MAY 05 2022 BOARD OF RECREATION AND PARK COMMISSIONERS

BOARD REPORT

NO. 22-110

DATE May 5, 2022

C.D. <u>15</u>

BOARD OF RECREATION AND PARK COMMISSIONERS

SUBJECT: DRUM BARRACKS CIVIL WAR MUSEUM PARKING LOT DEVELOPMENT (W.O. #E170515F) PROJECT – APPROVAL OF FINAL PLANS -CATEGORICAL EXEMPTION FROM THE PROVISIONS OF THE CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA) PURSUANT TO ARTICLE III, SECTION 1, CLASS 11(2) [CONSTRUCTION OF PARKING LOTS UNDER 110 SPACES WHERE NO DECKING OR UNDERGROUNDING IS INVOLVED] OF CITY CEQA GUIDELINES AND ARTICLE 19, SECTION 15311(b) OF CALIFORNIA CEQA GUIDELINES

AP Diaz	M. Rudnick	DC	-
H. Fujita	€. Santo Domingo	DP	-
J. Kim	N. Williams		_
			m. Suice
			General Manager
Approved	<u> X </u> D	isapproved	Withdrawn

RECOMMENDATIONS

- Approve the final plans and specifications, substantially in the form on file in the Board of Recreation and Park Commissioners' (Board) Office and as attached to this Report as Attachment 2, for the Drum Barracks Civil War Museum Parking Lot Development (W.O. #E170515F) Project (Project);
- 2. Approve the Project to be bid and constructed through the Department of Recreation and Parks (RAP) As-Needed Pre-Qualified General Contractors for Park Facilities Construction Retrofit, Maintenance, and/or Repairs (PQGC); and,
- 3. Determine that the Project is categorically exempt from the provisions of the California Environmental Quality Act (CEQA) pursuant to Article III, Section 1, Class 11(2) [Construction of parking lots under 110 spaces where no decking or undergrounding is involved] of City CEQA Guidelines and Article 19, Section 15311(b) of California CEQA Guidelines and direct RAP Staff to file a Notice of Exemption (NOE) with the Los Angeles County Clerk;
- 4. Authorize RAP's Chief Accounting Employee to prepare a check to the Los Angeles County Clerk in the amount of \$75.00 for the purpose of filing an NOE; and,
- 5. Authorize RAP's Chief Accounting Employee or Designee to make technical corrections as necessary to carry out the intent of this Report.

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SUMMARY

On May 16, 2012, the Board approved Report No. 12-147 which provided RAP authorization for the acquisition of one parcel of property measuring 0.09 acre, or approximately 4,900 square feet, for the expansion of the Drum Barracks Civil War Museum (Museum) parking lot. The site had an existing residential dwelling structure of 708 square feet, and the street address of 1061 Cary Avenue, Wilmington, California 90744.

On June 30, 2014 the demolition of the existing residential dwelling structure of 708 square feet was completed. The acquisition of the property was funded by Proposition K LA for Kids Funds.

The proposed Project scope includes the installation of a turf parking area, with fencing, lighting, and irrigation improvements.

On March 12, 2020, a community meeting was held at the Museum organized with RAP and the Council District 15 (CD15) staff to request input from the community, the Drum Barracks Civil War Museum Board, and residents in the area. The community and Council District are supportive of the Project.

After review by RAP and the Department of Public Works, Bureau of Engineering (BOE) staff, it was determined that the construction work can be completed by RAP's PQGC, and that BOE's Construction Management Division will provide construction management services.

The City Engineer's estimate of the Project's construction cost is One Hundred and Fifty Thousand, Nine Hundred Dollars (\$150,900). The budgeted amount for construction contingency is Twenty Thousand, Nine Hundred Dollars (\$20,900), which is included in the estimated Project's construction cost.

Funds are currently available from the following funds and accounts:

FUNDING SOURCE	FUND/DEPT./ACCT. NO.
Sites & Facilities	209/88/88SMFT

TREES AND SHADE

There are no trees within the Project boundary; no trees are being removed or added.

Existing trees located adjacent to and outside the project boundary will be protected during construction and their canopy will be preserved.

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ENVIRONMENTAL IMPACT

The proposed Project consists of the construction of a parking lot under 110 spaces where no decking or undergrounding is involved.

According to the parcel profile report retrieved on April 6, 2022 the site located in the methane zone, but the project is not going to place people at risk of being victims of methane seepage. The area is not in a coastal zone or in a liquefaction zone, so there is no reasonable possibility that the project may impact on an environmental resource of hazardous or critical concern or have a significant effect due to unusual circumstances. No other known projects would involve cumulatively significant impacts, and no future projects would result from the proposed project. As of April 6, 2022 the State Department of Toxic Substances Control (DTSC) (Envirostor at www.envirostor.dtsc.ca.gov) has not listed the Project site or any contaminated sites near the Project area (within 1000 feet). The State Water Resources Control Board (SRCB) (<u>https://geotracker.waterboards.ca.gov/</u>) has listed the following closed cases within 1000 feet of the project site:

- RB Case #: 0655V2, closed on 9/28/1999;
- RB Case #: 0655M5, closed on 9/29/2000;
- RB Case #: 065517, closed on 4/24/2000;
- RB Case #: 0655J3, closed on 5/31/2000;
- RB Case #: 0655S3, closed on 5/13/1999;
- RB Case #: 0655J4, closed on 8/24/2000;
- RB Case #: 0655S2, closed on 5/8/1999;
- RB Case #: 0655S4, closed on 9/23/2000;
- RB Case #: 0655S5, closed on 9/29/2000.

Approximately 900 feet southwest of the project site, SWRCB lists case #0154 an open case where the potential contaminants of concern are volatile organic compounds. The site has been listed as Open - Inactive in January 29, 2015 because no regulatory oversight activities are being conducted by the Los Angeles Regional Water Quality Control Board. Due to the contaminated sites regulatory status and distance from the project site, it is not anticipated to become an environmental concern for the project.

According to the Caltrans Scenic Highway Map there is no scenic highway located within the vicinity of the project or within the project site. Furthermore, the project is located in proximity of the Drum Barracks, the last remaining original American Civil War era military facility in the Los Angeles area. The building is listed in the National Register of Historic Places (NHRP ID# 71000161), in the California Register of Historic Places (ID# 169) and as a City of Los Angeles Historic Cultural Monument (HCM #21). However, the nature of the project is such that it will not cause a substantial adverse change in the significance of a historical resource.

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Based on this information, RAP staff recommends that the Board determines that the Project is categorically exempt from the provisions of the California Environmental Quality Act (CEQA) pursuant to Article III, Section 1, Class 11(2) of City CEQA Guidelines and Article 19, Section 15311(b) of California CEQA Guidelines. Staff will file a Notice of Exemption with the Los Angeles County Clerk upon Board's approval.

FISCAL IMPACT

The proposed construction is fully funded by Sites and Facility funds. There will be no fiscal impact to RAP's General Fund associated with the Project.

STRATEGIC PLAN INITIATIVES AND GOALS

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

Goal No. 1: Provide Safe and Accessible Parks Outcome No. 2: All parks are safe and welcoming

Result: Parking and lighting improvements provide more accessibility to park facilities.

This Report was prepared by Ray Araujo, Project Manager, Architectural Division, BOE; reviewed by Steven Fierce, Principal Architect, BOE; Deborah Weintraub, Chief Deputy City Engineer, BOE; and Darryl Ford, Superintendent, Planning, Construction and Maintenance Branch Department of Recreation and Parks.

LIST OF ATTACHMENT(S)

Attachment No. 1 – CEQA Notice of Exemption Attachment No. 2 – Drum Barracks Civil War Museum Parking Lot Development Final Plans

COUNTY CLERK'S USE	Attachment No. 1		
	b). Pursuant to Publ	th the County Clerk, 12400 E. Imperial Highway, No ic Resources Code Section 21167(d), the filing of t	
LEAD CITY AGENCY AN	D ADDRESS:	City of Los Angeles c/o Bureau of Engineering 1149 S. Broadway, MS 939 Los Angeles, CA 90015	COUNCIL DISTRICT 15
PROJECT TITLE: Wilming Lot Development Project	jton Drum Barı	racks Civil War Museum Parking W.O. E170515D	LOG REFERENCE
		(1061 and 1065), Wilmington, CA science (1061 and 1065), Wilmington, CA science (1061), APN: 7423021903)0744 (see <i>Figure 1:</i>

T.G. Page 794 Grid F6

DESCRIPTION OF NATURE, PURPOSE, AND BENEFICIARIES OF PROJECT: The project would construct a small, turf parking lot on a vacant City of Los Angeles (City) owned property to provide parking and an area for programming for the adjacent State of California-owned and City Department of Recreation and Parks (RAP)-operated Wilmington Drum Barracks Civil War Museum. The construction and operation would benefit the staff and guests of the institutional, historic facility.

CONTACT PERSO Lauren Rhodes	N	TELEPHONE NUMBER 213-485-5733
EXEMPT STATUS: (Check One)	CITY CEQA GUIDELINES	STATE CEQA GUIDELINES
 MINISTERIAL DECLARED EMERGENCY 	Art. II, Sec. 2.b Art. II, Sec. 2.a(1)	Sec. 15268 Sec. 15269(a)
EMERGENCY PROJECT GENERAL EXEMPTION	Art. II, Sec. 2.a(2) Art. II, Sec. 1	Sec. 15269(b)(c) Sec. 15061(b)(3)
CATEGORICAL EXEMPTION*	Art. III, Sec. 1 Class 11 (2) Art	Sec. 15311 (b) Sec
* See Public Resources Code Sec. 210	30 and set forth state and city guide	lines provisions.

JUSTIFICATION FOR PROJECT EXEMPTION: This Project is exempt from CEQA pursuant to State CEQA Guidelines Article 19, Section 15311, Class 11 (b). Additionally, the Project is exempt pursuant to *Los Angeles CEQA Guidelines* Article III, Section 1, Class 11 (2). The Project involves the construction of a parking lot under 110 spaces where no decking or undergrounding is involved accessory to an existing intuitional facility. *None of the limitations set forth in State CEQA Guidelines* 15300.2 apply (see attached narrative).

SIGNATURE: for TITLE: DATE: Maria Martin Environmental Affairs Officer 2/10/2021	IF FILED BY APP	LICANT, ATTAC	H CERTIFIE	D DOCUMENT OF EXEMPTION H	FINDING
	SIGNATURE:	for	Maria Martin	Environmental Affairs Officer	
RECEIPT NO. REC'D BY DATE		RECEIPT NO.		REC'D BY	DATE

CATEGORICAL EXEMPTION NARRATIVE

I. PROJECT DESCRIPTION, CONTINUED

The project would installation of turf parking lot with fencing, lighting, and irrigation improvements. The turf parking lot would have a capacity for eight (8) vehicle spaces. Construction would include installation of concrete driveway, concrete sidewalk, turf grid with "Invisimarker parking delineators", wood fence, light fixtures with concrete bases and concrete headers, redwood header, 12-inch and 18-inch concrete headers. Construction methodology involves minor grading, concrete work, paving, landscaping and electrical work. Shallow ground excavation is anticipated for this project. No trees or vegetation are anticipated to be removed as part of the project. There are two trees adjacent to the project site and those would be protected in place during construction.

The repair is in the City-owned vacant property adjacent to the State-owned and City-operated Drum Barracks Civil War Museum. The Drum Barracks Civil War Museum is listed as a historic resource in the National Register of Historic Places, the California Register of Historic Resources, and as Los Angeles Historic Cultural Monument (HCM) Number 21. The project site is in a methane buffer zone. See Section III. 3. *Significant Effects* for more information. The repair may be located near a driveway; however, the Contractor will facilitate the ingress and egress from the driveway. The project may slightly increase vehicular trips or traffic congestion if the Contractor needs to temporarily close or partially close the alley north of the project site. However, if alley closure is needed, it is anticipated to be for a short duration and all temporary traffic control will be done in accordance with the latest version of the Work Area Traffic Control Handbook (WATCH manual). Construction is expected to last approximately six (6) months.

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 Drum Barracks Civil War Museum is housed in the last remaining original wooden building of the 22 structures built as a military post during the Civil War in the Los Angeles area. Drum Barracks, named after Lieutenant Colonel Richard Coulter Drum, Adjutant General of the Department of the Pacific in San Francisco, served as the Union Army headquarters for Southern California and the Arizona Territory from 1861-1871.

A Notice of Exemption (NOE) was completed and filed with the County Clerk on June 12, 2010 for the property acquisition for future development of the project site as a parking lot. The project site was acquired by the City of Los Angles in 2010. The house which was on the property was demolished shortly after. The original NOE listed some inaccuracies and the Bureau of Engineering project manager has requested an updated NOE.

III. ENVIRONMENTAL REVIEW

Basis for Categorical Exemption

The proposed Project is exempt from CEQA pursuant to State CEQA Guidelines Article 19, Section 15311, Class 11 (b) *Accessory Structures* for construction of minor structures accessory to existing

institutional facilities, including a small parking lot.

Additionally, this Project is exempt from CEQA pursuant to the *Los Angeles CEQA Guidelines* Article III, Section 1, Class 11 (2) *Accessory Structures* because the project involves the construction of a parking lot under 110 spaces where no decking or undergrounding is involved accessory to an existing intuitional facility.

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 15311, Class 11 (b) *Accessory Structures*. The project site is in a residential neighborhood which has been developed with streets, sidewalk, buildings for residential and commercial uses, and public utilities. The project site is not considered to be within a particularly sensitive environmental where the project may impact on environmental resources of hazardous or critical concern where designated, mapper and officially adopted pursuant to law by federal, state or local agencies. Therefore, this exception does not apply.

2. Cumulative Impact. This exception applies when, although a particular 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.

As a parking lot, it is anticipated that the need for repair and maintenance may occur in the future; however, it is not anticipated that successive projects of the same type in the same place would occur at this project site. While other similar projects are occurring elsewhere in the City, they have been determined to be happening in different neighborhood locations and at different times. Thus, this project is not expected to result in any cumulative impacts and this exception does not apply.

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.

Historic Resources

The project site is directly north of the Drum Barracks Civil War Museum (Museum). The Museum is listed as on the National Register of Historic Places, the California Register of Historic Resources, and as Los Angeles Historic Cultural Monument (HCM) Number 21. The property meets the criteria for HCM designation because it reflects the "broad cultural, economic, or social history of the nation, state, or community." It also meets Criteria A for National Register designation because it is "associated with events that have made a significant contribution to the broad patterns of our history." It is the sole surviving structure of a million-dollar government headquarters for California, Arizona, and New Mexico during the Civil War. Named in honor of General Richard Coulter Drum, it also served as a base for operations against the Indians during the American Indian Wars, as well as its Civil War function.

The project site is not within the historic properties boundaries. The project construction would serve as an additional parking lot for staff and guests of the Museum. The project includes surface feature designs to match the visual/aesthetic quality of the Museum including the installation of historical style lighting poles with globe shaped, frosted glass fixture and wooden fencing like that which exists at the

Museum. This project involves minor construction of a small parking lot and it is not uncommon to find the need to develop land to upgrade access to an existing historic, institutional facility. As such, this is not an unusual circumstance and, given the project design and construction methodology, there is not reasonable possibly that the project will have a significant effect due to unusual circumstances.

Methane Buffer Zone

The reaches within the Venice area are designated by the Zoning Information and Map Access System (ZIMAS) as methane zones. Throughout the Los Angeles Basin, areas more prone to high methane gas concentrations include former and active oil fields, landfills, and where sub-surface naturally occurring petroleum deposits are present. The Los Angeles Department of Building Safety (LADBS) identified portions of the City designated as a methane zone or methane buffer zones including: central belt from Cheviot Hills extending east to Boyle Heights, southern district of Wilmington Heights to pocket areas bordering Aliso Canyon. The proposed project consists minor construction is a small parking lot. Work is occurring within open spaces and no work in confined spaces is anticipated. It is not uncommon to develop land within these areas and as such this is not an unusual circumstance. Given the project design and construction methodology, there is no reasonable possibility that the project will have a significant effect due to unusual circumstances.

Hazards and Hazardous Waste

As of February 3, 2021, the State Department of Toxic Substances Control (DTSC) (Envirostor database at www.envirostor.dtsc.ca.gov) has not listed any contaminated sites within the project area or near (within 1000 feet) the project.

Additionally, as of February 3, 2021, the California Regional Water Quality Control Board (RWQCB) (Geotracker database at <u>https://geotracker.waterboards.ca</u>.gov/) has listed ten (10) contaminated sites near (within 1000 feet) the project site. See Table 1. There are no contaminated sites within the project site.

Site Name	Address	Geotracker ID	Site Type	Status
Port Access Project (Unit 2-5)	1100 Henry Ford Avenue	SLT4L1541773	Cleanup Program Site	Open - Inactive
Wilmington Town Lot #191	1137 Banning Boulevard	SLT43504502	Cleanup Program Site	Completed - Case Closed
Wilmington Town Lot #195	1143-1145 Lecouvreur Avenue	SLT43573571	Cleanup Program Site	Completed - Case Closed
Wilmington Town Lot #197.1&2	1160 Lecouvreur Avenue	SLT43470468	Cleanup Program Site	Completed - Case Closed
Wilmington Town Lot #238	1044 Broad Avenue	SLT43475473	Cleanup Program Site	Completed - Case Closed
Wilmington Town Lot #246	1008-1012 Lakme Avenue	SLT43546544	Cleanup Program Site	Completed - Case Closed
Wilmington Town Lot #249	1023-1027 N. Banning Boulevard	SLT43547545	Cleanup Program Site	Completed - Case Closed
Wilmington Town Lot #254	1006-1010 Banning Boulevard	SLT43548546	Cleanup Program Site	Completed - Case Closed
Wilmington Town Lot #255	1017 Lecouvreur Avenue	SLT43549547	Cleanup Program Site	Completed - Case Closed
Wilmington Town Lot #258	1049 Eubank Avenue	SLT43476474	Cleanup Program Site	Completed - Case Closed

The Port Access Project (Unit 2-5) is listed as Clean Up Program Site at 1100 Henry Ford Avenue, approximately 900 feet southwest of the project site and the potential contaminants of concern are volatile organic compounds. The site has been listed as *Open - Inactive* in January 29, 2015 because

no regulatory oversight activities are being conducted by the Los Angeles RWQCB. Due to the contaminated sites regulatory status and distance from the project site, it is not anticipated to become an environmental concern for the project. The remaining nine contaminated sites listed in the Table 1 have regulatory statuses set as *Complete – Case Closed* and they are not anticipated to become an environmental concern for the project.

Los Angeles is a vast, urban area and it is not uncommon to find contaminated sites with past or present releases, that have completed or are undergoing assessment and/or remediation throughout the region. Thus, it is not uncommon to develop property in these areas, as such, this is not an unusual circumstance. The proposed project consists of the minor construction of a small parking lot and there is no reasonable possibility that the project will have significant effect due to unusual circumstances.

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 locations of excavation were referenced against the database of scenic highways at (https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways) and no scenic highway is located within the vicinity of the Project or within the Project site.

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

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 February 3, 2021, the State Department of Toxic Substances Control (DTSC) (Envirostor database at www.envirostor.dtsc.ca.gov) and the California Regional Water Quality Control Board (RWQCB) (Geotracker database at <u>https://geotracker.waterboards.ca</u>.gov/) have not listed the project site, as such, 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.

As stated above, the project site is direct north of the Drum Barracks Civil War Museum, which is federally, state, and locally registered as a historic site. The project site is not part of the Museum's historic property. However, the new parking lot would serve as additional parking for access to the Museum. Excavation of the ground is anticipated the installation of the lighting and minor grading, approximately up to 7 feet below ground surface. The project involve minor construction is a small parking lot and the project is not anticipated to result in a substantial adverse change in the significant of the historical resource.

In the event that unanticipated historical artifacts were encountered, City Engineer Standard Specifications, Section 6-3.2, (Greenbook, 2012) states: "If discovery is made of items of archaeological or paleontological interest, the Contractor shall immediately cease excavation in the area of discovery and shall not continue until ordered by the Engineer." Therefore, during activities in which there will be ground disturbances (i.e., digging, drilling, etc.) if any evidence of archaeological, cultural, or paleontological resources are found, all work within the vicinity of the find shall stop until a qualified archaeologist can assess the finds and make recommendations. No excavation of any finds should be attempted by Project personnel unless directed by a qualified archaeologist. Construction activities may continue in other areas. If the discovery proves significant under CEQA (Section 15064.5f; Public Resources Code or PRC 21082), additional work such as testing, or data recovery may be warranted.

The discovery of human remains is always a possibility during ground disturbances; State of California

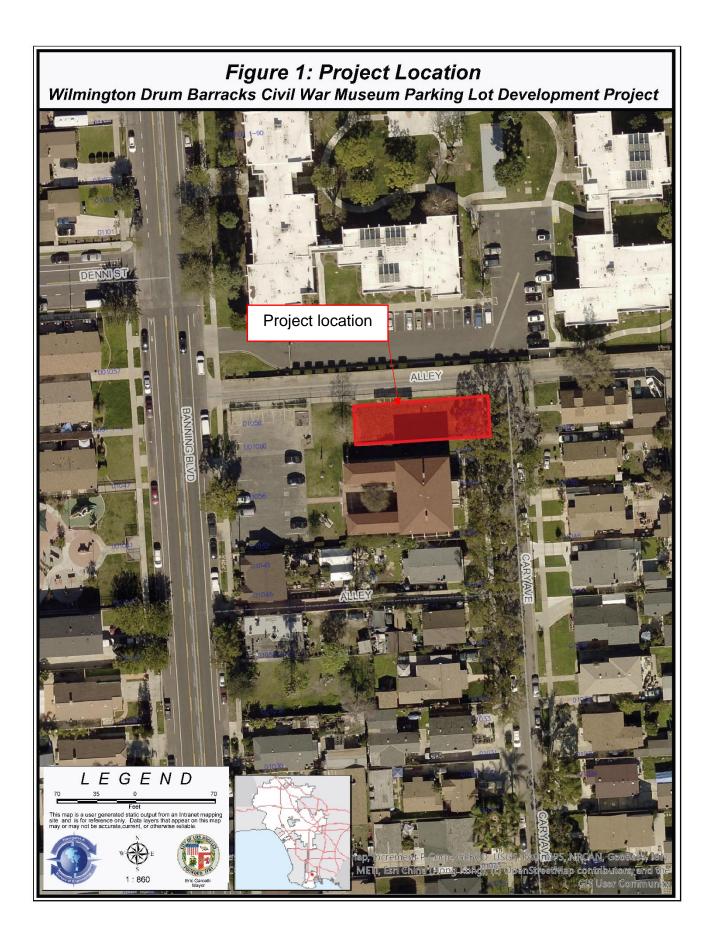
Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the Los Angeles County Coroner has made a determination of origin and disposition pursuant to PRC Section 5097.98. The Los Angeles County Coroner must be notified of the find immediately. If the human remains are determined to be prehistoric, the Coroner will notify the Native American Heritage Commission, which will determine and notify a Most Likely Descendent (MLD). The MLD shall complete the inspection of the site within 48 hours of notification and may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials.

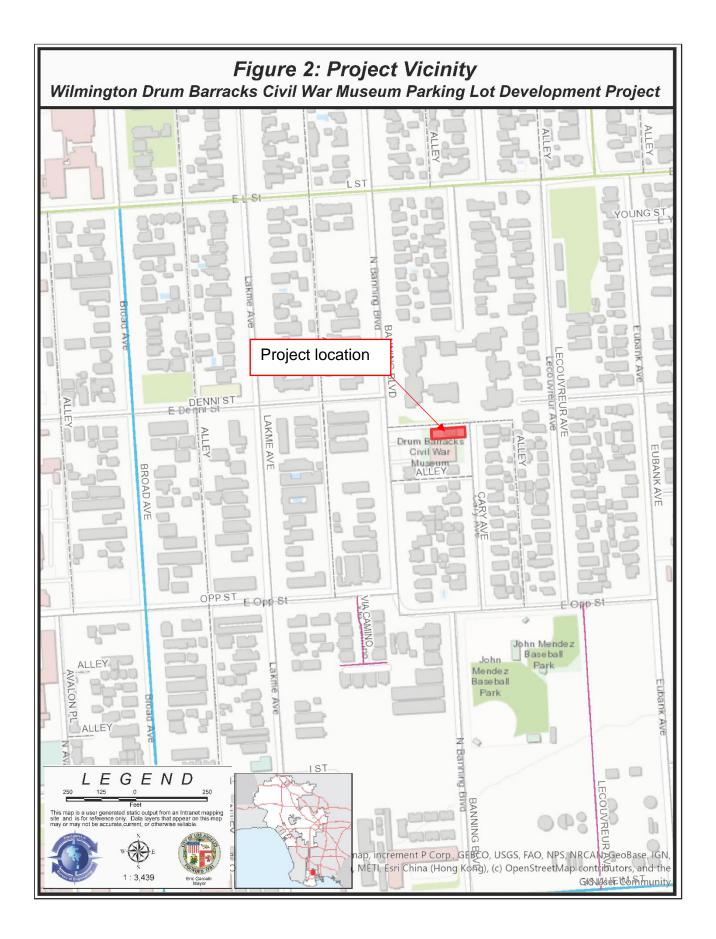
As indicated above, the project is not anticipated to result in a substantial adverse change in the significance of a historical resource. Therefore, no substantial adverse impact to cultural resources is anticipated, and as such this exception does not apply.

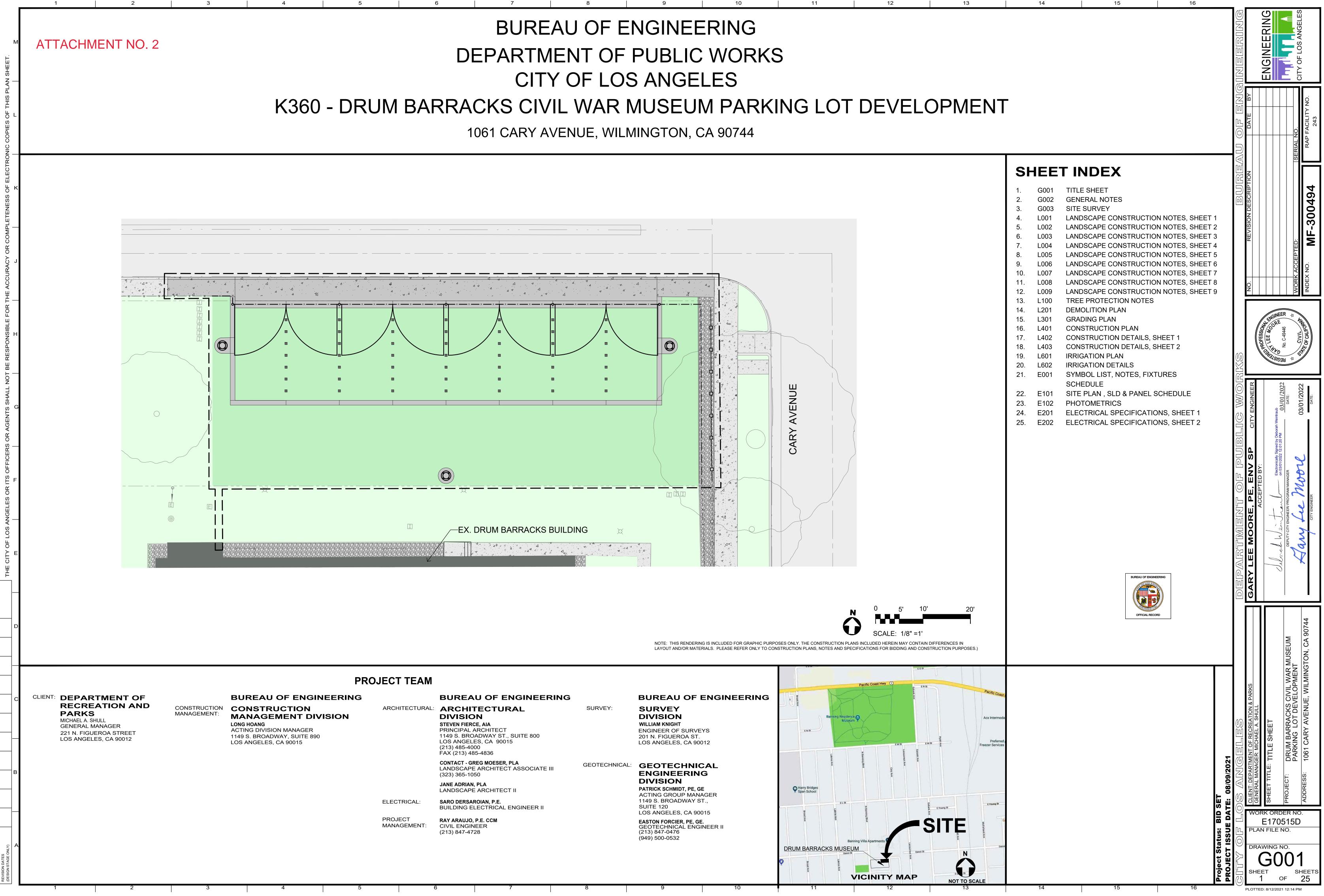
IV. REFERENCES

California Coastal Act of 1979.

- California Department of Conservation, Division of Mines and Geology. Official Map of Seismic Hazards. Retrieved February 3, 2021, from http://maps.conservation.ca.gov/cgs/informationwarehouse/
- California Department of Conservation, Division of Mines and Geology. Seismic Hazard Zones for The Venice 7.5-Minute Quadrangle, Los Angeles County, California. (1999). Retrieved February 3, 2021, from https://gmw.conservation.ca.gov/SHP/EZRIM/Maps/VENICE.pdf
- California Regional Water Quality Control Board. *Geotracker.* Retrieved February 3, 2021, from https:// geotracker.waterboards.ca.gov.
- City of Los Angeles Department of City Planning Parcel Profile Report. 566 E. SAN JUAN AVE. Retrieved on February 3, 2021, from NavigateLA http://boemaps.eng.ci.la.ca.us/navigatela/
- City of Los Angeles Department of Public Works Bureau of Engineering. *NavigateLA*. Retrieved on February 3, 2021, from http://boemaps.eng.ci.la.ca.us/navigatela/
- City of Los Angeles Environmental Quality Act Guidelines.
- Health and Safety Code Section 7050.5
- Los Angeles Municipal Code.
- Public Resources Code Section 21082
- Public Resources Code Section 5097.98
- Standard Specifications for Public Works Construction. Greenbook, 2012 edition.
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- State Department of Toxic Substances Control. *Envirostor*. Retrieved February 3, 2021, from www.envirostor.dtsc.ca.gov
- State Department of Transportation. *California Scenic Highway Mapping System.* Retrieved on February 3, 2021 from https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways/







М		ABBREVIATIONS	
I SHEET.	A	ACRYLONITRILE BUTADIENE STYRENE ADJACENT ALTERNATE APPROXIMATE ARCHITECT or ARCHITECTURAL ASPHALT ASPHALTIC CONCRETE ASSOCIATE ASSOCIATE ASSOCIATION AMERICAN SOCIETY FOR TESTING MATERIALS AT ATRIUM DRAIN AVENUE	ABS ADJ ALT. APPROX. ARCH. ASPH. A.C. ASSOC. ASSN. ASTM @ AD AVE.
ELECTRONIC COPIES OF THIS PLAN SHEET. ス	B	BACKFLOW PREVENTION UNIT BEGINNING OF CURVE BENCH MARK BETWEEN BLOCK BOTH WAYS BOTTOM BOTTOM OF CURB BOTTOM OF STEP BOTTOM OF WALL BOULEVARD BOUNDARY BUILDING	B.P.U. B.O.C. B.M. BET. BLK. B.W. BTM BC BS BW BLVD. BDRY BLDG.
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THE CITY OF LOS ANGELES OR ITS OF	F	FACE OF CURB	F.O.C. F.O.W. FT FIN. FFE FG FS FH FLR FLR FL FL FND
D	G	GALLONS GALVANIZED GATE VALVE GAUGE GOVERNMENT GRADE BREAK GROUNDCOVER	GAL. GALV. GV GA GOVT. GB GC
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B			
A ONLY)			

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Q	QUICK COUPLING VALVE	QCV
R	RADIUS REDUCED PRESSURE BACKFLOW DEVICE REFERENCE LINE REINFORCED REMOTE CONTROL VALVE REQUIRED RIGHT OF WAY	RAD. RP REF LINE REINF. RCV REQ. ROW
S	SANITARY SEWER SCHEDULE SCORE LINE SHEET SHUT-OFF VALVE SIGNAL SPECIFICATION/S SQUARE FEET STANDARD STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION STATION	SS SCHED. SL SHT. SOV SIG SPEC. SF STD. SSPWC STA.
Т	STORM DRAIN TOP OF CURB TOP OF FOOTING TOP OF GRATE TOP OF STEP TOP OF WALL TYPICAL	SD TC TF TG TS TW TYP.
U	UNIFORM BUILDING CODE UNLESS NOTED OTHERWISE	U.B.C. U.N.O.
V	VERIFY IN FIELD VERTICAL VOLUME VOLTS	VIF VERT. VOL. V
W	WATER METER WATERPROOF/WATERPROOFING WEAKENED PLANE JOINT WELDED WIRE MESH WEIGHT WEST WITH	WM WP WPJ WWM WT W

WITH

WOOD

Y YARD

WITHOUT

WORK ORDER

W/O

WD

WO

YD

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4

ADDRESSES/LEGAL DESCRIPTION

12

1061 N CARY AVE 90744 1065 N CARY AVE 90744

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TRACT: TR 1856 DESCRIPTION: TR=1856 EX OF ST LOT 26 APN: 7423021903

OWNER

CITY OF LOS ANGELES, DEPARTMENT OF RECREATION AND PARKS 221 N FIGUEROA ST 15TH FL LOS ANGELES CA 90012

GENERAL NOTES

- MAINTENANCE PERIOD. SEE GENERAL REQUIREMENTS.
- REQUIREMENTS.
- REQUIREMENTS HEREIN.
- GENERAL CONDITIONS.

- HEREIN.

- PRE-INSPECTION HAVE ALREADY BEEN COMPLETED.
- INCLUDE ALL COSTS IN BID.

13

1. THIS IMPROVEMENT CONSISTS ONLY OF WORK CALLED FOR ON THESE CONTRACT DOCUMENTS.

2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING A MINIMUM 6' HIGH TEMPORARY CHAINLINK CONSTRUCTION FENCE WITH LOCKABLE GATES AROUND ALL CONSTRUCTION AREAS. FENCING SHALL BE PROVIDED WITH CONTINUOUS GREEN MESH WINDSCREEN. 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

3. CONTRACTOR SHALL INSTALL CONSTRUCTION SIGN WITHIN TWO WEEKS OF THE START OF CONSTRUCTION. REFER TO L401 AND J5/L402.

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4. 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

5. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTION OF ALL EXISTING TREES TO REMAIN DURING CONSTRUCTION. SEE TREE PROTECTION

6. 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 CONDITIONS OR PHYSICAL CONDITIONS ENCOUNTERED WHICH 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

7. 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.

8. 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.

9. ALL WORK SHALL COMPLY WITH THE REQUIREMENTS OF THE WORK SPECIFIED ON THE DRAWINGS AND WITHIN THE VARIOUS NOTES SHOWN

10. 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.

11. 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.

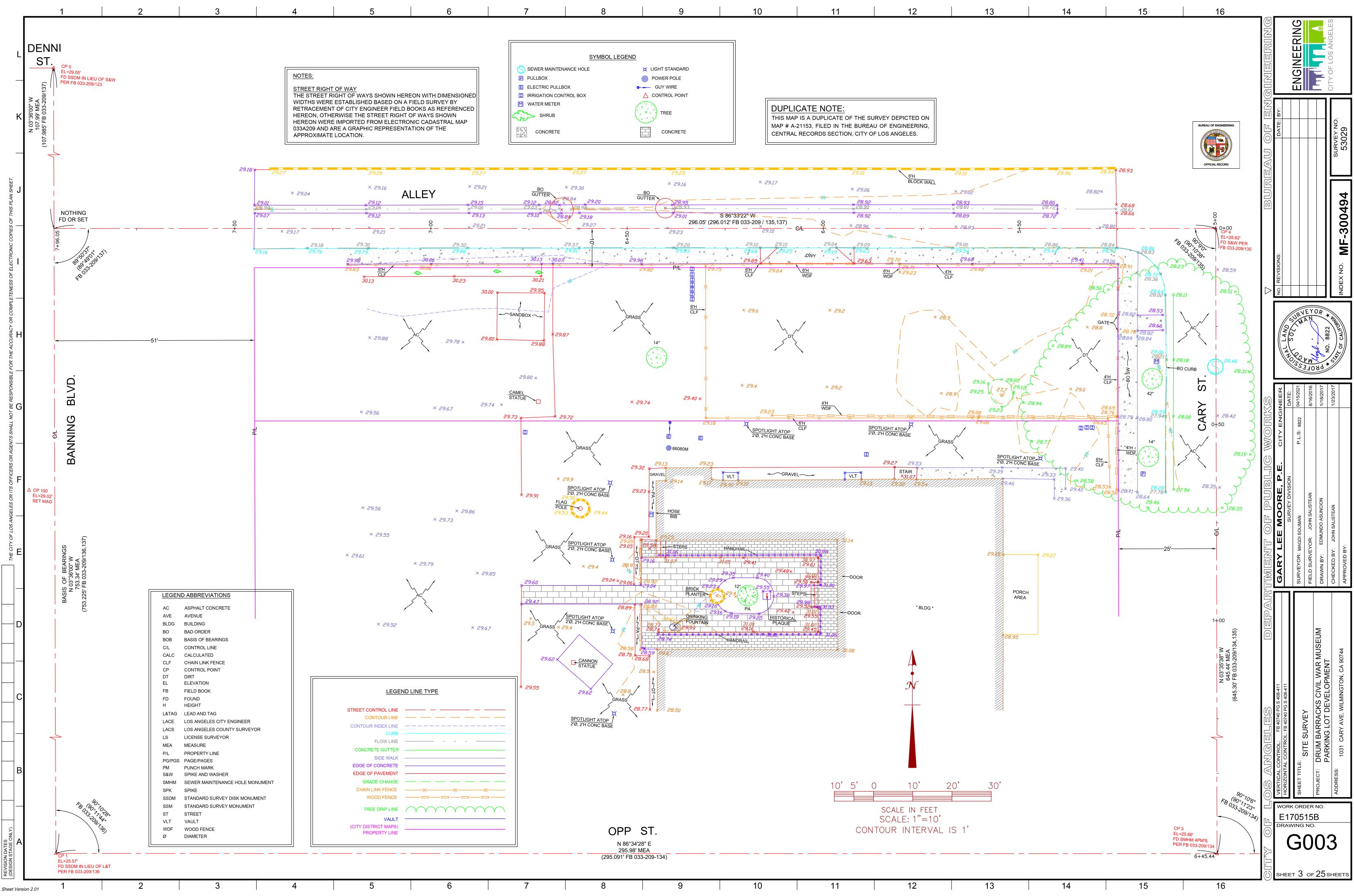
12. CONTRACTOR SHALL OBTAIN GRADING PERMIT, NEW NON-BUILDING USE OF LAND PERMIT, AND A-PERMIT AND PAY FOR ALL PERMIT FEES. CONTACT LADBS FOR FEE INFORMATION. CITY TO PROVIDE STAMPED RTI PLANS FOR GRADING AND NEW NON-BUILDING USE OF LAND PERMITS.

13. CONTRACTOR SHALL OBTAIN A DEMOLITION PERMIT FOR FORMERLY DEMOLISHED RESIDENCE ON THE SITE AND PAY FOR ALL PERMIT FEES. CONTACT LADBS FOR FEE INFORMATION. CITY WILL PROVIDE STAMPED RTI DEMOLITION PLANS. DEMOLITION POSTING NOTICE AND

14. CONTRACTOR IS REQUIRED TO FOLLOW THE WORK AREA TRAFFIC CONTROL HANDBOOK (WATCH) AND OBTAIN LADOT PERMIT IF REQUIRED AND



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	JVdZ0	GARY LE		LANDSCAPE ARCH	DESIGNED BY:	DRAWN BY:	CHECKED BY:	APPROVED BY:
PROJECT ISSUE DATE: 08/09/2021	OS ANGELES	CLIENT: DEPARTMENT OF RECREATION & PARKS	GENERAL MANAGER: MICHAEL A. SHULL	SHEET TITLE: GENERAL NOTES		PROJECT: DRUM BARRACKS CIVIL WAR MUSEUM PARKING LOT DEVELOPMENT	ADDRESS: 1061 CARY AVENUE, WILMINGTON, CA 90744	
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DRUM BARRACKS PARKING LOT DEVELOPMENT Project #E170515D

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<u>Section</u>	Section title	
1	GENERAL	L001
2	BUY CLEAN CALIFORNIA ACT	L002
3	SITE CLEARING AND DEMOLITION	L002
4	EARTHWORK	L002-L003
5	REINFORCEMENT STEEL	L003
6	CAST IN PLACE CONCRETE	L003-L004
7	TURF GRID SYSTEM	L004-L005
8	CHAIN LINK FENCING AND GATES	L005
9	PAINTING	L005-L006
10	IRRIGATION SYSTEMS	L006-L008
11	TURF	L008-L009

1. GENERAL

- A. 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.
- 1. Website: http://eng2.laCITY.org/brownbook/frame.cfm
- B. Where conflicts occur between these Landscape Construction Notes and the SSPWC these LANDSCAPE CONSTRUCTION NOTES shall take precedence. Where conflicts occur between Notes on Drawing Sheets and the SSPWC the NOTES ON DRAWING SHEETS shall take precedence.
- 1. Subsections included within these Landscape Construction Notes modify or add to the corresponding subsection (by number) of the SSPWC, latest edition with current yearly supplements; where options for materials and/or methods appear in the SSPWC, the option listed herein shall be used.
- C. 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.
- D. <u>Permits and licenses</u>: 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. Required permits include but are not limited to:
 - a. Demolition permit: Contractor shall obtain a demolition permit for formerly demolished residence on the site and pay for all permit fees. Contact LADBS for fee information. City will provide stamped RTI demolition plans. Demolition posting notice and pre-inspection have already been completed.
 - b. Non-building Use of Land permit: Contractor shall obtain a non-building use of land permit and pay for all permit fees. Contact LADBS for fee information. City will provide stamped RTI plans.
 - c. Grading permit: Contractor shall obtain a grading permit and pay for all permit fees. Contact LADBS for fee information. City will provide stamped RTI plans. d. A-permit: Contractor shall obtain an A-permit and pay and pay for all permit
 - fees. Contact LADBS for fee information
 - e. Street Use Permit (if required) from the Bureau of Street Services.
- E. 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.

