
- City of Los Angeles. 14. All tests and inspections shall be performed by an independent lab approved by City of
- 15. Plans shall be accompanied by a fully dimensioned plot plan showing all buildings and proposed pole locations.

LIGHT POLE FOUNDATIONS

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

- 16. Reference Geotechnical Report prepared by City of Los Angeles Geotechnical Engineering Division (GED). Dated September 20, 2022; W.O. #E1908950, GED File # 22-066.
- 17. Allowable vertical bearing capacity: 250 PSF (Skin Friction).
- 18. Allowable lateral soil bearing pressure: N/A. See report for LPILE parameters to use to analyze foundations.
- 19. Allowable design soil capacities must be verified by Geotechnical Engineer.
- 20. If soft or questionable soil conditions are encountered during excavations, contact the Department for instructions before proceeding with the work.
- If adverse soil conditions are encountered, a soils investigation report may be required. 21. Soil formations that will require special design considerations or excavation procedures may exist. Pole foundations will need to be analyzed according to the soil conditions that exist.
- 22. The Contractor must familiarize himself with the complete soil investigation (if any) and borings and contact the Geotechnical Engineer (as necessary) to understand the soil conditions and the possibility of ground water pumping and excavation stabilization of bracing during then pier base installation and placement of concrete backfill.
- 23. All precast bases and concrete backfill must bear on and against firm undisturbed soil, as determined by a Geotechnical Engineer.
- 24. All excavations must be free of debris and loose soil prior to foundation installation, and placement of concrete backfill. Casing may be required if caving occurs. In such case, approval by a Geotechnical Engineer is required. Put plywood collar around hole to prevent falling dirt from filling hole.
- 25. All excavations must be dry or concrete shall be placed by the tremie method in accordance with ACI standard 336. Concrete placed by the tremie method shall have a minimum ultimate strength of 1,000 psi greater than required under "concrete backfill" below, and a maximum slump of 8 inches.
- 26. Excavations shall be covered, fenced securely or provided with equivalent protection for hazards.

CONCRETE BACKFILL

- 27. Concrete backfill shall attain a minimum compressive strength of 4,000 psi at 28 days. Concrete shall attain a minimum compressive strength of 3,000 psi prior to steel pole installation. see statement of special inspections required.
- 28. Concrete: F'c = 4.000 psi.
- continuous inspection is not required.
- 29. Slump shall not exceed 5 inches. Max w/c = 0.50.
- 30. Use type II—Portland Cement or as recommended by the Geotechnical Engineer. 31. Concrete that will be exposed to sulfate-containing solutions or soils shall comply with
- the maximum water—cementitious ratios and minimum compressive strengths specified in ACI 318, Section 4.3.
- 32. Portland Cement ASTM C-150-07.
- 33. Aggregate ASTM C—33, use 1" maximum aggregate size. 3/8" max agg. size not permitted.

CONCRETE BACKFILL

- 34. Place concrete immediately after completion of excavation and inspection by the Geotechnical Engineer and the L.A. City approved Inspector. No excavations shall be left unprotected or open overnight.
- 35. Concrete shall be placed in one continuous operation (no construction joint) with special equipment to prevent concrete from striking the sides of the excavation. Maximum freefall shall not exceed 5 ft.
- 36. Vibrate concrete full length.
- 37. All concrete reinforcing steel shall conform to ASTM A615, Grade 60

STEEL POLE

- 38. Steel pole sections conform to the 2020 LABC Chapter 22, and AISC 360-16.
- 39. All steel conforms ASTM specifications, as referenced on these drawings.
- 40. Minimum elongation in 2 inch gauge length = 18%, and the minimum elongation in 8 inch gauge length = 20%.
- 41. The fabricator shall provide mill tests or test data by a Los Angeles city approved testing agency showing conformance of the foregoing:
- 42. LONGITUDINAL WELDS:
 - All longitudinal seam welding shall be done prior to cold welding. Weld type: Automatic high frequency resistance, automatic submerged arc or
 - hybrid laser beam/gas metal arc welding procedure. Joint: Butt
 - Penetration: 60% except 100% at female end of slip joint, detail H/MD1. Test: 60% pen. - Visual per AWS D1.1 article 8.15
 - 100% pen. Visual per AWS D1.1 article 8.15 Certified data on seam welding from shaft manufacturer shall include:
 - 1. Inspection frequency and procedures; I.E.; Visual, US, Radiographic, etc. 2. Seam welding procedures; I.E.; percent penetration and method ERW, SAW, etc.
 - 3. Method and length of 100 percent penetration weld at female end of slip joint. Welding operator: AWS certified welding operator (CWO) and shall be done by City of L.A. B&S licensed fabricator.
 - Welding inspector: AWS certified welding inspector (CWI) and approved by City of L.A. B&S deputy inspector in welding.
- 43. CIRCUMFERENTIAL WELDS
- Circumferential welds are not allowed. Shafts shall be fabricated from continuous rolled plates or coil.
- 44. All weldment conforms with AWS D1.1 specification for G.M.A.W. fillet utilizing E70S-X filler metal or S.A.W. fillet utilizing F7XX-EXX or F8XX-EXX filler metal. G.M.A.W. procedure conforms to AWS A5.18. S.A.W. procedure conforms to AWS
- 45. MANUFACTURERS SHAFT MARKINGS:
 - The manufacturer shall inscribe a common I.D. number on each shaft comprising a particular factory pole assembly. (See also manufacturers gauge marks below).
 - FIELD ASSEMBLY AND MANUFACTURERS GAUGE MARKS
 - The pole manufacturer shall provide and the contractor shall follow the recommended pole assembly instruction general, the pole shall be assembled on the ground and the entire structure lifted into position on the previously installed foundation. Shafts shall be connected by slip splices only, welded splices shall not be used. The manufacturer shall shop assemble the entire pole and inscribe gauge marks across each slip joint to guide the field assembly. The contractor shall assemble the pole in the presence of the Special Inspector who shall verify that each slip splice attains a minimum overlap of 1.5 x larger shaft diameter.
- 46. GALVANIZING: Pole assembly, all hardware and accessories (except for non-ferrous items) shall be hot dip galvanized per ASTM A123. All fabrication shall be done before galvanizing. Minimum weight of galvanizing shall be 2.00 oz/sq. ft. Shafts shall be galvanized by single dipping only. Double dipping is not allowed.
- 47. SUBMITTAL: Manufacturing shall furnish the department with a galvanizing weight report showing conformance foregoing by the the thickness gauge. Method of
- measurement per ASTM E376. 48. All miscellaneous structural steel items conform to the Steel Construction Manual, 14th Edition, American Institute of Steel Construction.

PRECAST BASE

49. Precast pole base conforms to 2020 LABC, Chapter 19 and to Building Code Requirements for Reinforced Concrete, ACI 318-14.

TESTING AND INSPECTION

- 50. Testing and inspections in accordance with 2020 LABC.
- 51. Prior to pouring of concrete, the Geotechnical Engineer shall inspect and approve the footing excavations.
- 52. All compacted fill shall be placed under the supervision and approval of the Geotechnical Engineer.

STATEMENT OF SPECIAL INSPECTIONS*				
ITEM	CONTINUOUS/PERI ODIC	SCOPE		
1. PIER FOUNDATIONS	CONTINUOUS	INSPECT INSTALLATION OF DRILLED PIER FOUNDATIONS. VERIFY DIAMETER, EMBEDMENT DEPTHS AS SCHEDULED, DEPTHS OF FILL, AND BEARING STRATA		
2. CONCRETE MIX DESIGN	PERIODIC	REVIEW CONCRETE BATCH TICKETS AND VERIFY COMPLIANCE WITH APPROVED MIX DESIGN.		
3. CONCRETE PLACEMENT	CONTINUOUS	INSPECT PLACEMENT OF CONCRETE FOR PROPER APPLICATION TECHNIQUES. VERIFY THAT CONCRETE CONVEYANCE AND DEPOSITING AVOIDS SEGREGATION OR CONTAMINATION. VERIFY THAT CONCRETE IS PROPERLY CONSOLIDATED.		
4. SAMPLING AND TESTING OF CONCRETE	CONTINUOUS	AT THE TIME FRESH CONCRETE IS SAMPLED TO FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE TEMPERATURE OF CONCRETE.		
5. CRETEX PRECAST/ PRESTRESSED CONCRETE BASES	(PCI CERTIFIED)	FABRICATOR EXEMPT.** REFERENCE ICC ESR-3765		
6. STRUCTURAL STEEL	(L.A. CITY APPROVED)	FABRICATOR EXEMPT.** REVIEW CERTIFIED MILL TESTS REPORTS AND IDENTIFICATION MARKINGS.		

* The Special Inspector shall be a qualified person who shall demonstrate competence, to the satisfaction of the Building Official, for inspection of the particular type of construction or operation requiring special inspection. **Special inspections shall not be required when the work is done on the premises of a fabricator registered and approved by the City to perform such work without special inspection.

SUBMITTALS

- 53. Prior to any pole fabrication, the contractor shall submit and obtain the department's approval of: 1. All pole shaft certifications.
- 2. All remaining certifications prior to shipping any poles to job site.

The contractor shall furnish written certifications showing compliance with ASTM and the foregoing specification.

CROSSARMS: ASTM A500, GR.B Min Fy = 46 KSI CAP: ASTM A48 class 30, zinc die cast (alloy no. 3).

FIXTURE MOUNTING SECTIONS: ASTM A513, $F_Y = 38$ KSI

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

MISCELLANEOUS

- 54. Contractors responsible for the construction of a wind or seismic force resisting system/component listed in the Statement of Special Inspection shall submit a written statement of responsibility to the LADBS Inspectors and the owner prior to the commencement of work on such system or component per Sec 1704.4
- 55. Shop welds must be performed in a LADBS licensed fabricator shop.
- 56. A copy of the Los Angeles Research Report and/or conditions of listing shall be made available at the job site.
- 57. Continuous Special Inspection by a registered deputy inspector is required for concrete strength f=c > 2500 psi.



INDEX	OF SHEETS
MT1	GENERAL NOTES
MT2	SITE PLAN, FOUNDATION DETAIL
MS1	70A POLE DETAILS
MS2	70C POLE DETAILS
MS3	70C RETROFIT POLE DETAILS
MD1	ATTACHMENT DETAILS
MD2	ATTACHMENT DETAILS
MD3	ATTACHMENT DETAILS

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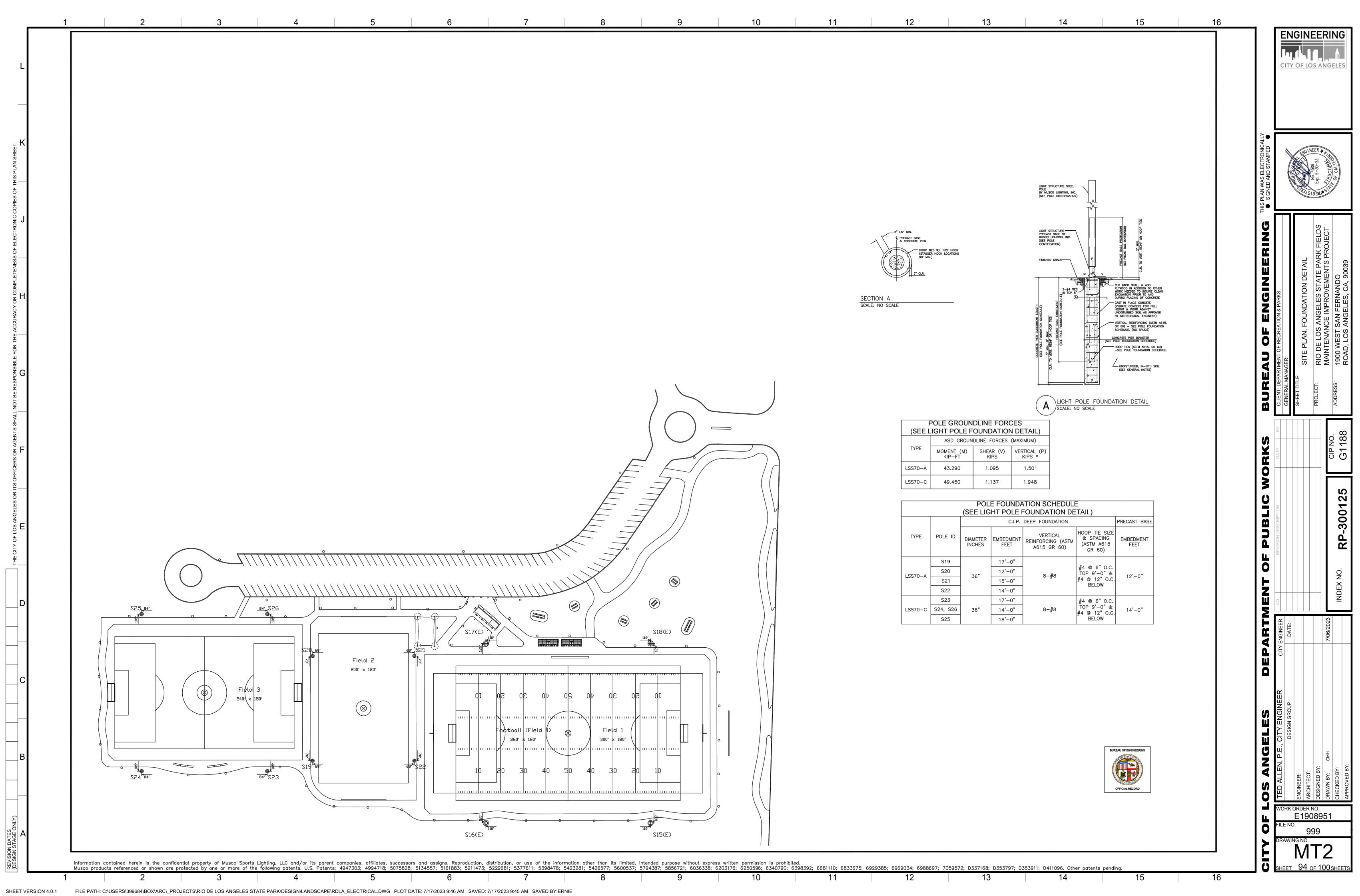
ENGINEERING CITY OF LOS ANGELES