PLANS AND SPECIFICATIONS 1.1

- A. The CONTRACTOR shall be responsible for issuing a complete set of plans and specifications to all Sub-Contractors.
- B. CONTRACTOR shall maintain a current set of plans reflecting all issued plan clarifications, RFI's and change orders at all times.
- C. GEOTECHNICAL INFORMATION: The Geotechnical reports dated March 6, 2017, and October 22, 2020, and LADBS Soils Report Approval Letter dated December 10, 2020 shall be a part of the Project Manual. CONTRACTOR shall comply with all soils report recommendations provided 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
 - a. Easton Forcier from the City's Bureau of Engineering, Geotechnical Engineering Division (GED) is the Geotechnical Engineer of Record for the Project. He can be contacted at (213) 847-0476 or (949) 500-0532.

1.2 SCHEDULE OF WORK

- A. The CONTRACTOR The Contractor shall submit a Schedule of Work for approval to the Project Manager prior to the commencement of work.
- B. 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 MEETINGS

A. 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, Bureau of Contract Administration (BCA) Inspector, LANDSCAPE ARCHITECT, and RAP site maintenance personnel, 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.

included as part of the base bid.

1.4 FIELD OFFICE FACILITIES

- Inspector):
- provided with screens.
- drafting stool, and one (1) plan rack.
- fixture with a 300-watt bulb shall be installed.
- basin with hot and cold running water.
- desk.

1.5 QUALITY ASSURANCE

- applicable codes and regulations.
- and tests.
- inspection will be subject to rejection per Section 2-11 of the SSPWC.
- inspections for each type of work.
- GENERAL CONDITIONS.
- GENERAL CONDITIONS
- not limited to, the following items:
- a. Galvanizing of fabricated steel items
- b. Galvanizing of chain link fabric and hardware c. Portland cement concrete & base
- d. Asphalt concrete and base

1.6 USE OF ELECTRONIC DOCUMENT CONTROL SYSTEM

- system shall include, but not be limited to the following:
- Correspondence (including Engineer's Communication).
- 2. Plan Clarifications. 3. Request for Information (RFI's).
- Shop Drawings.
- Change Orders.
- 6. Allowance Orders.
- 7. Progress Photos. 8. Project Schedules.
- 9. Meeting Minutes.
- 10. Permits.
- 11. Partnering (Issue Resolution Ladder, Charter).
- submitted through e2020, the CONTRACTOR shall:
- 1. Upload a transmittal sheet for the submittal in e2020,
- 2. Submit ten (10) full-size hard copies,
- access the document control system.

B. <u>Weekly Meetings</u>: The CONTRACTOR shall be available in person for regularly scheduled weekly meetings for the duration of the project unless otherwise cancelled/modified by the PROJECT MANAGER/CONSTRUCTION MANAGER. Meeting attendance shall be

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A. Contractor shall include the following in the base bid (some or all may be deducted by BCA)

2. Fied Office: this office shall have a minimum floor space of 16 m² (175 ft²), at least one door, and window area of not less than 2 m^2 (22 ft²). All doors and windows shall be

3. Furniture shall be provided as follows: one (1) plan table, one (1) standard 1.5 m (5 feet) long double-pedestal desk with a drawer suitable for holding files, two (2) chairs, one (1)

4. Electric power shall be provided to include a minimum of four (4) duplex convenience outlets. The office shall be illuminated at the tables and desk. An outdoor lighting

5. Heating and air conditioning of sufficient capacity shall be provided at no expense to the CITY. The CONTRACTOR shall provide drinking water within the office and integral sanitary facilities directly adjoining. Sanitary facilities shall include a toilet and wash

6. Extended area, non-coin-operated telephone service shall be provided within the office area. The installation shall include sufficient extension cord to serve the plan table and

A. 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.

B. <u>Codes and regulations</u>: 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

C. <u>Permits</u>: 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

D. <u>Inspections</u>: all work and materials are subject to inspection and approval by the BCA inspector, PROJECT MANAGER or project ENGINEER. Any work done without required

1. 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

2. <u>Pre-final inspection</u>. Pre-final inspection shall be in accordance with Article 46 of the

3. <u>Contract final inspection:</u> contract final inspection shall be in accordance with the

4. <u>In-plant inspection</u>: 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

A. The CONTRACTOR shall use a web based document control system to submit and receive all construction related documentation on this project. The system used is "e2020" and costs associated for the use of the software have been paid for by the City. The website address to be used will be provided by the CONSTRUCTION MANAGER after award of the contract. The CITY will provide training to the CONTRACTOR on the use of the system. The information to be generated, transmitted and tracked by the e2020 document control

B. When large drawings or product samples are required to be submitted that cannot be

3. Submit one half-sized hard copy (not exceeding 11x17 inches),

4. Transmit electronic files to the ENGINEER in Adobe Acrobat (.PDF) format.

C. The CONTRACTOR shall be responsible for the installation of its own computer system, scanner, and the procurement of an Internet Service Provider (ISP) with a high speed broadband internet connection for its own and the ENGINEER/INSPECTOR site offices to

D. At the request of the ENGINEER, the CONTRACTOR must provide a hard copy of approved submittals to the INSPECTOR, at no additional cost to the CITY.

1.7 MATERIALS SUBMITTAL

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A. Furnish a schedule and list of required submittals to the PROJECT MANAGER, in accordance to SCHEDULE OF WORK of these Landscape Construction Notes, including required submittals by Subcontractors.

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- B. Wherever called for in these specifications or on the plans, or where required by the PROJECT MANAGER, furnish to the PROJECT MANAGER for review 10 copies of each submittal. The term "submittal" as used herein shall be understood to include detail design calculations, design drawings, Shop Drawings, Working Drawings fabrication and installation drawings, erection drawings, lists, graphs, operating instructions, catalog sheets, data sheets, samples, and similar items. Unless otherwise required, Submit said submittals to the PROJECT MANAGER at a time sufficiently early (see paragraph F. below) to allow review of same by the PROJECT MANAGER and to accommodate the rate of construction progress required under the Contract without delaying the Contract Work and with due regard for the possibility of resubmittals. Submittals shall be in English.
- C. Design or Shop Drawings or other submittal shall be accompanied by the standard "CONTRACTOR's SUBMITTAL TRANSMITTAL" form. A submittal not accompanied by such a form, or where all applicable items on the form are not completed, or are incorrectly completed, may be returned, at the PROJECT MANAGER'S discretion, for resubmittal.
- D. Normally, a separate transmittal form shall be used for each specific item or class of material or equipment for which a submittal is required. Transmittal of a submittal of various items using a single transmittal form will be permitted only when the items taken together constitute a manufacturer's "package" or are so functionally related that expediency indicates a review of the group or package as a whole. A multiple-page submittal shall be collated into sets, and each set shall be stapled or bound, as appropriate, prior to transmittal to the PROJECT MANAGER.
- E. Shop Drawings shall show in detail the size, sections, and dimensions of all the member(s); the arrangement and construction of all connections and joints; all holes, straps, and other fittings required for attaching Work; and other pertinent details. When required, PROJECT ENGINEERING computations shall be submitted. Be responsible for delivering reviewed copies of Shop Drawings to all others whose Work is dependent thereon. Maintain at the site of the Project, a complete file of approved Shop Drawings and manufacturers' data for this Project, at all times.
- F. Except as may otherwise be provided herein, the PROJECT MANAGER will make a reasonable attempt to return prints of each submittal to the CONTRACTOR, with its comments noted thereon, within 30 calendar days following their receipt by the PROJECT MANAGER. It is considered reasonable that the CONTRACTOR shall make a complete and acceptable submittal to the PROJECT MANAGER by the second submission of a submittal item. The CITY reserves the right to withhold moneys due the CONTRACTOR to cover additional costs of the PROJECT MANAGER's review beyond the third submittal. Submittal will be returned to the CONTRACTOR with one of three (3) markings:
- 1. If a submittal is returned to the CONTRACTOR marked "NO EXCEPTIONS TAKEN/ PROCEED," formal revision and resubmission of said submittal will not be required.
- 2. If a submittal is returned to the CONTRACTOR marked "MAKE CORRECTIONS NOTED/PROCEED CONDITIONALLY," formal revision and resubmission of said submittal will not be required.
- 3. If a submittal is returned to the CONTRACTOR marked "REJECTED-RESUBMIT/DO NOT PROCEED," revise said submittal and resubmit TEN (10) copies of said revised submittal to the PROJECT MANAGER.
- G. Work for which Shop Drawings are required shall be performed in accordance with the reviewed and approved copies. Fabrication of an item shall not commence before the PROJECT MANAGER has reviewed the pertinent submittal and returned the copies to the CONTRACTOR marked either "NO EXCEPTIONS TAKEN/PROCEED." or "MAKE CORRECTIONS NOTED/PROCEED CONDITIONALLY." Revisions indicated on submittals shall be considered as changes necessary to meet the requirements of the Contract Documents and shall not be taken as the basis for claims for extra Work.
- H. CONTRACTOR submittals shall be carefully reviewed by an authorized representative of the CONTRACTOR prior to submission to the PROJECT MANAGER. Each submittal shall be dated, signed, and certified by the CONTRACTOR as being correct and in strict conformance with the Contract Documents. No consideration for review by the PROJECT MANAGER of any CONTRACTOR submittal will be made for any items that have not been so certified by the CONTRACTOR. Non-certified submittals will be returned to the CONTRACTOR without action taken by the PROJECT MANAGER, and any delays caused thereby shall be the total responsibility of the CONTRACTOR.
- I. The PROJECT MANAGER's review of CONTRACTOR submittal shall not relieve the CONTRACTOR of the entire responsibility for the correctness of details and dimensions and conformance to the specifications. Assume all responsibility and risk for any misfits due to any errors in the submittal. Any fabrication or other Work performed in advance of the receipt of accepted submittals shall be entirely at the CONTRACTOR's risk and expense. Be responsible for the dimensions and the design of adequate connections and details.

SUBSTITUTIONS AND "OR EQUAL" SUBMITTAL 1.8

A. Make "Or Equal" submittals within thirty (30) calendar days after issuance of Notice-to-Proceed. A request or submittal received after the specified period will be considered as NOT EQUAL to that so specified and will be processed as a substitution described hereinafter.

- B. Clearly identify manufacturers' data submitted to the PROJECT MANAGER for review and acceptance each proposed substitute with the corresponding Contract Drawing detail and Specification section. If the PROJECT MANAGER decides to accept for use in the Project a material, process or article which is not the equal of that specified, make substitution in the manner described in CHANGES AND EXTRA WORK of the General Conditions, with a credit to the CITY for the difference in value.
- C. The PROJECT MANAGER will determine whether the material offered is equivalent to that specified. Any revision to structures, piping, mechanical, electrical, instrumentation, or any other Work made necessary by such substitution must be approved by the PROJECT MANAGER, and the entire cost both direct and indirect of these revisions shall be borne by the CONTRACTOR.
- D. Materials, processes, or articles may be requested as a substitution by the CONTRACTOR, in lieu of that specified, under the following conditions:
- 1. Submit in writing and in the manner described in SUBMITTAL of these Landscape Construction Notes.

- 2. Submit thirty (30) calendar days before starting the Work, as established by the PROJECT MANAGER, so as not to cause any delay in completion of the Project. No other request will be considered after expiration of the period specified, except that in exceptional cases where it is determined to be in the best interest of the CITY, as approved by the PROJECT MANAGER.
- 3. Agree to pay for all PROJECT ENGINEERING and design services, if required, to make changes and adjustments in material and Work of trades directly or indirectly affected by the substitute, to the satisfaction of the PROJECT MANAGER, at no cost to the CITY.
- 4. All requests for substitution shall be made through the CONTRACTOR. Submissions by the CONTRACTOR shall imply the CONTRACTOR's approval of such substitution.
- 5. No requests for substitutions will be considered during the bidding period.
- 6. Furnish adequate data with each request for approval of a substitute to enable the PROJECT MANAGER to evaluate the proposed substitution.

1.9 RECORD DRAWINGS (AS-BUILTS) SUBMITTALS

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

Number	Title
S-251-1	Pipe Laying in Trenches
S-440-0	Sidewalks
S-440-3	Driveways



SSPWC

plans:

2017 edition of the Greenbook Website: <u>http://eng.laCITY.org/techdocs</u>

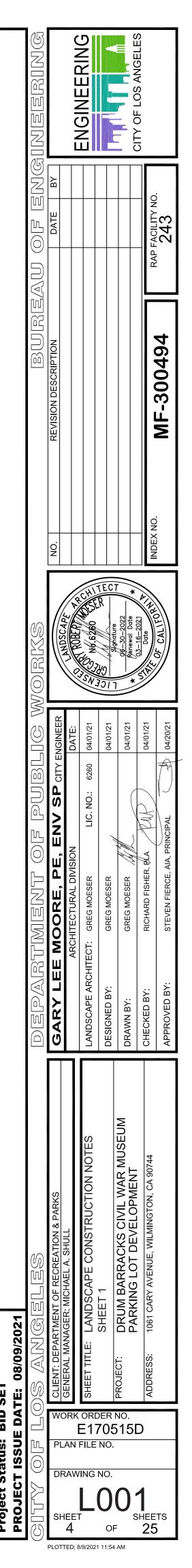
City of Los Angeles Department Of Public Works SSPWC additions and amendments (Brown Book) Website: http://eng2.laCITY.org/brownbook/frame.cfm

2.1 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. 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.

2.2 PROTECTION OF PERSONS AND PROPERTY

- A. <u>General</u>: comply with provisions of Article 30 Protection of Persons And Property And Restoration Of Existing Improvements in the GENERAL CONDITIONS.
- B. <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.



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 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 8. Eligible Materials: Steel: This includes structural steel (hot-rolled sections, hollow structural sections, and plates) and carbon steel reinforcement used in concrete or masonry. Concrete 9. Site clearing operations 1. StuBMITTALS A. 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 up on 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). 	A.				ing clarity not	all trace
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 Steel: This includes structural steel (hot-rolled sections, hollow structural sections, and plates) and carbon steel reinforcement used in concrete or masonry. Concrete Concrete 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). Steel: This includes structural sections, hollow structural sections, and plates and the section as soon as possible accordance with requirement purisdiction. 				CONTRA MANAGI	ACTOR shall re ER, project EN	equest a IGINEER
 SUBMITTALS A. 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). Remove all surface vegetation all roots, and stumps and othe below existing ground surface. Remove all concrete and matter and the subject matter	В.	1. Steel: This includes structural steel (hot-rolled sections, hollow structural sections, and plates) and carbon steel reinforcement used in concrete or masonry.		extents o	of any required	
 A. 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). A. Submitted facility-specific Environmental Product Declarations (EPD) must be a below existing ground surface accordance with requirement gurisdiction. B. Remove all concrete and matter and matter active utility lines needed accordance with requirement gurisdiction. 					-	
 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). Remove all concrete and mathematical mathematical product Remove all existing rubbish section as soon as possible Where active utility lines nee accordance with requiremen jurisdiction. 					•	
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5. Existing utility services to rer		"cradle to gate". PCR shall be as identified by California Department of General		accordar	nce with require	
				5. Existing	utility services	to remaiı

h each eligible material submittal for the product(s) under ns for approval by the ENGINEER. Depending on the types, more than one (1) eligible material submittal may CONTRACTOR must also provide a copy of the approved o the INSPECTOR. Where a submittal is conditionally f required EPD, the applicable restrictions as noted below

install any eligible materials or incorporate into the work facility-specific EPDs have been provided and approved, in by the ENGINEER. Payment for specific eligible material is for these materials are approved by the ENGINEER and press payment requests.

assessed liquidated damages for failure to complete the y the terms of the contract resulting from Contractor delays nd approval of the required EPDs.

considered for addition to future Eligible Materials list by , Section C above does not apply to these materials at this one of the Optional Eligible Materials listed in this Section y submit either facility-specific EPDs as noted on Article C D. The Optional Eligible Materials are as follows:

mix designs).

CLEARING AND DEMOLITION

ermit before commencing work. RTI plans shall be

ion on the job site as indicated on the Contract Drawings.

oval and disposal of all constructed site features vings for removal, including all below-ground components

oving all vegetation such as trees, roots, stumps, shrubs, s, wood and other vegetative growth from the ground de the removal and disposal of trash piles, rubbish, debris,

ools, equipment materials and supplies and shall perform sociated with removal of all designated natural and artificial is indicated in the contract documents.

scribed but required for completion of the work of this CTOR subject to the approval of the ENGINEER.

under which work of this section will be performed. ely and proper site-clearing operations, as directed by the ch detrimental conditions have been corrected.

licated to remain in the Contract Drawings per tree 00.

e clearing work, all Tree Protection fencing shall be ENGINEER.

es, shrubs, brush, grass, weeds, or exact amount of trash awings. CONTRACTOR shall carefully study the Contract and verify the extent of the work to be done prior to

ent of clearing, grubbing and stripping operations, the a site meeting to include the BCA inspector, PROJECT R and other CITY staff as designated by the PROJECT arly mark all existing vegetation to remain, and to mark the rotection fencing.

n indicated on the Contract Drawings for removal. Remove ar undesirable materials to a depth of at least (2) feet

onry debris, including footings.

nd debris or material resulting from work operations of this nd dispose of properly.

to be capped or plugged, perform such work in of the utility company or government agency having

aining structures are to be maintained at all times.

3.4 REMOVAL AND DISPOSAL OF CLEARING AND GRUBBING DEBRIS

10

<u>General</u>: all undesirable materials removed during site clearing and demolition shall be disposed of dispose of it off CITY's property in a legal manner and to conform with the requirements in SSPWC (300-26). No accumulation of flammable material shall remain inside the limit of work.

3.5 STORAGE OF MATERIALS AT THE JOB-SITE

Storage of removed materials is not permitted beyond brief accumulation awaiting pick up by removal trucks. Delays in the removal of site-clearing materials from the job site shall be subject to the approval of the PROJECT MANAGER or the BCA inspector.

4. GENERAL EARTHWORK

PART ONE - GENERAL

1.1 SUMMARY

- A. Provide and execute grading work as indicated on the Contract Drawings or in the Project Manual including but not limited to the following:
- 1. General excavating and trenching for various trades.
- 2. General exterior grading and cutting.
- 3. General excavating for site improvements.

1.2 QUALITY ASSURANCE

<u>Codes and standards</u>: perform excavation work in compliance with applicable ordinance of governing authorities having jurisdiction including, but not limited to, the:

- A. <u>Testing and inspection services</u>: the City's Bureau of Engineering, Geotechnical Engineering Division (GED) will provide soil testing and inspection during earthwork operations. GED shall be notified at least 48 hours in advance to schedule observation/ testing.
- B. <u>GEOTECHNICAL ENGINEER</u>: the City's Bureau of Engineering, Geotechnical Engineering Division (GED) is the Geotechnical Engineer of Record.
- C. <u>Survey</u>: the CONTRACTOR shall employ the services of a California Licensed Surveyor for the purposes of survey control, layout, grade and cross-sections required to control work.
- D. The CONTRACTOR shall be responsible for removal and disposal of all excess soil and debris from the work area, (300-1.3.1, 300-2.6). No soil or debris shall be disposed of on Recreation and Parks property without the permission of the PROJECT MANAGER.
- E. The CONTRACTOR shall conform to section 7-8.1 of the SSPWC latest edition with the current yearly supplements for clean-up and dust control.
- F. Unexpected ground water conditions encountered during the course of the work shall be brought to the immediate attention of the GEOTECHNICAL ENGINEER.

1.3 SUBMITTALS Conform to provisions of Section 1 of these Landscape Construction Notes.

1.4 PERMITS

- A. The CONTRACTOR shall perform all work in accordance with the permit requirements of the LADBS, including obtaining the Grading Permit; and if required, a hauling permit and bond, and making the required notification to the adjacent property owners; at no additional expense to the CITY.
- B. CONTRACTOR shall furnish the BCA Inspector with a duplicate copy of OSHA excavation permit when required, and all other required permits prior to the start of the excavation work.
- C. The CONTRACTOR shall make all necessary notifications, obtain and pay for required permits and file manifests with the South Coast Air Quality Management District (S.C.A.Q.M.D.) when required.

1.5 JOB CONDITIONS

- A. <u>Required work coordination</u>: the CONTRACTOR shall fully coordinate the work operations of this section with that of other trades involved and with the ENGINEER to assure proper sequence of work, limitations, methods and time of work so as to minimize or avoid interference with the existing utilities as well as performance of work by the other CONTRACTORs.
- B. CONTRACTOR shall include minimum two weeks in the construction schedule to allow the soil ENGINEER to prepare final soil report to be submitted to the Los Angeles City Department of Building and Safety Grading Division for final approval if the soil ENGINEER is obtained by the CITY. The CONTRACTOR shall coordinate and arrange for all the inspections with the local authorized agencies and the Bureau of Contract Administration.

1.6 **PROTECTIONS**

- A. Protect existing trees and shrubs indicated to remain in the Contract Drawings per Tree Protection Requirements on sheet L100.
- B. <u>Water</u>: divert or pump out of all excavations until concrete and other items are placed therein, forms removed, and backfilling is completed. Comply with all applicable Codes and Regulations.

1.7 INSPECTION

The CONTRACTOR shall notify the BCA Inspector and CONSTRUCTION MANAGER three (3) days prior to requested date of inspection of the following for approval:

 All excavations and trenches shall be inspected by the BCA Inspector, LADBS Inspector, and the GEOTECHNICAL ENGINEER before filling, backfilling and/or other subsequent work is placed therein. Earthwork backfill for structures shall comply with requirements of Section 300-3.5 - Structural Backfill of SSPWC and/or requirements in the Project Manual.



- 2. <u>Rough Grading</u>: when forms have been set, they shall be reviewed by ENGINEER to verify alignment and grade. Offsets or vertical controls shall be verifiable in the field, or be provided in grade sheet form, and submitted to the CONSTRUCTION MANAGER for approval prior to the inspection.
- 3. <u>Finish Grade Review</u>: for all finish grades in planting areas following rolling in turf areas.

PART TWO – PRODUCTS

13

2.1 SOIL MATERIALS

A. <u>Fill Materials and Backfill Placement</u>: The existing onsite soil may be reused as compacted fill provided it is free of organic material, debris, and does not contain fragments greater than 3 inches in maximum dimension. Import fill may also be used instead of the native soil. Import fill material shall be predominantly granular (minimum 80% passing number 4 sieve and between 10% and 35% passing the number 200 sieve), and non-expansive (EI less than 25). Also, the import fill material shall be free of organic or inorganic debris, contamination and materials with any dimension larger than 3 inches. Import material shall be reviewed for approval by GEO prior to importing to the job site. GEO shall be notified a minimum of three working days prior to scheduled importing of soil to the project site.

Fill material, including aggregate base, shall be placed in loose lifts not exceeding 8 inches in thickness, moisture-conditioned to within 3 percent above the optimum moisture content and mechanically compacted. Clayey soils (i.e. those with 15% or more finer than 0.005 mm sieve) are not anticipated at this time. All granular fill and aggregate base shall be compacted to at least 95 percent RC.

Fill placement and compaction shall be observed and tested by GEO and/or their representative. Compacted fill soils shall be kept moist, (at or slightly above the specified moisture content at the time of compaction) but not flooded, until covered with subsequent construction. If compacted fill soils become softened or disturbed, they shall be replaced or recompacted at the discretion of the Geotechnical Engineer before additional fill or construction is placed. Certification and inspection approvals for compromised soils are void and invalid.

- 1. In landscape planting areas, the top 24" of any fill shall be "Class C" topsoil salvaged on site (800-1.1.2). See section TURF for additional information. [Turf Grid planting areas shall be in accordance with the TURF GRID section of these Landscape Construction Notes.]
- B. <u>Base material</u>: shall be "Crushed Aggregate Base", 3/4-inch maximum size aggregate, or "Crushed Miscellaneous Base", 1-1/2-inch maximum size aggregate], as specified in Contract Drawings and per Section 200-2 - Untreated Base Materials of SSPWC.

C. Trench backfill material:

- 1. Use clean earth materials previously removed from job site excavations, or use approved imported fill materials as above specified, free from clay, rock or gravel larger than 1-inches for utility trenches, subject to the SOIL ENGINEER'S approval prior to use. Flooding/Jetting is not allowed per geotechnical recommendations. See related section: IRRIGATIONS SYSTEM for additional information.
- D. <u>Slurry backfill</u>: slurry backfill shall be 60 E 0.7 (CLASS 100-E-100) and placed in accordance with Section 306-1.3.1 Backfill And Densifications of SSPWC where required by the Contract Drawings.

PART THREE - EXECUTION

3.1 SURFACE CONDITIONS

Examine the areas and conditions under which work of this section will be performed. Correct conditions detrimental to timely and proper completion of the work. Do not proceed until detrimental conditions are corrected.

3.2 GRADING

- A. All grades between contours and/or spot elevations shall be assumed to be straight grades. There shall be no localized depressions or humps, (801-2.1).
- B. The CONTRACTOR shall verify all grades and amounts of cut and fill before commencing work.
- C. Rough grade: leave cut and fill sufficiently high to require subsequent cutting by fine grading.
- D. Fine grade: to elevations indicated on Contract Drawings and as required to ensure proper drainage.

3.3 EXCAVATION

- A. General:
- 1. Excavation shall consist of the removal and disposal of materials necessary to establish required grade elevations and certified compacted fill for new construction pursuant to (300-2) of SSPWC and the approved soils report.
- 2. Excavated materials suitable for use as fill and/or backfill to be stockpiled where approved by the PROJECT MANAGER.
- 3. Non-approved and excess excavated materials shall be legally removed and disposed of from the job site at the CONTRACTOR's expense.
- 4. Encountered existing underground utility piping or conduits: immediately stop the trench operations at the point of encounter and notify the PROJECT MANAGER of such condition and submit utility support drawings to the PROJECT MANAGER for approval. The support drawings shall be in conformance with the BOE Standard Plans S-253, Supports for Storm Drain and Sewer Pipes Across Trenches, latest edition; CAL/OSHA and the utility company's requirements.

B. For site improvements:

- 1. For concrete curbs: to exact curb limit, without excessive removal of adjacent paving or subgrade for new paving, subject to the requirements of the approved soils report.
- 2. For site improvements such as concrete and/or asphalt pavements, concrete walkways, driveways aprons, concrete curb and gutter: excavate to exact limits of such work without excessive removal of existing subgrade, unless otherwise indicated in the approved soils report.

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	DEPV	GARY LEE		LANDSCAPE ARCHI	DESIGNED BY:	DRAWN BY:	CHECKED BY:	APPROVED BY:
9/2021	NGELES	CLIENT: DEPARTMENT OF RECREATION & PARKS	GENERAL MANAGER: MICHAEL A. SHULL	SHEET TITLE: LANDSCAPE CONSTRUCTION NOTES	SHEET 2	DRUM BARRACKS CIVIL WAR MUSEUM PARKING LOT DEVELOPMENT		
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.4	SUBGRADE	PREPARATION							A615 Specifica Reinforce	ement.
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	repres	eport. Testing shall be entative or by the De	epartment of Gen	neral Services,	, Standards D	ivision,			a. D must conform	to the fo
		the direction of BCA nal information.	. See related see	otion: IRRIGA	ATIONS SYST	EM for		a. Sha	all be facility-sp independently	ecific ma
	D. <u>Dewaterir</u>	l <u>g</u> :						c. Be	developed acc CR), as identifie	ording to
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		o an approved locatio				ethods.		Se	ction 1601. D shall be subr	
		excavations and site						app	oroval. ecified epoxy-c	
	conditione	<u>control</u> : where subgra ed before compaction	n, uniformly apply	y water to surf	ace of subgra	de, or layer			ving an associa	
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	may b	aterial that has been e stockpiled or sprea ving, or turning uptil	ad and allowed to	dry. Assist dr	ying by discin	g,		rebar.		
		ving, or turning until r			-				RACTOR shall	•
	affected o	ny previously compa r disturbed, in the op ov of the weather suc	pinion of the GEC	DTĚCHNICAL	ENGINEER, I	by the			AND SHIPPIN	
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5	FILLING								ıl. Use metal ta gs. Maintain tag	•
	A. <u>General</u> :	construct in accordar	າce with the appr	oved soils rep	oorts.					
		in planting areas sho on. For topsoil fill in tl					PART	2 PRODUC	TS	
	informatic			דיסוווט, ששט			2.1	STEEL REINF	ORCEMENT	
6	BACKFILLIN	IG						A. Reinforcing	g bars: shall be	ASTM A
	A. Prior to ba	ackfilling: remove any	y debris, trash or	foreign mater	rial from exca	vation.			cement with an	-
	B. <u>Inspection</u> trench bo	<u>n required</u> : prior to ba tom.	ackfilling operatio	ns, for compa	iction of subgr	ade or			ately removed	
		<u>t of backfill</u> : in accor	dance with the a	pproved soils	report. See re	elated		b. Be	r lengths, depth nds or kinks no rs with reduced	t shown o
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		<u>kfill</u> : in areas where where the soil ENG							wire: shall be A	
	required o	compaction by the mo rry backfill 60-E0.7 (echanical method	ds or water de						
7		OF EXCESS AND W							l bars: ASTM A re and free of b	
		from City's property:			ding unaccept	able			rts: Concrete bl	
	excavated	l material, trash and nd to conform with th	debris, and dispo	ose of it off Cl	TY's property				the same or hig Wire ties shall	
			1		,				r supports com	
		5. REI	NFORCEMENT S	STEEL				2. Do not	ntract Drawings use wood, brick	k, or othe
ART	1 GENERA								bs on grade, us Il will not suppo	
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1	SUMMARY						3.1	GENERAL		
		TRACTOR shall furn ded wire fabric, coup		•					ement steel, we I in accordance	
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	and masc	nry construction and s, supports, chairs, s	-			-			SI Recommendents specified he	

SEWHERE:

CODES, AND STANDARDS

dards of the GENERAL REQUIREMENTS.

ons of the following Codes and Standards, as

ing of Concrete Reinforcement.

quirements for Reinforced Concrete. guirements & Specifications for Masonry Structures

ard Practice for Welded Wire Fabric

Velded Steel Wire Fabric For Concrete Reinforcement. eformed and Plain Billet-Steel Bars for Concrete

actice for Placing Bar Supports, Specifications and

actice for Placing Reinforcing Bars

otential (maximum acceptable carbon emission limits, California Department of General Services)

ance with the GENERAL REQUIREMENTS.

clude GR Section 1601, Buy Clean California Act, ironmental Product Declarations (EPDs) for each type 15, A706) from the originating mill used in the project as ications. When material comes from different mills, an required for each mill from which the material has been

owing:

nufacturer/mill EPD. accordance with ISO 14025 (Type III)

the guidelines of the applicable Product Category Rule Department of General Services, State of California.

ot expired. Warming Potential (GWP) limit as required by GR

currently with the product's submittal for review and

ther specified coated reinforcing steel are exempt from

ific information shall be provided.

on the plans an or details

be performed in a LADBS licensed fabricator shop for

ovisions for sampling reinforcing steel delivered to the ATERIALS CONTROL DIVISION.

ion, and transport and store so as not to damage any ting size, length and other marking shown on placement undles are broken.

15/A615m, Grade 60, deformed.

blowing defects will not be acceptable and be

bends exceeding the specified fabrication tolerances. on the Drawings

ction due to excessive rusting or other cause.

64a/A1064m, as drawn.

5m, Grade 60, plain-steel bars, cut true to length with

ies), used to support and position reinforcement steel, pressive strength as specified for the concrete in which it ded in concrete block bar supports.

CRSI recommenda¬tions, unless otherwise shown on

non-complying material. ts with sand plates or horizontal runners where base

fabric, couplers, and accessories shall be fabricated, equirements of the City of Los Angeles Building ces and Manual, and WRI, and the supplementary

3.2 FABRICATION

- A. General: Reinforcement steel shall be accurately formed to the dimensions and shapes shown, and the fabricating details shall be prepared in accordance with ACI 315 and ACI 318 or ACI 350 (as applicable), except as modified by the Drawings. Bars shall be bent cold.
- B. The CONTRACTOR shall fabricate reinforcement bars for structures in accordance with bending diagrams, placing lists, and placing drawings. Said drawings, diagrams, and lists shall be prepared by the CONTRACTOR as specified under GENERAL REQUIREMENTS.
- C. Fabricating Tolerances: Bars used for concrete reinforcement shall meet the following requirements for fabricating tolerances:

Sheared length: ± 1 inch Depth of truss bars: + 0, - 1/2 inch Stirrups, ties, and spirals: $\pm 1/2$ inch All other bends: ± 1 inch

10

3.3 PLACING

- A. Reinforcement steel shall be accurately positioned PER CONTRACT DRAWINGS and shall be supported and wired together to prevent displacement, using annealed iron wire ties or suitable clips at intersections.
- 1. All reinforcement steel shall be supported using approved accessories and chairs which are strong and rigid enough to prevent any displacement of the reinforcement steel and
- shall comply with the applicable Department of Building and Safety's Research Report. 2. Where concrete is to be placed on the ground, supporting concrete blocks (or dobies) shall be used, in sufficient numbers to support the bars without settlement, but in no case shall such support be continuous.
- 3. All concrete blocks used to support reinforcement steel shall be tied to the steel with wire ties which are embedded in the blocks. Use care not to damage vapor barriers where they occur.
- 4. The portions of all accessories in contact with the formwork shall be made of concrete, plastic, or steel coated with a 1/8-inch minimum thickness of plastic which extends at least 1/2-inch from the concrete surface. Plastic shall be gray in color.
- 5. Tie wires shall be bent away from the forms to provide the specified concrete coverage. B. Bars additional to those shown which may be found necessary or desirable by the
- CONTRACTOR for the purpose of securing reinforcement in position shall be provided by the CONTRACTOR at its own expense.
- C. Placing Tolerances: Unless otherwise specified, reinforcement placing tolerances shall be within the limits specified in Section 7.5 of ACI 318 except where in conflict with the requirements of the City of Los Angeles Building Code.
- D. Bars may be moved as necessary to avoid interference with other reinforcement steel, conduits, or embedded items. If bars are moved more than one bar diameter, or enough to exceed the above tolerances, the resulting arrangement of bars shall be reviewed and accepted by the ENGINEER.
- E. Welded wire fabric placed over the ground shall be supported on wired concrete blocks (dobies) spaced not more than 3 feet on centers in any direction. The construction practice of placing welded wire fabric on the ground and hooking into place in the freshly placed concrete shall not be used.

3.6 CLEANING AND PROTECTION

A. The surfaces of all reinforcement steel and other metalwork to be in contact with concrete shall be thoroughly cleaned of all dirt, grease, loose scale and rust, grout, mortar and other foreign substances immediately before the concrete is placed. Where there is delay in depositing concrete, reinforcement shall be reinspected and, if necessary recleaned. Bars with reduced cross-section due to excessive rusting or other cause will not be acceptable for use and shall be replaced by the CONTRACTOR at no additional cost to the CITY.

3.7 FIELD QUALITY CONTROL

A. Inspection: Secure inspection and acceptance from INSPECTOR before concrete is placed. CONTRACTOR shall make arrangements in advance for geotechnical inspection of foundations, continuous inspection as required, and/or structural observation by the designated registered design professional prior to concrete placement.

6. CAST IN PLACE CONCRETE

PART 1 – GENERAL

1.1 SUMMARY

- A. Section includes cast-in-place concrete, including formwork, reinforcement, concrete materials, mixture design, placement procedures, joints and finishes.
- B. The CONTRACTOR shall furnish all materials for concrete in accordance with the provisions of this Section and shall form, mix, place, cure, repair, finish, and do all other work as required to produce finished concrete, in accordance with the requirements of the Contract Documents.
- C. The following types of concrete shall be covered in this Section:
- 1. Structural Concrete: Concrete to be used in cases where noted in the Contract
- Documents. 2. Sitework Concrete: Concrete to be used for curbs, gutters, sidewalks, pavements, fence and post embedment, or as otherwise shown.
- 1.2 SUBMITTALS
 - A. Concrete Mix designs: Prior to beginning the WORK, the CONTRACTOR shall submit to the ENGINEER, for review, and acceptance, preliminary concrete mix designs for each class and type of concrete specified herein. The mix designs shall be designed by an independent testing laboratory acceptable to the ENGINEER. All costs related to such mix design shall be borne by the CONTRACTOR. Each concrete mix submittal shall contain the following information, as applicable:

13	14	15	

- 1. Location and purpose of the mix.
- Slump on which the design is based.
- 3. Total gallons of water per cubic yard, and the water/cementitious materials ratio (w/cm).
- 4. Brand, type, composition and quantity of cement.
- 5. Brand type, composition and quantity of fly ash, slag cement, silica fume.
- Specific Gravity, source and gradation of each aggregate.
- 7. Compressive strength based on 7-day and 28-day compression tests, including standard deviation calculations, corroborative data (if applicable), and required average comprehensive strength per ACI 318.
- 8. Certification stamp and signature by a Civil or Structural engineer registered in the State of California, experienced in concrete mix design.
- 9. Certificate of Compliance for Cement.
- 10. Concrete pour sequence. 11. Buy Clean California Act
- a. For project specifications that include GR Section 1601, Buy Clean California Act, bidders shall submit current Environmental Product Declarations (EPDs) for: each concrete mix design, from the originating ready-mix plant used in the project. When material comes from different plants, an EPD will be required for each plant from which the material will be obtained.
- b. An EPD must conform to the following:
- i. Shall be facility-specific manufacturer/plant EPD.
- ii. Be independently verified in accordance with ISO 14025 (Type III).
- iii. Be developed according to the guidelines of the applicable Product Category Rule (PCR), as identified by the Department of General Services, State of California.
- iv. Have a valid date that has not expired.
- v. Shall not exceed the Global Warming Potential (GWP) as required by GR Section 1601.
- c. EPD shall be submitted concurrently with each mix submittal for review and approval.
- B. Material information: for each of the following, as provided by manufacturers:
- 1. Admixtures. Provide a copy of the Building and Safety Research Report Approval for each concrete admixture.
- 2. Form release agents.
- 3. Joint filler products.
- C. Load tickets: 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 jobsite.
- D. Material test reports: for the following, from a qualified testing agency: 1. Aggregates: include service record data indicating absence of deleterious expansion of concrete due to alkali aggregate reactivity.

1.3 QUALITY ASSURANCE

- A. Installer qualifications: CONTRACTOR shall employ on the project an installer qualified as ACI-Certified Flatwork Technician and Finisher and a supervisor who is an ACI-certified Concrete Flatwork Technician.
- B. 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 are at the jobsite.
- C. 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:
- 1. Check plant and equipment quality.
- 2. Check identity of materials.
- 3. Check aggregate grading, characteristics, and water content.
- 4. Verify mix designs being used.

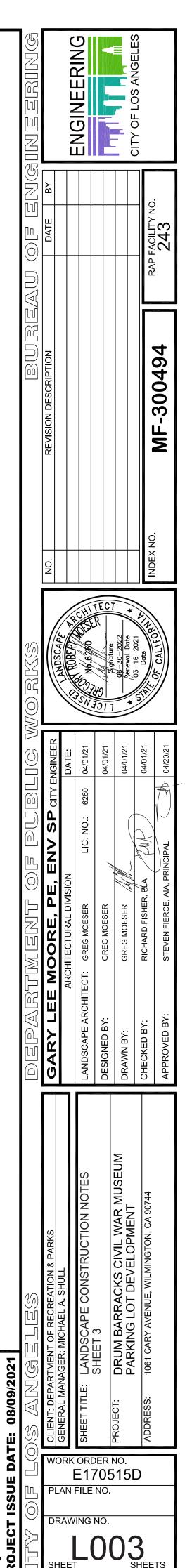
inspector shall perform the following procedures:

- 5. Check proportioning and loading of concrete materials.
- 6. Issue certifications of quality and quantity of materials as batched. 7. After verification of above, return to the jobsite for placement inspection.
- D. 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
- 1. Verify condition and adequacy of forms and reinforcement placement.
- 2. Ensure that concrete is of required quality and consistency.
- 3. Ensure that all requirements and conditions of concrete placement are met.
- 4. Make slump tests and secure cylinders.
- 5. Provide written reports at regular intervals reporting concrete practices.
- E. 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 mock-ups 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 otherwise instructed by PROJECT MANAGER.
- 1. Specified finishes to be mocked up:
- a. Concrete paving: medium broom finish, unless otherwise noted.