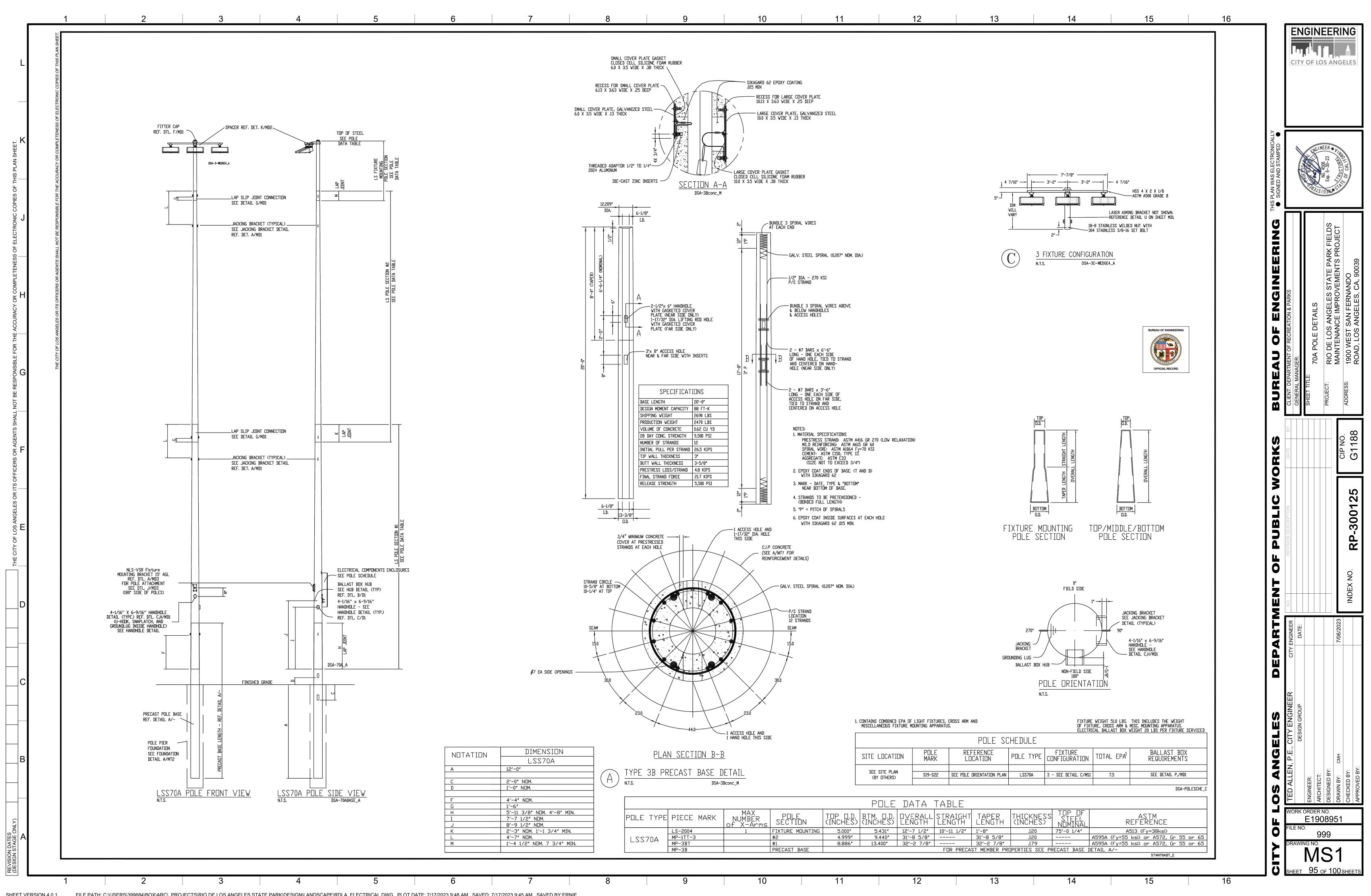
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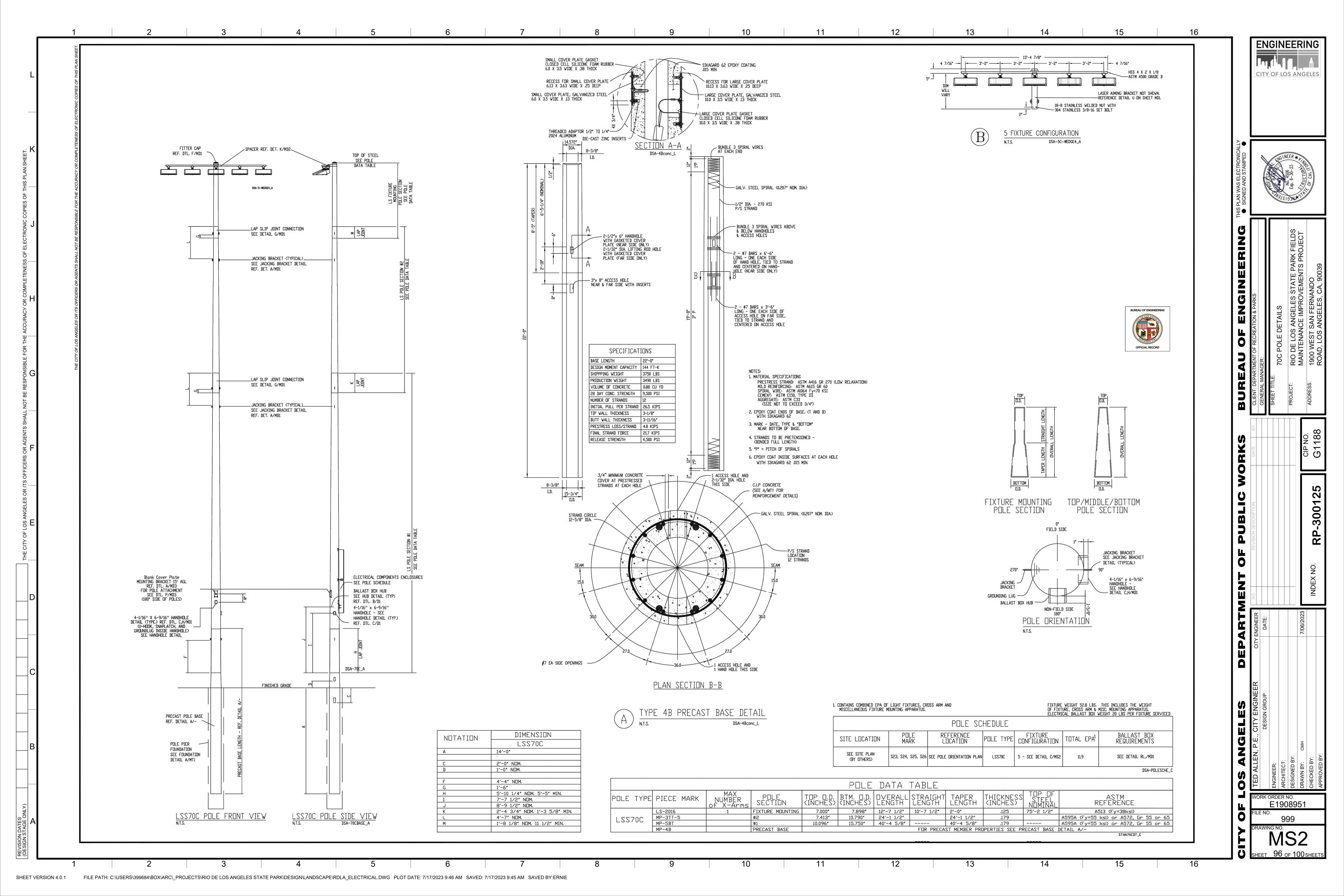
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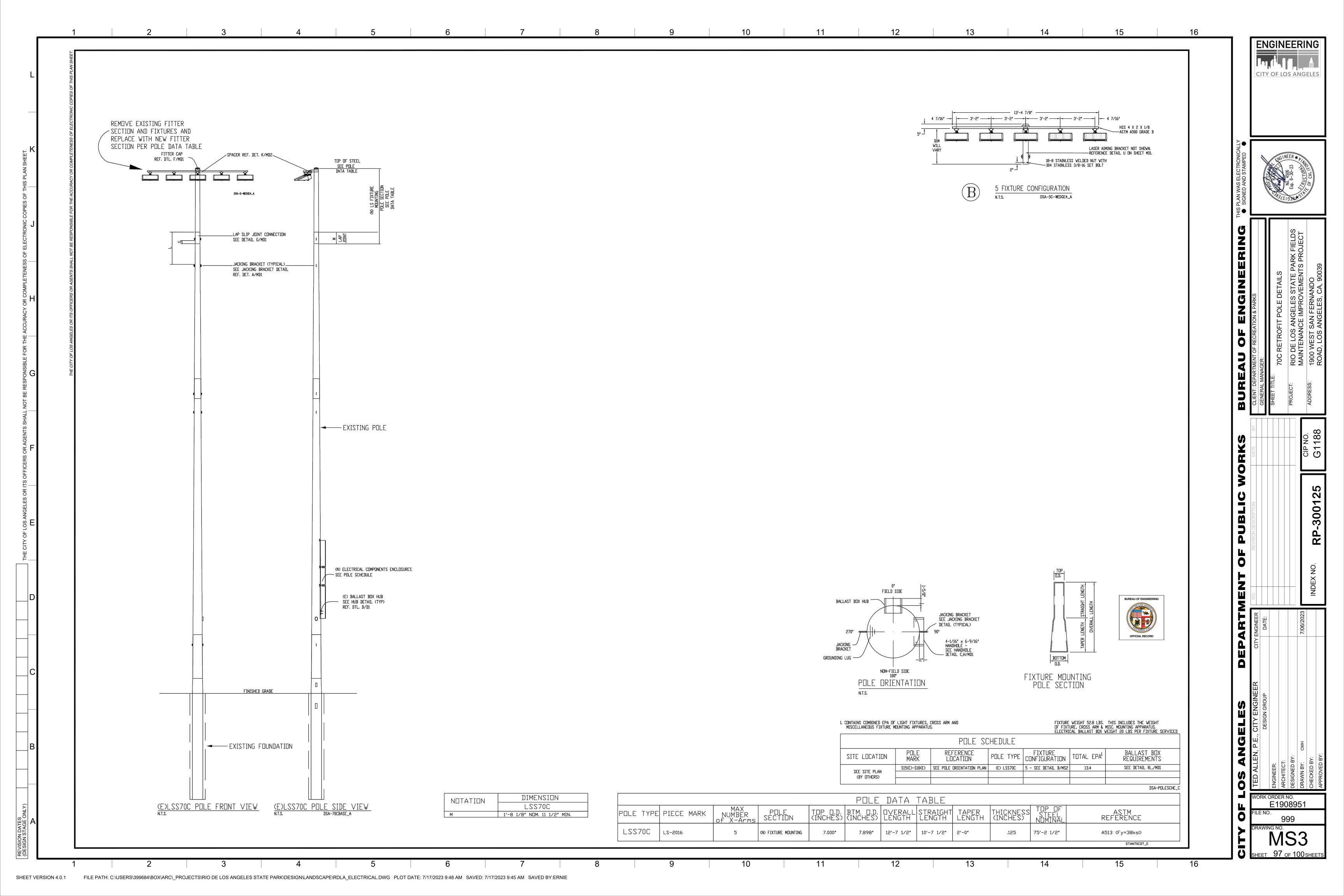
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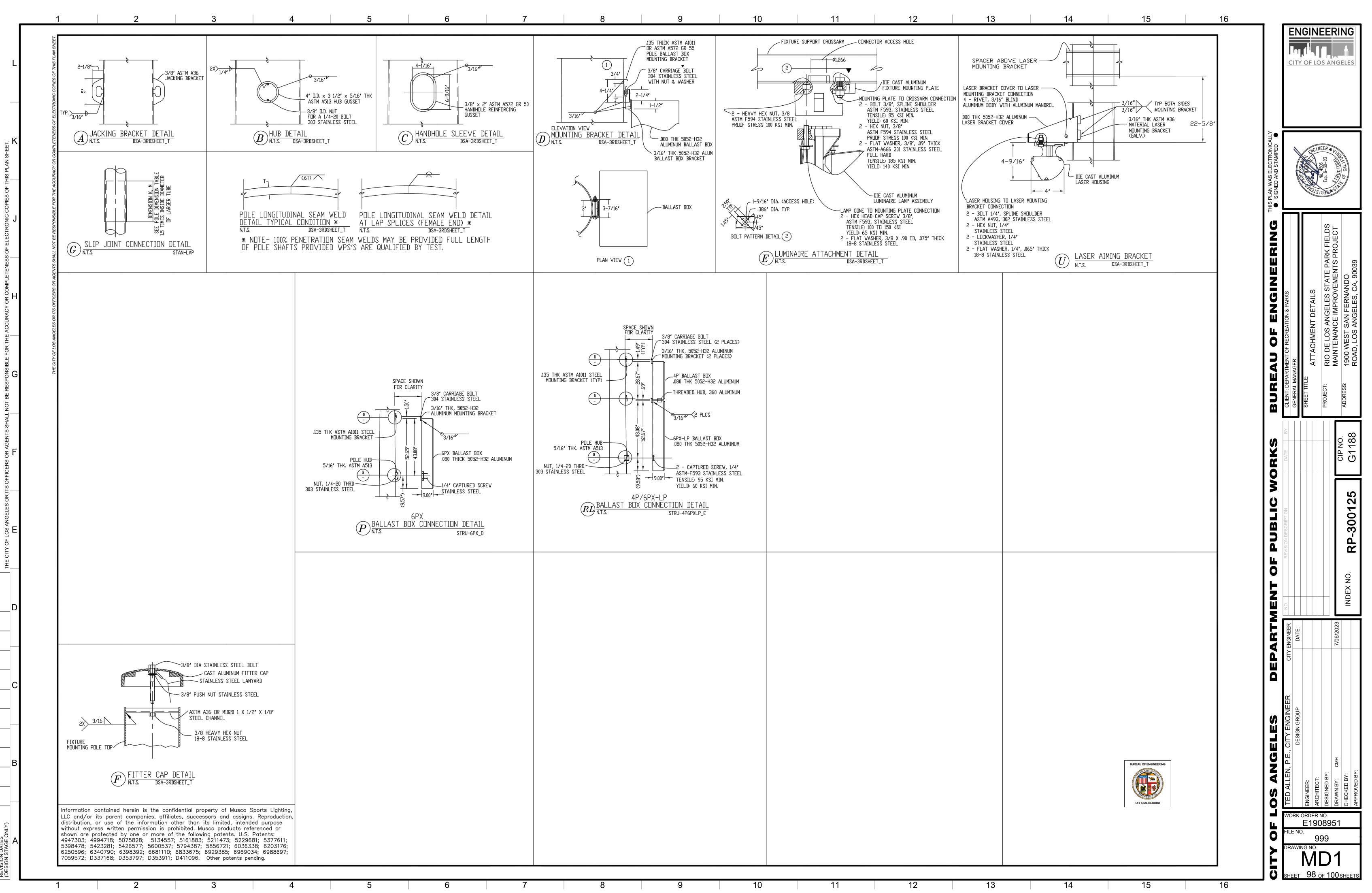
E1908951 SHEET 93 OF 100 SHEETS