1.4 DELIVERY, STORAGE, AND HANDLING

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





М	1.5	FIELD CONDITIONS A. Hot-weather placement: comply with ACI301 and as follows:		 Saw-cut joints: form contraction join abrasive or diamond-rimmed blades cutting action does not tear, abrade develops random contraction crack
		 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 		D. Isolation joints in slabs-on-grade: after junctions with vertical surfaces, such a and other locations, as indicated.
L		concrete. Keep subgrade uniformly moist without standing water, soft spots, or dry areas.		 Extend joint-filler strips full width an more than 1-inch below finished cor
_	PART 2.1	2 – PRODUCTS CONCRETE MATERIALS		E. Doweled expansion joints: shall be place structures or as indicated in the plans (bars and support assemblies at joints v
		 A. Cementitious materials: 1. Portland Cement: all cement shall be Type II, low alkali Portland Cement 		prevent concrete bonding to one side c
		conforming to ASTM C150 (201-1.2). 2. Fly ash: ASTM C618, class F.	3.3	CONCRETE PLACEMENT
к		 B. Normal-weight aggregates: the aggregates for all concrete construction shall be fractured face aggregates obtained from a quarry that is certified non-reactive 		A. Before placing concrete, verify that inst items is complete and that required ins
		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.		B. Deposit concrete continuously in such that has hardened enough to cause se placed continuously, provide constructi
				C. Deposit concrete in horizontal layers of
		C. Water: ASTM C94/C94m and potable.		1. Maintain reinforcement in position of
J	2.2	CONCRETE MIXTURES		2. Screed slab surfaces with a straight
		A. 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		 Slope surfaces uniformly to drains v Drawings.
		concrete delivered. The receipt shall be given to the BCA Inspector, (201-1.1.2).	3.4	FINISHING FLOORS AND SLABS
Н		 Minimum compressive strength: 2,500 PSI at 28 days. Slump limit: 4-inches, plus or minus 1-inch. 		A. General: comply with ACI 302.1R reconfinishing operations for concrete surfact
	2.3	CONCRETE MIXING		B. Rotary float finish: consolidate surface small or inaccessible to power-driven fl
		A. 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 inspector.		spots. Repeat float passes and re-strai granular texture. Apply rotary float finis
G		 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. 		 C. Broom finish: apply a broom finish to exelsewhere as indicated. 1. Immediately after float finishing, slip
	2.4	CONCRETE JOINT MATERIALS		broom perpendicular to main traffic each finish type.
		A. Expansion joint material: expansion joint material shall be min. 3/8-inch-thick	3.5	MISCELLANEOUS CONCRETE ITEM IN
F		closed-cell, polyethylene low resistance joint filler, by Celltex Ltd., or approved equal.B. End of pour joints: end of pour joints shall be min. 3/8-inch-thick closed-cell,		A. Repairs and filling: fill in holes and ope trades is in place unless otherwise indi to blend with in-place construction. Pro
		polyethylene low resistance joint filler, by Celltex Ltd., or approved equal.		required to complete the work.
 		 C. Joint urethane sealant: expansion and isolation joint sealant material shall be a urethane elastomeric sealant for concrete pavement shall be Sikaflex®-1A D. By Sika Corporation, or an approved equal, (201-3). Color to match concrete. 		B. Curbs: provide monolithic finish to inter green and by steel-troweling surfaces t and terminations slightly rounded per d
	DADT			C. Equipment bases and foundations:
E				1. Verify locations, sizes, depths, and
	3.1	STEEL REINFORCEMENT INSTALLATION		approved equipment provided and
		A. General: comply with CRSI's "Manual of Standard Practice" for fabricating, placing, and supporting reinforcement.		 Minimum compressive strength for unless otherwise noted. See structu Prior to pouring concrete, place and
		 B. Clean reinforcement of loose rust and mill scale, earth, ice, and other foreign materials that reduce bond to concrete. 		drawings, templates, diagrams, inst be embedded. Install anchor bolts t supported equipment.
		C. 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.	3.6	CONCRETE PROTECTION AND CURING
		D. 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.		A. General: protect freshly placed concret temperatures. Comply with ACI 301 for concrete according to ACI 308.1.
	3.2	JOINTS IN CONCRETE		B. Exposed un-formed surfaces: begin cu walkways and other exposed surfaces
C 		A. General: construct joints true to line with faces perpendicular to surface plane of concrete.	3.7	JOINT SEALING
		B. Construction joints: install so strength and appearance of concrete are not impaired, at locations indicated or as approved by ENGINEER.		A. For expansion and isolation joints in co compounds, etc. From joints; leave cor
В		 Place joints perpendicular to main reinforcement. Continue reinforcement across construction joints unless otherwise indicated. Form keyed joints where indicated. Embed keys at least 1-1/2 inches into 		 B. Install approved joint sealer according details.
		concrete. 3. Space vertical joints in walls as indicated. Locate joints beside piers integral	3.8	CONCRETE SURFACE REPAIRS
		with walls, near corners, and in concealed locations where possible.C. Contraction joints in slabs-on-grade: form weakened-plane contraction joints, sectioning concrete into areas as indicated. Construct contraction joints for a depth		 A. Defective concrete: repair and patch de Remove and replace concrete that can approval.
		equal to at minimum one-fourth of the concrete thickness as follows: 1. Tooled joints: form contraction joints after initial floating by grooving and		B. Repairing un-formed surfaces: test un- and verify surface tolerances specified surfaces sloped to drain for trueness of
		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.		-
		1 2 3 4		5 6

2

3

4

5

6	7	8	9	10	11	12

nts with power saws equipped with shatterproof es. Cut 1/8-inch-wide joints into concrete when e, or otherwise damage surface and before concrete

removing formwork, install joint-filler strips at slab as column pedestals, foundation walls, grade beams,

nd depth of joint, terminating not less than 1/2-inch or ncrete surface where joint sealants are indicated.

ced against previously constructed concrete (303-5.4.2) and the applicable details. Install dowel where indicated. Lubricate one-half of dowel length to of joint. Install per details.

stallation of formwork, reinforcement, and embedded spections are completed.

thickness that no new concrete is placed on concrete eams or planes of weakness. If a section cannot be ion joints as indicated.

f depth not to exceed formwork design pressures.

on chairs during concrete placement.

it-edge and strike off to correct elevations.

where required, and as indicated on Contract

mmendations for screeding, re-straightening, and ces. Do not wet concrete surfaces.

with power-driven floats or by hand floating if area is floats. Re-straighten, cut down high spots, and fill low ightening until surface is left with a uniform, smooth, sh only to surfaces indicated.

exterior concrete platforms, steps, ramps, and

ghtly roughen the trafficked surface with fiber-bristle route. Match finish(es) in approved mock-up for

ISTALLATION

nings left in concrete structures after work of other icated. Mix, place, and cure concrete, as specified, ovide other miscellaneous concrete filling indicated or

rior curbs by stripping forms while concrete is still to a hard, dense finish with corners, intersections, details.

height above finish and of concrete bases with Contract Drawings.

bases and foundations shall be 4,500 PSI at 28 days ural plans and details.

d secure all anchorage devices. Use setting tructions, and directions furnished with items to to elevations required for proper attachment to

te from premature drying and excessive cold or hot r hot-weather protection during curing. Cure formed

uring slabs, sidewalks, driveway approaches, immediately after finishing concrete.

oncrete: remove dirt, debris, saw cuttings, curing ntact faces of joints clean and dry.

to manufacturer's written instructions and applicable

efective areas when directed by BCA Inspector. nnot be repaired and patched to ENGINEER's

-formed surfaces, such as floors and slabs, for finish I for each surface. Correct low and high areas. Test of slope and smoothness; use a sloped template.

- 1. Repair finished surfaces containing defects. Surface defects include spalls, pop-outs, honeycombs, rock pockets, crazing and cracks in excess of 0.01 inch wide or that penetrate to reinforcement or completely through unreinforced sections regardless of width, and other objectionable conditions.
- 2. Repair defective areas, except random cracks and single holes 1 inch or less in diameter, by cutting out to the nearest control joints and replacing with fresh concrete. Remove defective areas with clean, square cuts and expose steel reinforcement with at least a 3/4-inch clearance all around. Dampen concrete surfaces in contact with patching concrete and apply bonding agent. Mix patching concrete of same materials and mixture as original concrete, except without coarse aggregate. Place, compact, and finish to blend with adjacent finished concrete. Cure in same manner as adjacent concrete.
- 3. Repair random cracks and single holes 1-inch or less in diameter with patching mortar. Groove top of cracks and cut out holes to sound concrete and clean off dust, dirt, and loose particles. Dampen cleaned concrete surfaces and apply bonding agent. Place patching mortar before bonding agent has dried. Compact patching mortar and finish to match adjacent concrete. Keep patched area continuously moist for at least 72 hours.

3.9 FIELD QUALITY CONTROL

- A. Special inspections: engage a LADBS Deputy Special Inspector and qualified testing to perform field tests and inspections and prepare test reports when required by Codes or Contract Drawings.
- B. Required inspections. BCA Inspector shall inspect the following prior to concrete placement:
- 1. Steel reinforcement placement.
- 2. Verification of use of required design mixture. 3. Concrete placement, including conveying and depositing.
- C. Samples: BCA Inspector will select and take samples for testing during the course of the work as considered necessary. Cost of testing will be paid for by the CITY.
- D. Rejected materials: CONTRACTOR shall remove off the site all concrete below specified strength.
- E. Cost of removal and retesting: CONTRACTOR shall pay for full cost of removal of rejected concrete and its replacement with concrete if specified strength and retesting.

7. TURF GRID SYSTEM



1.1 SECTION INCLUDES

A. Porous turf pavement system and all related components.

1.2 RELATED SECTIONS

A. EARTHWORK

B. TURF - For turf preparation/installation without turf grid, refer to TURF section.

1.3 **REFERENCES**

- A. ASTM D 638-10 Standard Test Method for Tensile Properties of Plastics
- B. ASTM C 33 Standard Specification for Concrete Aggregates
- C. AASHTO M6 Standard Specification for Fine Aggregate for Hydraulic Cement Concrete

1.4 SYSTEM DESCRIPTION

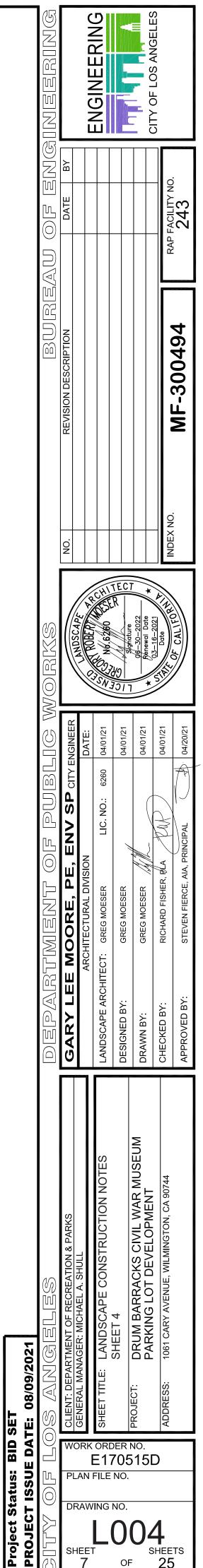
- A. A porous pavement system provides vehicular and pedestrian load support for grass areas, while protecting grass roots from harmful effects of traffic.
- B. Major Components of the Complete System:
- 1. Grasspave2 units, assembled in rolls.
- 2. Engineered sand and gravel base course.
- 3. Hydrogrow soil amendment and fertilizer, supplied with Grasspave2.
- 4. Sand fill or USGA greens mix.
- 5. Selected grass from sod.
- C. The Grasspave2 grass paving units, sand, and base course work together to support imposed loading.
- D. The Grasspave2 grass paving units, Hydrogrow, and sand fill contribute to vegetation support.
- E. Invisimarker parking delineators by Invisible Structures.

1.5 SUBMITTALS

- A. Samples: Submit manufacturer's sample of Grasspave2 10" x 10" section of Grasspave2 material.
- B. Installation Instructions: Manufacturer's printed installation instructions. Include methods for maintaining installed products.
- C. Certificates:
- 1. Manufacturer signed certificate stating the product is made in the USA.
- 2. Submit Material Certificates for base course and sand (or USGA mix) fill materials
- 3. Product certificates signed by the manufacturer certifying material compliance of polyethylene used to make Grasspave2 units.
- 4. ISO Certificate certifying manufacturer's quality management system is currently registered to ISO 9001:2008 quality standards.



		13	14		15		16
16	E. F.	Substitutions: as noted must provide for an equ of successful and verifie documented specificati will be considered as an all areas of this specific they represent as equiv samples, certifications, equivalency. Manufacturer's Materia compliance with all app request. Request for cert the date of order placer Manufacturer Quality C management system for quality standards. Any a their porous pavement certification will be requ accordance with ISO.	in Section 1.4., Gras livalvent alternate sys able installations (10 ons for each system of equivalent to the Gr ation without exception valent material must so and documentation of licable testing procedur licable testing procedur ertification shall be su ment. ertification: ISO Certi or its Grasspave2 system alternate materials su system manufacturing ired specifically stating	stem with a pl minumum) in component w rasspave2 un on. Manufact ubmit records leemed neces to manufactur lures and relat bmitted by the fication certify tem is current bmitted shall g process is p	roven, docur Los Angeles ithin the insta it specified h curers seekin s, data, indep ssary by the ers shall pro- ated specifica e purchasing ving manufac tly registered provide a ce part of an ISC	nented history s County and allation. No mater erein unless it me g to supply what bendent test result Specifier to prove vide certification o ations upon writter agency no later the cturer's quality to ISO 9001:2008 ertification that D program and a	ets s, f n nan
1.6	DE	LIVERY, STORAGE, A	ND HANDLING				
	Α.	Store products in manu	facturer's unopened	packaging un	til ready for i	nstallation.	
		Protect Grasspave2 un tarp, to protect from sur Store Hydrogrow in a d	nlight, when time for o				er
	D.	Handling: Protect mate	rials during handling	and installatio	on to prevent	damage.	
1.7	PF	OJECT CONDITIONS					
				:4			
		Maintain environmental results. Do not install p absolute limits. Do not begin installation	roducts under enviro	nmental conc	litions outsid	e manufacturer's	um
	ى.	porous pavement areas				U	
	C	Install turf when ambier				•	
			·		. .	C ,	
	D.	Protect partially comple work is in progress.	eted paving against da	amage from c	other constru	ction traffic when	
	E.	Adequately water sod o system.	or grass seed to assu	re germinatio	n of seed an	d growth of root	
	F.	Grass coverage on the	sand-filled Grasspav	e2 rings mus	t be complete	ed within one wee	k:
		See Part 3 Execution.					
	G.	DO NOT DRIVE, PARK until grass root system areas).					ded
PAR	ſ 2	PRODUCTS					(
2.1	MA	ANUFACTURERS					
	A.	Grasspave2 by Invisible is located at: 1600 Jack 1510; Tel: 303-233-838 invisiblestructures.com	son St. Suite 310 ; G 3; Email: request info	iolden, CO 80)401; Toll Fre	e Tel: 800-233-	w.
2.2	GR	ASSPAVE2 (OR APPRO	OVED EQUAL)				
-		Composition:	· -,				
	А.	-					
		1. Manufactured in the	USA.				
		2. High density polyeth	ylene (HDPE): 100	percent recyc	led materials	6.	
		3. Color: black					
		4. Color Uniformity: U	niform color throughc	out all units ro	lls.		
		5. Carbon Black for ult	raviolet light stabiliza	tion.			
		6. Hydrogrow soil ame	ndment and fertilizer	provided hv	manufacture	r with Grassnave?	
		purchase.					
	В	Performance Properties	5:				
	<u> </u>				nof 100 000	kDa) where fill y	with
		1. Maximum Loading (sand.	σαμανιπιγ. 13,940 pSI	(2.23 MINON	hai' ina'ang		/viti1
		2. Wheelchair Access	testing for ADA Com	liance: Passi		1951-08	
					0		
		3. Wheelchair Access testing.	testing for ADA Comp	pliance: Passi	ng Rotationa	a Penetrometer	
		C C	ll onort t 1' 100	flin f		dificat	
		 Tensile strength, pu System Permeability per hour. 					r
		6. Effective Impervious	sness (E.I.): 10%.				
2.3		STEM MATERIALS					
	A.	Base Course: Sandy g construction (recycled r acceptable).	naterials such as cru	shed concrete	e or crushed		
		1. Conforming to the fo	pliowing sieve analysi	s and require	ements:		<u> </u>
			sing sieve size 1 inch				08/09/2021
			bassing sieve size 3/4		ı).		;/6(
			assing sieve size 3/8 assing sieve size #4.	າມເມ (ອ mm).			8/0
			assing sieve size #4.				
		f. 25-35 percent p	assing sieve size #40				SET TE:
		g. 3-8 percent pass	sing sieve size #200.				
		2. Provide a base cour	se material nearly pe	eutral in nH (re	ange from 6	5 to 7.2) to provide	_ ─ Ш
			development for turf.		<u> </u>	, provide	ISN S
							Status: T ISSU



	 Material may be either "pit run" or "crusher run." Avoid using clay based crusher run/pit run. Crusher run material will generally require coarse, well-draining sand conforming to AASHTO M6 or ASTM C 33 to be added to mixture (20 to 30 	3.7 Protection
	4. Alternative materials such as crushed shell, limerock, or crushed lava may be	A. Sodded areas must be protected from Maintenance period outlined in the TU
	used for base course use, provided they are mixed with sharp sand (20 to 30 percent) to ensure long-term porosity, and are brought to proper compaction. Without added sand, crushed shell and limerock set up like concrete and become	3.8 FIELD QUALITY CONTROLA. Remove and replace segments of Gra
	impervious.5. Alternative size and/or composition of base course materials will have to be submitted to Invisible Structures, Inc. (Manufacturer) for approval.	 B. Perform cleaning during the installational excess materials, debris, and equip
	B. Sand Fill for Rings and Spaces Between Rings: Clean sharp sand (washed concrete sand). Choose one of the following:	materials and surfaces resulting from
	 Coarse, well-draining sand, such as washed concrete sand conforming to AASHTO M6 or ASTM C-33. 	3.9 MAINTENANCE AND ESTABLISHMENT A. The maintenance and establishment r
	 United States Golf Association (USGA) greens, section - sand mix "The Root Zone Mixture." 	maintenance and establishment requir not aerate.
	C. Turf Conditioner:	
	 Hydrogrow a proprietary soil amendment manufactured by Invisible Structures, Inc. and provided with Grasspave2. 	8. CHAIN LINK F
	D. Grass:	PART ONE - GENERAL
	 Sod: as noted per plan. Use 13 mm (0.5") thick (soil thickness) rolled sod from a reputable local grower. Species should be wear resistant, free from disease, and in excellent condition. Sod shall be grown in sand or sandy loam soils only. 	All permanent chain link fencing, gates ar
	Sod grown in soils of clay, silt, or high organic materials such as peat, will not be accepted.	Drawings, or as specified herein and as n
PART	3 EXECUTION	1.2 QUALITY ASSURANCE Quality of All Materials and Accessories: A
3.1	PREPARATION	the acceptance by the ENGINEER. All ma requirements of the SSPWC and specifie
	A. Subgrade Preparation:	1.3 SUBMITTALS
	1. Prepare subgrade as specified in geotechnical report. Verify subgrade in accordance with porous paving system manufacturer's instructions.	A. CONTRACTOR shall provide Shop dr and gate, elevation details, fabrication interface of work of this Section with w
	Proper subgrade preparation will enable the Grasspave2 rolls/units to connect properly and remain level and stationary after installation.	B. Manufacturer's certification of complia
	 Excavate area allowing for unit thickness, the engineered base depth (where required), and 0.5 inch (1.25 cm) for depth of sod root zone or topsoil germination area (when applicable). 	1.4 PRODUCT HANDLING
	4. Provide adequate drainage from excavated area if area has potential to collect water, when working with in-place soils that have poor permeability.	 A. <u>Protection</u>: Protect fencing fabric, positive installation. Properly package and idea (hardware, etc.) for protection against
	 Ensure in-place soil is relatively dry and free from standing water. Uniformly grade base. 	 B. <u>Delivery</u>: Deliver all items to be built in delay construction and installation operation
	7. Level and clear base of large objects, such as rocks and pieces of wood.B. Base Preparation:	C. <u>Storage</u> : Store all fencing and gate as MANAGER until time for installation.
	1. Install Base as specified in the geotechnical report. Verify engineered base (if required) is installed in accordance with porous paving system manufacturer's	PART TWO - PRODUCTS AND FABRICATION
	 instructions. Coordinate base installation and preparation with irrigation lines specified in INDICATION Section 	2.1 MATERIALS
	 IRRIGATION Section. Place engineered base in lifts not to exceed 6 inches (150 mm), compacting each lift separately to as noted per the geotech report. 	A. <u>General</u> : All materials for fencing, post galvanized.
	 Leave 1 inch (2.5 cm) of depth below final grade for porous paver unit and sand fill and 0.5 inch (1.25 cm) for depth of sod root zone or topsoil germination area (when applicable) 	 B. <u>Galvanizing</u>: Comply with requirement as modified herein.
3.2	(when applicable). MANUFACTURER'S FIELD REPRESENTATIVE	C. <u>Fabric</u> : As per ASTM A392 - Specifica and A817 - Specification For Metallic
	A. Contractor shall coordinate a phone/teleconference call with manufacturer's representative prior to installation. The time shall be indicated in the Contract Documents and included in the base bid price.	mesh chain link of 9-gage steel wire (r oz/ft² zinc in single fabric width for ent and barbed.
3.3	HYDROGROW INSTALLATION	D. Fabric Tie: 11 gage galvanized steel u
	A. Spread all Hydrogrow mix provided (spreader rate = 4.53 kg per 100 m2 (10 lbs per 1076 ft2) evenly over the surface of the base course with a hand-held, or wheeled, rotary spreader.	E. <u>Posts</u> : Class 1 Schedule 40 Standard Specification for Pipe, Steel, Hot-Dipp Structures. Malleable iron moisture-p
	B. The Hydrogrow mix should be placed immediately before installing the Grasspave2. GRASSPAVE2 INSTALLATION	F. <u>Tension Wire</u> : for fabric of 9-gage and wire.
	A. Install the Grasspave2 units by placing units with rings facing up, and using snap-fit connectors, pegs and holes, provided to maintain proper spacing and interlock the	G. <u>Galvanizing Repair Material</u> : Galvaniz or during installation shall be re-coate
	units. Units can be easily shaped with pruning shears or knife. Units placed on curves, slopes, and high traffic areas shall be anchored to the base course, using 40d common nails with fender washer, as required to secure units in place. Tops of	paint per Section 210-3.5 of the SSPV H. <u>Galvanized Steel Brace Bands, Tensio</u>
	rings shall be between 6 mm to 13 mm (0.25" to 0.5") below the surface of adjacent hard-surface pavements.B. Install sand in rings as they are laid in sections by "back-dumping" directly from	shall be galvanized, minimum of 3/16 3/16 inch x 3/4-inch wide and tension with galvanized turnbuckles or other s
	a dump truck, or from buckets mounted on tractors, which then exit the site by driving over rings already filled with sand. The sand is then spread laterally from the pile using flat bottomed shovels and/or wide "asphalt rakes" to fill the rings. A	
	stiff bristled broom should be used for final "finishing" of the sand. The sand must be "compacted" by using water from hose, irrigation heads, or rainfall; for sod installation, sand should be installed so that it is slightly over the top of the rings, with	9. PAI
	the finish grade no less than the top of rings and no more than 6 mm (0.25") above top of rings.	PART ONE - GENERAL
3.5	INSTALLATION OF GRASS	1.1 SUMMARY
	A. Grass coverage on the sand-filled rings must be completed within one week. Sand must be re-installed and leveled and Grasspave2 checked for integrity if rings become exposed due to wind, rain, traffic, or other factors. Install thin sod directly over sand filled rings, filled no higher than the top of the rings. Sod shall be laid with closely fitted joints, and the ends of the strips shall be staggered forming a running bond pattern. Turf grid areas must be fertilized, watered and maintained as noted in	A. Furnish all tools, equipment, materials work indicated or noted on the Contra

6 7 8 9 10							
	6	7	8	9	10	11	12

om any vehicular traffic for the duration of the TURF section.

Grasspave2 units where three or more adjacent rings are specified, so no evidence of replacement is apparent. tion of work and upon completion of the work. Remove uipment from site. Repair any damage to adjacent m installation of this work.

requirements for turf grid grass shall follow the same uirements for turf as outlined in the TURF section. Do

FENCING AND GATES

and related hardware as indicated on the Contract needed for complete and proper installation.

: As recommended by the manufacturer, subject to materials and accessories shall conform with the fied herein.

drawings in sufficient detail to show layout of fence ion, assembly, hardware, installation, anchorages and work of adjacent trades.

liance for chain link fabric posts and rails.

osts and gate assemblies before, during and after dentify and note location of unassembled items nst damage.

t into concrete or masonry work in time, so as not to perations.

assemblies where approved by the PROJECT

osts and gates and fasteners to be new and hot-dipped

ents of Section 210-3 - Galvanizing of SSPWC, except

cation For Zinc Coated Steel Chain Link Fence Fabric lic - Coat Steel Wire for Chain Link Fence Fabric, 2-inch (minimum 75,000 psi tensile strength) galvanized 1.2 entire height and with top and bottom selvedges twisted

used to fasten the fabric to posts, rails and gate frame.

ard weight pipe conforming to ASTM F-1083 pped Zinc - Coated (Galvanized) Welded, For Fence e-proof cap.

nd heavier use 6-gage galvanized coiled spring steel

nized surfaces which have been damaged in transport ated using the metalizing process or zinc oxide, zinc dust

sion Bands or Bars and Tension Rods: Brace bands 16 inch x 3/4-inch wide; tension bands or bars shall be on rods shall be 3/8 inch diameter galvanized steel rod suitable tightener or tightening devices.

PAINTING

als, supplies and perform all labor required to paint the tract Drawings and hereinafter specified.



B. "Paint" as herein specified, means coating systems, materials including primers, emulsions, epoxies, enamels, sealers, fillers and other liquid materials which, when spread in a thin layer, solidifies into a film that obscures the surface on which it is applied. These materials can be used for surface preparation and as prime, intermediate or finish coats. The painting application shall also include all necessary operations including proper surface cleaning and preparation, protection of non-painted surfaces, and proper clean-up during and after painting. Other painting work may be included or specified in other parts of the Specifications or Contract Documents.

1.2 QUALITY ASSURANCE

- A. Paint Applicator: Use adequate number of skilled employees who are thoroughly trained and experienced in the necessary crafts and completely familiar with the specified work, all applicable codes, regulation and safety requirements and methods needed for proper execution of work of this Section.
- B. References, Standards, Codes and Regulations:
- 1. Work, equipment and materials must conform to following, but not necessarily limited to, References, Standards, Federal, State and local laws and regulations including the Los Angeles City Building Code and applicable Amendments. Current manufacturer's materials safety data sheets for all materials must be on the jobsite at all times.
- 2. Where those requirements conflict with this Section, comply with the more stringent provision.
- a. All material formulation and their application shall comply with the current applicable regulations of the State of California Department of Public Health, California Air Resources Board (CARB), Southern Calif Air Quality Management District (SCAQMD), and the Environmental Protection Agency (EPA) for the airborne or solvent emissions and industrial waste disposal. All paint containers to be properly labeled. Provide the City Engineer with "Certificate of Compliance" if requested.
- b. Comply with requirements of OSHA, Safety and Health Standards for Construction (29CFR1926) requirements specified in this Section and elsewhere in the Project Manual. Protect all workers of other trades, occupants, or passersby from any airborne or solvent emission.
- c. Regulatory changes may affect the formulation, availability, or use of specified coatings. Confirm availability of the specified paint materials and other coatings to be used or available under the emission averaging provision or other exemption rules prior to job going out to bid and before start of painting work.
- d. Los Angeles Department of Building and Safety (LADBS) Research Report.
- e. Standard Specifications for Public Works Construction (SSPWC).
- f. American Society of Testing and Materials (ASTM).

1.3 SUBMITTALS

- A. General: Comply with applicable provisions Section 1 of these Landscape Construction Notes. CONTRACTOR shall coordinate with other trades and obtain information required for the Submittal. City Engineer will return and will not review any submittal requiring coordination with other submittals until such other submittals or required information are received by the City Engineer.
- B. Product Data and Shop Drawings
- 1. Submit manufacturer's printed product data and material specifications needed to prove compliance with the specified requirements. CONTRACTOR must identify on a separate submittal of all material manufactured outside the State of California.
- 2. Submit materials list of all items proposed to be provided under this Section including all cleaning agents and materials for surface preparation; Paint Finish and Color Schedules including respective locations and thicknesses, application rates and amounts of required stock material. All items must be provided with catalog names and numbers of the paint types. Paint Finish Schedules shall also identify works to be factory-primed and to be re-primed in the field. Identify materials that are available under the emission averaging provisions or other exemption rules, and also materials to be applied in the manufacturing plant by using an air pollution control system to reduce the VOC emissions. Provide painting locations, which will receive waterproofing sealer treatment, anti-graffiti and other protective coatings.
- 3. Submit Manufacturer's recommended methods of surface testing (including the alkalinity test), surface preparation and cleaning for painting works to be provided under this Section and their prospective locations.
- 4. Submit list of equipment, operation procedures and pressures proposed to be used under this Section. Coordinate and submit all protection plans or safety controls against any airborne emission or exposure during the demolition, surface preparation and painting works.
- 5. Submit methods of testing of total film thickness.
- 6. Submit manufacturer and Coating Inspector prepared certifications of substrate materials as suitable to receive sealers or primers and paints.
- C. Samples:
- 1. Color Samples: Required for each type of paint material and color, four 8 1/2-inch x 11inch swatches, to be submitted to the City Engineer or the Consultant for approval not less than 30 days prior to start of painting.
- 2. Provide paint samples on actual surfaces or on mock-up panels at the job site; and by methods comparable with the work requirements representing true quality of the proposed work, to be prepared by the Contractor during work process, as requested by the City Engineer or the Consultant.
- 3. Revise and resubmit each sample as requested by the City Engineer or the Consultant until approval is achieved. Approved samples will become standards of color and finish for accepting or rejecting the work of this Section.
- 4. Actual painting or other finish coating shall not commence until samples and mock-ups are approved and are on file at the jobsite.

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1.4 PRODUCT HANDLING

- A. Delivery: Deliver materials to the jobsite in factory sealed and properly labeled containers bearing manufacturer's name, type of paint and instructions for mixing and/or reducing.
- B. Storage: Store paint materials in suitable dry, clean and well-ventilated locations. Precautions shall be taken for the prevention of fire. Do not store outdoors or deliver paint material to site more than 15 days before the painting work.
- C. Inspection: Required for approval before containers are opened. Non-approved materials shall be removed from the jobsite.
- D. Protection: Required of all paint materials from exposure to weather or from damage as caused by other construction operations. Protect all surfaces not to be painted. Mask-off where necessary and the over spray is prohibited.

1.5 JOB CONDITIONS

- A. Do not apply paint material when surface temperatures and the surrounding air temperatures are below 50 degrees F. Do not apply paint material on damp or wet surfaces, unless otherwise permitted by the manufacturer's printed instructions as approved by the City Engineer.
- B. Perform no painting when the relative humidity is above 85 percent or when the dew point is less than 5 degrees F variance between the air/surface temperature.
- C. Do not apply primer or sealer or paint material unless moisture contents are below the following limits. Any to be painted or stained wood items with moisture contents exceeding the limits indicated below at the time of delivery to the job site shall be rejected and immediately removed from the job site:
 - Wood: 12 percent
- Contractor shall measure moisture content of surfaces using a probe type electronic moisture meter approved by the City Engineer.
- D. Do not apply materials during fog, rain or mist or when inclement weather is expected within a period of 24 hours, or the dry time specified by the manufacturer following a rainfall.

1.6 EXTRA STOCK (MAINTENANCE MATERIALS)

A. Required:

- 1. Provide one full quart of sealed and properly labeled container of each paint color and type of paint used in the project for maintenance use.
- 2. The stock material shall have at least one-year shelf life at the time of the delivery.
- B. Delivery: Upon completion of work of this Section, deliver the required paint maintenance materials and store on the jobsite or at an offsite location at no additional cost to the City where directed by the City Engineer as a condition precedent to the City's acceptance of the work of this Section.

1.7 SAFETY REQUIREMENTS

- A. Comply with all safety and health requirements of the "Federal Labor Standards" and in applicable Section in the GENERAL CONDITIONS of Project Manual. It is the responsibility of the CONTRACTOR to establish appropriate safety and health practices.
- B. All persons engaged in sanding, scraping or removing old paint; spraying operations or handling flammable or toxic materials shall wear protective apparel including eye and face protection devices, air purifying halfmasks or mouth piece respirators with appropriate filter. Old sealers or paint coatings may contain lead, zinc or other contaminates. Paints, stains, wood preservative finishes and related materials may be considered as hazardous and shall be handled and disposed of in accordance with code requirements.

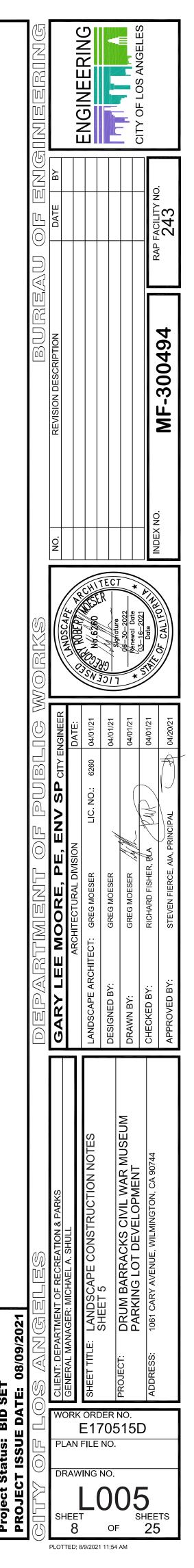
1.8 GUARANTEE

A. CONTRACTOR shall furnish the City with written guarantee, during the submittal process and at completion of the work, which guarantees for a period of 1 year from the date of acceptance of the project against any defect, peeling, chipping or crack and that CONTRACTOR will without additional cost to the City, promptly make any changes required as a result of defect or ordinary wear and tear.

PART TWO - PRODUCTS

2.1 MATERIALS

- A. General: All painting products shall be as specified or approved equal. Only the approved products shall be used in this project.
- 1. Paint pigments shall be fully ground, maintaining soft paste consistency, capable of being readily and uniformly dispersed to complete homogeneous mixture. Paints shall have good flowing and brushing properties and be capable of drying or curing free of streaks and sags. Provide paints with the colors specified on Contract Documents.
- 2. All paint products shall be in compliance with the Volatile Organic Compound (VOC) limits specified in the rules and regulations of the local governing agencies including the South Coast Air Quality Management District (SCAQMD).
- 3. All field applied paint products shall meet or not to exceed the applicable VOC Limits of SCAQMD's Rule 1113 – ARCHITECTURAL COATINGS of the Regulation No. XI – SOURCE SPECIFIC STANDARDS, latest edition.
- B. Manufacturers:
- 1. Paint systems, catalog names, and product numbers listed below are based on products of Dunn-Edwards Corporation. This shall be considered the standard of quality against which the Project Manager will judge equivalency. CONTRACTOR's material submittal for proposed alternates must include complete material specifications from manufacturer. Paint systems described below are for specific surfaces as indicated. In addition to the information provided herein, paint materials shall also be governed by the requirements set forth in section 210-1 of the SSPWC.



	w	ood, Smooth (Flat F	inish)	
Painting Sequence	Finishing Schedule	Recoat And Drying Time	Coverage At Required Wet Film Thick- ness	Required Wet Film/Dry Film Thickness
1st coat: 100% Acrylic	E-Z Prime W(708)	Dry to touch: 15 min.; Recoat: 2 – 3 hrs.	400 square feet per gallon	3.9 wet mils; 1.5 dry mils
2nd coat: 100% Acrylic	Evershield (W 701)	Dry to touch: 30 min.; Recoat: 4 hrs.	375 square feet per gallon	3.5 wet mils; 2.0 dry mils
3rd coat: 100% Acrylic	Evershield (W 701)	Dry to touch: 30 min.; Recoat: 4 hrs.	375 square feet per gallon	3.5 wet mils; 2. dry mils
	We	ood, Smooth (Semi-	Gloss)	
Painting Sequence	Finishing Schedule	Recoat And Drying Time	Coverage At Required Wet Film Thick- ness	Required Wet Film/Dry Film Thickness
1st coat: 100% Acrylic	E-Z Prime W(708)	Dry to touch: 15 min.; Recoat: 2 – 3 hrs.	400 square feet per gallon	3.9 wet mils; 1.5 dry mils
2nd coat: 100% Acrylic	Permasheen (W 901)	Dry to touch: 30 min.; Recoat: 4 hrs.	375 square feet per gallon	3.5 wet mils; 2.0 dry mils
3rd coat: 100% Acrylic	Permasheen (W 901)	Dry to touch: 30 min.; Recoat: 4 hrs.	375 square feet per gallon	3.5 wet mils; 2.0 dry mils
Non	ferrous metals	(Galvanized steel, A	Aluminum), Serr	ni-Gloss
Painting Sequence	Finishing Schedule	Recoat And Drying Time	Coverage At Required Wet Film Thick- ness	Required Wet Film/Dry Film Thickness
Pre-coat: galva- nized steel only. Acid etch*	Galva-etch (GE 123)	n/a	n/a	n/a
1st coat: Alkyd primer	Galv-Alum (QD 43-7)	Dry to touch: 30 min.; recoat: 2 hrs. † Max. 48 hrs.	350 square feet per gallon	4.6 wet mils; 2.0 dry mils
2nd coat: Semi- gloss enamel acrylic latex exte- rior enamel	Permasheen (W 901)	Dry to touch: 30 min.; Recoat: 4 hrs.	375 square feet per gallon	4.2 wet mils; 1.4 dry mils
3rd coat: Semi- gloss enamel acrylic latex exte- rior enamel	Permasheen (W 901)	Dry to touch: 30 min.	375 square feet per gallon	4.2 wet mils; 1.4 dry mils

† Recoat time for Galv-Alum is 2 hours if material is sprayed, 16 hours if brushed or rolled. Second coat must be applied within 48 hours

- C. Miscellaneous Materials: Provide cleaning agents, neutralizer and other materials as may be required for the cleaning and preparation of surfaces to be painted as recommended by the manufacturer and as approved by the City Engineer or the Consultant.
- 1. Thinner: As recommended by the Paint Manufacturer for tool cleaning. Do not use thinner to thin, mix or prepare paint materials.
- 2. Paste Wood Filler: Fed. Spec. TT-F-336
- 3. Cleaner, Degreaser, Neutralizer: Provide as part of Contract any types labeled as suitable and that will not cause any harm or damage to the substrate or texture or any adhesion problem.
- 4. Graffiti Remover: Use hot and high-pressure water or power wash with approved graffiti remover where required.

2.2 APPLICATION EQUIPMENT

- A. For application of the approved paint, use only such equipment as is recommended for application of the particular paint by the manufacturer and as approved by the City Engineer or the Consultant.
- B. Prior to use of application equipment, verify that the proposed equipment is actually compatible with the material to be applied, and that integrity of the finish will not be jeopardized by use of the proposed equipment.
- C. Spraying equipment for paint finish shall be airless spraying machine with water trap. Inspect spray tip each day for wear and replace worn tip.
- D. Brushes shall have a good quality natural or synthetic bristle. Rollers shall have a good quality natural or synthetic cover. Brush and rollers shall conform with approved manufacturer's recommendation and Section 310-1.2 - APPLICATION of SSPWC.

PART THREE - EXECUTION

3.1 GENERAL

A. Refer also to section 310-1of the SSPWC.

3.2 STRIPPING OF PAINTS AND SEALERS FROM EXISTING SURFACES

- A. CONTRACTOR shall mask off all adjacent surfaces not to be painted and shall repair or replace damaged area with new work subject to the approval of the City Engineer at no added cost to the City.
- B. For area specified to be repainted, remove all loose and peeling paints by approved method. Use an approved chemical type paint stripper. Sandblasting, rotary or disc sanders, torches and wire brushes are not permitted.
- C. All paint stripping shall be done, handled and disposed of by certified Contractor in compliance with OSHA and applicable rules and regulations.

3.2 PROTECTION

- A. CONTRACTOR shall mask off all adjacent surfaces not to be painted and shall repair or replace damaged area with new work subject to the approval of the City Engineer at no added cost to the City.
- B. Furnish sufficient drop cloths, shields and protective equipment to prevent spray or splatter from fouling surfaces not be painted.
- C. "WET PAINT" signs, barricades, and such other devices as are required to protect newly finished surfaces shall be provided. CONTRACTOR shall be responsible for removal of signs protective materials, and temporary protective wrappings provided by others for protection of their work after completion of painting operations.

3.3 MATERIALS PREPARATION

A. General:

- 1. Mix and prepare paint materials in strict accordance with procedures submitted and approved by the City Engineer. Mix paint materials in whole unit sizes and do not attempt to mix a partial unit of paint material.

B. Stirring:

- 1. Stir materials with mechanical mixers or power agitator before application, producing a mixture of uniform density.
- 2. Do not stir into the material any film which may form on the surface; remove the film and, if necessary, strain the material before using.

3.4 SURFACE PREPARATION OF PAINT AND SEALER

A. General:

- 1. Perform surface preparation and cleaning in strict accordance with the procedures approved by the City Engineer in accordance with 310-2. Any use of abrasive blasting, air blasting, water blasting, detergent washing, and scrubbing, acid etch or abrasion with power cleaning tools shall be submitted for approval of the City Engineer in advance. Remove all splashes, ridges, high spots and clean of all dirt, dust, debris, mill glaze, grease, rust, soot, oil, stain, efflorescence and other foreign materials in accordance with the requirements specified herein and elsewhere.
- 2. Patch nail holes, voids and cracks or other defects permissible under this Contract with appropriate repair compound. All repairs shall be sanded to feather edges and textures to match adjacent area. All surface smoothness and final textures must be obtained and all repaired areas shall be primed with appropriate primer before painting.
- 3. All defected areas of the previously painted surfaces that are specified to remain shall be repaired, resealed and repainted. All other painted surfaces shall be abraded and de-glossed to provide for adhesion of new coatings.
- 4. Clean and rinse each surface to be painted prior to applying surface treatment or paint as specified herein. All curing agents, bond breaker or form release agents must be removed, and the surface cleaned before any paint system is applied.
- 5. Remove oil, grease or stabilizers from all metal surfaces with clean cloths and approved cleaning solvent or detergent of low toxicity and flash point in excess of 200 degrees F, prior to start of mechanical cleaning and surface treatment.
- 6. Provide surface treatments where required. Spot prime repaired surfaces with the primers as specified herein.
- 7. All surfaces must be completely dry, dust free and protected from corrosion and oxidation before priming and painting. Do not exceed the lapse time recommended between the surface preparation and painting work.
- 8. Dissimilar Materials: Apply protective coatings as specified herein. The protective coatings shall be not be visible to the public view.
- 9. Schedule the cleaning and painting so that dust and other contaminants from the cleaning process will not fall onto wet newly painted surfaces.
- improper surface conditions.
- B. Preparation of Wood Surfaces:
- 1. Clean all new, weathered or existing wood surfaces until free from dirt, oil, rust, glaze, bleed, mildew, splinters and other foreign substance. Care must be taken to select the proper cleaning method and cleaning tip so the wood will not be damaged.
- 2. All non-galvanized steel nails shall be countersink and filled with a patching compound. Smooth finish by using the proper sandpaper. Where so required, use varying degrees of coarseness of sandpaper to produce a uniformly smooth and unmarred wood surface.
- 3. Unless specifically approved by the City Engineer or the Consultant, do not proceed with painting of wood surfaces until the moisture content of the wood is less than the moisture content specified in [Article 1.5] of this Section as measured by a moisture meter approved by the City Engineer.
- 4. Fill open-grain wood with paste wood filler before application of varnish, lacquer or paint.

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- 2. When materials are not in use, store in tightly covered containers as supplied.

10. CONTRACTOR shall be responsible for promptly repairing unsatisfactory work due to

5. Fill pits, knots and cracks and other imperfections of wood surfaces, that are permissible under this Contract with spackle or other suitable filler. Apply filler with putty knife and sand smooth when set.

3.5 APPLICATION AND WORKMANSHIP OF PAINT SYSTEM

- A. General:
- 1. Unless specified otherwise, all application shall be executed by first class trade painters in accordance with Section 310 – PAINTING of the SSPWC, and the provisions set forth in these specifications, and in accordance with the approved methods by using application equipment and techniques best suited for the substrate and type of material being applied.
- 2. Thoroughly back paint all surfaces of items that will be concealed or inaccessible after installation.
- 3. Use approved clean-up solvents for tool or equipment cleaning at prescribed intervals during the application process and at the end of the workday.
- 4. Paints shall not be applied when temperature is below 50 F or when environmental conditions are unfavorable to application or drying of paint materials.
- B. Workmanship:
- 1. Each coat shall be even, with uniform color and texture.
- 2. Finish painted surfaces shall be free from sags, brush marks, dirt, cloudy or mottled surfaces, scratches, cracks or other blemishes and thin coating.
- 3. Mixing of paint materials: Thoroughly stir, strain and keep at a uniform consistency during application in accordance with manufacturer's directions. Do not mix together materials of different manufacturers.
- C. Coats:
- 1. The number of coats and total film thickness specified herein are the minimum that shall be applied to produce the specified workmanship.
- 2. Apply additional coats when the undercoats or other conditions show through the finish coat, or if required to obtain complete and uniform coverage and approved results.
- 3. Each coat in full coverage shall be measured for the wet film thickness and obtain the required approvals of the BCA Inspector before each succeeding coat is applied.
- 4. Undercoats to be dry and hard before application of succeeding coat and to be tinted to approximate color of finish coat.
- 5. Suitably sand undercoats as necessary for proper finish.
- 6. Prime and succeeding coats for each finish shall be products of the same manufacturer unless otherwise specified, indicated or authorized by the City Engineer.
- 7. The total film thickness or application rate or coverage for each paint system shall be submitted for review during the submittal process. The applied total film thickness of each coat shall not be less that the minimum film thickness specified in the materials section of this specification or as recommended by the manufacturer, whichever is greater. If application rate or coverage is specified, each application shall not be greater than the rate or coverage specified herein or recommended by the manufacturer, whichever is lesser.
- 8. Excessively thick coats of paint will not be permitted.
- 9. All repaired areas of painted surfaces shall be sealed and painted with total film thickness to match adjacent area to ensure total surface smoothness. Any additional or new finish coat shall be in accordance with the total film thickness or application rate as specified hereinbefore.
- D. Colors:
- 1. As selected by the City Engineer or as noted on the Contract Drawings.
- 2. Each coat shall provide a proper ground coat for the succeeding coat and not differ appreciably in tint from the preceding coat.
- 3. Finish coats shall match approved samples.
- E. Touch-Up Painting: Shall be required as directed by the City Engineer for all areas or items scratched, marred or defaced in any manner by CONTRACTOR's operations, at no added cost to the City.
- 1. If shop or factory-applied finish on any equipment furnished by the CONTRACTOR is damaged in shipment or during construction operations, equipment shall be refinished by the CONTRACTOR to the satisfaction of the City Engineer or the Consultant, at no added cost to the City.
- 2. One can of touch-up paint shall be provided for each different color of factory-applied finish, which is to be the final finish surface of the product.
- 3.7 PROTECTION AND CLEAN-UP
 - A. Following completion of painting in each space or area, reinstall the removed items or new works with care by using employees skilled in the necessary trades. Protect all surfaces from dust, damages or human contact prior to final acceptance. For surfaces requiring other succeeding coating or treatment, protect surfaces from dust, dirt or other contamination.
 - B. At End of Each Day's Work: Return materials and equipment to the storage area. Remove paint or oil-saturated cloths from the job-site daily or hang out flat and singly to dry.
 - C. Final Clean-Up: Repair all damage to adjacent surfaces or facilities resulting from the work to the satisfaction of the City Engineer at no additional cost to the City.

10. IRRIGATION SYSTEMS

PART ONE - GENERAL

1.1 DESCRIPTION

- A. Work Included
- 1. All labor, materials, equipment, appliances, fixtures and tests necessary for complete new operating irrigation system as indicated on the Contract Drawings.

1.2 SUBMITTALS

- A. The CONTRACTOR shall make all required materials submittals in accordance with the Section 1 of these Landscape Construction Notes. For all materials not approved upon the first submittal, CONTRACTOR is responsible to promptly re-submit for approval, necessary data concerning a substitution for a disapproved item or piece of equipment.
- B. The CONTRACTOR shall make substitution requests in accordance with the Section 1 of these Landscape Construction Notes.
- C. <u>Submit</u> copies of the following:
- 1. Complete list of irrigation materials and miscellaneous hardware complete with descriptions and/or photographs and manufacturer's literature. Clearly mark or underline proposed items.

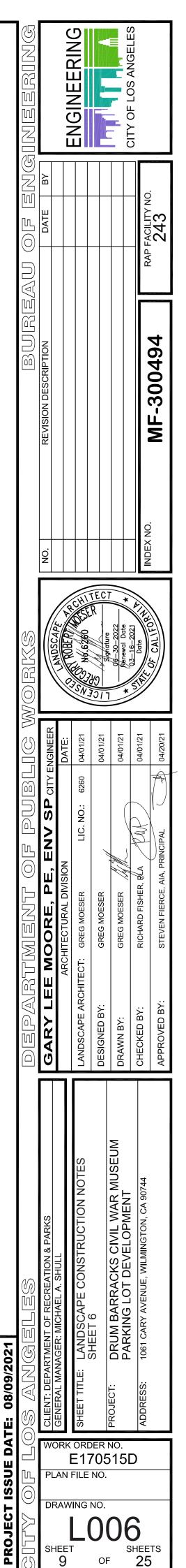
1.3 QUALITY ASSURANCE

A. Codes and Regulations: CONTRACTOR shall obtain and pay for all required permits. Deliver all permits and submit certifications of compliance to the BCA Inspector and the PROJECT MANAGER.

1.4 GENERAL REQUIREMENTS

- A. <u>Approvals by the Engineer</u>: Before commencement of irrigation installation, CONTRACTOR shall obtain:
- 1. All approvals on required submittals hereinafter specified.
- 2. Approval of all re-submittals requested by the ENGINEER.
- 3. CONTRACTOR shall make a detailed staked layout on the work site of the proposed trenching locations for all mainline, control wire conduit, and valve manifolds for approval by ENGINEER prior to trenching.
- 4. CONTRACTOR shall make a detailed staked layout on the work site of the proposed head locations for approval by ENGINEER prior to lateral line trenching.
- B. <u>Required Inspections</u>: Notify the BCA Inspector at least 72 hours prior to time of required inspection.
- 1. IRRIGATION MAINLINE PRESSURE TEST: The pressure test shall take place under the direction of the BCA Inspector.
- 2. IRRIGATION COVERAGE TEST: After installation of heads and lateral lines etc., entire irrigation system shall be tested for coverage. CONTRACTOR shall notify the BCA Inspector, PROJECT MANAGER, ENGINEER and designated RAP regional maintenance staff three (3) days before the scheduled test.
- C. Existing Utilities and Plant Materials: Protect utilities and/or plant materials not designated for removal or modification in place against damage resulting from work of this Contract. Perform any removal and/or modifications only on approval or instruction from the ENGINEER or in accordance with applicable provisions noted or specified.
- 1. See sheet L100 for Tree Protection Requirements when trenching.
- D. Verification of Dimensions and Quantities: Verify site conditions, contract drawings, all dimensions and quantities prior to the bid. Furnish the quantities as necessary to do the specified work. Notify the Project Manager of any discrepancies between the Contract Drawings and the site conditions prior to beginning work. Do not work in areas where such discrepancies occur until further instruction by the ENGINEER.
- E. <u>Record Drawings</u>: Comply with provisions of Section 1 of these Landscape Construction Notes unless otherwise noted herein. CONTRACTOR shall accurately dimension the location and depths of all piping, valves, and control equipment as installed. Indicate with suitable colored ink on one set of prints of the Contract Drawings to produce a record of complete installations to be kept on the job and up to date at all times during construction. At the completion of the work and prior to Final Inspection, the CONTRACTOR shall copy his record "as installed" data, using red ink, onto a set of clean prints. The CONTRACTOR shall certify to the completeness and accuracy of the "as installed" information indicated on the prints with his signature and deliver the signed prints to the PROJECT MANAGER for review prior to the completion of the Plant Establishment Period.
- 1. Dimension from two permanent points of reference, building corners, sidewalk, or road intersections, the location of the following items:
 - Connection to existing water lines.
 - Connection to existing electrical power.
 - Gate valves. Routing of all pressure lines. Indicate dimensional location at
 - 100' intervals. Routing of control wiring.
 - Controller.
 - Other related equipment as included in Contract Drawings.
 - Sleeve locations.
- F. <u>Guarantee</u>: In accordance with provisions of the GENERAL CONDITIONS, CONTRACTOR shall guarantee the entire irrigation system against defects in materials and workmanship for a period of one year from the date of final acceptance of the Project.





	1. The entire irriga	ation system sha	all be warranted	d to be free frc	om defects in		E. Ir	igation Heads:					
	 materials and workmanship, and installed in accordance with the irrigation specifications and the SSPWC. The CONTRACTOR shall be required to rereplace any defects in material or workmanship which may develop within a calendar year from the date of acceptance, excepting ordinary wear and te unusual abuse or neglect. Further, the CONTRACTOR shall be required to any necessary repairs within 48 hours of notification at no cost to the CITY. CONTRACTOR or his agent fail to make such repairs within the stipulated the CITY shall make such repairs or have repairs made by a third party and the CONTRACTOR for all expenses that accrue from making such repairs. 2. The CITY reserves the right to make temporary repairs as necessary to keel irrigation system equipment in operating condition. The exercise of this right the CITY will not relieve the CONTRACTOR of his responsibilities under the 					epair or one (1) ear and make . If the time, d bill	1	Pop-up Gear corrosion and installed drain full or part-cir capable of bo Contract Drav to filter inlet w	Driven Roto UV-resistar check valve cle rotor hea oth full circle wings. The re vater, protec	<u>n Rotor Head</u> : The body of the rotor head shall be constructed of esistant, heavy-duty A.B.S. The rotor head body shall have a factory- k valve capable of checking up to 10 feet in elevation change. The or head shall be a single stream, water lubricated, gear drive type circle and/or part circle operation in the same unit as noted on The rotor head shall have a screen attached to the drive housing protect the drive from clogging and simplify its removal for cleaning system. The rotor head body shall have a 1" (26/34) female (NPT or The rotor head shall have a standard rubber cover which designates			
	irrigation syster	m equipment in c ot relieve the CO	operating condi	ition. The exer	rcise of this righ	nt by		each adjustm cover to the c	ent opening centerline of	from the top the nozzle of	. Pop-up height	t as measured fro t least 5 inches. T	om the top o
	3. CONTRACTOF may occur durii MANAGER, to	R shall repair any ng a one-year pe the ENGINEER' omplete restorati	eriod after final S satisfaction,	acceptance b without expen	by the PROJEC ⁻ nse to the CITY,	,	2	joint assembl of linear low-o diameter of 0 material. The	y for 1/2" inle density polye .490".The fit Swing Asse	et sprinklers. ethylene mat tings shall be mbly shall ha	The pipe shall erial with a wall e constructed of	hall be used as a be flexible black t thickness of 0.09 f UV-resistant, the g pressure rating oved equal.	tubing const 90"and an ir ermoplastic
1.5	DELIVERY, STORAGE		NG				3					shall be used as	
	A. <u>Delivery</u> : Deliver p with labels intact a	-	obsite in their m	anufacturer's	original contair	iers,		valves. The s	wing joint sh	all be molde	d from rigid PV	r 1" sprinklers or o C, Type 1, cell cla re rating of 315 ps	assification
	B. <u>Storage</u> : Store pip Engineer until such		•	e jobsite wher	e directed by th	ie City		term exposur shall be Sche	e of 1000 ps dule 80 per	i without leal ASTM D246	kage. All NPT th 4 and D2467. A	minutes at 790 p hreads, sockets, a Il components sh d in lengths of 12'	and spigots nall be factor
	C. <u>Handling</u> : Promptl and promptly repla cost to the City.	•	-			•		rotating joints EPDM rubber	shall be mo r O-rings for	odified stub A positive seal	CME threads. <i>A</i> ing and thread	All rotating joints s protection.	shall have tv
PART	TWO - PRODUCTS							elbow of a	a Rain Bird T	urf Swing Jo	int (TSJ). The T	PRS) shall consis FSJ-PRS shall alle set regulation pre	ow pressure
2.1	MATERIALS							regulation	occurs. Pre	ssure regula	tion shall be pro	ovided to rotors w ached to a flow tu	vith 3⁄4" and
	A. <u>General</u> : Provide I	recently manufa	actured material	s of the best (grade of each			-		-	-	C. All metal compo fabric reinforced	
	respective kind. B. <u>Pipe and Fittings</u> : ⁻	The type of pipe	e material and fi	ttinas desiane	ated on the Con	tract	F. <u>C</u>	ontrol Wire:					
	Drawings, or as he	ereinafter specifie	ied shall be:				1		ect burial 14			the remote contro copper wire. Wires	
		orming to ASTM	D1785 - SPEC	CIFICATION FO	OR POLY (VIN)	YL		CONTROL				CONTROLLER	
		VC) PLASTIC P sure rating to be						RED	1	1	TATIONS 1	STATIONS 21	STATION 31
	2. <u>All Pipes</u> : Shall	be homogeneo	ous throughout :	and free from	cracks, holes, f	oreign		YELLOW BLUE	2 3		2 3	22 23	32 33
	materials, bliste	ers, deleterious v	wrinkles, and de	ents.		-		GREEN ORANGE	4 5		4 5	24 25	34 35
		I Schedule 40 P including 2½ inc		-				TAN PURPLE	6		6 7	26 27	36 37
	lateral lines.							PINK	8	1	8	28 29	38 39
	 Class 200 PVC for continuously diameter. 	gasketed pipe v y pressurized pip		-				BROWN GRAY	10		0	30	40
	5. Schedule 80 P threaded joints	VC plastic pipe a are specified, or		•		n		CONTROLL	C	APE BUNDLI OLOR	Ξ		
		be permanently ize, schedule, ar anitation Founda	and type of pipe	, working pres				A B C	YI BI	ED ELLOW LUE			
	C. <u>Valves</u> :							E	W	REEN /HITE			
				.,					BI	LACK			
	1. <u>General</u> : Provid Drawings and v	vith the requirem	ments specified	herein. All va	alves shall be ca		G. C				de per manufac	cturer's requireme	ints and ins
	 <u>General</u>: Provid Drawings and v of continuous p <u>Gate Valves an</u> 	with the requirem performance at a <u>d Mainline Isolat</u>	ments specified a working press ation Valves: in	herein. All va ure of 200 psi sizes 2.5-incl	alves shall be ca i or less. h and smaller s	apable shall be	C	ontract Drawing	gs and detai	FIONS: provid Is in conduit	per below.	cturer's requireme	
	 <u>General</u>: Provid Drawings and v of continuous p <u>Gate Valves an</u> 	vith the requirem erformance at a	ments specified a working press ation Valves: in	herein. All va ure of 200 psi sizes 2.5-incl	alves shall be ca i or less. h and smaller s	apable shall be	C C ki	ontract Drawing ontrol wire con ts, or approved	gs and detai nections sha equal. The	ΓΙΟΝS: provid ls in conduit Ill be made w splice kit sha	per below. /ith 3-M brand c Il consist of a o	of DBY or DBR Di one-piece malleab	irect Burial S ble plastic bu
	 <u>General</u>: Provid Drawings and v of continuous p <u>Gate Valves an</u> bronze type, no equal. <u>Automatic Cont</u> 	with the requirem performance at a a <u>d Mainline Isolat</u> on-rising stem, so <u>trol Valves</u> : Elect	ments specified a working press ation Valves: in solid wedge gate	herein. All va sure of 200 psi sizes 2.5-incl e valve; Nibco d, cast brass o	alves shall be ca i or less. h and smaller s o T-113-LF or ap or bronze norma	apable shall be oproved ally	C C ki b	ontract Drawing ontrol wire con ts, or approved ody with interna lectrical Spring	gs and detai nections sha equal. The al locking fing Connector.	ΓΙΟΝS: provid Is in conduit Il be made w splice kit sha gers, filled wi Materials sha	per below. vith 3-M brand o Il consist of a o th re-enterable all be as follows	of DBY or DBR Di one-piece malleab gel sealant and a s:	irect Burial S ble plastic bu a Scotchlok
	 <u>General</u>: Provid Drawings and v of continuous p <u>Gate Valves an</u> bronze type, no equal. <u>Automatic Cont</u> closed globe va operation capal 	with the requirem performance at a a <u>d Mainline Isolat</u> on-rising stem, so	ments specified a working press ation Valves: <i>in</i> solid wedge gate ctrically operated with manual flo sassembled for s	herein. All va sure of 200 psi sizes 2.5-incl e valve; Nibco d, cast brass o bw control adju servicing, slow	alves shall be ca i or less. I and smaller so o T-113-LF or ap or bronze norma ustment and ma w opening and c	apable shall be oproved ally anual closing,	C C ki b	ontract Drawing ontrol wire cont ts, or approved ody with interna ectrical Spring • Connect within. C	gs and detai nections sha equal. The al locking fing Connector. cor shall be a Connector sh	FIONS: provie Is in conduit Il be made w splice kit sha gers, filled wi Materials sha a flame retarc all be a non-	per below. vith 3-M brand o Il consist of a o th re-enterable all be as follows dant PVC insula crimping syster	of DBY or DBR Di one-piece malleab gel sealant and a s: ator with a steel sp m	irect Burial S ble plastic bu a Scotchlok
	 <u>General</u>: Provid Drawings and v of continuous p <u>Gate Valves an</u> bronze type, no equal. <u>Automatic Cont</u> closed globe va operation capal and self-flushin approved equal 	with the requirem performance at a a <u>d Mainline Isolat</u> on-rising stem, so <u>trol Valves</u> : Elect alve, capable of v bility, readily disa g. Reclaimed wa l.	ments specified a working press ation Valves: <i>in</i> solid wedge gate ctrically operated with manual flo sassembled for s vater compatible	herein. All va sure of 200 psi sizes 2.5-incl e valve; Nibco d, cast brass o ow control adju servicing, slow e. Rain Bird EF	alves shall be ca i or less. h and smaller so o T-113-LF or ap or bronze norma ustment and ma w opening and o FB-CP Series or	apable shall be oproved ally anual closing, r	C ki b	ontract Drawing ontrol wire cont ts, or approved ody with internat ectrical Spring • Connect within. C • Tube mate • Gel mate	gs and detai nections sha equal. The al locking fing Connector. tor shall be a Connector sh aterial shall be	FIONS: provie ls in conduit all be made w splice kit sha gers, filled wi Materials sha a flame retarc nall be a non- be clear see- e hixotropic c	per below. with 3-M brand of all consist of a of th re-enterable all be as follows dant PVC insula crimping syster through polypro alcium organic	of DBY or DBR Di one-piece malleab gel sealant and a s: ator with a steel sp m opylene. complex.	irect Burial S ble plastic bu a Scotchlok
	 <u>General</u>: Provid Drawings and v of continuous p <u>Gate Valves an</u> bronze type, no equal. <u>Automatic Cont</u> closed globe va operation capal and self-flushin approved equa <u>Quick-Coupling</u> with a locking th 	with the requirem performance at a <u>d Mainline Isolat</u> on-rising stem, so <u>trol Valves</u> : Elect alve, capable of v bility, readily disa g. Reclaimed wa l. <u>I Valves</u> : shall be hermoplastic rub	ments specified a working press ation Valves: <i>in</i> solid wedge gate with manual flo sassembled for s vater compatible e 1" type with tw bber cover. The	herein. All va sure of 200 psi sizes 2.5-incl e valve; Nibco d, cast brass o ow control adju servicing, slow e. Rain Bird EF wo-piece red b e CONTRACTO	alves shall be ca i or less. I and smaller so o T-113-LF or ap or bronze norma ustment and ma w opening and c FB-CP Series or brass construction OR shall provide	apable shall be oproved ally anual closing, r	C ki b	ontract Drawing ontrol wire cont ts, or approved ody with internat ectrical Spring • Connect within. C • Tube mate • Gel mate re sizes and nu	gs and detai nections sha equal. The al locking fing Connector. tor shall be a Connector sh aterial shall be unbers of wi	FIONS: provie ls in conduit all be made w splice kit sha gers, filled wi Materials sha a flame retarc all be a non- be clear see- e hixotropic c res shall be a	per below. vith 3-M brand of all consist of a of th re-enterable all be as follows dant PVC insula crimping syster through polypro alcium organic as shown below	of DBY or DBR Di one-piece malleab gel sealant and a s: ator with a steel sp m opylene. complex. v:	irect Burial S ble plastic bu a Scotchlok pring and sh
	 <u>General</u>: Provid Drawings and v of continuous p <u>Gate Valves an</u> bronze type, no equal. <u>Automatic Conf</u> closed globe va operation capal and self-flushin approved equa <u>Quick-Coupling</u> with a locking th quick coupler k 	with the requirem performance at a <u>d Mainline Isolat</u> on-rising stem, so <u>trol Valves</u> : Elect alve, capable of v bility, readily disa g. Reclaimed wa I. <u>I Valves</u> : shall be	ments specified a working press ation Valves: <i>in</i> solid wedge gate ctrically operated with manual flo sassembled for s vater compatible e 1" type with tw bber cover. The vivel for each fiv	herein. All va sure of 200 psi sizes 2.5-incl e valve; Nibco d, cast brass o ow control adju servicing, slow e. Rain Bird EF wo-piece red b e CONTRACTO	alves shall be ca i or less. I and smaller so o T-113-LF or ap or bronze norma ustment and ma w opening and c FB-CP Series or brass construction OR shall provide	apable shall be oproved ally anual closing, r	C ki b	ontract Drawing ontrol wire cont ts, or approved ody with interna ectrical Spring • Connect within. C • Tube ma • Gel mate • Gel mate re sizes and nu <u>CONNE</u> 3M Mod	gs and detai nections sha equal. The al locking fing Connector. tor shall be a Connector sh aterial shall be umbers of wi <u>ECTOR</u> del DBY	FIONS: provie ls in conduit all be made w splice kit sha gers, filled wi Materials sha a flame retarc all be a non- be clear see- e hixotropic c res shall be a <u>COLOR</u> Yellow	per below. vith 3-M brand consist of a of th re-enterable all be as follows dant PVC insulation crimping system through polypro- alcium organic as shown below <u>NO. A</u> Max.	of DBY or DBR Di one-piece malleab gel sealant and a ator with a steel sp m opylene. complex. v: <u>AND SIZE OF WIF</u> 4-12 gage UF wir	irect Burial S ble plastic bu a Scotchlok pring and sh pring and sh
	 <u>General</u>: Provid Drawings and v of continuous p <u>Gate Valves an</u> bronze type, no equal. <u>Automatic Conf</u> closed globe va operation capal and self-flushin approved equa <u>Quick-Coupling</u> with a locking th quick coupler k 	with the requirem performance at a <u>d Mainline Isolat</u> on-rising stem, so <u>trol Valves</u> : Elect alve, capable of v bility, readily disa g. Reclaimed wa I. <u>Valves</u> : shall be hermoplastic rub ey with hose swi	ments specified a working press ation Valves: <i>in</i> solid wedge gate ctrically operated with manual flo sassembled for s vater compatible e 1" type with tw bber cover. The vivel for each fiv	herein. All va sure of 200 psi sizes 2.5-incl e valve; Nibco d, cast brass o ow control adju servicing, slow e. Rain Bird EF wo-piece red b e CONTRACTO	alves shall be ca i or less. I and smaller so o T-113-LF or ap or bronze norma ustment and ma w opening and c FB-CP Series or brass construction OR shall provide	apable shall be oproved ally anual closing, r	C ki b	ontract Drawing ontrol wire cont ts, or approved ody with interna ectrical Spring • Connect within. C • Tube ma • Gel mate • Gel mate re sizes and nu <u>CONNE</u> 3M Mod	gs and detai nections sha equal. The al locking fing Connector. tor shall be a Connector sh aterial shall be unbers of wi	FIONS: provid Is in conduit all be made w splice kit sha gers, filled wi Materials sha a flame retarc hall be a non- be clear see- e hixotropic c res shall be a COLOR	per below. vith 3-M brand consist of a of th re-enterable all be as follows dant PVC insulation crimping system through polypro- alcium organic as shown below <u>NO. A</u> Max.	of DBY or DBR Di one-piece malleab gel sealant and a ator with a steel sp m opylene. complex. v:	irect Burial S ble plastic bu a Scotchlok pring and sh pring and sh
	 <u>General</u>: Provid Drawings and v of continuous p <u>Gate Valves an</u> bronze type, no equal. <u>Automatic Conf</u> closed globe va operation capal and self-flushin approved equa <u>Quick-Coupling</u> with a locking th quick coupler k model #44LRC <u>Valve Boxes</u>: Valve boxes sh 	with the requirem performance at a <u>d Mainline Isolat</u> on-rising stem, so <u>trol Valves</u> : Elect alve, capable of v bility, readily disa g. Reclaimed wa I. <u>Valves</u> : shall be hermoplastic rub ey with hose swi or approved equ	ments specified a working press ation Valves: <i>in</i> solid wedge gate with manual flo sassembled for s rater compatible te 1" type with tw bber cover. The vivel for each fiv gual.	herein. All va sure of 200 psi sizes 2.5-incl e valve; Nibco d, cast brass of ow control adju servicing, slow e. Rain Bird EF wo-piece red b e CONTRACTO ve quick couple	alves shall be ca i or less. I and smaller so o T-113-LF or ap or bronze norma ustment and ma w opening and co FB-CP Series or brass construction OR shall provide lers installed. Ra	apable shall be oproved ally anual closing, r ion le one ain Bird	C ki E W	ontract Drawing ontrol wire cont ts, or approved ody with interna ectrical Spring • Connect within. C • Tube ma • Gel mate • Gel mate re sizes and nu <u>CONNE</u> 3M Mod	gs and detai nections sha equal. The al locking fing Connector. tor shall be a Connector sh aterial shall be umbers of wi <u>ECTOR</u> del DBY del DBR	FIONS: provie ls in conduit all be made w splice kit sha gers, filled wi Materials sha a flame retarc all be a non- be clear see- e hixotropic c res shall be a <u>COLOR</u> Yellow	per below. vith 3-M brand consist of a of th re-enterable all be as follows dant PVC insulation crimping system through polypro- alcium organic as shown below <u>NO. A</u> Max.	of DBY or DBR Di one-piece malleab gel sealant and a ator with a steel sp m opylene. complex. v: <u>AND SIZE OF WIF</u> 4-12 gage UF wir	irect Burial S ble plastic bu a Scotchlok pring and sh pring and sh
	 <u>General</u>: Provid Drawings and v of continuous p <u>Gate Valves an</u> bronze type, no equal. <u>Automatic Conf</u> closed globe va operation capal and self-flushin approved equa <u>Quick-Coupling</u> with a locking th quick coupler k model #44LRC <u>Valve Boxes</u>: Valve boxes sh hinged double to 10 1/2 inches b 	with the requirem performance at a <u>d Mainline Isolat</u> on-rising stem, so <u>trol Valves</u> : Elect alve, capable of v bility, readily disa g. Reclaimed wa l. <u>Valves</u> : shall be hermoplastic rub ey with hose swi or approved equ	ments specified a working press ation Valves: <i>in</i> solid wedge gate with manual flo sassembled for s vater compatible to a sembled for s vater compatible is a sembled for s vater compatible de 1" type with tw bber cover. The vivel for each fiv gual.	herein. All va sure of 200 psi sizes 2.5-incl e valve; Nibco d, cast brass of ow control adju servicing, slow e. Rain Bird EF wo-piece red b e CONTRACTO ve quick couple crete with a ca e dimensions of 2 HFL by Eisel	alves shall be ca i or less. I and smaller so o T-113-LF or ap or bronze norma ustment and ma w opening and o FB-CP Series or brass construction OR shall provide lers installed. Ra ast iron frame an of the box shall I Enterprises Inc	apable shall be oproved ally anual closing, r ion le one ain Bird nd P be c., or 3	C ki E W	ontract Drawing ontrol wire cont ts, or approved ody with interna ectrical Spring • Connect within. C • Tube ma • Gel mate re sizes and nu <u>CONNE</u> 3M Mod 3M Mod	gs and detai nections sha equal. The al locking fing Connector. tor shall be a Connector sh aterial shall be umbers of wi <u>ECTOR</u> del DBY del DBR	FIONS: provie ls in conduit all be made w splice kit sha gers, filled wi Materials sha a flame retarc all be a non- be clear see- e hixotropic c res shall be a <u>COLOR</u> Yellow	per below. vith 3-M brand consist of a of th re-enterable all be as follows dant PVC insulation crimping system through polypro- alcium organic as shown below <u>NO. A</u> Max.	of DBY or DBR Di one-piece malleab gel sealant and a ator with a steel sp m opylene. complex. v: <u>AND SIZE OF WIF</u> 4-12 gage UF wir	irect Burial S ble plastic bu a Scotchlok pring and sh pring and sh
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- 2. All piping shown on the Contract Drawings in paved areas but running parallel and adjacent to planted areas, is done for clarity only and is to be installed inside the planting area whenever possible.
- B. <u>Trench Excavating and Backfilling</u>: Size trenches and other excavations to accommodate the irrigation system components, conduits, pipe bedding material and other required elements indicated on Contract Drawings. Provide a minimum of 8" of side clearance on outside of the piping or conduit to assure proper installation and access for inspections.
- 1. See TREE PROTECTION REQUIREMENTS on Sheet L100 for all trenching within the protected root zone of an existing tree.
- 2. Unless otherwise specified, the minimum depth of cover over pipelines and conduits shall be as follows:
- a. Control wire conduit: 30-inches (36-inches under roadways and parking lots).
- b. Other Control Wiring: Depth of mainline, or a minimum of 24-inches cover if without any mainline.
- c. Irrigation Mainline: 24-inches for piping 3" and smaller; 30-inches for piping 4" and larger.
- d. Lateral sprinkler lines: 12-inches.
- 3. Make the bottom of trenches true to grade and free of protruding stones, roots or other matter which would prevent proper bedding of pipe or other facilities.
- 4. All trench backfill shall be performed in accordance with approved soils report. Pipe bedding shall be clean site soil, free of all rocks, debris, etc. over 1/2" diameter. Bed pipe in at least 4-inches of finely divided material to provide a firm, uniform bearing. Surround the pipe with additional finely divided material to at least 12-inches over the top of the pipe. Bedding shall be placed in 8-inch maximum lifts. Backfill shall be site soil placed above the bedding to finish grade. There shall be no rocks over 2" in greatest dimension or organic matter in the backfill. All bedding and backfill shall be properly moisture conditioned and compacted at each lift. All trenches shall have a minimum relative compaction of 90%. Compaction shall be tested by the CITY at locations to be determined by the GEOTECHNICAL ENGINEER.
- 5. Finished trenches shall be flush with adjacent finish grades. The CONTRACTOR shall be responsible for maintaining the trenches flush and smooth with adjacent surface grade until final acceptance of the project. After compaction has been approved, trenches in existing turf areas shall be re-planted per turf repair of the TURF section, unless otherwise noted.
- C. Irrigation Pipeline Installation General: Execute trench excavating and backfilling, including the depth of cover over the pipeline, in accordance with requirements above.
- 1. Pipe layout as shown on irrigation plan is diagrammatic. CONTRACTOR shall route piping in planted areas in the most expedient manner consistent with the requirements set forth herein, including avoidance of tree roots.
- 2. When two or more pipelines are installed in the same trench, separate the pipelines by a minimum horizontal clear distance of 12-inches. Install piping such that each pipe, valve, or other component may be serviced or replaced without disturbing the others.
- 3. During installation of pipe, fittings, valves, and other components, prevent soil or foreign matter from entering the system. Temporarily cap or plug all open ends at completion of installation operations.
- 4. All changes in pipe size shall be made with reducer fittings. No close nipples or bushings shall be used.
- 5. Where irrigation piping crosses a vehicular roadway or other paving, sleeve all pipe and conduit inside a Schedule 40 PVC sleeve of a minimum of two pipe sizes larger than the piping to pass through it under the paving at the depth of the mainline or 30 inches minimum. All sleeves shall extend a minimum of 3 feet beyond the edges of paving.
- 6. Pipe or irrigation components of dissimilar metals shall be separated by an approved "Dielectric" coupling.

D. Solvent Welded Plastic Pipeline:

- 1. Join plastic pipe with slip type solvent welded fittings, threaded fittings as specified. Install steel pipe first when plastic pipe is joined to steel pipe.
- 2. Cut pipe square, externally chamfer approximately 10-15 degrees, and remove all burrs and fins.
- 3. Prior to the application of the P.V.C. solvent cement, prepare all surfaces to be solvent welded with tetrahydrofuran primer tinted purple. Make solvent welded joints in accordance with ASTM D2855 - PRACTICE FOR MAKING - SOLVENT - CEMENTED JOINTS WITH POLY (VINYL CHLORIDE) (PVC) PIPE AND FITTINGS. Use a solvent approved by the pipe manufacturer.
- 4. Install plastic pipe in accordance with ASTM D2774 PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PRESSURE PIPING and the requirements herein. Exercise care in assembling a pipeline with solvent welded joints so that stress on previously made joints is avoided. Handling of the pipe following jointing, such as lowering the assembled pipeline into the trench, shall not occur prior to the set times specified by the manufacturer.
- 5. Apply solvent to pipe ends in such a manner that no material is deposited on the interior surface of the pipe or extruded into the interior of the pipe during jointing. Wipe off excess cement on the exterior of the joint immediately after assembly.
- 6. Make threaded pipe joints using Teflon tape or other approved jointing material. Do not use solvent with threaded joints. Protect pipe from tool damage during assembly. Use vises with padded jaws and strap wrenches for installation of fittings and nipples. Remove and replace any plastic pipe which has been nicked, scarred, or otherwise damaged.
- 7. Snake plastic pipe from side to side in the trench to allow 1-foot of expansion and contraction per 100 feet of straight run.
- 8. Do not expose the pipeline to water for 24 hours after the last solvent welded joint is made.



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E. Installation of Valves, Valve Boxes, and Special Equipment:

- 1. General: Install all valves and other equipment in strict accordance with the details, and make readily accessible for manual operation, maintenance or replacement.
- 2. Install isolation or gate valves of the same size as the pipeline in which they are installed, unless otherwise indicated.
- 3. Install all valves below ground housed in a covered valve box with a securable lid that will permit access for field servicing. Boxes shall be set flush with existing grade, including sloped areas, and all soil within 12 inches of the perimeter of the box shall be compacted per the trench repair section of this specification. Boxes are to be positioned per details.
- 4. Set valve boxes per applicable details and set valves at sufficient depth to provide clearance between the cover and valve handle or key when the valve is in the fully open position. Do not cover valve with pea gravel.
- 5. No equipment shall be installed closer than 12 inches to any paved surface, unless separated from the paved surface by a wall, fence, curb, or similar barrier, or installed underground.

F. Irrigation Head Installation and Adjustment:

- 1. General: In accordance with the requirements of Subsection 3.2 of this Section, flush and pressure test all mains and flush lateral lines before installing irrigation heads.
- 2. Irrigation Head Placement and Spacing:
- a. Irrigation plans are designed, as a minimum standard, for head-to-head coverage on all spray heads. Head locations shall be determined by referencing the irrigation plan and using the head spacing listed in the irrigation head legend. Accuracy of final installation shall be within plus or minus 12 inches for all rotary heads having a throw of 30 feet or greater; within plus or minus 4 inches for all head types with a throw of under 30 feet. Do not exceed the maximum irrigation head spacing shown on the Contract Drawings.
- b. Prior to head installation, CONTRACTOR shall mark the proposed locations of all irrigation heads in the field for review and approval by the Engineer. CONTRACTOR shall make any adjustments to head locations requested by the Engineer at that time at no additional expense to the City. CONTRACTOR shall provide minimum 48 hours notice prior to the requested time of inspection.
- G. Head Installation:
- 1. Do not exceed the maximum irrigation head spacing shown on the Contract Drawings.
- 2. Install all irrigation heads 3-inches clear of adjacent walks, curbs, paving, headers, and similar improvements. Adjust all heads to flush with the final finish grade - adjusting for depth of sod in turf areas if needed.
- 3. All soil within 12 inches of the perimeter of the head shall be compacted as indicated in applicable details.
- 4. All irrigation heads shall be installed on swing joint assemblies as shown on details.
- H. Irrigation Head Adjustment:
- 1. When all irrigation heads are installed and the irrigation system is operating, adjust and balance each section or unit with all section control valves fully open to obtain uniform 100% head to head coverage.
- 2. Adjust irrigation heads having adjustable pin nozzles, screws or orifices to provide optimum distribution of water over the coverage pattern. Without additional cost to the City, CONTRACTOR shall substitute larger or smaller nozzles in irrigation heads and/or add or omit sprinkler heads as necessary to obtain uniform coverage to meet MWELO requirements. Any requested modification shall not alter the total GPM to a degree to require a major revision of pipe sizing.
- 3. At no time is the irrigation system to cause excessive overspray on adjacent paved areas or cause any erosion to the site.
- 4. Low Head Drainage: The CONTRACTOR shall install in-line drainage swing check valves where necessary to prevent low head drainage or as indicated on contract drawings.
- I. Automatic Control System Connection:
- 1. General: Utilizing existing irrigation controller, shall include all wiring and connections.
 - A. Prior to the start of the functional testing, the CONTRACTOR shall perform the following tests on all irrigation system electrical conductors in the presence of the BCA Inspector.
 - B. The functional test for all the electric automatic irrigation system(s) shall consists of a minimum of fifteen (15) working days of operation during which time the controller shall complete at least three (3) complete cycles automatically for each station. The lengths and frequencies of the cycles will be determined by the City's representative. If unsatisfactory performance of the system develops, the condition shall be corrected, and the test repeated until fifteen (15) working days of continuous, satisfactory operation is obtained.
 - C. The functional test shall be satisfactorily completed prior to the start of the plant establishment period.
 - D. Repair to the irrigation system wiring shall be made within five (5) working days of a malfunction or damage to any portion of the system.
- 2. CONTRACTOR shall leave the control system in operating condition with an operational chart mounted within the controller cabinet upon completion of the work.