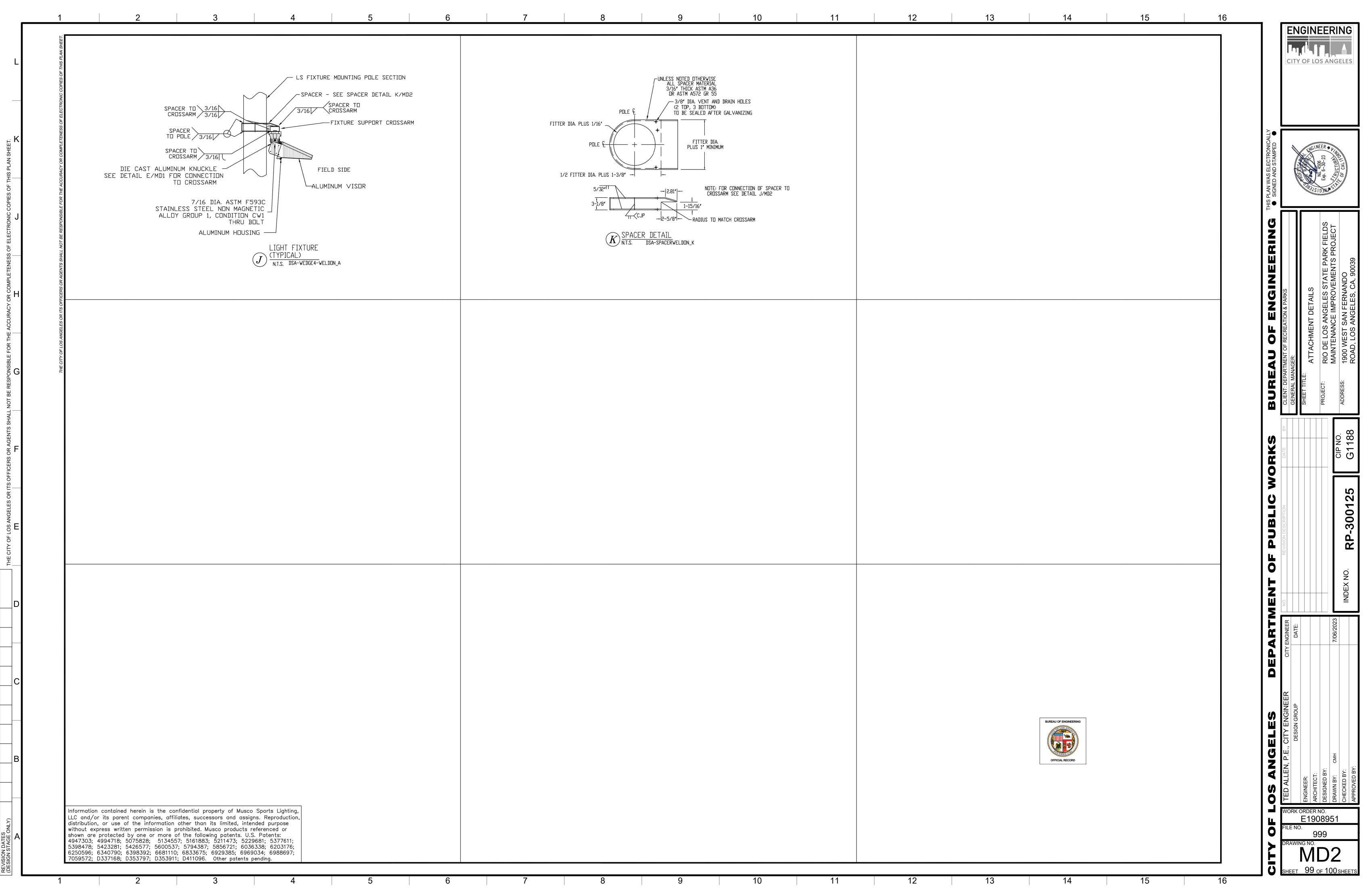


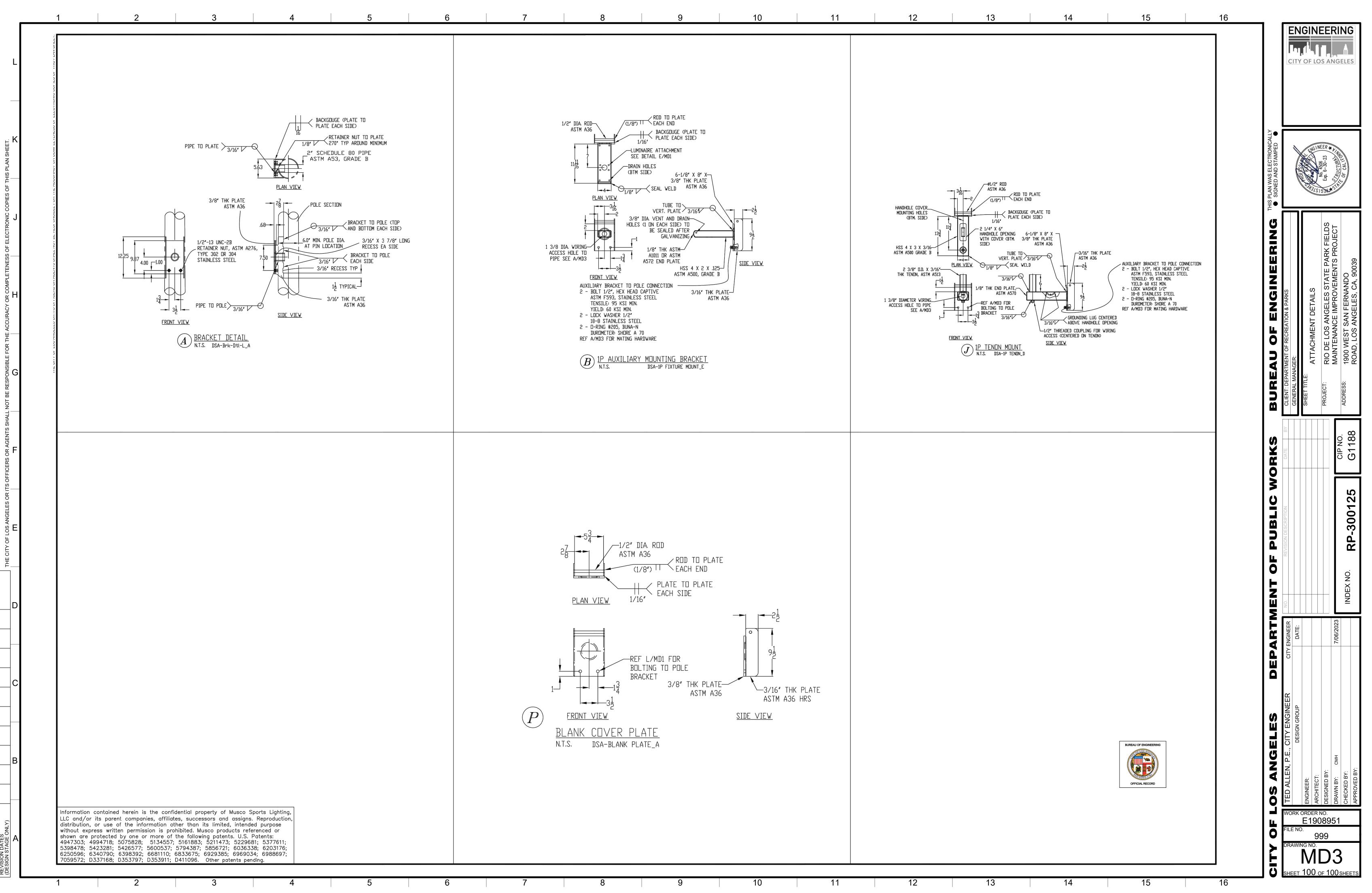












COUNTY CLERK'S USE

CITY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING 1149 S. BROADWAY, 7th FLOOR LOS ANGELES, CALIFORNIA 90015 CALIFORNIA ENVIRONMENTAL QUALITY ACT NOTICE OF EXEMPTION

Submission of this form is optional. The form shall be filed with the County Clerk, 12400 E. Imperial Highway, Norwalk, California, 90650, pursuant to Public Resources Code Section 21152(b). Pursuant to Public Resources Code Section 21167(d), the filing of this notice starts a 35-day statute of limitations on court challenges to the approval of the project.

(Articles II and III - City CEQA Guidelines)

LEAD CITY AGE	NCY AND ADDR	c/o Burea 1149 S. E	os Angeles au of Engineering Broadway, 6 th Floor, eles, CA 90015		CIL DISTRICT 1
PROJECT TITLE: Improvements (W.O. E1908950/	J	eles State Park	Fields Maintenand	ce LOG	REFERENCE
PROJECT LOCATI Angeles Community Grid G4, G5, H4, H	Plan Area of the				
DESCRIPTION OF NATURE, PURPOSE, AND BENEFICIARIES OF PROJECT: The Project consists of upgrading the existing active recreation portion of the Rio de Los Angeles State Park. These upgrades include the renovation of three soccer fields and the replacement of a restroom. Project beneficiaries include community members that will have improved recreational facilities. Please see the project description continuation in the narrative for more details. On [Insert date (Month Day, Year)], the City Engineer approved the design plans and the Project is moving to the bid and award process to construct the Project.					