3.3 FLUSHING AND TESTING

After completion, and prior to the installation of any terminal fittings, thoroughly flush the entire pipeline system to remove dirt, scale, or other material. After flushing, conduct the following tests in the sequence listed below. Provide all equipment, materials, and labor necessary to perform the tests. Conduct all tests in the presence of the City Inspector.

	BUREAU OF ENGINEERING	DATE BY						243
	EURE,	REVISION DESCRIPTION						MF-300494
		ÖN						
	NORKS	TUSUN1	La Participante	ZEC NG. 6260 POLE	K /	A Benewal Date A	AT Date AT	CALIFU-
	SMUGMENT OF PUBLIC WORKS	GARY LEE MOORE, PE, ENV SP CITY ENGINEER	ARCHITECTURAL DIVISION DATE:	LANDSCAPE ARCHITECT: GREG MOESER LIC. NO.: 6260 04/01/21	BY: GREG MOESER	: GREG MOESER	BY: RICHARD FISHER, BLA PUL 04/01/21	DBY: STEVEN FIERCE, AIA, PRINCIPAL
		GARY		LANDSCAP	DESIGNED BY:	DRAWN BY:	CHECKED BY:	APPROVED BY:
PROJECT ISSUE DATE: 08/09/2021	OS ANGELES	CLIENT: DEPARTMENT OF RECREATION & PARKS	GENERAL MANAGER: MICHAEL A. SHULL	SHEET TITLE: LANDSCAPE CONSTRUCTION NOTES	OMEET /	PROJECT: DRUM BARRACKS CIVIL WAR MUSEUM PARKING LOT DEVELOPMENT	ADDRESS: 1061 CARY AVENUE, WILMINGTON, CA 90744	
UE DATE:)]]	WC PL	DRK	ORE	705			
JECT ISS			RAW		^{NO.}	0	7 ^{HEE} 25	

	1 2 3 4		5 6
	A. The irrigation system mainlines shall be pressure tested for 24 hours at 125 p.s.i with all control values in place and closed. During the test, the CONTRACTOR sl		D. <u>Tree Protection Requirements</u> : S
	provide pressure gauges downstream from the backflow device and upstream from	om the	
	farthest remote-control valve in the system. Air pressure testing of the irrigation s is acceptable if approved by the BCA inspector. Placement of control wires shall		
	verified before mainline trenches are backfilled after pressure test.		A. <u>Delivery:</u>
	B. After installation, the irrigation lateral lines shall be thoroughly flushed in the pres the BCA inspector. Each valve and lateral system shall be flushed commencing v		 Delivery of plant material shat the inspections are made and
	head closest to the valve and proceeding to the farthest head.		by the PROJECT MANAGEF than the approved submittal.
	C. <u>Irrigation Coverage Test</u> : After installation of heads and lateral lines etc., entire irrigation system shall be tested for coverage. The BCA Inspector, Project Management of the system shall be tested for coverage. The BCA Inspector, Project Management of the system shall be tested for coverage. The BCA Inspector, Project Management of the system shall be tested for coverage. The BCA Inspector, Project Management of the system shall be tested for coverage. The BCA Inspector, Project Management of the system shall be tested for coverage.	jer,	variety for identifying purpose
	CONTRACTOR and Recreation and Parks Regional maintenance staff shall be r three (3) days before the scheduled test. Perform the coverage test for each zon		Notify the ENGINEER of a second plant materials may be inspected.
	irrigation heads have been installed and demonstrated that each section or unit i irrigation system is balanced to provide uniform and adequate coverage of the ar	n the	the ENGINEER at the time o from the jobsite by the CON
	serviced. Correct deficiencies in the system in accordance with the requirements Subsection 3.2(G)4.		3. Protect plants during delivery
	D. <u>Operational Test</u> : Evaluate the performance of all components of the automatic c	ontrol	4. Deliver fertilizer to the jobsite
	system for manual and automatic operation. During the maintenance period, and least 15 days prior to final inspection, set the controller on automatic operation so	at	manufacturer's guarantee ch conformance with Federal ar
	the system will operate satisfactorily during such period. Make all necessary reparties of the system will operate satisfactorily during such period. Make all necessary reparties and adjustments until all equipment, electrical work, controls, and		furnished in bulk and a certifi each delivery.
	instrumentation are functioning in accordance with the Contract Documents.		each delivery.
8.4	OPERATING MANUALS AND EQUIPMENT		B. <u>Storage:</u>
	A. Furnish the City with 2 bound copies of operating and maintenance manuals for all in	rrigation	1. Keep fertilizer in dry storage
	system equipment such as valves, heads, etc.		amendments shall be kept co
	B. Explain in detail all irrigation equipment operations, watering schedule and maintena procedures to the City personnel as directed by the Project Manager before complet the project.		2. Store plants not installed on
	the project.	action ¹¹	a. Outside storage to be
	C. Provide the City with a reduced legible copy of the "As-Installed" Irrigation Plan hern sealed in a plastic cover to be affixed inside the controller cover.	netically	b. Keep plants in contain mist spray.
	44 TUDE	PAF	RT TWO - PRODUCTS
	11. TURF	2.1	MATERIALS
<u>PAR</u>	T ONE - GENERAL		A. <u>Topsoil:</u> The type and thickness
1.1	RELATED SECTIONS		topsoil shall be the existing class
	A. Turf Grid: For turf to be installed with a turf grid, refer to TURF GRID SYSTEM Sect	ion,	B. <u>Fertilizers and Conditioning Mate</u> Agricultural Code. All fertilizing n
	unless otherwise noted.		products identified by source, typ analysis. Fertilizing material sha
1.2	DESCRIPTION		to human, animal, or plant life.
	Work Included:	ation	(1) <u>Agricultural Gypsum</u> : Hydrate and 18 percent sulfur with a g
	All labor, materials, equipment, and tools necessary to provide and execute: soil prepara and amendments; planting of new sod; all required testing and inspections; maintenanc	e and	(2) <u>General Purpose Fertilizer</u> : S
	establishment of new landscape plantings as indicated on the Contract Drawings, speci herein and as needed for complete and proper installation and maintenance.	TIEC	analysis of 5-3-1 (N-P-K) der compost and sulfides and ox
.3	SUBMITTALS		Naphthalene Sodium Sulfona Telephone Avenue, Chino, C
	A. The CONTRACTOR shall make all required materials submittals in accordance with		<u>www.gropower.com</u>
	Section 1 of these Landscape Construction Notes.		(3) <u>Non-Selective Herbicide</u> : Sha herbicides, when required, sl
	B. The CONTRACTOR shall make substitution submittals in accordance with Section 1 these Landscape Construction Notes.	of	Advisor in a manner consiste application, CONTRACTOR
	C. Submit copies of the following:		area of application for approv
	1. Complete list of landscape plant materials soil amendments, fertilizers, herbicide		(4) Pre-Emergent Herbicide: Sha Bayer Environmental Science
	and miscellaneous hardware complete with descriptions and/or photographs and manufacturer's literature. Clearly mark or underline proposed items.		sf. All pre-emergent herbicide licensed Pest Control Adviso
.4	QUALITY ASSURANCE		(5) Granular Humic Acid Soil Co
	<u>Codes and Regulations</u> : CONTRACTOR to obtain and pay for all required permits. Delive	ver all	CONDITIONER [PLUS GYP or approved equal. Contact 1
	permits and submit certifications of compliance to the ENGINEER.		availability, or TRi-C Organic approved equal. Apply per m
.5	GENERAL REQUIREMENTS		(6) Soil Penetrant: Shall be "Gro
	A. <u>Required Approvals by the ENGINEER</u> : No work included in this Section shall be commenced until the following are completed and approved:		Soil penetrant shall contain c contain alcohol. Apply soil pe
			It Gets Inc., 300 Morning Dri
	 All work on irrigation system prior to turf installation. All reviews on required submittals and re-submittals requested by the ENGINEER 	9 for	www.greenasitgets.com
	All reviews on required submittals and re-submittals requested by the ENGINEER materials included in this section.		(7) Organic Soil Amendment: "Ty friable fine-textured organic of derived from composted gree
	B. Inspection: All work and materials are subject to inspection and approval by the Bure Contract Administration (BCA) Inspector and the PRO IECT MANAGER Any work d		derived from composted gree matter including animal wast
	Contract Administration (BCA) Inspector and the PROJECT MANAGER. Any work d without proper inspection will be subject to rejection per Section 2-11 of the Standard Specifications for Public Works Construction. The CONTRACTOR shall notify the Bu	d	shall pass through a 1/2" scr soil amendment to the PRO.
	Specifications for Public Works Construction. The CONTRACTOR shall notify the Bu Contract Administration (BCA) Inspector and PROJECT MANAGER three (3) days p		All Organic Soil Amendment
	requested inspection of the following for approvals:		a. The pH of the material sh
	 For all finish grades in planting areas following all weed/pest control, soil fertilizin conditioning, prior to landscape container planting, and after rolling in turf areas. 	ig and	b. Salinity: material shall hav
	2. All completed landscape planting and irrigation work for approval to begin the pla	ant	millisiemens per centimet
	maintenance and plant establishment period.		c. Boron content of the satu
	C. <u>Existing Plant Materials</u> : Protect all existing plant materials, not designated for remo- or modification, in place against damage resulting from work of this Contract. Perform	m	d. Sludge-based or animal v
	any removal and/or trimming only on approval or instructions from the ENGINEER o in accordance with applicable provisions noted or specified on the Contract Drawing	S.	e. Carbon:Nitrogen ratio is le
	CONTRACTOR shall replace all damaged existing plant material with like type and s material. If an acceptable replacement is not available, CONTRACTOR shall pay da	mages	 f. All compost shall be aerol products.
	to the CITY for the value of the damaged tree as assessed by the tree value formula ISA Guide for Establishing Value of Trees and Other Plants.	i in the	
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6 7 8 9 10 11 12							
	6	7	8	9	10	11	12

See sheet L-100.



BUREAU OF ENGINEERING

hall begin only when it is ready for plant installation and after nd any required soil samples and tests have been reviewed R. All materials furnished for the work shall be not less I. Upon delivery, CONTRACTOR shall tag one plant of each ses.

scheduled delivery a minimum of 48 hours in advance so the ected upon arrival at the jobsite. All plant material judged by of delivery as unacceptable shall be removed immediately ITRACTOR.

ry against desiccation of leaves.

te in the original and unopened containers bearing chemical analysis, name, trademark or trade name in and Local law. In lieu of containers, fertilizer may be ificate indicating the above information shall accompany

e away from contaminants. Loose fertilizers and soil covered with a tarp.

the day of arrival at the jobsite as follows:

e protected from wind.

ners in a moist condition until planted by watering with fine

s of topsoil shall be as shown on the plans. If not shown, the ss "C" on-site topsoil and amended as indicated.

<u>aterials:</u> Comply with the applicable requirements of the State materials shall be packaged, first grade, commercial quality ype of material, weight and manufacturer's guaranteed all not contain toxic ingredients or fillers in guantities harmful

ted calcium sulfate product containing 23 percent calcium guaranteed analysis of 84 percent calcium sulfate.

Shall be Gro-Power Plus fertilizer, having a minimum erived from ammonium phosphate, urea, sulfate of potash, oxides of iron, manganese and zinc, with 1.00% Alkyl nate soil penetrant as manufactured by Gro-Power Inc., 5065 CA 91710 (909) 393-3744, or an approved equal. <u>https://</u>

hall be Finale[™], by BASF, or an approved equal. All shall be specified and applied by a licensed Pest Control tent with the manufacturer's product labelling. Prior to R shall submit proposed herbicide and a diagram showing the oval to the PROJECT MANAGER.

hall be Specticle G Pre Emergent Granular Herbicide, by ces, or an approved equal applied at the rate of 2.3 lb./1000 des, when required, shall be specified and applied by a or per the manufacturer's recommendations.

onditioner: Shall be LIVE EARTH HUMATE SOIL PSUM] or Tri-C Humate [Tri-C Humate Plus with Gypsum] Todd Burns, Live Earth Products, Inc. (661) 978-7307 for cs Inc., (800) 590-3301 https://www.tricorganics.com, or an manufacturer's instructions.

ound Breaker" by Green As it Gets, Inc. or approved equal. organic yucca and kelp extracts. Soil penetrant MAY NOT penetrant per manufacturer's instructions. Contact: Green As rive, Bakersfield, CA 93306 Phone: 1-800-476-0034. https://

Type 1" organic soil amendment shall be a relatively dry and composite that is well-composted and nitrogen stabilized, eenwaste or processed wood products, and free of foreign ste and any viable plant, tree or weed seed. 99% of material creen. CONTRACTOR shall submit a sample of the organic DJECT MANAGER for approval prior to installation.

t shall conform with the following criteria:

hall be between 6 to 7.5.

ave a maximum saturation extract conductivity of 2.50 eter.

urated extract shall be less than 1.0 parts per million.

waste materials are not allowed.

less than 25:1.

obic without malodorous presence of decomposition

g. Maximum total permissible pollutant concentrations in amendment in parts per million on a dry weight basis:

Ar	senic	20	Copper	150	Selenium	50
Ca	admium	15	Lead	200	Silver	10
Cl	nromium	300	Mercury	10	Vanadium	50
С	obalt	50	Molybdenum	60	Zinc	300
Ni	ckel	100	-			

C. Plant Materials:

1. <u>Sod</u>: Shall be of the type designated on the planting plan, or an approved equal. Sod shall be delivered to the job site within 24 hours of being cut at the nursery, and COMPLETELY installed within 12 hours of delivery to the job site. The sod shall be machine cut to between 3/8" and 5/8" thick, not including top growth or thatch.

2. All plants shall be inspected and approved prior to planting as per provisions of Subsection 1.3 (A) specified above.

PART THREE - EXECUTION

3.1 GENERAL

- A. The Landscape work shall not be performed at any time when it may be subject to damage by climatic conditions.
- B. In case of conflict between the plant schedule totals and total plant count of the contract documents, the CONTRACTOR shall provide the higher number of plants.
- C. Delivery of material shall begin only when it is ready for the work and after the inspections are made and the required samples and tests have been reviewed by the ENGINEER. All materials furnished for the work shall be not less than the reviewed sample.
- D. The CONTRACTOR shall abide by the Tree Preservation Guidelines Sheet L100 for all trees indicated to remain.

3.2 SURFACE CONDITIONS

Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the work. Do not proceed until detrimental conditions are corrected.

GRADING AND SITE PREPARATION:

A. Rough Grading:

<u>Earthwork and Topsoil Placement</u>: Shall include excavation and backfilling for the irrigation system and the preparation for the spreading, densification, cultivation and raking of topsoil.

B. <u>Topsoil Preparation and Amendment:</u>

- 1. After completion of *all necessary trenching and backfill* for electrical, irrigation, or drainage piping and conduit, bring planting areas to approximate finish grade, including construction of landscape mounds, before performing soil amendment. CONTRACTOR shall account for the amount of fertilizer and soil amendments to determine the appropriate grade.
- 2. <u>Turf Areas</u>: For all TURF planting areas *outside of tree protection zones*, Class "C" on-site ("native") topsoil shall be scarified and cultivated to a uniform, finely divided condition to a depth of 12 inches. Soil shall not be worked when it is so wet as to cause excessive compaction to cause the formation of large clods; or so dry as to create excessive dust. All soil amendments shall then be broadcast evenly at the rate as specified below (or per the recommendations of the approved agricultural suitability and fertility analysis if directed by the PROJECT MANAGER), and then thoroughly and uniformly incorporated to the depth of 12 inches. Prior to planting, the top 3 inches of all planting areas (including slopes) shall be free of weeds, stones and other deleterious matter 1-inch diameter and larger.
- a. All turf planting areas shall receive the following soil amendments per 1,000 square feet:

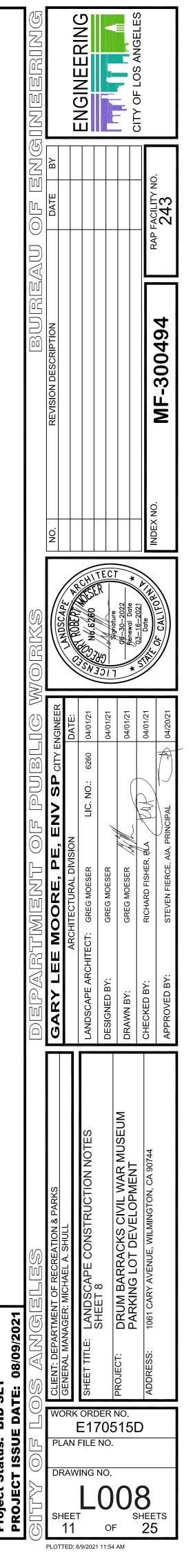
4 cubic yards, Type I organic soil amendment 15 lbs. Agricultural Gypsum 50 lbs. Gro-Power Plus fertilizer

- b. Topsoil shall be restored to a smooth finish grade after amendment process is complete and irrigated thoroughly to activate amendments and fertilizers.
- 3. For all planting areas *inside of tree protection zones*, the Class "C" on-site ("native") topsoil shall be scarified to a depth of 1 inch, taking care not to damage surface roots.
- a. After scarification, apply "GROUND BREAKER" soil penetrant to all planting areas at a rate of 1 gallon per 1,000 square feet per manufacturer's instructions.
- b. 12 hours minimum after applying soil penetrant, all planting areas shall receive the following soil amendment per 1,000 square feet:
 20 lb. GRANULAR HUMIC ACID SOIL CONDITIONER
- c. Soil amendment shall be evenly broadcast on the surface and uniformly cultivated into the top 1" of the soil and thoroughly irrigated. Soil shall not be worked when it is so wet as to cause excessive compaction or to cause the formation of large clods; or so dry as to create excessive dust. Prior to planting, the top 3 inches of soil (including slopes) shall be free of weeds, stones and other deleterious matter 1-inch diameter and larger.
- 4. CONTRACTOR shall furnish the CITY Inspector with delivery tickets to verify the source, kind and quantities delivered and applied. Furnish PROJECT MANAGER duplicate copies of the material invoices as required in Subsection 1.3 (C).
- C. Finish Grading:
- 1. Make finish grade smooth, uniform and free of abrupt grade changes and depressions to insure proper surface drainage.
- 2. Finish grade below adjacent paving, curbs or headers shall be 3/4 inch in sodded lawn areas.

- 3. Water soil after spreading of fertilizer and/or soil conditioning materials and allow it to settle to provide a stable surface. After the soil has dried out to a workable condition, regrade, rake and smooth to the required grades and contours, eliminating any erosion scars. Finished surfaces shall be clean and suitable for planting.
- 4. Finish grading shall ensure proper drainage of site. Surface drainage shall be away from all building foundations at a minimum of 2% or in accordance grades shown on Contract Drawings.
- 5. <u>Turf Areas</u>: Finish grading of turf areas shall take place after the soil has dried out to a workable condition following the soil preparation operations. The soil shall be remodeled and smoothed to the required grades and contours, then rolled in two directions at right angles with a water ballast roller weighing 200 to 300 pounds maximum. Any resulting irregularities in the grade after the initial rolling shall be re-raked, cut or filled, then re-rolled until the grade is free from irregularities. No trucks, tractors or other heavy objects shall be taken over the areas at any time. The final finish grade shall be smooth, uniform, without abrupt changes in grade, within one-tenth of a foot of the grades shown on the plan. No turf areas shall exceed 5:1 slope. Final grade must be approved by the ENGINEER or BCA Inspector prior to seeding or sodding. (801-2.3).

3.3 WEED ABATEMENT

- A. <u>General:</u> Unless specified otherwise, weed abatement shall apply to all planting areas. The abatement operation shall commence before planting but only after removals, grading, hardscape construction, installation of irrigation system, soil preparation, and fine grading of planting areas have been completed.
- B. All herbicides for weed control shall be applied with a photosensitive dye which will produce a contrasting color when sprayed upon the ground. The dye shall be applied in a manner so as not to leave any stain upon finished surfaces.
- C. The following precautions shall be observed in handling and applying herbicides:
- 1. Before applying, the CONTRACTOR shall read and understand all instructions provided by the manufacturer.
- 2. Herbicide product shall not be used when winds are gusty or in excess of 8 miles per hour, or when any other conditions exist which would result in drift. DO NOT USE any combinations of pressure and nozzle type or adjustment that result in misting.
- 3. Do not apply during rain, or if rain is forecast within twelve hours. If rain occurs within a twelve-hour period after application, material must be reapplied after application area has sufficiently dried out.
- 4. CONTRACTOR shall observe extreme care not to allow spray to contact plant material designated to remain, or in adjacent areas. Use cardboard, plywood, or other appropriate material to shield plant materials outside of the treatment area from overspray.
- 5. Do not apply to bare ground.
- D. <u>Herbicide Application</u>: Pesticides must be applied by a licensed Pest Control Applicator in accordance with the requirements of the California Food and Agricultural Code and specified herein. The CONTRACTOR shall abide by all laws and codes governing weed abatement operations including but not limited to CAL-OSHA requirements and The Healthy School Act of 2000 (AB2260). Prior to herbicide application CONTRACTOR shall:
- 1. Notify the PROJECT MANAGER a minimum of 72 hours in advance of each application of pesticide/herbicide and shall indicate the hours during which the application will occur. No applications shall be made on Saturdays, Sundays, or legal holidays, unless otherwise prior approval by the PROJECT MANAGER in writing.
- 2. Notify the Pest Management Supervisor of the RAP Forestry Division at (213) 485-4826. Do not add other products to any herbicide mix, including spreader, stickers, or surfactants, unless required by the label directions and approved by the RAP Pest Management Supervisor.
- 3. Submit to the BCA Inspector and to RAP Forestry a "Pest Control Recommendation Form" prepared by a licensed Pest Control Advisor, and a provide completed and accurate SDS (Safety Data Sheet) to be kept at the site of application. The area of application shall be posted as such and barricaded for public safety and information (site construction fencing is deemed adequate for this purpose when present).
- 4. Any questions regarding pesticide application and procedures at Recreation and Parks facilities shall be directed to the PROJECT MANAGER/BCA Inspector and the RAP Forestry group, Vegetative Management at (213) 485-4826.
- E. "Grow and Kill" method: The CONTRACTOR shall adhere to the following steps:
- 1. <u>Clear and grub</u> the surface of the designated planting area by mechanical means or by hand, removing all surface vegetation (excepting any trees, shrubs or turf designated to remain per plans and notes), rocks, debris, etc. Do not disturb the roots or compact soil around any existing vegetation to remain or within designated Tree Protection Zones, and do not remove any topsoil during clearing work.
- 2. <u>"Grow Period":</u> Water all planting areas daily or as needed to keep soil evenly moist and promote weed germination and growth for a period of a minimum of *two weeks*. If, in the opinion of the ENGINEER the "Grow Period" irrigation was insufficient to achieve adequate germination, the "Grow Period" may be extended in minimum 7-day intervals at no additional expense to the CITY.
- 3. <u>"Kill Period":</u> At the conclusion of the grow period and approval by the ENGINEER, treat all emergent weeds within the planting area with approved herbicide per the submitted and approved "Pest Control Recommendation Form" following the manufacturer's instructions and labelling *taking care to protect all trees, shrubs, turf etc. designated to remain.* If nutsedge (nutgrass) is determined to be present in any of the planting areas by the ENGINEER during the "Grow Period", CONTRACTOR will be required to apply a separate selective herbicide manufactured specifically for the control of nutsedge at no additional cost to the CITY until nutsedge is completely eradicated.
- 4. After spraying, do not water or otherwise disturb treated areas for a minimum period of two (2) weeks.
- 5. After the two-week kill period, remove all dead vegetation. If any living plants are observed, the entire plant, including roots, shall be removed by hand, minimizing physical disturbance of the soil.
- F. <u>Herbicide Damage</u>: New and/or existing plants which in the opinion of the ENGINEER have been damaged, disfigured, or stunted by the application of herbicide shall be replaced in kind (type, size, and age) by the CONTRACTOR at their expense.



a h o a C ir v re th u	The suppression operation shall be commenced only after removals, grading, hardscape construction, installation of irrigation system, soil preparation, and fine grading of turf and planting areas have been completed. The CONTRACTOR shall thoroughly water all turf and planting areas for a minimum period of two weeks prior to commencing removal. CONTRACTOR shall completely remove from the site all unwanted vegetation and weeds including underground roots and stolons by hand or mechanical means. All removed regetation shall be properly disposed of off-site. Watering and removal process shall be epeated again 2 weeks after completion of initial removal. CONTRACTOR shall maintain the entire work area weed-free on a weekly basis from completion of weed removal process intil Final Acceptance.		 4. During the plant establishment period, all damage cause by the CONTRACTOR at his own expense within three 5. During the plant establishment period, the irrigation syst automatic mode, unless otherwise permitted by the ENG or manual station operations should be performed with CONTRACTOR shall be responsible for setting an appr all irrigation zones, such as to provide adequate waterin so much as to create any wasteful or unhealthful growin shall be responsible for modifying the watering schedule changing weather conditions. C. Final Inspection/Final Acceptance:
ir fc te h	nspected by the ENGINEER prior to planting. The CONTRACTOR shall be responsible or the condition of all plants, planted or otherwise, until final acceptance by the CITY and ermination of maintenance and establishment period. CONTRACTOR shall be obligated to nonor all requirements of warranty as indicated herein. . Perform planting with materials and equipment according to procedures favorable to the		 Upon completion of the plant establishment period, a fir will be performed by the BCA Inspector, PROJECT MAN authorized RAP representative. The CONTRACTOR sh three (3) working days prior to the anticipated date. For thoroughly cleared of all debris and excess material rem inspection, any subsequent inspection must be resched be charged to the CONTRACTOR.
2			 If the plant establishment period is satisfactorily comple- included in the Contract, the plants establishment shall the responsibility of the CONTRACTOR until all other w accepted by the CITY.
		3.6	GUARANTEE
			A. <u>General</u> : All shrubs and ground covers shall be guaranteed from the end of the Plant Establishment Period. CONTRAC guarantee for the above materials as a part of the final close
			B. Deficiencies: Should any deficiencies develop within the sp CONTRACTOR shall correct such deficiencies to the full sa without added expense to the CITY. All replacement plants s
1	. 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.		guarantee for a period as described herein above.
	a. 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.		
	b. The soil 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.		
	c. 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.		
2	2. Turf Repair: 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 existing sod shall be carefully cut, removed, and reused to re-sod trenches after backfilling and compaction, or new . CONTRACTOR shall use sod to match existing turf type in areas being repaired unless directed otherwise by the ENGINEER.		
MAII	NTENANCE AND PLANT ESTABLISHMENT		
	· · · · · · · · ·		
1	. 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.		
2	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.		
В. <u>Р</u>	Plant Establishment Period:		
1	. 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.		
2	2. 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).		
3	8. 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 mowed to a 1½" - 2" inch height. The lawn shall be mowed 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. (or per manufacturer's instructions) to all lawn areas and irrigate immediately afterwards.		
	A. C. T. S. S. A. C. T. S. A.	 system. 8. Protection and Storage: Keep all plant matrials delivered to the jobsite in a healthy condition for planting. 2. Do not allow plants to dry out or suffer physical damage from other construction activities. Protect from heavy winds. 3. Such a superscript of a superscript of a superscript of the superscript	 areas. The suppression paraton shall be commenced only after ramousle, grading, burkless construction, installation of insplant systems, solvegation, and the grading areas there been completed. The CONTRACTOR shall becoupling water construction and the state of the state state state of the state state of the state stat

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ment period, all damage caused by erosion shall be repaired his own expense within three (3) working days.

ment period, the irrigation system shall be operated in the otherwise permitted by the ENGINEER. No hand watering ions should be performed without notifying the ENGINEER. responsible for setting an appropriate watering schedule for as to provide adequate watering for each plant type, but not wasteful or unhealthful growing conditions. CONTRACTOR nodifying the watering schedule as needed to accommodate ns.

ance:

plant establishment period, a final inspection for acceptance BCA Inspector, PROJECT MANAGER and ENGINEER and tative. The CONTRACTOR shall request inspection at least rior to the anticipated date. For this inspection, the site must be debris and excess material removed. If work fails to pass final ent inspection must be rescheduled as per above, and time will RACTOR.

period is satisfactorily completed ahead of other work the plants establishment shall be extended and shall be CONTRACTOR until all other work has been completed and

d covers shall be guaranteed for a period of ninety (90) days blishment Period. CONTRACTOR shall provide a written rials as a part of the final close out package.

ciencies develop within the specified guarantee period, such deficiencies to the full satisfaction of the ENGINEER e CITY. All replacement plants shall be subject to a new cribed herein above.

	SNIYISNI OF ENGINEERING	REVISION DESCRIPTION DATE BY						
	SME	NO.	LANDSCAPE	Nevezee Const	R	06-30-2022 Renewal Date	C OF TORY	
	SMUOM SITANA OF PUBLIC WORKS	GARY LEE MOORE, PE, ENV SP CITY ENGINEER	ARCHITECTURAL DIVISION DATE:	LANDSCAPE ARCHITECT: GREG MOESER LIC. NO.: 6260 04/01/21	DESIGNED BY: GREG MOESER	DRAWN BY: GREG MOESER		
	DS ANGELES	CLIENT: DEPARTMENT OF RECREATION & PARKS	GENERAL MANAGER: MICHAEL A. SHULL	SHEET TITLE: LANDSCAPE CONSTRUCTION NOTES	SHEET 9	PROJECT: DRUM BARRACKS CIVIL WAR MUSEUM	ADDRESS: 1061 CARY AVENUE, WILMINGTON, CA 90744	
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REVISION DATES (DESIGN STAGE ONLY)	1	2	3	4	5	6	7

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TREE PROTECTION - EXISTING TREES:

All trees to remain in place shall be protected using the following guidelines:

TREE PROTECTION SPECIFICATIONS

These tree protection specifications shall be followed to protect all trees whose dripline is encroached upon either directly or indirectly by construction within City parks.

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

A Recreation and Parks Arborist shall be invited to the Job Start Meeting and also notified 48-hours prior to construction. Contact Steve Dunlap (213) 485-4826.

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

Defining the Tree Protection Zone (TPZ) - The entire project area shall be considered part of the Tree Protection Zone.

- a. No work is permitted within the TPZ without the approval of: 1) the project Landscape Architect, 2) the Project Manager, and 3) RAP Forestry staff. Any work authorized by RAP Forestry staff within the TPZ must be done in accordance with the recommendations of RAP Forestry and under the supervision of a Monitoring Arborist. The Monitoring Arborist shall be supplied by the Contractor at his own expense, and be an ISA Certified Arborist or a Registered Consulting Arborist with verifiable experience in protecting trees. The Monitoring Arborist must be approved by RAP Forestry prior to commencement of work.
- b. Within the TPZ, the contractor shall adhere to the following requirements, including, but not limited to:
 - No stockpiling or storage of any material, debris, or soil.
 - No storage of any construction equipment.
 - No vehicular access.
 - No un-approved trenching, excavation or disturbance of soil will be allowed.
 No objects of any kind shall be attached to tree trunks.
 - For any approved excavation or trenching, no cutting of roots over 2" diameter will be allowed. Contractor shall use a pneumatic drill (a.k.a. "air spade") to excavate under woody roots larger than 2" in diameter. If any roots are unintentionally severed, remedial cuts are to be made under the supervision the Monitoring arborist, and soil backfilled immediately.
- 2. Within the boundaries of the construction zone (including the TPZ), the contractor shall be responsible for mitigating construction-related dust accumulation on all trees by spraying the trunks, limbs, and foliage with water to a maximum height of 30 feet during the months of April through November, at monthly intervals.
- 3. The contractor shall also be responsible for protecting all existing trees to remain in place within the boundaries of the construction zone, including any areas impacted by construction activities. Any damage to trees in these areas shall also be subject to the same monetary or replacement requirements specified below. Any necessary root cutting in this area must be approved in advance by either RAP Forestry or by a RAP approved ISA certified arborist employed by the Contractor. See also the General Conditions for any damage done by the contractor to landscaping or other park amenities that fall outside the boundaries of the construction zone.

i i	Irrigation to all existing trees NOT specifically designated for removal shall be kept in operation for the duration of the project. Contractor shall be responsible for hand watering all impacted trees if necessitated by temporary shutdowns to or demolition of existing irrigation systems. Trees are to be irrigated deeply and as often as required such that soil moisture is detectable at a minimum depth of 18" using a soil probe.
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- 5. Upon completion of all trenching, grading, excavation and soil preparation work, contractor shall remove all items installed to protect trees during the construction process with approval of the Project Manager.
- 6. Any of the following Southern California native tree species fall under Ordinance No. 177404 of the Los Angeles Municipal Code:
 - a. Oaks, including Valley Oak (*Quercus lobata*), California Live Oak (*Quercus agrifolia*), or any other tree of the oak genus indigenous to California but excluding Scrub Oak (*Quercus dumosa*);
 - b. Southern California Black Walnut (Juglans californica var. californica);
 - c. Western Sycamore (*Platanus racemosa*);d. California Bay (*Umbellularia californica*).
 - e. Contractor shall comply with the requirements of the ordinance found at: http://cityplanning.lacity.org/Code_Studies/Other/ProtectedTreeOrd.pdf.

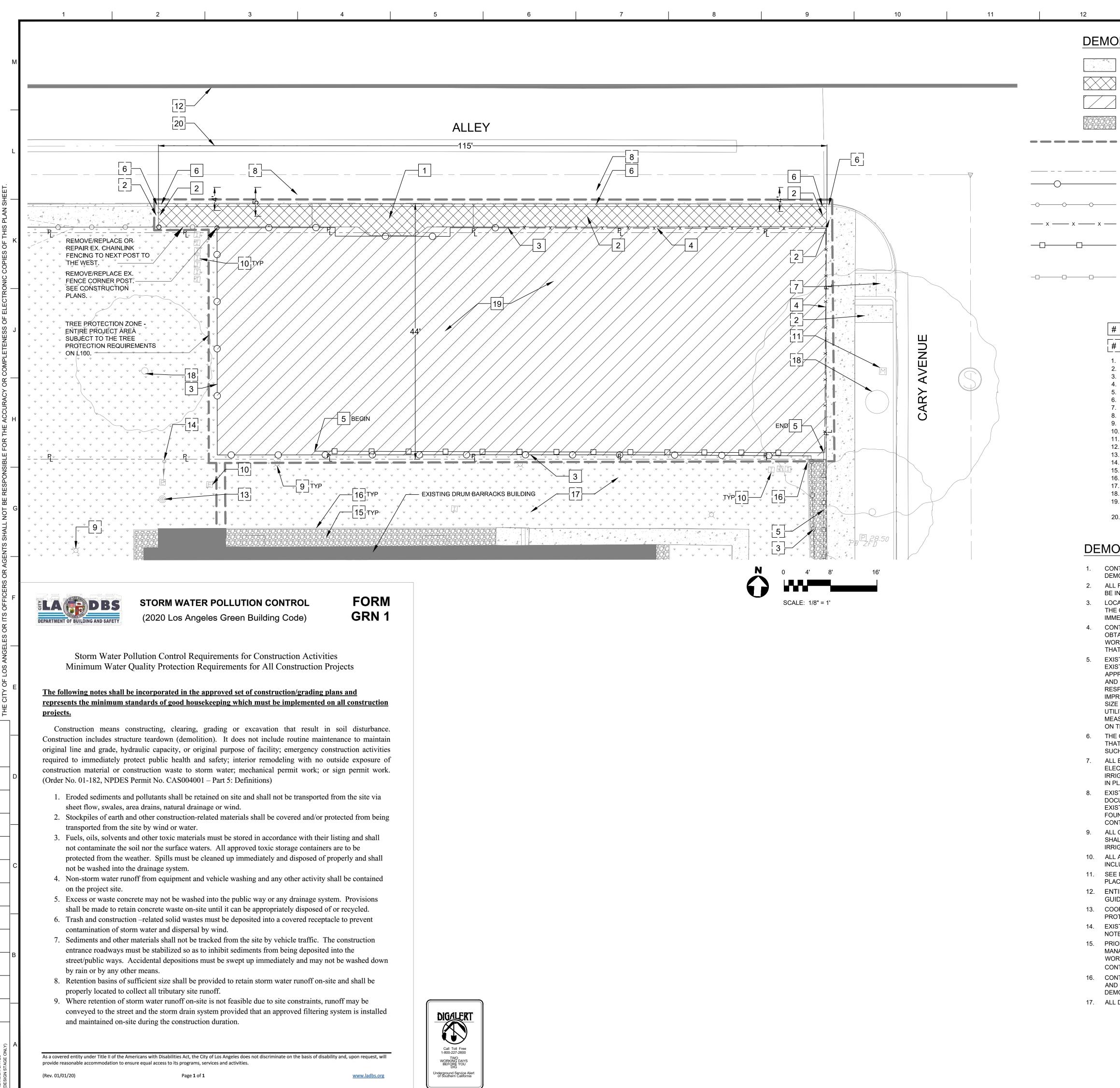
DAMAGES

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



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	UZP/AR	GARY LEE		LANDSCAPE ARCHI	DESIGNED BY:	DRAWN BY:	CHECKED BY:	APPROVED BY:
PROJECT ISSUE DATE: 08/09/2021	LOS ANGELES	CLIENT: DEPARTMENT OF RECREATION & PARKS	GENERAL MANAGER: MICHAEL A. SHULL	SHEET TITLE: TREE PROTECTION NOTES		PROJECT: DRUM BARRACKS CIVIL WAR MUSEUM PARKING LOT DEVELOPMENT	ADDRESS: 1061 CARY AVENUE, WILMINGTON, CA 90744	
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	6' CHAINLINK FENCE TO BE REMOVED AND PROPERLY DISPOSED OFFSITE.)							RAP
	6' CHAINLINK FENCE TO REMAIN. PROTEC PLACE.	T IN							
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EXISTING STRUCTURES AND SUBSTRUCTURES WHICH ARE INDICATED TO BE REMOVED IN THIS CONSTRUCTION DOCUMENTS SHALL BE TOTALLY REMOVED AND DISPOSED OF OFFSITE, UNLESS OTHERWISE INDICATED. EXISTING FACILITIES WHICH ARE DISCOVERED DURING CONSTRUCTION (INCLUDING WALLS, FOOTINGS AND FOUNDATIONS) SHALL BE REPORTED TO AND COORDINATED WITH THE CITY AS TO THEIR REMOVAL. CONTRACTOR WILL NOTIFY THE CITY IN WRITING PRIOR TO COMMENCING THE WORK.

9. ALL COMPONENTS OF ADJACENT IRRIGATION SYSTEMS (VALVES, HEADS, LATERALS, CONTROL WIRING, ETC.) SHALL BE PRESERVED AND RETAINED. CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO ADJACENT IRRIGATION SYSTEMS AND SHALL REPAIR AT NO COST TO THE CITY.

10. ALL ADJACENT IRRIGATION SYSTEMS SHALL REMAIN OPERABLE DURING ALL PHASES OF CONSTRUCTION, INCLUDING DEMOLITION. 11. SEE IRRIGATION PLAN FOR DISPOSAL OF EXISTING IRRIGATION HEADS AND VALVE BOXES, ETC. PROTECT IN

PLACE ALL IRRIGATION SYSTEM COMPONENTS TO REMAIN, TYP. 12. ENTIRE PROJECT AREA IS SUBJECT TO THE REQUIREMENTS LISTED IN THE TREE PROTECTION GUIDELINES. SEE L100.

13. COORDINATE WITH RAP ARBORIST STAFF TO DETERMINE LIMITS OF TREE PROTECTION FENCING. SEE "TREE PROTECTION SPECIFICATIONS" IN THE LANDSCAPE CONSTRUCTION NOTES FOR DETAILED REQUIREMENTS. 14. EXISTING TURF: PROTECT IN PLACE AND REPAIR ANY DAMAGE AS REQUIRED PER LANDSCAPE CONSTRUCTION NOTES.

15. PRIOR TO START OF CONSTRUCTION, THE CONTRACTOR SHALL COORDINATE WITH CONSTRUCTION MANAGER/RAP STAFF TO LOCATE AND DELINEATE THE CONSTRUCTION STAGING AREA. AFTER COMPLETION OF WORK, THE STAGING AREA SHALL BE RESTORED, BY THE CONTRACTOR, TO ITS ORIGINAL CONDITION AT CONTRACTOR'S OWN EXPENSE.

16. CONTRACTOR SHALL OBTAIN A DEMOLITION PERMIT FOR FORMERLY DEMOLISHED RESIDENCE ON THE SITE AND PAY FOR ALL PERMIT FEES. CONTACT LADBS FOR FEE INFORMATION. CITY WILL PROVIDE STAMPED RTI DEMOLITION PLANS. DEMOLITION POSTING NOTICE AND PRE-INSPECTION HAVE ALREADY BEEN COMPLETED. 17. ALL DEBRIS SHALL BE WET AT TIME OF HANDLING TO PREVENT DUST.