			CACT INFORMATION CACT INFORMATION CONTROL CONT		
EXEMPT STATUS: MINISTERIAL DECLARED EM EMERGENCY F GENERAL EXE CATEGORICAL	IERGENCY APROJECT AMPTION A	CITY CEQA GU Art. II, Sec. 2. b Art. II, Sec. 2.a(1 Art. II, Sec. 2.a(2 Art. II, Sec. 1 Art. III, Sec. 1 Cla Art. III, Sec. 1 Cla)) ass 1 Cat. 1	STATE CEQA GU Sec. 15268 Sec. 15269(a) Sec. 15269(b)(c) Sec. 15061(b)(3) Sec. 15301 (a) Sec. 15302 (c)	<u>IDELINES</u>
STATUTORY* * See Public Resou		Art 1080 and set fort	h state and city guid	Sec elines provisions.	
JUSTIFICATION FOR PROJECT EXEMPTION: This project is exempt from CEQA pursuant to State CEQA Guidelines Article 19, Section 15301 (a) and 15302 (c). Additionally, the project is exempt pursuant to Los Angeles CEQA Guidelines Article III, Section 1, Class 1, Existing Facilities, Category 1 and Class 2, Replacement or Reconstruction, Category 3. None of the limitations set forth in State CEQA Guidelines 15300.2 apply (see attached narrative).					
IF FILED BY APPL	ICANT, ATTACH	I CERTIFIED DO	OCUMENT OF EXE	MPTION FINDING	3
SIGNATURE: Pending project approval. Jan Green Rebstock			TITLE: Environmental Affairs Officer Clean Water Division		DATE: Pending project approval.
FEE: \$75.00	RECEIPT NO.		REC'D BY		DATE

DISTRIBUTION: (1) COUNTY CLERK; (2) AGENCY RECORD

CATEGORICAL EXEMPTION NARRATIVE

I. PROJECT DESCRIPTION (Continued)

The Rio de Los Angeles State Park Fields Maintenance Improvement Project (Project) proposes to improve the existing active recreation portion of the Rio de Los Angeles State Park (Park). The Project consists of the renovation of three soccer fields including converting two fields to synthetic turf, improving one natural turf field, and adding and improving lighting for the fields. The Project will also replace the existing restroom with a new restroom, provide new and renovated walking paths with pedestrian security lighting and cameras, renovate the existing south end parking lot by paving and adding security lighting and cameras, renovate the existing picnic area, provide new shade structures, and add new landscaping and trees (see *Figure 2: Conceptual Plan*).

The construction of the Project will include shallow excavation at the soccer fields for the conversion from natural turf to synthetic. The parking area will be graded to install new asphalt and pavers. Additionally, an auger will be used for the installation of the field light pole foundations. The Project footprint in total will be approximately 7.5 acres.

Unless otherwise stated, the proposed Project will be designed, constructed and operated following all applicable laws, regulations, ordinances and formally adopted City standards including but not limited to:

- Los Angeles Municipal Code
- Bureau of Engineering Standard Plans
- Standard Specifications for Public Works Construction
- Work Area Traffic Control Handbook
- Additions and Amendments to the Standard Specifications for Public Works Construction

II. PROJECT HISTORY

The site was previously part of the Union Pacific Railyard. The resulting soil contamination was cleaned to residential standards under the oversight of the Department of Toxic Substances Control. In 2004, State Parks adopted an IS/MND to support the construction and operation of the existing Rios de Los Angeles State Park (Park) (State of California Department of Parks and Recreation, 2004). The Park started construction in 2005 and began operations in 2007. The Park is owned by California State Parks and the City of Los Angeles has a lease of the active recreation areas. City of Los Angeles Recreation and Parks operates and maintains the active recreation portion of the Park where the improvements will occur. The soccer fields are heavily used, and the local community has requested these upgrades. Upgrading and maintaining this area for active recreation will allow for other areas owned by the City in the vicinity to be dedicated to passive recreation and habitat restoration.

III. ENVIRONMENTAL REVIEW

Basis for Categorical Exemption

The proposed Project is exempt from CEQA pursuant to State CEQA Guidelines Article 19, Section 15301, Class 1 (a) *Existing Facilities*, and Section 15302, Class 2 (c) *Replacement or Reconstruction* for repair and maintenance of existing facilities and replacement or reconstruction of existing utilities with no expansion of capacity because the project consists of minor upgrades and improvements to existing park facilities with no expansion of use.

Additionally, this Project is exempt from CEQA pursuant to the Los Angeles CEQA Guidelines Article

III, Section 1, Class 1 (1) *Existing Facilities* for exterior alternations involving minor construction and Class 2 (3) *Replacement or Reconstruction* of existing facilities with negligible expansion of capacity because the Project consists of minor upgrades and improvements to existing park facilities.

Consideration of Potential Exceptions to use of a Categorical Exemption

The State CEQA Guidelines (CCR Sec 15300.2) limit the use of categorical exemptions in the following circumstances:

1. Location. Exemption Classes 3, 4, 5, 6, and 11 are qualified by consideration of where the project is to be located – a project that is ordinarily insignificant in its impact on the environment may be significant in a particularly sensitive environment. Therefore, these classes are considered to apply all instances, except where the project may impact on an environmental resource of hazardous or critical concern where designated, precisely mapped, and officially adopted pursuant to law by federal, state, or local agencies.

This Project is exempt from CEQA pursuant to State CEQA Guidelines Article 19, Section 15301, Class 1 (b) Existing Facilities, and Article 19, Section 15302, Class 2 (c) Replacement or Reconstruction. Therefore, this exception does not apply.

2. Cumulative Impact. This exception applies when, although a project may not have a significant impact, the cumulative impact of successive projects of the same type in the same place, over time is significant.

No cumulative impacts are expected from this Project. As identified on the 100-Acre Partnership's website (https://www.100acrepartnership.org/projects) several projects in the vicinity at the nearby and adjacent G1 and G2 Parcels are in the planning stages, such as the Bowtie Demonstration Project (2.5 acres), Bowtie G1 Project (18 acres), Paseo del Rio Project at Taylor Yard (approximately 16 acres). These projects are focused on habitat creation and restoration and passive recreation. Given the nature of the Project, as minor upgrades to an existing park, this Project is not anticipated to result in a cumulative impact when considering these related projects in the vicinity that are in various stages of approval and if approved, will be constructed after implementation of the proposed Project. Therefore, this exception has no application to this Project.

3. Significant Effect. This exception applies when, although the project may otherwise be exempt, there is a reasonable possibility that the project will have a significant effect due to unusual circumstances.

Biological Resources

No impacts to biological resources are anticipated from this Project. Least Bell's vireo (*Vireo bellii pusillus*) (LBV) is known to occur adjacent to the Project site. This species is a Federally and State Endangered bird. With this in mind, construction of Project has been designed in consultation with the US Fish and Wildlife Service (USFWS) and the California Department of Fish and Wildlife (CDFW) to avoid impacts to this species from construction noise (see attached No Take Construction Plan).

LBV return to southern California breeding sites beginning mid-to late- March; they are often present on the breeding grounds until late September, although some may begin departing to non-breeding areas by late July. For this proposed Project, CDFW and USFWS have suggested a LBV breeding season period of March 15 to August 31 of any year as an effective period for Project conservation measure planning.

Construction of the Project is anticipated to occur across LBV breeding seasons in 2023 and 2024. Therefore, Project construction activities will be phased so that the majority of the work activities, including work that generates the greatest sound levels, will occur in the non-breeding season during

the periods of September 1 to March 14 of any consecutive year. A Project Construction Noise Management Plan will be prepared by the construction contractor to schedule work consistent with these requirements and identify construction noise monitoring procedures, with a performance standard of below 60dBA Leq hourly, or below existing background (dBA Leq hourly) noise levels, whichever is higher, during the breeding season when LBV are in the Project area.