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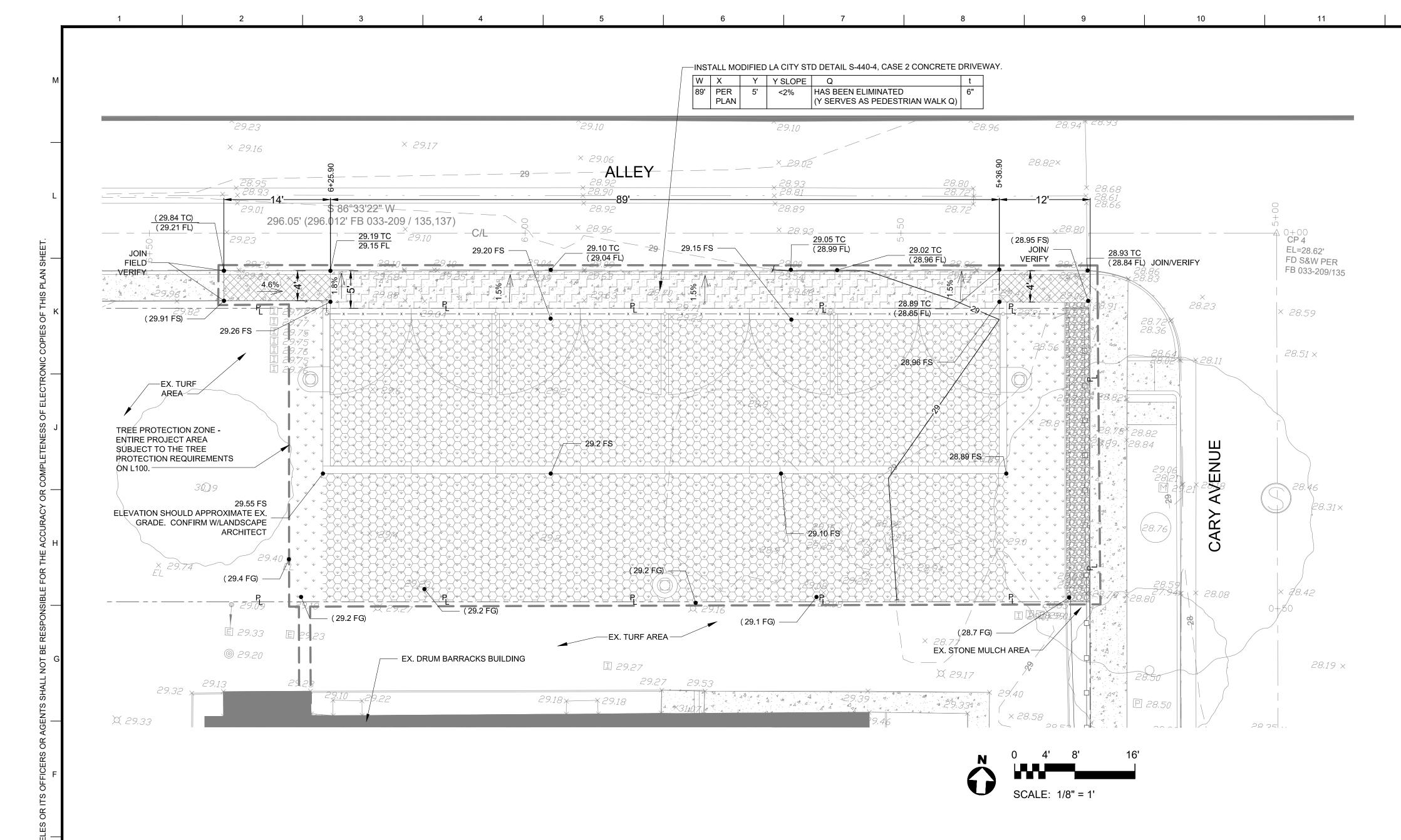
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ESTIMATED EARTHWORK QUANTITY

ESTIMATED CUT = 104 CY (EXCAVATION FOR TURF GRID) ESTIMATED FILL = 0 CY



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LEGEND

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		LIMIT OF WORK (OFFSET FOR CLARITY)
	<u>-</u> Ę	PROPERTY LINE
		PROPOSED CONTOUR
7	00 /	EXISTING CONTOUR
	>	DIRECTION OF SURFACE FLOW
		CONSTRUCT DRIVEWAY PER LA CITY STD DETAIL S-440-4. SEE PLAN NOTES.
		CONSTRUCT CITY SIDEWALK PER CITY STD DETAIL S-444-0.

EX. CONCRETE. PROTECT IN PLACE.

TURF GRID BY INVISIBLE STRUCTURES. INSTALL "BALLFIELD MIX" SOD FROM AG SOD OR APPROVED EQUAL. SEE LANDSCAPE CONSTRUCTION NOTES.

TURF. INSTALL "BALLFIELD MIX" SOD FROM AG SOD OR APPROVED

EQUAL. SEE LANDSCAPE CONSTRUCTION NOTES.

STONE MULCH. INSTALL 3" OF STONE MULCH TO MATCH EXISTING. COMPACT SUBBASE AND MULCH TO 90% COMPACTION. PROVIDE SUBMITTAL FOR APPROVAL.

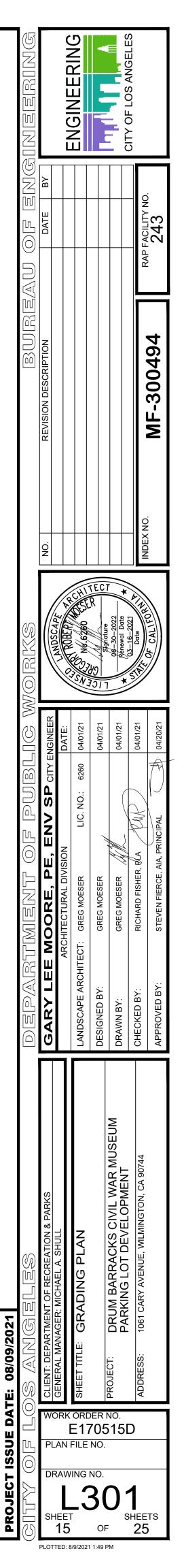
ABBREVIATIONS

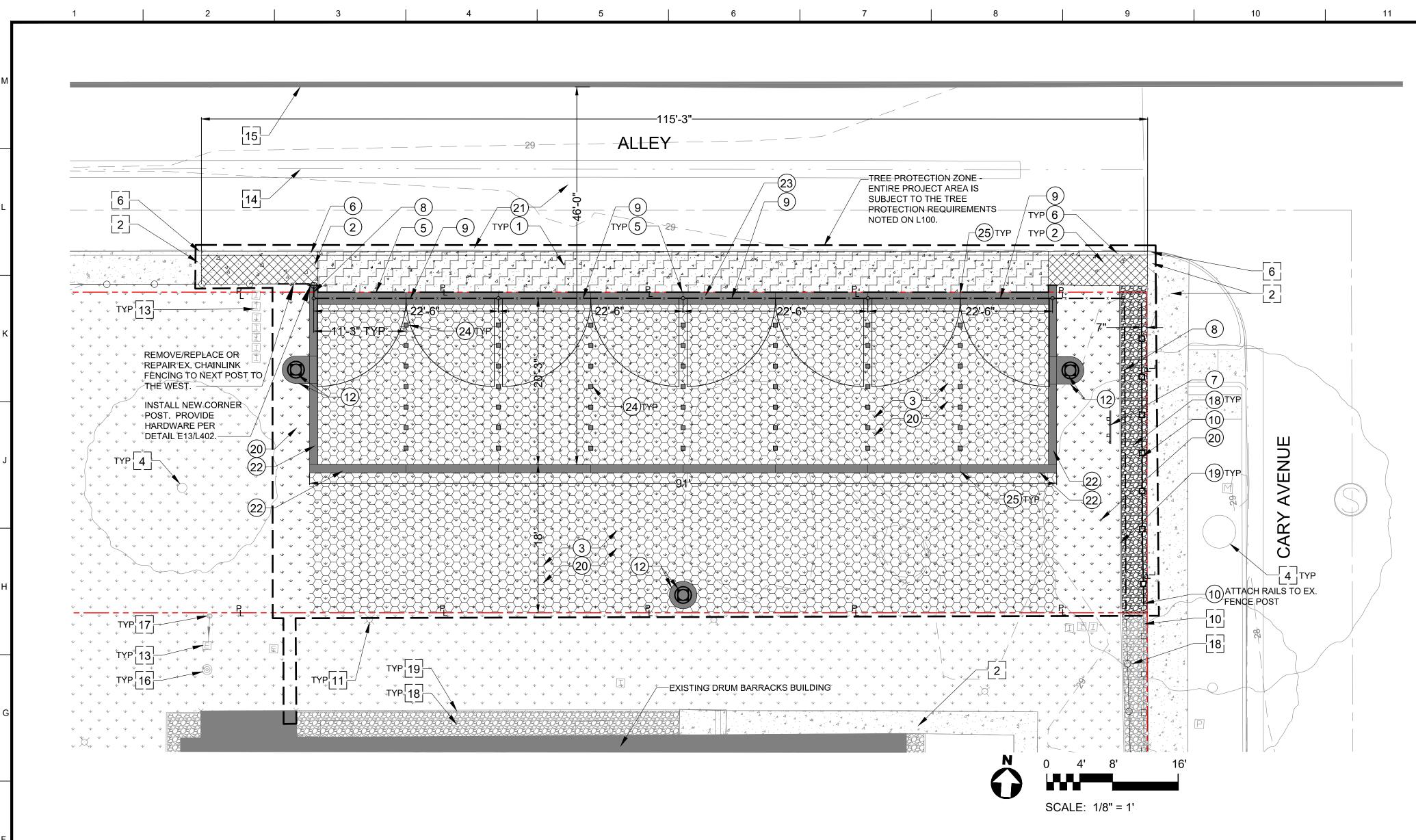
тс	TOP OF CURB	
ΤS	TOP OF SLAB	
BC	BOTTOM OF CURB	
FG	FINISH GRADE	
FS	FINISH SURFACE	
TW	TOP OF WALL	
BW	BOTTOM OF WALL	
GB	GRADE BREAK	
BOS	BACK OF SIDEWALK	

FL	FLOW LINE
EX	EXISTING
HP	HIGH POINT
LP	LOW POINT
PA	PLANTING AREA/MULCH AREA
	REFER TO PLANTING PLAN
IE	INVERT ELEVATION
RE	RIM ELEVATION
(173.2)	EXISTING GRADE
× 29,2	EXISTING GRADE

GRADING NOTES:

- 1) THE CONTRACTOR MUST NOTIFY THE PROJECT MANAGER, BCA INSPECTOR, THE GEOTECHNICAL ENGINEERING DIVISION AT LEAST THREE (3) WORKING DAYS PRIOR TO COMMENCEMENT OF ANY GRADING/CONSTRUCTION OPERATIONS.
- 2) ALL GRADING SHALL BE PERFORMED UNDER THE SUPERVISION OF THE CITY INSPECTOR. THE INSPECTION OF THE WORK AND MATERIALS BY THE BCA INSPECTOR DOES NOT DENOTE ACCEPTANCE NOR RELIEVE THE CONTRACTOR OF HIS/HER RESPONSIBILITIES TO COMPLETE THE WORK IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS. THE CONTRACTOR SHALL NOT BEGIN THE PAVING OPERATION UNTIL THE SUBGRADE HAS BEEN APPROVED BY THE GRADING INSPECTOR AND GEOTECHNICAL ENGINEER.
- 3) CONTRACTOR SHALL BE RESPONSIBLE FOR POSITIVE DRAINAGE ON SURFACE FLOW AREAS AT .75% (MIN.) UNLESS OTHERWISE INDICATED.
- 4) CONTRACTOR SHALL ASSUME STRAIGHT GRADE BETWEEN ELEVATION POINTS LISTED FOR FINISH GRADE OF NEW CONSTRUCTION UNLESS INSTRUCTED OTHERWISE.
- 5) FINISH GRADE OF PLANTING AREAS SHALL BE WITHIN A TOLERANCE OF .04 FEET (1/2") OF GRADING PLAN AS SHOWN. AREAS SHALL BE GENERALLY SMOOTH AND FREE OF RIDGES AND DEPRESSIONS SO AS TO FACILITATE COMPLETE DRAINAGE.
- 6) DO NOT EXCEED A SLOPE OF 4.9% ON PROJECT WALKS. CROSS SLOPE 2% MAX.
- 7) THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL EROSION CONTROL DURING CONSTRUCTION AND MAINTENANCE PERIOD. REFER TO LANDSCAPE CONSTRUCTION NOTES.
- 8) THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITIES AND/OR STRUCTURES SHOWN ON THESE PLANS WERE OBTAINED BY A SEARCH OF THE AVAILABLE RECORDS. APPROVAL OF THESE PLANS BY THE CITY DOES NOT CONSTITUTE A REPRESENTATION AS TO THE ACCURACY OR COMPLETENESS OF THE LOCATION OR THE EXISTENCE OR NONEXISTENCE OR ANY UTILITY AND/OR STRUCTURE WITHIN THE LIMITS OF THIS PROJECT. THE CONTRACTOR IS REQUIRED TO TAKE ALL DUE PRECAUTIONARY MEANS TO PROTECT THE UTILITIES OF RECORD OR NOT OF RECORD OR NOT SHOWN ON THESE PLANS.
- 9) THE GEOTECHNICAL REPORT SHALL BE MADE AS PART OF THIS PLAN. THE CONTRACTOR SHALL FOLLOW THE RECOMMENDATIONS PROVIDED IN THE GEOTECHNICAL REPORT AND CONSTRUCTION SHALL BE PERFORMED UNDER THE SUPERVISION OF THE GEOTECHNICAL ENGINEER.
- 10) ALL FILL OR BACKFILL SHALL BE COMPACTED AS SPECIFIED IN THE GEOTECHICAL REPORT. ALL STORM DRAIN PIPES MUST BE BEDDED IN ACCORDANCE WITH THE GEOTECHNICAL REPORT STORM DRAIN BACKFILL FOR ALL FACILITIES SHALL BE PLACED AND COMPACTED UNDER INSPECTION BY THE CITY OR PROJECT GEOTECHNICAL ENGINEER.
- 11) OVEREXCAVATION IS REQUIRED IN ACCORDANCE WITH THE GEOTECHNICAL REPORT DATED OCTOBER 22, 2020.
- 12) ALL SURVEYING REQUIRED FOR VERTICAL AND HORIZONTAL ALIGNMENT MUST BE PROVIDED BY THE CONTRACTOR BY A LICENSED SURVEYOR AND SUFFICIENT REFERENCE STAKING MUST BE IN ACCORDANCE WITH THE REQUEST OF THE INSPECTOR.
- 13) CONTRACTOR SHALL OBTAIN GRADING PERMIT, NEW NON-BUILDING USE OF LAND PERMIT, AND A-PERMIT AND PAY FOR ALL PERMIT FEES. CONTACT LADBS FOR FEE INFORMATION. CITY TO PROVIDE STAMPED RTI PLANS FOR GRADING AND NEW NON-BUILDING USE OF LAND PERMITS.



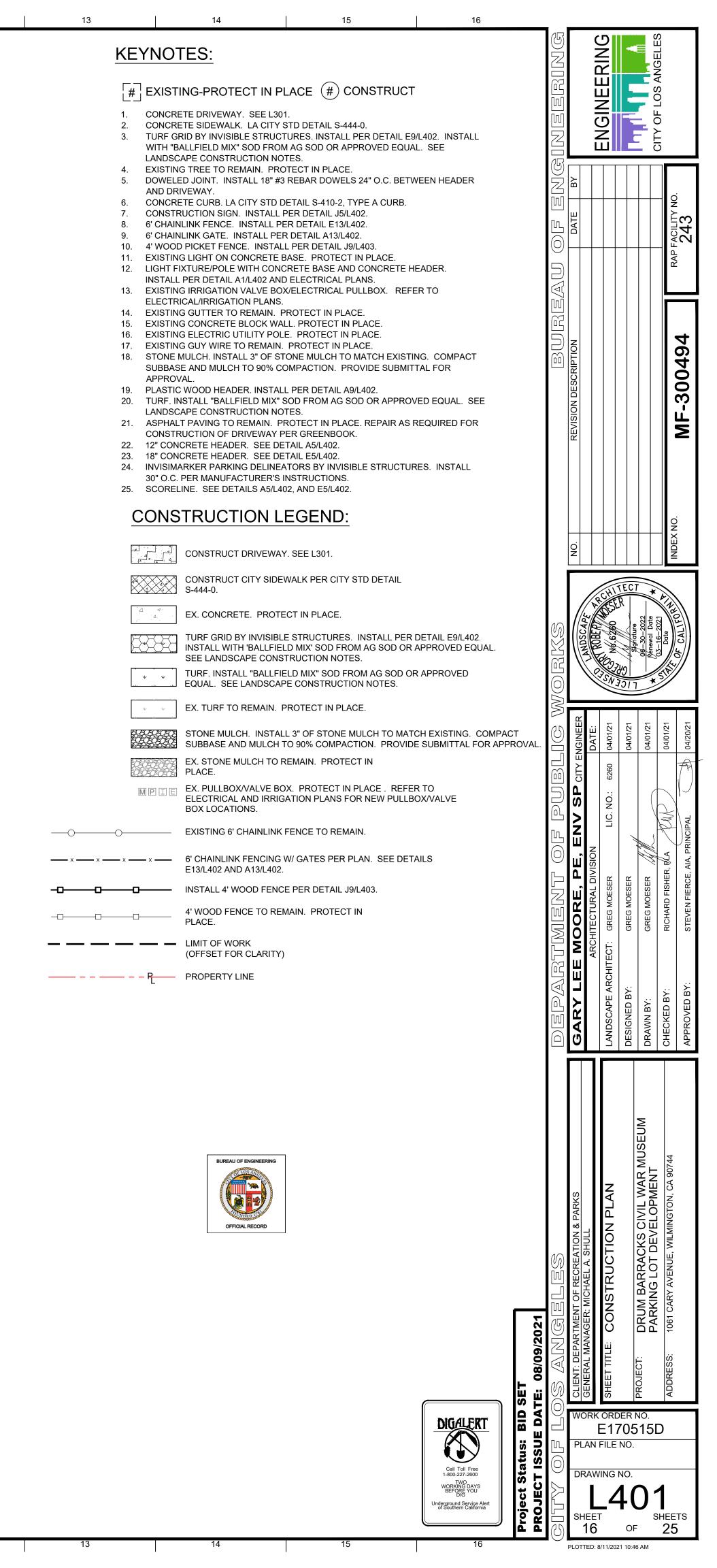


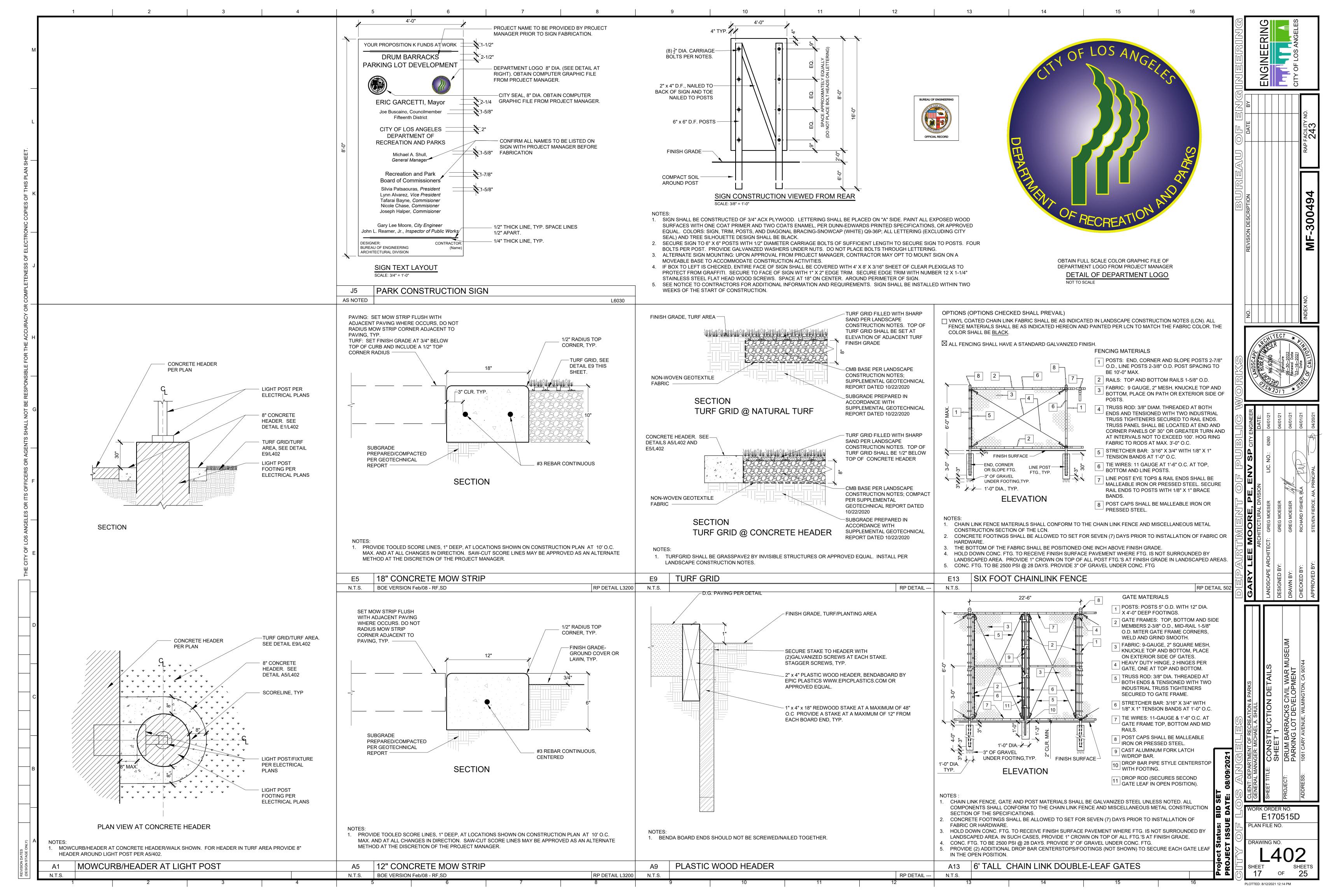
CONSTRUCTION NOTES:

- 1. PRIOR TO START OF CONSTRUCTION, CONTRACTOR SHALL COORDINATE WITH PROJECT MANAGER TO LOCATE AND DELINEATE THE CONSTRUCTION STAGING AREA. SEE GENERAL CONDITIONS AND GENERAL REQUIREMENTS.
- 2. CONSTRUCTION SIGN SHALL BE INSTALLED WITHIN TWO WEEKS OF THE START OF CONSTRUCTION. OBTAIN PROJECT MANAGER'S APPROVAL FOR SIGN LOCATION AND FINAL TEXT PRIOR TO FABRICATION AND INSTALLATION. SEE LANDSCAPE CONSTRUCTION NOTES AND CONSTRUCTION SIGN DETAIL J5/L402.
- 3. LIMIT OF WORK IS AT PROPERTY LINE UNLESS OTHERWISE NOTED HEREIN.
- 4. ALL EXISTING R.O.W. CONCRETE SIDEWALK, STREET TREES, LIGHT FIXTURES/WIRING AND DRAINAGE FIXTURES, ETC. ARE TO BE PROTECTED IN PLACE PER LANDSCAPE CONSTRUCTION NOTES UNLESS OTHERWISE NOTED.
- 5. ALL EXISTING SITE FEATURES SHOWN TO REMAIN OR LOCATED OUTSIDE THE LIMIT OF WORK SHALL BE PROTECTED IN PLACE.
- ADJACENT FENCING AND C.M.U. WALLS OUTSIDE OF PROPERTY LINE SHALL BE PROTECTED IN PLACE AND NOT DISTURBED WITHOUT PROPERTY OWNERS WRITTEN PERMISSION.
- ENTIRE PROJECT AREA IS SUBJECT TO THE REQUIREMENTS LISTED IN THE TREE PROTECTION GUIDELINES. SEE L100.
 ALL MATERIAL AND WORK SHOWN ON THIS PLAN SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR UNLESS OTHERWISE NOTED.
- 9. LAYOUT AND STAKING OF ALL PROJECT ELEMENTS SHALL BE DONE A LICENSED SURVEYOR PROVIDED BY THE CONTRACTOR AT HIS OWN EXPENSE. DIGITAL PLAN FILES SHALL BE PROVIDED BY CITY TO FACILITATE LAYOUT. FINAL LAYOUT AND LOCATION OF ALL PROJECT ELEMENTS SHALL BE REVIEWED AND APPROVED BY THE PROJECT MANAGER PRIOR TO INSTALLATION. CONTRACTOR SHALL REQUEST REVIEW AND APPROVAL OF LAYOUT FOR ANY PROJECT ELEMENTS 48 HOURS MINIMUM IN ADVANCE. SEE LANDSCAPE CONSTRUCTION NOTES.
- 10. CONCRETE INSTALLERS ARE TO COORDINATE WITH THE ELECTRICAL, DRAINAGE AND IRRIGATION INSTALLER/SUBCONTRACTORS FOR SLEEVING, PIPING AND/OR CONDUIT INSTALLATION UNDER OR THROUGH HARDSCAPE ELEMENTS PRIOR TO INSTALLATION OF HARDSCAPE ELEMENTS.

IMPERVIOUS SURFACE:

TOTAL IMPERVIOUS SURFACE WITHIN PROPERTY BOUNDARY=348 SF





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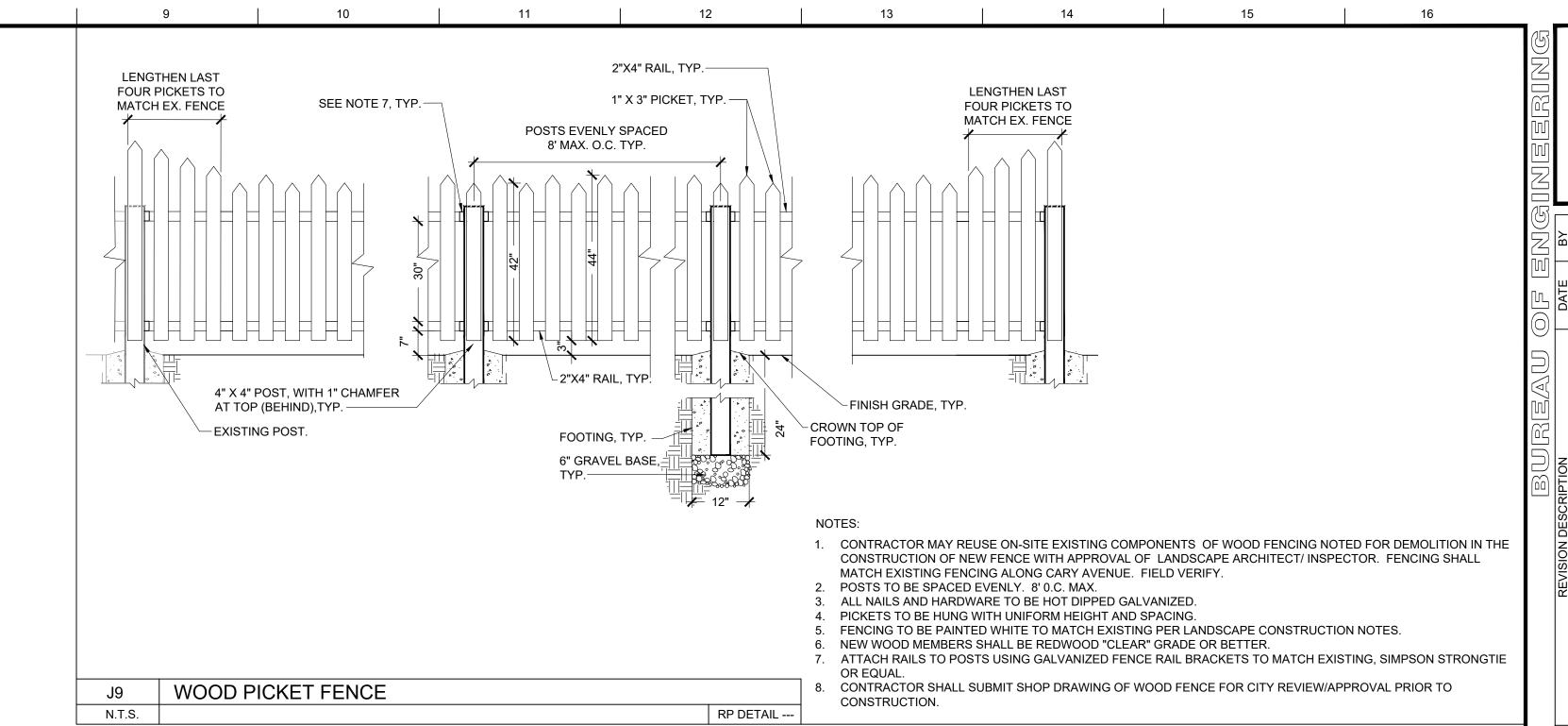
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			GENERAL MANAGER: MICHAEL A. SHULL		
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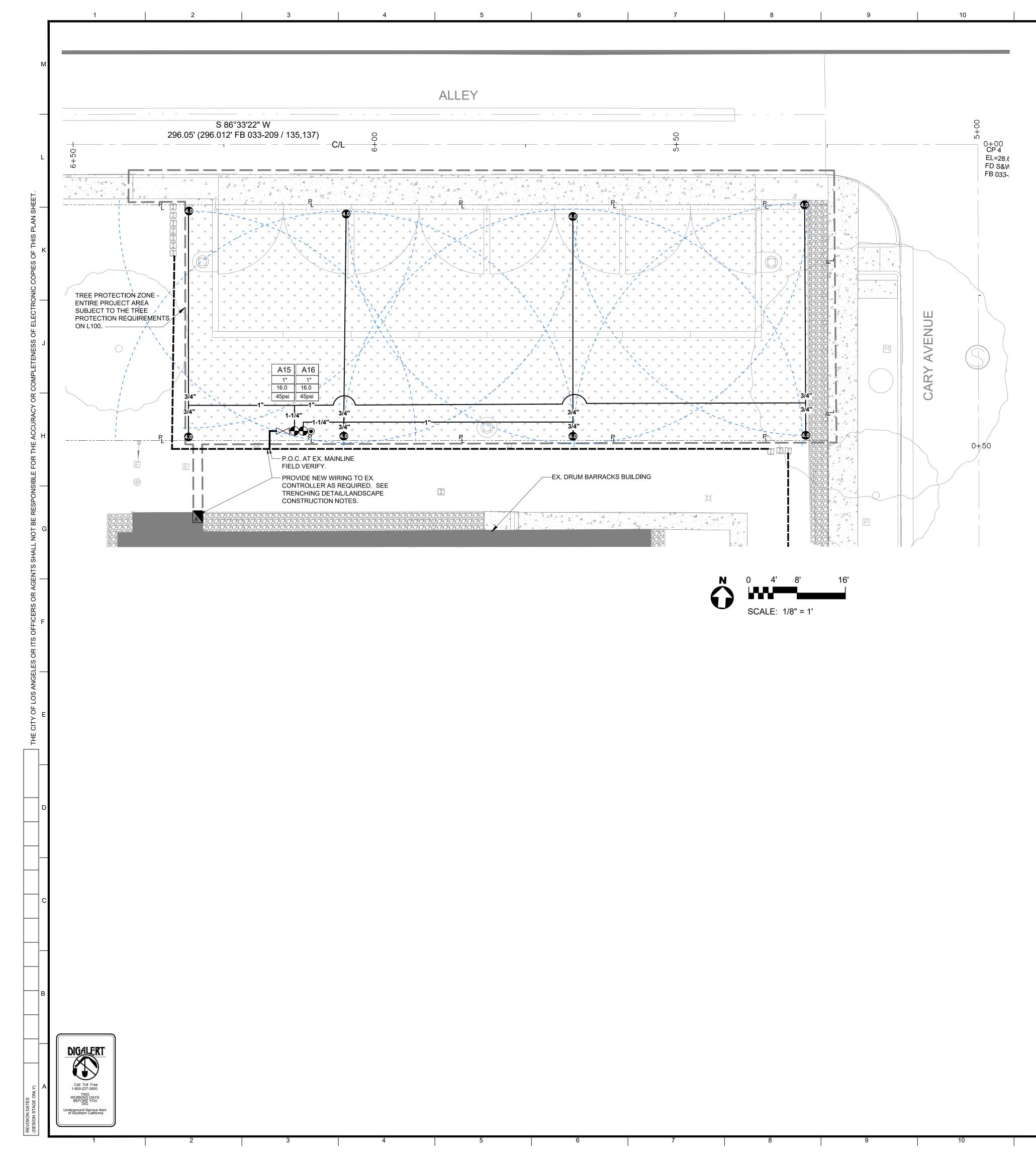
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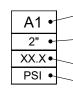
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IRRIG SYMBOL 4.0



IRRIGATION NOTES

AT	ION EQUIPMENT LEGEND	
	DESCRIPTION & REMARKS	DETAIL
	EXISTING RAINBIRD CONTROLLER TO REMAIN. WIRE NEW VALVES TO OPEN STATIONS OF EXISTING CONTROLLER.	
	REMOTE CONTOL VALVE: RAINBIRD EFB-CP BRASS VALVE - SEE PLAN CALLOUT FOR VALVE SIZE. WIRE TO EXISTING CONTROLLER PER DETAILS/LANDSCAPE CONSTRUCTION NOTES.	J5/L602 J13/L602
	TWO PIECE QUICK COUPLING VALVE: RAINBIRD 44LRC, WITH 44K KEY AND SH-1 HOSE SWIVEL. PROVIDE ONE QUICK COUPLER KEY AND HOSE SWIVEL FOR EACH FIVE QUICK COUPLER INSTALLED, (MINIMUM ONE QUICK COUPLER KEY).	E1/L602
	MANIFOLD GATE VALVE. NIBCO T-113-LF OR APPROVED EQUAL.	J9/L602
	2" MAINLINE PIPING, PVC CLASS 200.	J1/L602
	EXISTING 2" MAINLINE PIPING, PVC CLASS 200. FIELD VERIFY. PROTECT IN PLACE.	
	SCH. 40 PVC LATERAL LINE PIPING; SOLVENT WELD. SIZE AS NOTED.	J1/L602
	EXISTING VALVE BOX TO REMAIN. PROTECT IN PLACE.	
	LIMIT OF WORK	

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ł	TION HEADS LEGEND					
	DESCRIPTION & REMARKS	GPM	SPACING	NOZZLE PRESSURE	PRECIP. RATE	DETAIL NUMBER
	RAINBIRD 5004-PC-R-SS WITH 4.0 STD NOZZLE ROTOR WITH STAINLESS STEEL RISER AND PRESSURE REGULATOR.	4.01	38'	45 PSI	.48 IN/HR	E5/L602 E9/L602

Controller & Station No. (Verify with RAP Irrigation staff

13

- Valve Size
- System GPM
- Set PSI Reg.

Typical turf rotor system (number is nozzle size):



HIGH STATIC PRESSURE - 92 PSI

LOW STATIC PRESSURE - 81 PSI

INFORMATION PROVIDED BY LADWP ON 08/21/2019

1. THE SPRINKLER SYSTEM DESIGN IS BASED ON A MINIMUM OPERATING PRESSURE OF 45 P.S.I. AND A MAXIMUM FLOW DEMAND OF16 G.P.M. THE CONTRACTOR SHALL VERIFY WATER PRESSURES 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.

2. 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.

3. 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.

4. 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 ENGAGING IN CONSTRUCTION ACTIVITIES. CONTRACTOR SHALL IMMEDIATELY NOTIFY PROJECT MANAGER OF ANY DISCREPANCIES BETWEEN AS-BUILT AND EXISTING CONDITIONS.

5. 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 REVISIONS.

6. THIS DESIGN IS DIAGRAMMATIC. ALL PIPING, VALVES, ETC. SHOWN WITHIN PAVED 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 THAT PASS UNDER PAVING SHALL BE SLEEVED PER LANDSCAPE CONSTRUCTION NOTES.

7. ANY TRENCHES DUG TO ACCOMMODATE NEW IRRIGATION LINES OR CONDUIT ARE SUBJECT TO THE REQUIREMENTS LISTED IN TREE PROTECTION GUIDELINES, SHEET L100.

8. 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.

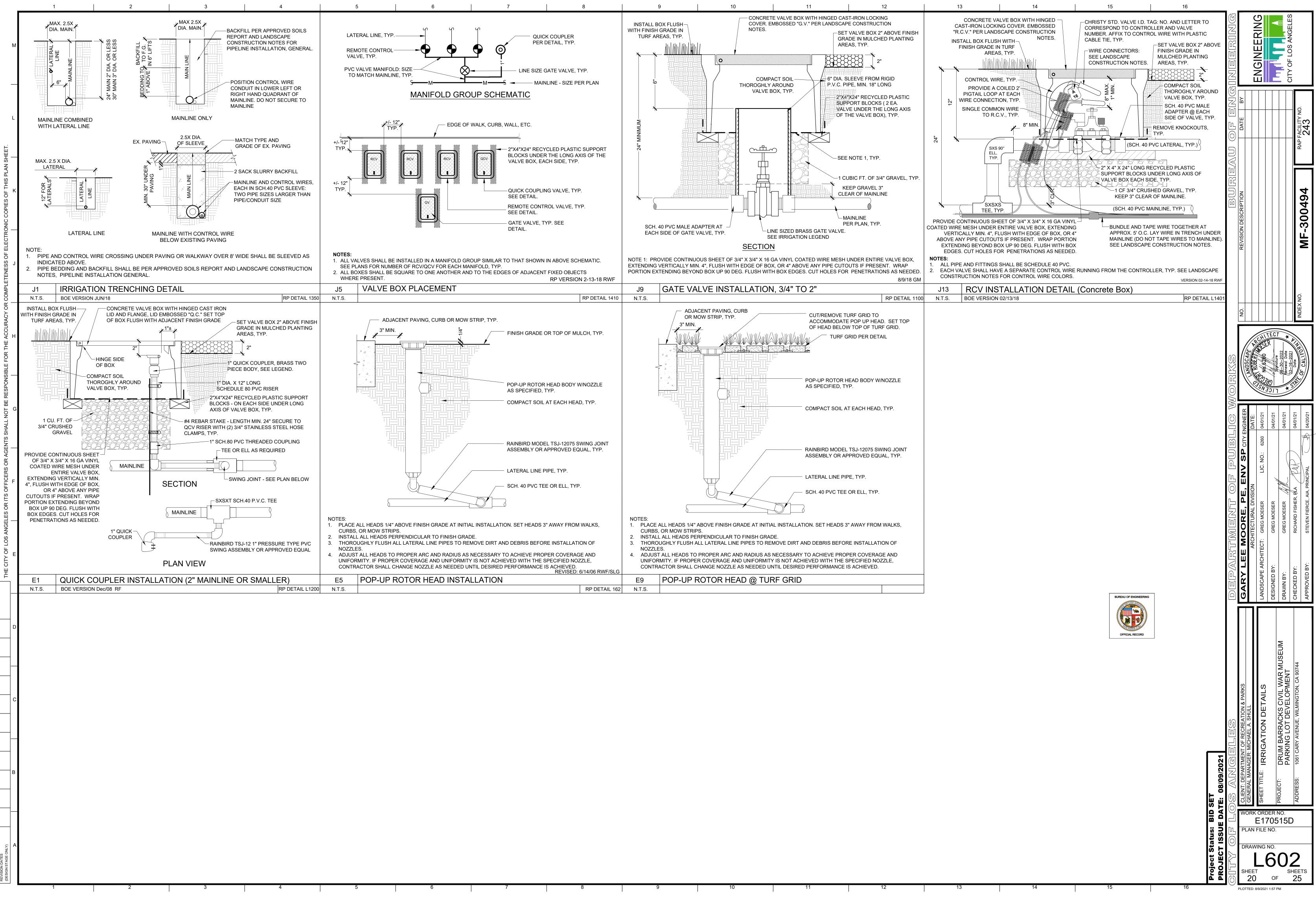
9. THE CONTRACTOR SHALL FLUSH AND PRESSURE TEST ALL MAINLINES PER LANDSCAPE CONSTRUCTION NOTES. CONTRACTOR SHALL FLUSH ALL LATERAL LINES AND IRRIGATION HEADS PER THE LANDSCAPE CONSTRUCTION NOTES.

10. THE INTENT OF THESE IRRIGATION PLANS IS TO PROVIDE 100% COVERAGE TO ALL TURF 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.

11. UPON COMPLETION OF INSTALLATION, CONTRACTOR SHALL CONDUCT A COVERAGE TEST PER LANDSCAPE CONSTRUCTION NOTES. CONTRACTOR SHALL NOTIFY PROJECT MANAGER TO REQUEST THE TEST, WHICH WILL BE SCHEDULED AT THE SOONEST DATE POSSIBLE PER AVAILABILITY OF RAP AND LADWP STAFF.

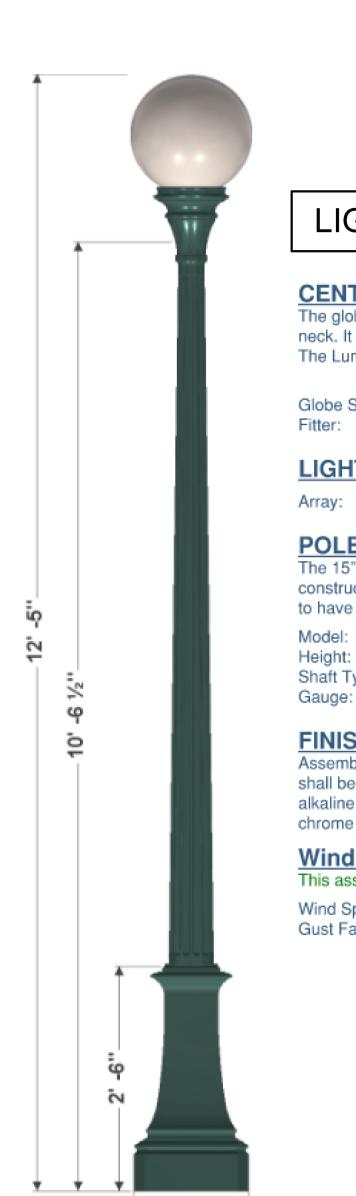
12. REFER TO LANDSCAPE CONSTRUCTION NOTES FOR ADDITIONAL INFORMATION REGARDING THIS SECTION OF WORK.

	INZERING			ENGINEERING			CIT OF LOS ANGELES	
	BUREAU OF ENGINEERING	DATE BY					RAP FACILITY NO	243
	BURE/	REVISION DESCRIPTION						MF-300494
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	NORKS	MDSC40-	LA TOBERT AS	//2//00 No/.6260 PO/2	10	→ 06-30-2022 ★ 66newal Date	AA UA-TO-2021 TAY Date AA	OF CALIFOR
	DEPARTMENT OF PUBLIC WORKS	GARY LEE MOORE, PE, ENV SP CITY ENGINEER	ARCHITECTURAL DIVISION	LANDSCAPE ARCHITECT: GREG MOESER LIC. NO.: 6260 04/01/21	GREG MOESER	GREG MOESER	RICHARD FISHER, BLA PUL	STEVEN FIERCE, AIA, PRINCIPAL
	DEPAR	GARY LE		LANDSCAPE ARCH	DESIGNED BY:	DRAWN BY:	CHECKED BY:	APPROVED BY:
E: 08/09/2021	OS ANGELES	CLIENT: DEPARTMENT OF RECREATION & PARKS	GENERAL MANAGER: MICHAEL A. SHULL	SHEET TITLE: IRRIGATION PLAN		PROJECT: DRUM BARRACKS CIVIL WAR MUSEUM PARKING LOT DEVELOPMENT	ADDRESS: 1061 CARY AVENUE, WILMINGTON, CA 90744	
PROJECT ISSUE DATE: 08/09/2021	GITY OF 1	PL.		FILE ING	705 NO. NO.	515I	С БНЕЕ 25	TS



	G	ENERAL ELECTRICAL SYMBOLS LIST	GENERAL NOTES AND SPECIFICATIONS 1. ELECTICAL CONTRACTOR SHALL PAY FOR ALL NECESSARY ELECTRICAL PERMITS.	MANUFACTURER CATALOGUE NUMBER
			2. COMPLETE ELECTRICAL INSTALLATION SHALL BE GUARANTEED IN WRITING FOR A PERIOD OF (1) YEAR UPON ACCEPTANCE BY THE CITY	
	(E) (R) E	NEXT TO EQUIPMENT, INDICATES TO REMAIN. NEXT TO EQUIPMENT, INDICATES TO BE REMOVED. EXISTING CONDUIT AND WIRES TO REMAIN.	3. ELECTRICAL CONTRACTOR SHALL VISIT THE PROJECT SITE PRIOR TO BID DATE, TO VERIFY ALL EXISTING CONDITIONS TO BE ENCOUNTERED IN THE INSTALLATION OF ALL NEW EQUIPMENT, FIXTURES DEVICES, FEEDERS, ETC. EXACT INSTALLATION METHOD AND REQUIREMENTS SHALL BE VERIFIED AND DETERMINED PRIOR TO BID DATE. CONTRACTORS SHALL IMMEDIATELY NOTIFY THE CITY ENGINEER OF ANY REQUIRED MODIFICATIONS OR DISCREPANCIES WHICH ARE NOT SHOWN ON THESE DRAWINGS. SUBMITTAL OF BID INDICATES CONTRACTOR IS COGNIZANT OF ALL JOB SITE CONDITIONS AND WORK TO BE PREFORMED.	STERNBERG LIGHTING 8410'6"TFP6-3-C/VG
	R (RL)	EXISTING CONDUIT AND WIRES TO BE REMOVED. NEXT TO EQUIPMENT, INDICATES TO BE RELOCATED.	4. ALL EQUIPMENT ELECTRICAL CHARACTERISTICS, LOCATIONS, AND CONNECTION REQUIRMENTS SHALL BE VERIFIED PRIOR TO ANY	
	(RLD)		 ROUGH-IN WORK. 5. COMMUNICATION CONDUIT RUNS GREATER THAN 100 FT. OR WITH MORE THAN (2) RIGHT ANGLE BENDS SHALL HAVE A PULLBOX INSTALLED AT A CONVENTION FOR THE LOCATION 	
	 →	3/4" MINIMUM CONDUIT CONCEALED IN A WALL, CEILING SPACE WITH POWER WIRING. UNLESS OTHERWISE NOTED ON THE ELECTRICAL PLANS.	AT A CONVENIENT INTERMEDIATE LOCATION. 6. COMPLETE ELECTRICAL SYSTEM SHALL BE GROUNDED IN ACCORDANCE WITH THE PRESENTLY ADOPTED EDITION OF THE N.E.C. ART. 250	A STERNBERG LIGHTING PT-G16LED/5P/VCOB-4L/4
		CONDUIT HOMERUN. 3/4" MINIMUM, OR AS NOTED ON THE ELECTRICAL PLANS. DURACLAD MC-PCS DUO ARMORED CABLE WITH LIGHTING POWER AND CONTROL.	7. PROVIDE THE CITY ENGINEER WITH ONE SET OF ELECTRICAL "AS-BUILT" DRAWINGS AT THE COMPLETION OF JOB. SHOW CONDUIT AND EQUIPMENT EXACT LOCTION AND MOUNTING DIMENSIONS ON THE DRAWINGS.	
		WIRES(USE #12 SOLID WIRE FOR POWER AND #16 SOLID FOR CONTROL WIRES.)	8. ALL CONDUITS AND JUNCTION BOXES SHALL BE LOCATED IN CONCEALED SPACES. SURFACE MOUNTED CONDUITS AND BOXES ARE ONLY PERMITTED WHEN PREVIOUSLY DIRECTED BY THE CITY ENGINEER.	
	U	JUNCTION BOX, PLENUM MOUNTED, SIZED BY CONTRACTOR PER ACTUAL NUMBER OF CONDUITS AND/OR CONDUCTORS PASSING THRU	9. ALL EXTERIOR COVER PLATES TO BE PAINTED TO MATCH SURROUNDING COLOR. 10. NO PIPING, DUCTS OR EQUIPMENT FOREIGN TO ELECTRICAL EQUIPMENT SHALL BE PERMITTED TO BE WITHIN THE DEDICATED SPACE	ELECTRICAL SH
	\bigcirc	STANDARD 20A, 120V-1Φ GROUNDING TYPE DUPLEX RECEPTACLE RECESSED MOUNTED AT +18" A.F.F. TO THE CENTER U.O.N.	ABOVE THE ELECTRICAL EQUIPMENT. 11. ALL FUSE HOLDERS SHALL BE REJECTION TYPE.	SHEET NUMBER E001 SYMBOL LIST, NOTES, FIXTURES SO
	\square	CONTROLLED STANDARD 20A, 120V-1Φ GROUNDING TYPE DUPLEX RECEPTACLE RECESSED MOUNTED AT +18" A.F.F. TO THE CENTER U.O.N THE RECEPTACLE	12. ALL BRANCH CIRCUITS SHALL HAVE A SEPARATE NEUTRAL FOR EACH CIRCUIT.	E101 SITE PLAN, SLD & PANEL SCHEDUL E102 PHOTOMETRICS E201 ELECTRICAL SPECIFICATIONS
		SHALL BE PERMANENTLY LABELED "CONTROLLED".	13. ALL REMOVED EQUIPMENT AND MATERIALS SHALL BE REMOVED FROM SITE AND DISPOSED PROPERLY.14. INCLUDE ALL NECESSARY DEMOLITION AS PART OF THE WORK.	E202 ELECTRICAL SPECIFICATIONS
	[™] GFCI	GROUND FAULT CIRCUIT INTERRUPT DUPLEX RECEPTACLE 20Α, 120V-1Φ. SPECIAL USE RECEPTACLE, GROUNDING TYPE, RECESSED MOUNTED AT +42".	15. PULL BOXES BY EISEL ENTERPRICES, SIZED PER CEC. 16. THE NEW LIGHTING CONTROLS SHALL MEET THE ACCEPTANCE REQUIREMENTS FOR CODE COMPLIANCE IN ACCORDANCE WITH TITLE-24	
	\square	ABOVE THE FINISHED FLOOR TO THE CENTER, UNLESS OTHERWISE NOTED. THE VOLTAGE SHALL BE SPECIFIED.	SECTION 130.4. THE ACCEPTANCE TESTING OF THE LIGHTING SYSTEM SHALL BE PERFORMED BY A CERTIFIED "LIGHTING CONTROLS ACCEPTANCE TEST TECHNICIAN" SELECTED BY THE CONTRACTOR.	ELECTRICAL SCOPE
	\bigoplus	STANDARD 20A, 120V-1Φ GROUNDING TYPE DOUBLE DUPLEX RECEPTACLE RECESSED MOUNTED AT +18" A.F.F. TO THE CENTER U.O.N	17. THESE DRAWINGS ARE DIAGRAMMATIC AND REPRESENT THE INTENT OF EQUIPMENT, DEVICES, ETC TO BE CONNECTED AND THE CIRCUITS TO WHICH THEY ARE TO BE CONNECTED TO. THE CONTRACTOR SHALL INSTALL ALL CONDUIT, J-BOXES, ETC AS REQUIRED FOR	
	$\oplus_{\mathbf{c}}$	CONTROLLED STANDARD 20A, 120V-10 GROUNDING TYPE DOUBLE DUPLEX RECEPTACLE RECESSED MOUNTED AT +18" A.F.F. TO THE CENTER U.O.N HALF	A COMPLETE AND OPERATING SYSTEM.	
L	⊢C ⊢(C)~~~∘	SHADING INDICATES HALF CONTROLLED. FURNITURE COMMUNICATION FEED, FROM THE WALL.PROVIDE 1"C.O TO THE	18. COORDINATE WITH THE LANDSCAPE ARCHITECT TO AVOID ROUTING BELOW GRADE CONDUIT WITHIN THE DRIP LINES OF THE NEW AND EXISTING TREES.	
	⊢(P)~~~o	FURNITURE POWER FEED, FROM THE WALL.	19. COORDINATE WITH THE LANDSCAPE ARCHITECT TO AVOID ROUTING BELOW GRADE CONDUIT THROUGH THE INFILTRATION GALLERY (GALLERIES).	
Г		WALL COMBINATION TELEPHONE AND DATA OUTLET AT +18" ABOVE THE FINISHED	20. USE SCHEDULE 40 P.V.C. CONDUIT UNDERGROUND WITH A CODE SIZED GROUND. CONDUIT RISERS, STUBS ABOVE GRADE, AND UNDERGOUND CONDUIT ELBOWS, SHALL BE P.V.C. SCHEDULE 80.	TITLE 24 NO
	V	FLOOR, UNLESS OTHERWISE NOTED.PROVIDE 3/4"C.O TO THE COMMUNICATION ROOM. WALL COMBINATION DATA ONLY OUTLET AT +18" ABOVE THE FINISHED FLOOR,	 21. THE ELECTRICAL CONTRACTOR SHALL FURNISH, TO THE CITY ENGINEER, SHOP DRAWINGS FOR REVIEW PRIOR TO INSTALLATION AND PRODUCT DELIVERY. 22. PER RECREATION AND PARK DEPARTMENT'S REQUEST, ALL NEW CONCRETE PULLBOXES BY EISEL INDUSTRIES SHOWN ON THIS PROJECT 	1. TITLE 24 PLANCHECK IS EXEMPT DUE TO TITLE 24, PART 11 SE EXCEPTION 12 TO SECTION 140.7(A).
	✓	UNLESS OTHERWISE NOTED.PROVIDE 3/4"C.O TO THE COMMUNICATION ROOM.	SHALL BE TACK WELD SHUT, IF IT IS ONLY ACCEPTABLE AND APPROVED BY THE BUILDING ABD SAFETY ELECTRICAL SITE INSPECTOR PRIOD TO FINAL INSPETION.	۲
		CEILING MOUNTED ILLUMINATED EXIT SIGN, WITH NUMBER OF FACES INDICATED BY SHADING, ARROWS INDICATE DIRECTION OF EGRESS PATH		
	\$ ^a	STANDARD 20A, 120/277V-1Φ SPST TOGGLE SWITCH MOUNTED AT +42" A.F.F. TO THE CENTER U.O.N. a,b - DENOTES TWO SWITCHES AND THEIR RESPECTIVE CONTROL ID. 3 - DENOTES 3-WAY SWITCH 4 - DENOTES 4-WAY SWITCH	TELEPHONE AND COMMUNICATIONS SYSTEM NOTE AS APPLICABLE	
		K - KEY SWITCH		
	\$a 1//D	LOW VOLTAGE DIMMER SWITCH MOUNTED @ 42" A.F.F. TO THE CENTER, BY "WATT STOPPEP"	1. THE TELEPHONE AND COMMUNICATIONS (INTERNET) SERVICE SHALL BE PROVIDED BY OTHERS. THE	
	\$ ^a LVD	LOW VOLTAGE DIMMER SWITCH MOUNTED @ 42" A.F.F. TO THE CENTER, BY "WATT STOPPER" a - DENOTES THE CONTROLLED LIGHTS	CONDUIT ONLY, WITH PULL WIRES AND JUNCTION BÓXES, SHALL BE INSTALLED FOR THE TELEPHONE AND COMMUNICATIONS SERVICE AS INDICATED ON PLAN. ALL CONDUITS AND PULL WIRES SHALL TERMINATE IN	
	\$ ^a _{LVD}	STOPPER" a - DENOTES THE CONTROLLED LIGHTS LOW VOLTAGE SWITCH MOUNTED @ 42" A.F.F. TO THE CENTER, BY "WATT STOPPER" CATALOGUE # LMSW-100, U.O.N	CONDUIT ONLY, WITH PULL WIRES AND JUNCTION BOXES, SHALL BE INSTALLED FOR THE TELEPHONE AND	
	\$ ^a _{LV}	STOPPER" a - DENOTES THE CONTROLLED LIGHTS LOW VOLTAGE SWITCH MOUNTED @ 42" A.F.F. TO THE CENTER, BY "WATT STOPPER" CATALOGUE # LMSW-100, U.O.N a - DENOTES THE CONTROLLED LIGHTS	CONDUIT ONLY, WITH PULL WIRES AND JUNCTION BÓXES, SHALL BE INSTALLED FOR THE TELEPHONE AND COMMUNICATIONS SERVICE AS INDICATED ON PLAN. ALL CONDUITS AND PULL WIRES SHALL TERMINATE IN	
	\$ ^a _{LV} \$ ^a _D	STOPPER" a - DENOTES THE CONTROLLED LIGHTS LOW VOLTAGE SWITCH MOUNTED @ 42" A.F.F. TO THE CENTER, BY "WATT STOPPER" CATALOGUE # LMSW-100, U.O.N a - DENOTES THE CONTROLLED LIGHTS LINE VOLTAGE DIMMER SWITCH MOUNTED @ 42" A.F.F. TO THE CENTER, a - DENOTES THE CONTROLLED LIGHTS	CONDUIT ONLY, WITH PULL WIRES AND JUNCTION BÓXES, SHALL BE INSTALLED FOR THE TELEPHONE AND COMMUNICATIONS SERVICE AS INDICATED ON PLAN. ALL CONDUITS AND PULL WIRES SHALL TERMINATE IN THE COMMUNICATIONS ROOM. (E) NEXT TO EQUIPMENT, INDICATES TO REMAIN.	LIGHT POLE S
	\$ ^a _{LV} \$ ^a _D	STOPPER" a - DENOTES THE CONTROLLED LIGHTS LOW VOLTAGE SWITCH MOUNTED @ 42" A.F.F. TO THE CENTER, BY "WATT STOPPER" CATALOGUE # LMSW-100, U.O.N a - DENOTES THE CONTROLLED LIGHTS LINE VOLTAGE DIMMER SWITCH MOUNTED @ 42" A.F.F. TO THE CENTER, a - DENOTES THE CONTROLLED LIGHTS TWO-WAY CEILING MOUNTED OCCUPANCY SENSOR	CONDUIT ONLY, WITH PULL WIRES AND JUNCTION BÓXES, SHALL BE INSTALLED FOR THE TELEPHONE AND COMMUNICATIONS SERVICE AS INDICATED ON PLAN. ALL CONDUITS AND PULL WIRES SHALL TERMINATE IN THE COMMUNICATIONS ROOM.	CENTER POST TOP
	\$ ^a _{LV} \$ ^a _D OSD	STOPPER" a - DENOTES THE CONTROLLED LIGHTS LOW VOLTAGE SWITCH MOUNTED @ 42" A.F.F. TO THE CENTER, BY "WATT STOPPER" CATALOGUE # LMSW-100, U.O.N a - DENOTES THE CONTROLLED LIGHTS LINE VOLTAGE DIMMER SWITCH MOUNTED @ 42" A.F.F. TO THE CENTER, a - DENOTES THE CONTROLLED LIGHTS	CONDUIT ONLY, WITH PULL WIRES AND JUNCTION BÓXES, SHALL BE INSTALLED FOR THE TELEPHONE AND COMMUNICATIONS SERVICE AS INDICATED ON PLAN. ALL CONDUITS AND PULL WIRES SHALL TERMINATE IN THE COMMUNICATIONS ROOM. (E) NEXT TO EQUIPMENT, INDICATES TO REMAIN. (R) NEXT TO EQUIPMENT, INDICATES TO REMAIN. ————————————————————————————————————	CENTER POST TOP I The globe is offered in sizes ran neck. It will be made of dent res
	\$ ^a _{LV} \$ ^a _D	STOPPER" a - DENOTES THE CONTROLLED LIGHTS LOW VOLTAGE SWITCH MOUNTED @ 42" A.F.F. TO THE CENTER, BY "WATT STOPPER" CATALOGUE # LMSW-100, U.O.N a - DENOTES THE CONTROLLED LIGHTS LINE VOLTAGE DIMMER SWITCH MOUNTED @ 42" A.F.F. TO THE CENTER, a - DENOTES THE CONTROLLED LIGHTS TWO-WAY CEILING MOUNTED OCCUPANCY SENSOR	CONDUIT ONLY, WITH PULL WIRES AND JUNCTION BÓXES, SHALL BE INSTALLED FOR THE TELEPHONE AND COMMUNICATIONS SERVICE AS INDICATED ON PLAN. ALL CONDUITS AND PULL WIRES SHALL TERMINATE IN THE COMMUNICATIONS ROOM. (E) NEXT TO EQUIPMENT, INDICATES TO REMAIN. (R) NEXT TO EQUIPMENT, INDICATES TO REMAIN. (R) NEXT TO EQUIPMENT, INDICATES TO BE REMOVED. ————————————————————————————————————	CENTER POST TOP I The globe is offered in sizes rar
	\$ ^a _{LV} \$ ^a _D (OS) ↓ OS) ↓ PP	STOPPER" a - DENOTES THE CONTROLLED LIGHTS LOW VOLTAGE SWITCH MOUNTED @ 42" A.F.F. TO THE CENTER, BY "WATT STOPPER" CATALOGUE # LMSW-100, U.O.N a - DENOTES THE CONTROLLED LIGHTS LINE VOLTAGE DIMMER SWITCH MOUNTED @ 42" A.F.F. TO THE CENTER, a - DENOTES THE CONTROLLED LIGHTS TWO-WAY CEILING MOUNTED OCCUPANCY SENSOR 0-10V DIMMING WALL MOUNTED OCCUPANCY SENSOR/SWITCH. LINE VOLTAGE WALL MOUNTED OCCUPANCY SENSOR/SWITCH. POWERPACK DIMMING MODULE .	CONDUIT ONLY, WITH PULL WIRES AND JUNCTION BÓXES, SHALL BE INSTALLED FOR THE TELEPHONE AND COMMUNICATIONS SERVICE AS INDICATED ON PLAN. ALL CONDUITS AND PULL WIRES SHALL TERMINATE IN THE COMMUNICATIONS ROOM. (E) NEXT TO EQUIPMENT, INDICATES TO REMAIN. (R) NEXT TO EQUIPMENT, INDICATES TO REMAIN. (R) NEXT TO EQUIPMENT, INDICATES TO BE REMOVED. ————————————————————————————————————	CENTER POST TOP I The globe is offered in sizes ran neck. It will be made of dent res The Luminaire shall be UL listed Globe Size: 16 Inch White
	\$ ^a _{LV} \$ ^a _D OS 	STOPPER" a - DENOTES THE CONTROLLED LIGHTS LOW VOLTAGE SWITCH MOUNTED @ 42" A.F.F. TO THE CENTER, BY "WATT STOPPER" CATALOGUE # LMSW-100, U.O.N a - DENOTES THE CONTROLLED LIGHTS LINE VOLTAGE DIMMER SWITCH MOUNTED @ 42" A.F.F. TO THE CENTER, a - DENOTES THE CONTROLLED LIGHTS TWO-WAY CEILING MOUNTED OCCUPANCY SENSOR 0-10V DIMMING WALL MOUNTED OCCUPANCY SENSOR/SWITCH. LINE VOLTAGE WALL MOUNTED OCCUPANCY SENSOR/SWITCH.	CONDUIT ONLY, WITH PULL WIRES AND JUNCTION BÓXES, SHALL BE INSTALLED FOR THE TELEPHONE AND COMMUNICATIONS SERVICE AS INDICATED ON PLAN. ALL CONDUITS AND PULL WIRES SHALL TERMINATE IN THE COMMUNICATIONS ROOM.	CENTER POST TOP I The globe is offered in sizes ran neck. It will be made of dent res The Luminaire shall be UL listed Globe Size: 16 Inch White Fitter: 5P
ĪN	\$ ^a _{LV} \$ ^a _D (OS) ↓ OS) ↓ PP	STOPPER" a - DENOTES THE CONTROLLED LIGHTS LOW VOLTAGE SWITCH MOUNTED @ 42" A.F.F. TO THE CENTER, BY "WATT STOPPER" CATALOGUE # LMSW-100, U.O.N a - DENOTES THE CONTROLLED LIGHTS LINE VOLTAGE DIMMER SWITCH MOUNTED @ 42" A.F.F. TO THE CENTER, a - DENOTES THE CONTROLLED LIGHTS TWO-WAY CEILING MOUNTED OCCUPANCY SENSOR 0-10V DIMMING WALL MOUNTED OCCUPANCY SENSOR/SWITCH. LINE VOLTAGE WALL MOUNTED OCCUPANCY SENSOR/SWITCH. LINE VOLTAGE WALL MOUNTED OCCUPANCY SENSOR/SWITCH. EMERGENCY LIGHTING MODULE. SINGLE-PHASE EMERGENCY LIGHTING INVERTER BY "DUAL LITE",	CONDUIT ONLY, WITH PULL WIRES AND JÜNCTION BÓXES, SHALL BE INSTALLED FOR THE TELEPHONE AND COMMUNICATIONS SERVICE AS INDICATED ON PLAN. ALL CONDUITS AND PULL WIRES SHALL TERMINATE IN THE COMMUNICATIONS ROOM.	CENTER POST TOP I The globe is offered in sizes ran neck. It will be made of dent res The Luminaire shall be UL listed Globe Size: 16 Inch White Fitter: 5P LIGHT SOURCE: -VC
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	\$ ^a _{LV} \$ ^b _D OS OS PP EM NVERTER	STOPPER" a - DENOTES THE CONTROLLED LIGHTS LOW VOLTAGE SWITCH MOUNTED Q, 42" A.F.F. TO THE CENTER, BY "WATT STOPPER" CATALOGUE # LIMSW.100, U.O.N. a - DENOTES THE CONTROLLED LIGHTS LINE VOLTAGE DIMMER SWITCH MOUNTED Q, 42" A.F.F. TO THE CENTER, a - DENOTES THE CONTROLLED LIGHTS TWO-WAY CEILING MOUNTED OCCUPANCY SENSOR 0-10V DIMMING WALL MOUNTED OCCUPANCY SENSOR/SWITCH. LINE VOLTAGE WALL MOUNTED OCCUPANCY SENSOR/SWITCH. INE VOLTAGE WALL MOUNTED OCCUPANCY SENSOR/SWITCH. POWERPACK DIMMING MODULE . EMERGENCY LIGHTING CONTROL MODULE. SINGLE-PHASE EMERGENCY LIGHTING INVERTER BY "DUAL LITE", CATALOGE# DLS-525-277 LINEAR LED LIGHT FIXTURE: FOR EXACT LENGTH REFER TO LIGHTING PLAN. EM AND/OR HALF SHADED LIGHTING FIXTURE INDICATES FIXTURE ON EMERGENCY CIRCUIT. N.L. INDICATES FIXTURE ON NIGHT LIGHT CIRCUIT. RECESSED/SURFACE LED DOWNLIGHT FIXTURE. EM AND/OR HALF SHADED LIGHTING FIXTURE INDICATES FIXTURE ON EMERGENCY CIRCUIT. N.L. INDICATES FIXTURE ON NIGHT LIGHT CIRCUIT. NEMA 3R FUSED DISCONNECT SWITCH. SURFACE MOUNTED ELECTRICAL PANEL RECESSED MOUNTED ELECTRICAL PANEL RECESSED MOUNTED ELECTRICAL PANEL TRANSFORMER	CONDUIT ONLY, WITH PULL WIRES AND JUNCTION BÓXES, SHALL BE INSTALLED FOR THE TELEPHONE AND COMMUNICATIONS ROOM. SYMBOL LIST (E) NEXT TO EQUIPMENT, INDICATES TO REMAIN. (R) NEXT TO EQUIPMENT, INDICATES TO REMAIN. (R) NEXT TO EQUIPMENT, INDICATES TO BE REMOVED. (R) NEXT TO EQUIPMENT, INDICATES RELOCATED. (RL) NEXT TO EQUIPMENT, INDICATES NEW. C.O. INDICATES CONDUIT AND WIRES TO REMOVED. (RL) NEXT TO EQUIPMENT, INDICATES NEW. C.O. INDICATES CONDUIT AND WIRES TO REMOVED. (RL) NEXT TO EQUIPMENT, INDICATES NEW. C.O. INDICATES CONDUIT AND WIRES TO REMOVED. (RL) NEXT TO EQUIPMENT, INDICATES NEW. C.O. INDICATES CONDUIT AND WIRES TO REMOVED. (RL) NEXT TO EQUIPMENT, INDICATES NEW. C.O. INDICATES SOULT ONLY. (A) NEW TO DESTINATION AS INDICATED. (RL) NEW TO DESTINATION AS INDICATES. (RL) NEW TO DESTINATION AS INDICATES. (RL) NEW TO DESTINATION AS INDICATES. (RL) NEW TO DESTINATION CONTROLLER (RL) A AMP A MPERE(S) A.C. ABOVE FINISH FLOOR A.F. ADOVE FINISH FLOOR A.F. C. CONDUIT C. C. CONDUIT ONLY WIPLIL ROPE C.U. C. CONDUIT (B) NEXT TO EQUIPMENT , INDICATES EXISTING TO REMAIN (E) NEXT TO EQUIPMENT , INDI	Image: Section 1 Image: Section 2 Image: Section 2
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	\$ ^a _{LV} \$ ^b _D OS OS PP EM NVERTER	STOPPER" a - DENOTES THE CONTROLLED LIGHTS LOW VOLTAGE SWITCH MOUNTED Q, 42" A.F.F. TO THE CENTER, BY "WATT STOPPER" CATALOGUE # LIMSW.100, U.O.N. a - DENOTES THE CONTROLLED LIGHTS LINE VOLTAGE DIMMER SWITCH MOUNTED Q, 42" A.F.F. TO THE CENTER, a - DENOTES THE CONTROLLED LIGHTS TWO-WAY CEILING MOUNTED OCCUPANCY SENSOR 0-10V DIMMING WALL MOUNTED OCCUPANCY SENSOR/SWITCH. LINE VOLTAGE WALL MOUNTED OCCUPANCY SENSOR/SWITCH. INE VOLTAGE WALL MOUNTED OCCUPANCY SENSOR/SWITCH. POWERPACK DIMMING MODULE . EMERGENCY LIGHTING CONTROL MODULE. SINGLE-PHASE EMERGENCY LIGHTING INVERTER BY "DUAL LITE", CATALOGE# DLS-525-277 LINEAR LED LIGHT FIXTURE: FOR EXACT LENGTH REFER TO LIGHTING PLAN. EM AND/OR HALF SHADED LIGHTING FIXTURE INDICATES FIXTURE ON EMERGENCY CIRCUIT. N.L. INDICATES FIXTURE ON NIGHT LIGHT CIRCUIT. RECESSED/SURFACE LED DOWNLIGHT FIXTURE. EM AND/OR HALF SHADED LIGHTING FIXTURE INDICATES FIXTURE ON EMERGENCY CIRCUIT. N.L. INDICATES FIXTURE ON NIGHT LIGHT CIRCUIT. NEMA 3R FUSED DISCONNECT SWITCH. SURFACE MOUNTED ELECTRICAL PANEL RECESSED MOUNTED ELECTRICAL PANEL RECESSED MOUNTED ELECTRICAL PANEL TRANSFORMER	COMDUT ONLY, WITH PULL WIRES AND JUNCTION BOXES, SHALL BE INSTALLED FOR THE TELEPHONE AND COMMUNICATIONS SPROM.	CENTER POST TOP I The globe is offered in sizes rar neck. It will be made of dent res The Luminaire shall be UL listed Globe Size: 16 Inch White Fitter: 5P LIGHT SOURCE: -VC Array: 4 LEDS (VCC POLE: 8410'6''TFP6-3 The 15'' square cast 356 alumin construction. The pole shall be to have a tolerance of ± 2'' Model: 8400 Monrowi Height: 10 Ft 6 In (TF Shaft Type: Fluted Tapere Gauge: Varied Wall T FINISH: VG DE Seembly shall be powder coats shall be chemically cleaned and alkaline cleaning, rinsing, phose chrome sealing to ensure corror Wind Load Evaluatio
	\$ ^a _{LV} \$ ^b _D OS OS PP EM NVERTER	STOPPER" a - DENOTES THE CONTROLLED LIGHTS LOW VOLTAGE SWITCH MOUNTED Q, 42" A.F.F. TO THE CENTER, BY "WATT STOPPER" CATALOGUE # LIMSW.100, U.O.N. a - DENOTES THE CONTROLLED LIGHTS LINE VOLTAGE DIMMER SWITCH MOUNTED Q, 42" A.F.F. TO THE CENTER, a - DENOTES THE CONTROLLED LIGHTS TWO-WAY CEILING MOUNTED OCCUPANCY SENSOR 0-10V DIMMING WALL MOUNTED OCCUPANCY SENSOR/SWITCH. LINE VOLTAGE WALL MOUNTED OCCUPANCY SENSOR/SWITCH. INE VOLTAGE WALL MOUNTED OCCUPANCY SENSOR/SWITCH. POWERPACK DIMMING MODULE . EMERGENCY LIGHTING CONTROL MODULE. SINGLE-PHASE EMERGENCY LIGHTING INVERTER BY "DUAL LITE", CATALOGE# DLS-525-277 LINEAR LED LIGHT FIXTURE: FOR EXACT LENGTH REFER TO LIGHTING PLAN. EM AND/OR HALF SHADED LIGHTING FIXTURE INDICATES FIXTURE ON EMERGENCY CIRCUIT. N.L. INDICATES FIXTURE ON NIGHT LIGHT CIRCUIT. RECESSED/SURFACE LED DOWNLIGHT FIXTURE. EM AND/OR HALF SHADED LIGHTING FIXTURE INDICATES FIXTURE ON EMERGENCY CIRCUIT. N.L. INDICATES FIXTURE ON NIGHT LIGHT CIRCUIT. NEMA 3R FUSED DISCONNECT SWITCH. SURFACE MOUNTED ELECTRICAL PANEL RECESSED MOUNTED ELECTRICAL PANEL RECESSED MOUNTED ELECTRICAL PANEL TRANSFORMER	CONDUTTONLY, WITH PULL WRESS AND JUNCTION BOXES, SHALL BE INSTALLED FOR THE TELEPHONE AND COMMUNICATIONS SERVICE AS INDICATED ON PLAN. ALL CONDUITS AND PULL WIRES SHALL TERMINATE IN THE COMMUNICATIONS ROOM.	Sector1919191010111212131415151516171718191919101011121314151516171718191911111212131415151516171718191911111112121314151515161717181919111112121314151516171718191919111112121314151516171718191919191910101011
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	\$ ^a _{LV} \$ ^a _D OS OSD PP EM VVERTER F T SM	 a - DENOTES THE CONTROLLED LIGHTS IME VOLTAGE SWITCH MOUNTED @ 42" A.F.F. TO THE CENTER, BY "WATT STOPPER" CATALOGUE # LIMSW-100, U.O.N. a - DENOTES THE CONTROLLED LIGHTS IME VOLTAGE DIMMER SWITCH MOUNTED @ 42" A.F.F. TO THE CENTER, a - DENOTES THE CONTROLLED LIGHTS IME VOLTAGE DIMMER SWITCH MOUNTED OCCUPANCY SENSOR 0-10V DIMMING WALL MOUNTED OCCUPANCY SENSOR/SWITCH. INE VOLTAGE WALL MOUNTED OCCUPANCY SENSOR/SWITCH. IME VOLTAGE WALL MOUNTED OCCUPANCY SENSOR/SWITCH. IMERGENCY LIGHTING FOR EXACT LENGTH REFER TO LIGHTING PLAN EM AND/OR HALF SHADED LIGHTING INVERTER BY "DUAL LITE", CATALOGER DLS-325-277 IMERGE DLIGHT FIXTURE FOR EXACT LENGTH REFER TO LIGHTING PLAN EM AND/OR HALF SHADED LIGHTING FIXTURE INDICATES FIXTURE ON EMERGENCY CIRCUT. N.L. INDICATES FIXTURE ON NIGHT LIGHT CIRCUIT. REGESSEDSURFACE LED DOWNLIGHT FIXTURE EN AND/OR HALF SHADED LIGHTING FIXTURE INDICATES FIXTURE ON IMERGENCY CIRCUIT. N.L. INDICATES FIXTURE ON NIGHT LIGHT CIRCUIT. NEMA 3R FUSED DISCONNECT SWITCH. SURFACE MOUNTED ELECTRICAL PANEL RECESSED MOUNTED ELECTRICAL PANEL TRANSFORMER MOTOR RATED SWITCH DISCONNECT 	CONDUIT ON IV, WITH PULL WIRES AND JUNCTION BOXES. SHALL BE INSTALLED FOR THE TELEPHONE AND COMMUNICATIONS SERVICE AS INDICATED ON PLAN. ALL CONDUITS AND PULL WIRES SHALL TERMINATE IN THE COMMUNICATIONS ROOM.	If the second
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AMPERE(S) ABOVE COUNTER
AUTOMATIC TRANSFER SWITCH
CONDUIT ONLY W/ PULL ROPE COPPER
EXISTING CONDUIT AND WIRES TO REMAIN
NEXT TO EQUIPMENT , INDICATES EXISTING TO REMAIN
EMERGENCY
FULL LOAD AMPS
GARBAGE DISPOSAL
GROUND FAULT CIRCUIT INTERRUPTER
GROUND
LUMEN MAINTENANCE PHOTOCELL
LIGHTING CONTROL PANEL
MAIN CIRCUIT BREAKER
MAIN LUGS ONLY
MICROPANEL
MICROWATT
NEXT TO EQUIPMENT, INDICATES NEW
EXISTING CONDUIT AND WIRES TO BE REMOVED
NEXT TO EQUIPMENT, INDICATES REMOVE AND DISCARD NEXT TO EQUIPMENT, INDICATES REMOVE AND RELOCATE
SERIES RATED
UNDERGROUND
UNLESS OTHERWISE NOTED
VOLT(S)
VERIFY LOCATION
WEATHERPROOF



		ELE
	SHEET NUMBER	
001		SYMBOL LI
101		SITE PLAN
102		PHOTOMET
201		ELECTRICA
202		ELECTRICA

	13	14	15	16
:\\/		TPOLE SCHEDL		

			DOLL
ALOGUE NUMBER	HEIGHT (FT)	MATERIAL	NOTES
0'6"TFP6-3-C/VG	10' - 6"	ALUMINIUM	THE 15" SQUARE CAST 356 ALUMINUM ALLOY BASE & ALLOY SHAFT SHALL BE A ONE PIECE CONSTURCTION.

NEW OUTDOOR FIXTURE	SCHED	ULE		
CATALOGUE NUMBER	TYPE	UNIT WATTS	VOLTAG E	NOTES
PT-G16LED/5P/VCOB-4L/40/TS/MDL05/WA	LED	83	120V	

CTRICAL SHEET LIST

SHEET NAME T, NOTES, FIXTURES SCHEDULE

SLD & PANEL SCHEDULE RICS

ICAL SCOPE OF WORK

E FOR NEW PARKING LOT

TITLE 24 NOTE

D TITLE 24, PART 11 SECTION 5.106.8 & TITLE 24, PART 6 SECTION 140.7



IT POLE SPECIFICATION

<u>R POST TOP FIXTURE: G</u>

offered in sizes ranging from 16" - 24" in diameter with an 8" aluminum be made of dent resistant acrylic. Globes shall be available in the white. ire shall be UL listed in US and Canada.

16 Inch White Acrylic (16LED) 5P

OURCE: -VCOB-4L

4 LEDS (VCOB-4L)

410'6"TFP6-3-C

are cast 356 aluminum alloy base and aluminum shaft shall be a one-piece . The pole shall be U.L. or E.T.L. listed in U.S. and Canada. All pole heights lerance of ± 2"

- 8400 Monrovia (84)
- 10 Ft 6 In (TFP6-3) (10'6")
- Fluted Tapered 6-3 Inch 356 Aluminum Alloy (TFP6-3) Varied Wall Thickness (Cast) (C)

VG

hall be powder coated to Verde Green finish. Prior to coating, the assembly mically cleaned and etched in a 5-stage washing system which includes aning, rinsing, phosphoric etching, reverse osmosis water rinsing, and nonling to ensure corrosion resistance.