In addition, the City's Bureau of Engineering (BOE) will conduct LBV protocol surveys of both the Project footprint and areas within 200 meters of the footprint prior to the beginning of Project construction to determine the presence/absence of LBV. Additional protocol surveys will be performed in 2024 if Project construction activities overlap with the following breeding season. BOE will also conduct an additional directed survey effort by a qualified biologist to establish and map the territory boundaries of LBV within 200 meters (600 feet) of the Project direct footprint. These surveys and LBV territory boundary mapping will be conducted in order to determine boundaries (edges) needed for Project noise construction monitoring.

Hazards & Hazardous Materials

As discussed above, the soil on the Project site was previously contaminated but was cleaned to residential standards under the oversight of DTSC. As of January 20, 2023, the DTSC Envirostor database (www.envirostor.dtsc.ca.gov) indicated two existing sites within 1000-ft of the Project site though one was incorrectly located on the Envirostor map and is outside of the search buffer by 100 These sites are located on surrounding Taylor Yard parcels and are both feet (see below). characterized by soil contamination resulting from the previous railyard operations. For the Taylor Yard Parcel G2, which is owned by the City, DTSC is providing oversight regarding future remediation of the site. This site is currently going through a community planning process to be remediated and then opened to the public as a community gathering place with increased restored habitat and passive recreation. The site located at Taylor Yard Parcel C is a bare lot adjacent to a housing development owned by Los Angeles County Metropolitan Transportation Authority. Previously, this site underwent in situ remediation and excavation. However, lead and arsenic remain above threshold levels for residential development (Geocon 2022). An additional site was identified by the California Regional Water Quality Control Board (RWQCB) (Geotracker database https://geotracker.waterboards.ca.gov/). This site is characterized by soil contamination related to the metal plating processes that occurred in the past. Groundwater testing in 2019 found groundwater at 30-ft below ground surface and found one volatile organic compound, Cis-1,2-Dichloroethene (cis-1,2-DCE), and two metals Arsenic and Thallium, present above maximum contaminant levels (MCL). Arsenic and Thallium are suspected to result naturally from local sediments (Bowyer Environmental Consulting, 2019). Groundwater movement from the contamination is southerly, away from the Project site, and not expected to impact the Project.

Site Name	Status	Data Source	Note
Taylor Yard Parcel C	Active	Envirostor	Outside of search buffer
Taylor Yard Parcel G2 - Area A	Inactive – Needs Evaluation	Envirostor	
Former Acme Metal Finishing	Active – in remediation	Geotracker	

Due to shallow excavation (maximum depth 18-ft for light pole installation), the lack of groundwater expected (Geotechnical Report, 2022), and the lack of groundwater encountered when the Park was constructed, the construction of this Project is not expected to result in any contact with groundwater. However, if groundwater is encountered during construction activities, construction shall be halted in the area until appropriate dewatering or avoidance measures are identified.

Significant effects due to hazards and hazardous materials were previously evaluated for the construction of the Park. (State Parks, 2004). No unusual circumstances related to these improvements to the existing Park are anticipated. Therefore, this exception has no application to this Project.

4. Scenic Highway. A categorical exemption shall not be used for a project which may result in damage to scenic resources, including but not limited to, trees, historic buildings, rock outcroppings, or similar resources, within a highway officially designated as a state scenic highway.

The proposed Project is not within a state designated scenic highway or within sight of any state designated scenic highway. Therefore, this exception has no application to this Project.

5. Hazardous Waste Site. This exception applies when a project is located on a site listed as a hazardous waste site under Government Code Section 65962.5.

As of January 20, 2023, the State Department of Toxic Substances Control (DTSC) (Envirostor at www.envirostor.dtsc.ca.gov) has not listed any location on the Project site as a hazardous waste site. As of January 20, 2023, the California Regional Water Quality Control Board (RWQCB) (Geotracker at https://geotracker.waterboards.ca.gov/) has not listed any location at the Project site as a hazardous waste site. As described above in Section 3. Significant Effects, there are several contaminated sites in the vicinity of the Project, however these sites are not anticipated to represent an environmental concern in connection with the Project; therefore, this exception does not apply.

6. Historical Resources. This exception applies when a project may cause a substantial adverse change in the significance of a historical resource.

No known historic resources occur in the Project site. From a search of NavigateLA December 20, 2022, a potential historic resource was found near the Project site. This resource was identified as the Dayton Tower, a structure associated with the Union Pacific Railyard and was previously located adjacent to the Park at 1545 N San Fernando Boulevard, per documentation received from the South Central Coastal Information Center. Currently, the Dayton Tower is located at 1215 N. San Fernando Boulevard and is no longer adjacent to the Project area.

Construction activities include minimal excavation and trenching. Due to prior remediation activities, clean fill was imported to the Project site with construction of the Park. However, if an unanticipated discovery is made during ground-disturbing activities, Standard Specifications for Public Works Construction will be followed, and the Contractor shall immediately cease excavation in the area of the discovery and shall not continue until ordered by the City's Engineer, after consulting with a qualified archeologist.

IV. REFERENCES

- 100 Acre Partnership. 100-Acre Partnership Projects., available from:
 - https://www.100acrepartnership.org/projects
- Bowyer Environmental Consulting, 2019. Groundwater Monitoring Report First Quarter 2019, Former Acme Metal Finishing, 1250-1262 N. San Fernando Road and 2615 Arvia Los Angeles, CA
- California Code of Regulations, Title 14, Division 6, Chapter 3 (State CEQA Guidelines), available from http://leginfo.legislature.ca.gov/
- California Department of Transportation (Caltrans). *California State Scenic Highway System Map*.

 Retrieved December 20, 2022, from

 https://caltrans.maps.arcgis.com/apps/webappviewer/index.html?id=465dfd3d807c46cc8e8057

 116f1aacaa
- City of Los Angeles Department of City Planning Parcel Profile Report. Retrieved on January 20, 2023 from NavigateLA http://boemaps.eng.ci.la.ca.us/navigatela/
- City of Los Angeles Department of Public Works Bureau of Engineering. Retrieved on January 20, 2023, *NavigateLA*. http://boemaps.eng.ci.la.ca.us/navigatela/
- City of Los Angeles Environmental Quality Act Guidelines available from https://planning.lacity.org/EIR/CEQA Guidelines/City CEQA Guidelines.pdf
- GeoCon West Inc., 2022. Stockpile disposal completion report, Yaylor Yard VTT Lot 9,1231 North San Fernando Road, Los Angeles, California
- Geotechnical engineering report Rio de Los Angeles State Park Improvements 1545 1559 North San Fernando road Los Angeles, California, W.O. #E1908950, GED file # 22-066, September 20, 2022. Completed by the City of Los Angeles
- Los Angeles Municipal Code
- Public Resources Code, Div. 13, Sections 21000-21189 (CEQA), available from http://leginfo.legislature.ca.gov/
- State of California Department of Parks and Recreation (State Parks), 2004. Taylor Yard Park Development Final Mitigated Negative Declaration.



Figure 1: Project Location



Figure 2: Conceptual Plan