14

bad Evaluation bly, as configured, MEETS AASHTO requirements for wind loading

Project Status: BID SET PROJECT ISSUE DATE: 08/09/2021	SET \TE: 08/09/2021						
GITY OF L(-0S ANGELES	DEPARTMENT OF PUBLIC	PUBLIC WORKS		BURE/	BUREAU OF ENGINEERING	INIZERINC
	VERTICAL CONTROL:	GARY LEE MOORE, PE, ENV SP	EER	NO.	REVISION DESCRIPTION	DATE BY	
	D HORIZONTAL CONTROL:		DATE: ROPESSIONAL				
	SHEET TITLE: SYMBOL LIST, NOTES, FIXTURES SCHEDULE	ENGINEER: SARO DERSAROIAN LIC. NO.: E12231 11/17	11/17/2020				ENGINEERING
NO.		DESIGNED BY:KARTHICK BHASKARAN	11/17/2020				
NO. 515D	DRUM BARRACKS CIVIL WAR MUSEUM	DRAWN BY: KARTHICK BHASKARAN 11/17	11/17/2020 × EXP. 9/30/2022 ×				
) 1 25	ADDRESS: 1052 N BANNING BI VD. WII MINGTON, CA 90744	CHECKED BY: SARO DERSAROIAN	11/17/2020 SATE CETRCHART			RAP FACILITY NO	CITY OF LOS ANGELES
TS		APPROVED BY: STEVEN FIERCE , A.I.A, PRINCIPAL ARCHITECT 11/17	11/17/2020		MF-300494	243	

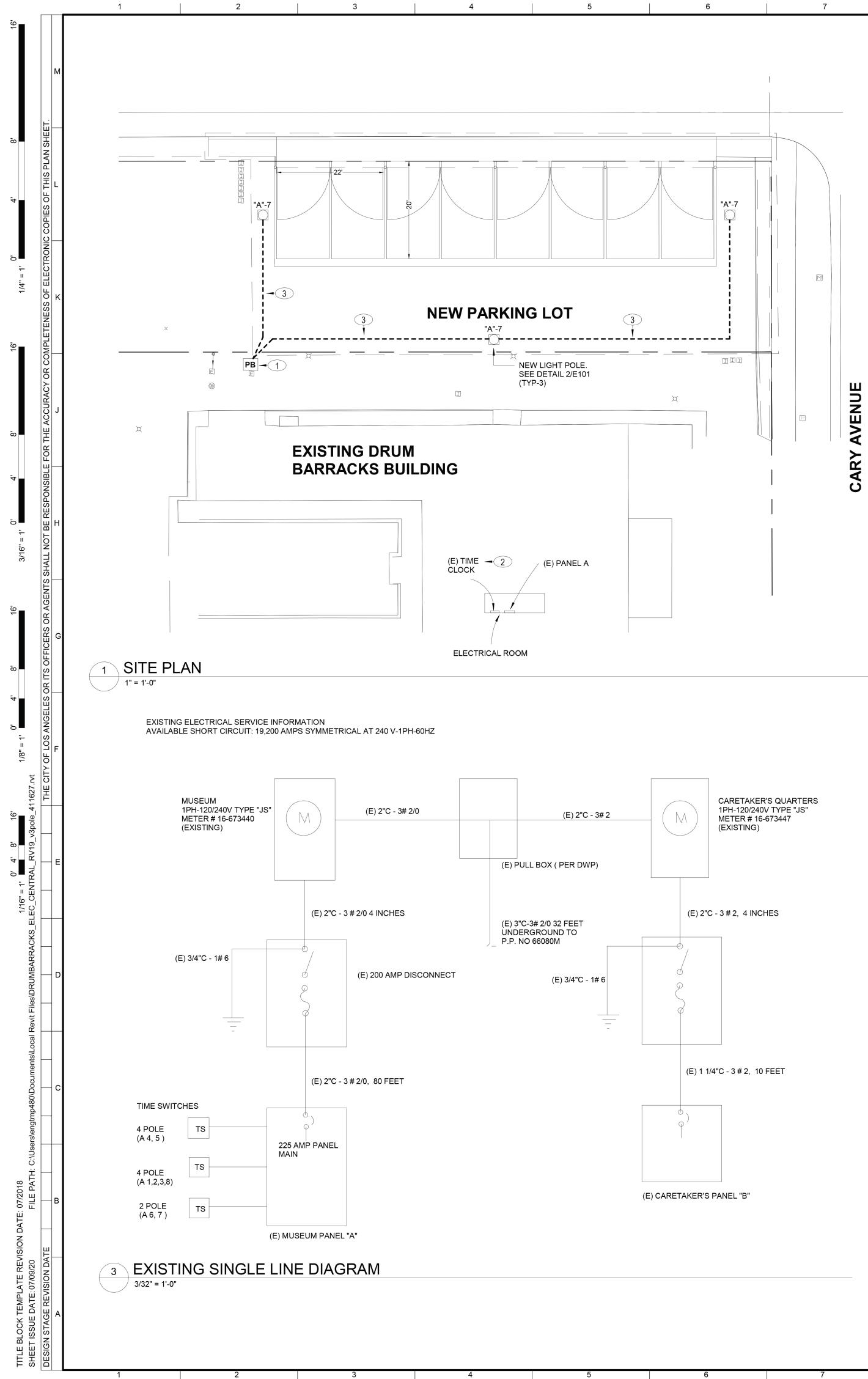
	N Banning Bivd			Carly Ave
$\bigwedge^{\mathbb{N}}$	N Banning Bird	• 1043 N Samning Brid Parking	Crum Banacks Carl War Museum Closes	Cary Ave
U	N Banning Blvd			

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KEY MAP

16

PLOTTED:6/22/2021 2:02:55 PM



SINGLE LINE SHEET NOTES:

8

LIGHTING PLAN KEYNOTES: #

CONDUCTORS TO THE EXISTING SWITCHED CIRCUIT "A"-7 LOCATED INSIDE THE EXISTING CONCRETE PULLBOX. THE CIRCUIT 7 IS BEING

CONTROLLED BY THE EXISTING

ASTRONOMICAL TIME CLOCK AS

3. 3/4" PVC SCHEDULE 40 - 2 #12 +

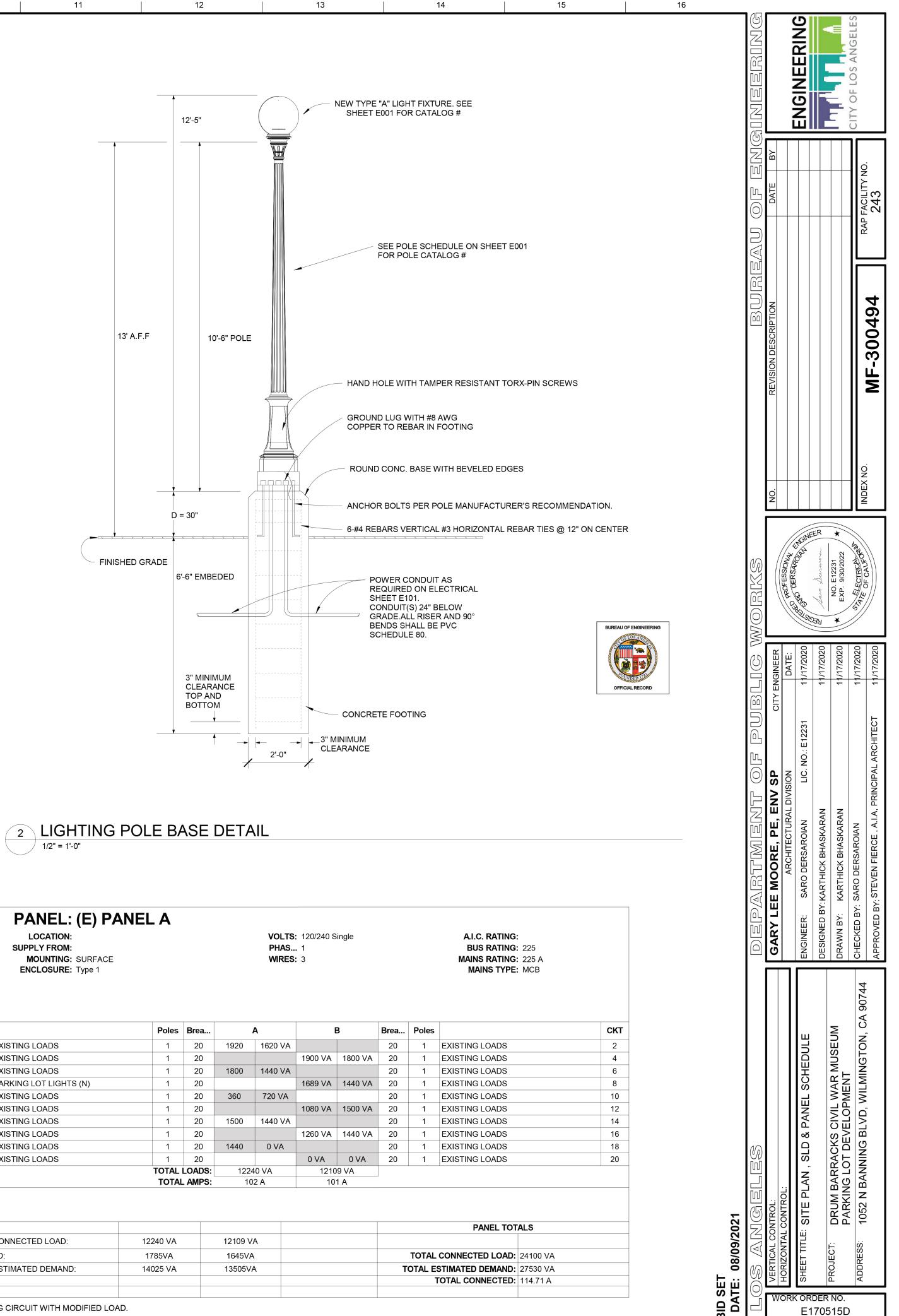
2. EXISTING ASTRONOMICAL TIMECLOCK " TORK MODEL 7200Z "

1. CONNECT THE NEW

SPECIFIED IN NOTE 2.

1 # 12 GND

1. ALL ELECTRICAL COMPONENTS ARE EXISTING TO REMAIN



1/2" = 1'-0"

PANEL: (E) PANEL A SUPPLY FROM: ENCLOSURE: Type 1 NOTES: СКТ 1 EXISTING LOADS 3 EXISTING LOADS 5 EXISTING LOADS ★ 7 PARKING LOT LIGHTS (N) 9 EXISTING LOADS 11 EXISTING LOADS 13 EXISTING LOADS 15 EXISTING LOADS 17 EXISTING LOADS 19 EXISTING LOADS

LEGEND:

10

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TOTAL CONNECTED LOAD:	12240 VA	12109
LCL LOAD:	1785VA	1645
TOTAL ESTIMATED DEMAND:	14025 VA	1350

* EXISTING CIRCUIT WITH MODIFIED LOAD.

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BID BD

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PLAN FILE NO.

DRAWING NO.

неет **22**

E1

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OF

SHEETS

2.0 2.0 1.8 1.6 1.4 1.2 1.0 0.9 0.7 0.7 0.6 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.6 0.6 0.7 0.7 0.7 0.8 0.8 0.7 0.7 0.7 0.6 0.6 0.6 0.6 0.5 0.5 0.5 0.5 0.5 0.6 0.6 0.7 0.8 0.9 1.0 1.2 1.4 1.7 1.9 2.0 2.1 2.0 1.9 13 13 13 12 11 10 09 08 07 06 06 05 05 05 05 05 05 06 07 07 08 09 10 11 11 11 11 11 10 10 09 08 07 07 06 06 05 05 05 06 06 07 08 09 10 11 12 13 13 13 12 1.0 1.0 1.0 1.0 0.9 0.8 0.8 0.7 0.6 0.6 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.6 0.6 0.7 0.8 0.9 1.1 1.2 1.3 1.4 1.4 1.4 1.4 1.3 1.2 1.0 0.9 0.8 0.7 0.6 0.6 0.6 0.5 0.5 0.5 0.6 0.6 0.7 0.8 0.9 1.0 1.0 1.0 1.0 08 08 08 08 07 06 06 05 05 05 05 05 05 06 06 07 08 09 11 13 14 16 17 18 18 17 16 14 12 11 09 08 07 06 06 05 05 05 05 05 06 06 07 07 08 08 08 08 08 08 0.5 0.5 0.5 0.4 0.4 0.4 0.4 0.4 0.4 0.4 0.4 0.4 0.5 0.5 0.6 0.7 0.9 1.0 1.2 1.5 1.9 2.2 2.5 2.8 2.8 2.8 2.7 2.5 2.1 1.8 1.5 1.2 1.0 0.8 0.7 0.6 0.5 0.5 0.5 0.4 0.4 0.4 0.4 0.4 0.4 0.4 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.4 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.4 0.4 0.4 0.4 0.4 0.5 0.5 0.6 0.7 0.9 1.1 1.4 1.7 2.1 2.5 2.8 2.8 2.8 2.8 2.7 2.7 2.4 2.0 1.6 1.3 1.0 0.8 0.7 0.6 0.5 0.5 0.4 0.4 0.4 0.4 0.4 0.4 0.4 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 R EXISTING DRUM BARRACKS BUILDING

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Luminaire	Schedule					
Symbol	Qty	Label	Arrangement	Total Lamp Lumer	ns⊾LF	Description
4	3	A	SINGLE	N.A.	0.850	Sternberg // G16LED-4L40TS-MDL05
	·					

Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Option 2	Illuminance	Fc	0.95	2.9	0.2	4.75	14.50

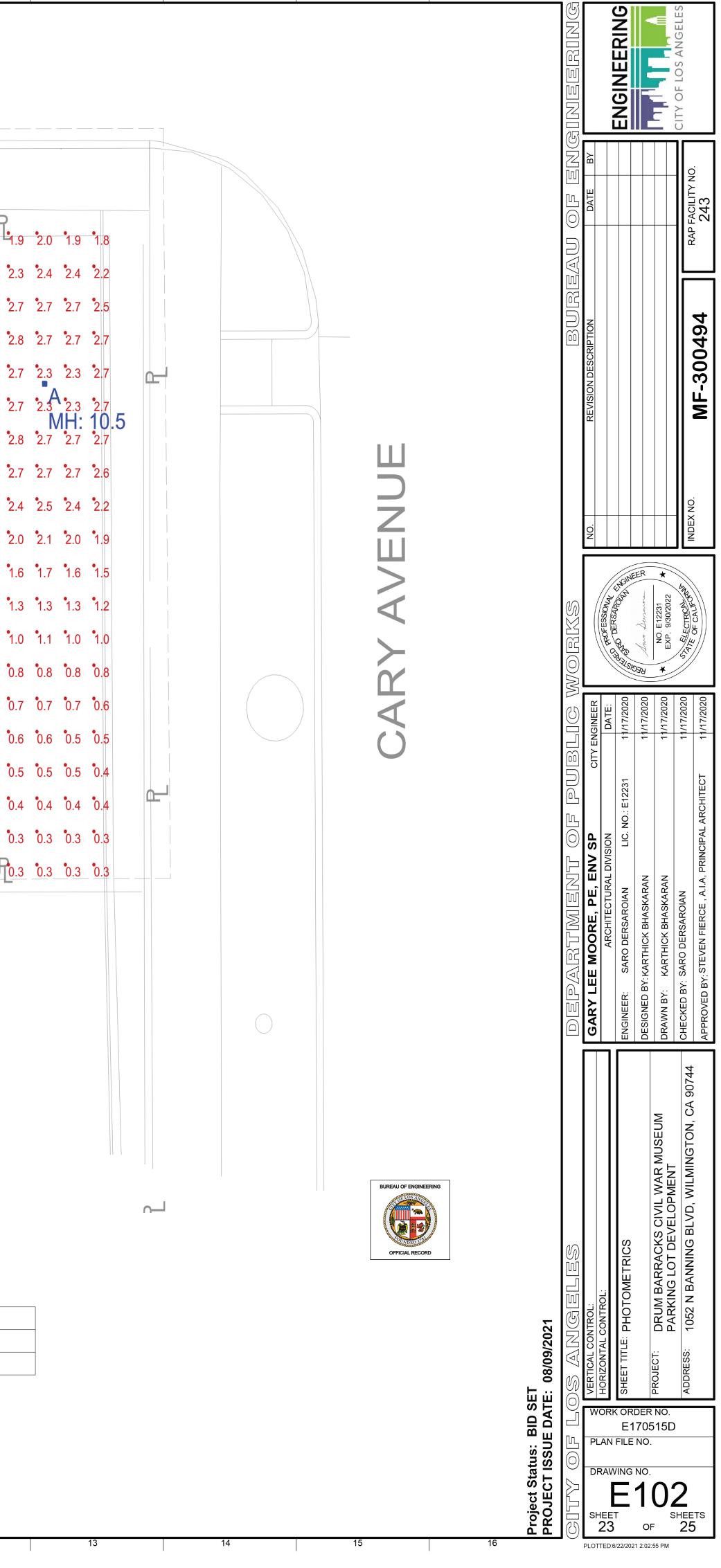
5 | 6 | 7 | 8 | 9 | 10 | 11 |

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THE CITY OF LOS ANGELES ELECTRICAL CODE(LATEST EDITION) IS MADE PART OF THESE PLANS AND SPECIFICATIONS. WHERE CONFLICT OCCURS BETWEEN LOS ANGELES ELECTRICAL CODE AND THESE ELECTRICAL SPECIFICATIONS, THE SPECIFICATION SPECIFIED HERE SHALL TAKE PRECEDENCE.

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1. GENERAL SCOPE OF WORK:

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

2. CLEANING, INSTALLATION AND REMOVAL OF RUBBISH:

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

(A.) CLEAN ALL ELECTRICAL EQUIPMENT AND DEVICES. REMOVE STAINS, DUST, DIRT, PLASTER, PAINT AND ETC.

(B) REMOVE ALL SPOTS, SOILS, PLASTERS AND PAINTS, SOILED DURING CONSTRUCTION, 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 EXIST 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 TO BE INSTALLED BY THE CONTRACTOR AS DIRECTED BY THE DEPARTMENT OF WATER AND POWER. CONDUITS SHALL HAVE A MINIMUM 3" CONCRETE COVER.

(B). COORDINATE ALL LADWP WORK AS FOLLOWS:

1. UNDERGROUND SERVICE CONDUITS FROM PROPERTY LINE TO UTILITY SOURCE INSTALLED BY THE DEPARTMENT OF WATER AND POWER. UTILITY FEES TO BE PAID FOR BY LA RECREATION AND PARKS.

2. MAIN SERVICE UNDERGROUND CONDUCTORS FROM UTILITY SOURCE TO MAIN SWITCHBOARD.

3. CURRENT TRANSFORMERS FOR SWITCHBOARD.

4. SERVICE CONNECTIONS TO TRANSFORMERS AND METERS

5. METERS.

6. EXCESS CABLE CHARGES TO BE PAID BY LA RECREATION AND PARKS

5. MAIN SWITCHBOARD:

(A) TYPE:

NEMA 1 FLOOR STANDING ENCLOSURE, DEAD FRONT, DEAD REAR, WITH ALL BUSSING, WIRING AND CONNECTIONS ACCESSIBLE FROM THE FRONT. ARRANGED IN ACCORDANCE WITH WIRING DIAGRAMS AND APPROVED SHOP DRAWINGS AS MANUFACTURED BY SQUARE D, GE, EATON OR APPROVED EQUAL.

(B) CONSTRUCTION:

1. ALL BUSSING MATERIALS SHALL BE TIN PLATED COPPER PER NEMA STANDARDS.

2. VERTICAL SECTIONS SHALL HAVE FULL HEIGHT BUSSING AND WHERE SPACES FOR FUTURE USE DEVICES ARE SHOWN ON THE DRAWINGS. ALL THE NECESSARY MOUNTING HARDWARE AND PROVISIONS SHALL BE FURNISHED.

(C) SERVICE SECTION:

SHALL CONTAIN FIXED POSITION MAIN CIRCUIT BREAKER EQUIPPED WITH PROVISIONS FOR UTILITY COMPANY METERING IN STRICT ACCORDANCE WITH THE DEPARTMENT OF WATER AND POWER REQUIREMENTS. THE MAIN CIRCUIT BREAKER SHALL BE TRIP FREE, THERMAL MAGNETIC, MOLDED CASE TYPE, BY SQUARE D,GE,EATON OR APPROVED EQUAL.

THERE SHALL BE MEANS TO LOCK EACH MAIN CIRCUIT BREAKER IN THE OPEN POSITION WITH A PADLOCK. THE DEPARTMENT OF WATER AND POWER WILL FURNISH THE LOCK AND OPEN THE MAIN BREAKER WHEN REQUIRED BY STATION MAINTENANCE OR REPAIR.

(D) DISTRIBUTION SECTION:

SHALL CONTAIN THERMAL-MAGNETIC MOLDED CASE CIRCUIT BREAKER OF THE REQUIRED VOLTAGE & AMPERAGE WITH A MINIMUM 25,000 RMS SYMMETRICAL SHORT CIRCUIT INTERRUPTING CAPACITY BY SQUARE D, (TYPE LAL), GE, EATON OR EQUAL, UNLESS NOTED OTHERWISE ON THE PLAN.

(E.) IDENTIFICATION:

ENGRAVE LAMINATED PLASTIC NAMEPLATES TO BE PROVIDED FOR EACH DEVICE ON THE SWITCHBOARD. NAMEPLATES TO BEAR THE DESIGNATION OF THE LOAD CONTROLLED.

(F.) TIGHTEN CONNECTORS AND TERMINALS, INCLUDING SCREWS AND BOLTS IN ACCORDANCE WITH EQUIPMENT MANUFACTURER'S PUBLISHED TORQUE TIGHTENING VALUES FOR EQUIPMENT CONNECTORS. WHERE MFRS. TORQUING REQUIREMENTS ARE NOT INDICATED. USE TIGHTENING TORQUES SPECIFIED IN UL STANDARD 486A.

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(G.) MOUNTING INDOOR TYPE:

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SECURELY BOLTED TO FLOOR AND WALL AND PLUMB AND SQUARE. PROVIDE 3" RAISED CONCRETE SLAB FOR MOUNTING SWITCHGEAR LOCATED ON THE GROUND FLOOR. DIMENSION OF RAISED CONCRETE SLAB TO BE THE SAME AS THE SWITCHGEAR. VERIFY SITE SPECIFICATION INSTALLATION WITH RAP ENGINEERS/PROJECT MANAGER.

(H.) MOUNTING OUTDOOR TYPE:

(I.) SHOP DRAWINGS:

BEFORE ANY FABRICATION OF SWITCHGEAR 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.

(J.) 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 JUMPERSHALL BE INSTALLED IN ACCORDANCE WITH THE APPLICABLE SECTIONS OF THE CODE, ARTICLE 250. TIGHTEN CONNECTORS TO COMPLY WITH TIGHTENING TORQUES SPECIFIED IN UL STD. 486 TO ASSURE PERMANENT AND EFFECTIVE GROUND.

6. PANELBOARDS:

(A.) PANELBOARDS SHALL BE CIRCUIT BREAKER TYPE WITH BOLT-ON TYPE, TRIP FREE CIRCUIT BREAKERS. PANELBOARDS SHALL BE FURNISHED WITH COPPER BUSSING AND MAIN LUGS OR MAIN BREAKER AND ALL BRANCH CIRCUIT BREAKER AS INDICATED ON THE SCHEDULES. EACH BRANCH CIRCUIT BREAKERS SHALL HAVE PERMANENT TYPE PLASTIC OR METAL NUMBERS TO IDENTIFY THE CIRCUIT PROTECTED. MIN. SIZE SHALL BE 20"W X 5 3/4"D, HEIGHT AS REQUIRED. PANELBOARD SHALL BE SQ. D, GE, EATON 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 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 NOT BE 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.

(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 BY HOFFMAN ENGINEERING CO. OR MYERS POWER PRODUCTS, IEM OR EQUAL.

(B.) DOORS SHALL BE CUSTOM EQUIPPED WITH STRONG PADLOCKABLE STEEL COVER TO PROTECT THE OPERATING HANDLES. PAD LOCKABLE COVERS SHALL ACCOMMODATE THE DEPARTMENT OF RECREATION AND PARKS LOCKS. PROVIDE TOP AND BOTTOM DOOR LOUVERS.

(C.) MOUNTING: OUTDOOR TYPE SHALL BE SECURELY BOLTED TO A STEEL REINFORCED CEMENT CONCRETE PAD EXTENDING 6 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. REINFORCING STEEL SHALL BE #4 REBAR LAID LENGTHWISE AND CROSSWISE 12" O.C. WITH 3 INCH CLEAR COVER TO SUBGRADE, AND SECURELY TIED AT EACH POINT OF CONTACT.

SWITCHGEAR INSTALLATION ON EXISTING SLABS: SECURELY BOLTED TO A STEEL REINFORCED CONCRETE PAD EXTENDING 6" BEYOND THE PANEL ENCLOSURE IN BOTH REAR & SIDES AND 0' IN FRONT OF ENCLOSURE. PAD SHALL EXTEND 3" ABOVE & 6" BELOW FINISH GRADE. REINFORCING STEEL SAME AS ABOVE.

(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 ENCLOSURE FED FROM ONE 20A-1P CIRCUIT BREAKER WIRED WITH 2#12 THHN/THWN CU IN 1/2" CONDUIT.

8. CONTROLS:

(A.) TYPES

1. CIRCUIT BREAKERS - SHALL BE THERMAL MAGNETIC. EACH BREAKER SHALL BE EQUIPPED WITH A DEVICE FOR INDIVIDUAL PADLOCKING.

2. TIME SWITCHES - SHALL BE AN ET90215CR INTERMATIC. CONTROL SHALL HAVE AN ASTRO-DIAL, TWO CHANNEL FEATURE, SKIP-A-DAY, OFFSET TO SUNRISE AND/OR SUNSET AND MANUAL OVERRIDE INDEPENDENTLY PROGRAMMABLE FOR EACH CHANNEL. IT SHALL BE SURFACE MOUNTABLE OR SHALL BE IN NEMA 3R FOR OUTDOOR INSTALLATION.

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SHALL BE NEMA 3R, GAUGE 10 METAL ENCLOSURE UNLESS NOTED OTHERWISE ON THE PLAN.

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7. RAINPROOF ENCLOSURES FOR SWITCHBOARD AND/OR PANELBOARDS. SEE DETAIL DWG.

3. LIGHT SWITCH TIMER - SHALL BE PARAGON MODEL NO. ET1100 SERIES. IT SAHLL BE SOLID STATE WITH ADJUSTABLE TIMER RANGE FROM ONE MINUTE TO 18 HOURS. THE CONTROL SHALL BE TAMPER-PROOF WITH OUT-OF-SIGHT PROGRAMMING DIAL. THE CONTROL SHALL BE RATED UP TO 1100 WATTS AND CAPABLE OF OPERATING BETWEEN 24 VAC AND 277 VAC.

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4. LOCAL SWITCHES - SHALL BE SPECIFICATION GRADE, HUBBELL 1221-I SERIES 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 INSTALLATION REES 04960-415 MUSHROOM PLUNGER 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 SEPARATE PARTITIONED SPACE INSIDE THE RAINPROOF ENCLOSURE, OR AS INDICATED IN THE PLAN.

9. BOXES:

(A.) TYPES: WEATHERPROOF CAST BOXES FOR OUTDOOR AND SURFACE WIRING AND WHERE INDICATED ON THE DRAWINGS BY SYMBOL "WP", CROUSE-HINDS FD OR RUSSELL-STOLL FD SERIES OUTLET BOXES OR EQUAL. CONCRETE PULL BOX WITH BOLT DOWN STEEL COVER IS PERMITTED FOR UNDERGROUND INSTALLATION. BROOKS PRODUCT H20 RATED WITH GALVANIZED FRAME OR EQUAL, OR AS INDICATED ON THE PLAN. PULL BOXES TO BE SEIZED PER

(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 HAVE AT LEAST 12" LAYER OF PEA GRAVEL BENEATH THE BOX.

10. RECEPTACLES:

(A.) TYPES: ALL RECEPTACLES SHALL BE SPECIFICATION GRADE AND SHALL MEET NEMA WD-1-1974 TESTS.

(B.) FLUSH WALL TYPE, HUBBELL 5262-I, 15 AMPERE, 125 VOLTS OR HUBBELL 8300-I 20 AMPERE, 125 VOLTS, OR EQUIVALENT LEVITON MODEL OR EQUAL.

(C.) SHALL BE SCREW-TERMINAL TYPE. NO PUSH-IN TYPE CONNECTIONS ARE PERMITTED.

11. OUTLET PLATES:

(A.) SHALL BE STAINLESS STEEL FOR ALL RECEPTACLE AND LIGHT SWITCH, SIGNAL AND COMMUNICATION OUTLETS.

(B.) SHALL BE ENGRAVED PLATES FOR SPECIAL EQUIPMENT, MOTORS, VOLTAGE OTHER THAN 120 VOLT AND GANGED SWITCHES.

12. INSTALLATION OF POLES:

(A.) TYPE SHALL BE ROUND TAPERED GALVANIZED STEEL UNLESS OTHERWISE INDICATED. POLE HEIGHT SHALL BE LESS THAN 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.

(C.) GROUNDING: SECURELY GROUND ALL PARKING LOT LIGHTING POLES WITH APPROVED GROUNDING BUSHINGS AND GROUNDING CLAMPS.

(D.) CONDUITS ENTERING AND/OR LEAVING POLE FOOTING SHALL BE PVC SCHED 80 TO A MINIMUM DISTANCE OF 3'-0" FROM FOOTINGS.

(E.) TACK WELDING OF NUTS TO WASHER AND WASHER TO BASE PLATE IS REQUIRED.

13. CONDUIT:

(A.) REQUIRED: ALL WIRING SHALL BE IN RIGID OR PVC COATED STEEL CONDUIT EXCEPT AS FOLLOWS:

1. PVC MAYBE USED UNDERGROUND FROM PVC SCHED 80 CONDUIT STUBS LOCATED 3 FEET OUTSIDE FOOTING LINES.

2. EMT MAYBE USED ABOVE GROUND INSIDE BUILDINGS 10'AFF WHERE NOT ENCASED IN MASONRY OR CONCRETE AND NOT SUBJECT TO PHYSICAL DAMAGE.

3.FOR METHANE ZONES: ALL UNDERGROUND CONDUITS SHALL BE THREADED PVC COATED GALVANIZED RIGID CONDUIT STEEL CONDUIT. FOR ALL PENETRATIONS THROUGH THE GRADE, A CONDUIT SEAL SHALL BE INSTALLED WITHIN 18" ABOVE THE FINISHED GRADE. UNLESS OTHERWISE NOTED.

(B.) TYPES:

1. RIGID STEEL CONDUIT: IN ACCORDANCE WITH USA STD C80.1 AND ASTM B-6.

2. ELECTRICAL METALLIC TUBING: IN ACCORDANCE WITH USA STD C80-3 & ASTM B-6.

3. PVC CONDUIT: SHALL CONFORM TO NEMA STANDARD TC-6-1967, WC-1094 AND UL STANDARD 651, 1974 HEAVY WALL SCHEDULE 40 BURIED NOT LESS THAN 24 INCHES BELOW GRADE.

4. PVC EXTERNALLY COATED RIGID STEEL CONDUIT, RIGID STEEL ZINC COATED WITH ADDITIONAL COATING OF PVC CONFORMING TO ANSI C-80 & NEMA RN1.

(C.) FITTINGS AND ACCESSORIES:

1. FOR RIGID STEEL CONDUIT: APPROVED TYPES; ERICSON COUPLING OR THREADLESS CONNECTORS FOR JOINING RUNS. GROUNDING BUSHING SHALL BE THOMAS & BETTS, APPLETON OR EQUAL MALLEABLE IRON INSULATED GROUNDING BUSHINGS, UL FILE E14814A. 2. FOR ELECTRICAL METALLIC TUBING: COMPRESSION GLAND OR STEEL SET SCREW TYPE COUPLINGS AND CONNECTORS WITH INSULATED THROAT.

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(D.) SIZES: MINIMUM 3/4" CONDUIT UNLESS NOTED ON THE PLAN.

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(E.) CONCRETE COVER:

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U.O.N. UNDERGROUND CONDUIT RUNS IN RECREATION AND PARKS PROPERTY INSTALLED WITH SCHEDULE 40 PVC SHALL HAVE A MINIMUM 6" DETECTABLE "CAUTION" TAPE, 12" ABOVE CONDUIT, OVER ITS ENTIRE LENGTH WIDE, AND SHALL HAVE AN EQUIPMENT GROUNDING CONDUCTOR SIZED ACCORDING TO THE PREVAILING CODE BUT NOT LESS THAN SHOWN ON THE PLAN. ROUTE CONDUIT UNDER HARDSCAPE WHERE POSSIBLE.

14. CONDUIT INSTALLATION:

(A.) ALL CONDUITS SHALL BE CONCEALED EXCEPT WHERE OTHERWISE INDICATED ON THE DRAWINGS.

(B.) PVC COATED STEEL CONDUIT WHICH WILL BE BURIED IN THE GROUND SHALL HAVE WATER TIGHT JOINTS. JOINTS SHALL BE ASSEMBLED WITH ANTI-SEIZE COMPOUND.

(C.) INSTALL EXPANSION FITTINGS IN ALL RACEWAY 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 OR CONCRETE SLAB 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

SPIRAL WRAP WITH 40 MIL HALF LAP PLASTIC TAPE.

PVC 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". PULL IN PVC SCHED 40. CONDUIT MAY BE PULLED IN WITH BORING ROD.

1. CONDUITS IN UNDERGROUND PULL BOXES SHALL BE SEALED WITH "LHD"-1# OR 5# DUCT SEAL AS MANUFACTURED BY DOTTIE CO. OR APPROVED EQUAL

15. CONDUCTORS:

(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:

1. COPPER WIRE FOR ALL CONDUCTORS.

2. NO CONDUCTORS SMALLER THAN NO. 12 AWG EXCEPT FOR CONTROL WIRES WHICH SHALL BE NO. 14 AWG OR AS INDICATED ON THE PLAN.

3. 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.

4. FOR IRRIGATION CONTROL WIRES, REFER TO IRRIGATION SPECIFICATIONS.

(C.) SPLICES:

1. BRANCH AND FEEDER CONDUCTOR JOINTS SHALL BE LOCATED ONLY IN OUTLET BOXES, 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 OR USE POLARIS, DRYCON CONNECTOR OR EQUIVALENT.

(D.) COLOR CODE:

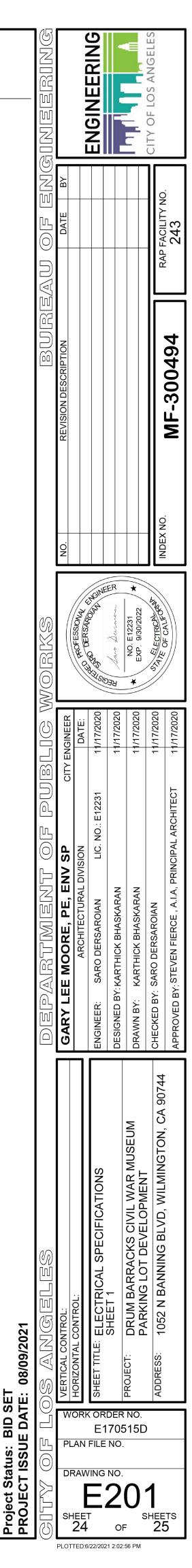
1. FOR POLYPHASE CIRCUITS, IDENTIFY EACH PHASE THROUGHOUT THE CIRCUIT WITH DESIGNATION PHASE A (BLACK), PHASE B (RED) AND PHASE C (BLUE), NEUTRAL (WHITE) FOR 208/120V, 3 PHASE; PHASE A (BLACK), PHASE B HIGH-LEG (ORANGE), PHASE C (BLUE), NEUTRAL (WHITE) FOR 240/120V 3 PHASE; PHASE A (BROWN), PHASE B (ORANGE), PHASE C (YELLOW), NEUTRAL (GRAY) FOR 480/277V, 3 PHASE.

2. FOR CONDUCTOR NO. 6 AWG OR SMALLER COLOR CODING SHALL BE ACCOMPLISHED BY INHERENT INSULATION COLOR. TAGGING PAINT OR OTHER MARKINGS SHALL NOT BE USED FOR COLOR IDENTIFICATION.

(E.) INSPECTION:

CONTRACTOR SHALL NOTIFY THE GENERAL MANAGER OR AUTHORIZED REPRESENTATIVE 48 HOURS PRIOR TO START OF PULLING WIRE THROUGH ANY OF THE UNDERGROUND CONDUIT RUNS. THE CONTRACTOR SHALL START PULLING WIRE ONLY AFTER THE AUTHORIZED REPRESENTATIVE INSPECTS AND FIND THAT: THE WIRE CONTAINS NO SPLICES, THE NEUTRAL WIRE IS WHITE AND THE EQUIPMENT GROUND WIRE IS GREEN.





ELECTRICAL SPECIFICATIONS (CONT.)

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16. TAGGING:

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REQUIRED: ON BOTH HOT AND NEUTRAL WIRES OF ALL CIRCUIT 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. OR EQUAL.

17. EQUIPMENT AND ELECTRICAL CONNECTIONS:

(A.) SEE DIVISION 1 SECTION 15 FOR MATERIAL TESTING.

(B.) PROVIDE ALL INSTRUMENTS, EQUIPMENT AND LABOR REQUIRED FOR THE SPECIFIED TESTS. CONDUCT ALL TESTS IN THE PRESENCE OF THE GEN. MANAGER OR AUTHORIZED REPRESENTATIVE. CONDUCT THE TEST AT SUCH TIME AS THE GEN. MANAGER MAY DIRECT OR AS SPECIFIED. TESTS FAILING TO CONFORM TO THE REQUIREMENTS OF THE DRAWING AND SPECIFICATIONS, AND ANY PIECE OF EQUIPMENT THAT FAILS THE TEST DESCRIBED HEREIN WILL BE REJECTED AND SUITABLE EQUIPMENT SHALL BE PROVIDED AND INSTALLED. TABULATE AND FORWARD TO THE PROJECT MANAGER IN TRIPLICATE ALL THE PERTINENT TEST DATA. INCLUDE THE DATE OF THE TEST, IDENTIFICATION OF ALL ITEMS TESTED, READINGS FOR EACH TEST, COMMENTS WHERE REQUIRED AND THE SIGNATURES OF THE INDIVIDUAL CONDUCTING THE TEST AND OF THE GEN. MANAGER'S REPRESENTATIVE OBSERVING THE TEST. FORWARD ALL THE TEST DATA TO THE PROJECT MANAGER WITHIN 10 DAYS OF THE TEST PERFORMANCE BUT IN NO CASE LATER THAN 5 DAYS BEFORE THE SCHEDULED FINAL INSPECTION.

(C.) 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.

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:

AMPERES OHMS

25 THROUGH 50	250,000
51 THROUGH 100	100,000
101 THROUGH 200	50,000
201 THROUGH 400	25,000

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 CONTRACT REQUIREMENTS.

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 TEST. PROVIDE ONE COPY OF THE GROUND MEGGER'S DIRECTIONS, INDICATING THE METHOD TO BE USED

18. LIGHTING FIXTURES:

(A.) TYPES:

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1. AS INDICATED HEREINAFTER AND IN THE LIGHTING FIXTURE LIST, ALL FIXTURES MUST BE UL LISTED AND SUPPORTING MEMBERS SUCH AS RODS AND PIPES MUST BE APPROVED BY THE CITY OF LOS ANGELES ELECTRICAL DEPARTMENT OF BUILDING AND SAFETY.

2. ALL FIXTURES USED AS RACEWAYS SHALL CONFORM TO THE CODE REQUIREMENTS FOR MAXIMUM NUMBER OF CONDUCTORS PERMITTED. BOX TEMPERATURES SHALL NOT EXCEED 90°C ADJACENT TO THHN/THWN-2 WIRE.

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

(B.) FITTINGS AND ACCESSORIES: AS NECESSARY FOR PROPER INSTALLATION AND OPERATION.

(C.) DEVIATION SHALL BE SUBMITTED TO THE DEPARTMENT FOR APPROVAL PRIOR TO PURCHASE AND INSTALLATION.

(D.) SPORTS LIGHTING FIXTURES: SUBMIT AN AIMING DIAGRAM FROM FIXTURE MANUFACTURER TO THE DEPARTMENT FOR APPROVAL PRIOR TO INSTALLATION. CONTRACTOR SHALL ENSURE THAT FIXTURES ARE INSTALLED IN ACCORDANCE TO APPROVED AIMING DIAGRAM.

19. RECORD DRAWINGS:

(A.) IMMEDIATELY AFTER WORK IS INSTALLED, CAREFULLY DRAW ON PRINTS IN RED INK ALL WORK WHICH IS INSTALLED AT VARIANCE WITH THE WORK AS INDICATED ON THE DRAWINGS. INDICATE BY MEASURED DIMENSION TO BUILDING CORNERS OR OTHER PERMANENT MONUMENTS THE EXACT LOCATION OF ALL CHANGES.

(B.) ACCURATE LOCATIONS OF ALL POLES, CONDUIT RUNS, WIRING, NAMES AND MODEL NUMBERS OF ACCEPTED SUBSTITUTE EQUIPMENT, ELECTRICAL OUTLETS AND OTHER EQUIPMENT AS INSTALLED SHALL BE PROVIDED IN STRICT ACCORDANCE WITH THESE SPECIFICATIONS.

20. OPERATING MANUALS AND INSTRUCTIONS:

(A.) THE CONTRACTOR SHALL FURNISH TO THE CITY FOUR BOUND COPIES OF OPERATING AND MAINTENANCE MANUAL FOR ALL ELECTRICAL EQUIPMENT.

(B.) THE CONTRACTOR SHALL EXPLAIN IN DETAIL ALL MANUALS FOR THE OPERATION AND MAINTENANCE OF ALL EQUIPMENT TO THE RECREATION AND PARKS MAINTENANCE PERSONNEL BEFORE COMPLETION AND ACCEPTANCE OF THE PROJECT

21. ANTI-GRAFFITI COATINGS :

THE CONTRACTOR SHALL APPLY AN ANTI-GRAFFITI COATING TO ALL LIGHT POLE CONCRETE BASES. THE FOLLOWING ARE ACCEPTABLE PRODUCTS:

A. "SUPER-KOTE A-G5" SEALER MANUFACTURED BY VEN-CHEM COMPANY INC. P.O. BOX 3186, SANTA BARBARA, CALIFORNIA, PHONE (805) 967-7600 OR "MONOCHEM PERMASHIELD" BY FRAZEE PAINT CO. RESEARCH REPORT NO.28080, PHONE (800) 826-9048.

B.THE "GRAFFITI RASOR SYSTEMS" MANUFACTURED BY RAINPROOF SYSTEMS, CITY OF COMMERCE, CA 90022, RESEARCH REPORT NO. 25035, PHONE (213) 887-8761.

C. "VANDAL GUARD" BY RAINGUARD PRODUCTS CO., 821 W. HYDE PARK BLVD. INGLEWOOD, CA 90302, PHONE (310)670-2953.

D.OR APPROVED EQUAL.

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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 THE 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.

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ANGELES	DEPARTMENT OF PUBLIC WORKS	SMBOW		BURE	an of en	BUREAU OF ENGINEERING
	GARY LEE MOORE, PE, ENV SP CITY ENGINEER		NO.	REVISION DESCRIPTION	DATE BY	
	ARCHITECTURAL DIVISION DATE:	PROFESSIONAL				
	ENGINEER: SARO DERSAROIAN LIC. NO.: E12231 11/17/2020	1020 1020 102 102 102 102 102 102 102 10				ENGINEERING
	DESIGNED BY: KARTHICK BHASKARAN	R Javo Levenson H				
CIVIL WAR MUSEUM	DRAWN BY: KARTHICK BHASKARAN 11/17/2020	★ NO. E12231 EXP. 9/30/2022 /★/				
1052 N BANNING BI VD WII MINGTON CA 90744	CHECKED BY: SARO DERSAROIAN 11/17/2020	O'A FLECTRICH WF				CITY OF LOS ANGELES
	APPROVED BY: STEVEN FIERCE , A.I.A, PRINCIPAL ARCHITECT 11/17/2020	OF CAL		MF-300494	RAP FACILITY NO. 243	

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