



THE CITY OF SAN DIEGO

Report to the Hearing Officer

DATE ISSUED: January 7, 2025 REPORT NO. HO-26-008

HEARING DATE: January 14, 2025

SUBJECT: 5665 and 5677 Oberlin Drive

PROJECT NUMBER: [PRJ-1131909](#)

OWNER/APPLICANT: AEI Investments, LLC, a California Limited Liability Company, Owner.
Ware Malcomb, Applicant.

SUMMARY

Issue: Should the Hearing Officer approve a Tentative Map to consolidate two existing legal lots into one lot and create 26 commercial condominiums located at 5665 and 5677 Oberlin Drive within the [Mira Mesa Community Plan](#) area?

Proposed Actions:

1. APPROVE Tentative Map No. PMT-3388813

Fiscal Considerations: None with this action. The proposed project is privately funded by the applicant.

Code Enforcement Impact: There are no open Code Enforcement cases for this site.

Housing Impact Statement: The application proposes a mapping action only for the consolidation of two existing legal lots into one, and the creation of commercial condominiums. The units are commercial, not residential; therefore, there will be no housing impact associated with this project.

Community Planning Group Recommendation: On August 18, 2025, the Mira Mesa Community Planning Group voted 14-0-0 to recommend approval of the project without any conditions (Attachment 7).

Environmental Impact: The project was determined to be exempt from the California Environmental Quality Act (CEQA) pursuant to CEQA Guidelines Section 15301 (Existing Facilities). This project is not pending an appeal of the environmental determination. The environmental exemption

determination was made on November 6, 2025, and the opportunity to appeal that determination ended on November 21, 2025 (Attachment 5).

BACKGROUND

The 1.35-acre project site is located in the IL-2-1 (Industrial Light) zone, Prime Industrial Lands, the Airport Land Use Compatibility Overlay Zone for Marine Corps Air Station (MCAS) Miramar, a Transit Priority Area, the Airport Influence Area for MCAS Miramar (Review Area 1), the Airport Safety Zone (MCAS Miramar Accident Potential Zone 2), and the Federal Aviation Administration (FAA) Part 77 Noticing Area within the Mira Mesa Community Plan (MMCP).

The project site consists of an existing 8,854-square-foot (sf) commercial building with 12 existing commercial units located at 5665 Oberlin Drive, and an existing 9,650-sf two-story commercial building with 14 existing commercial units located at 5677 Oberlin Drive for a total of 26 commercial units. Each building is currently within its own legal lot.

DISCUSSION

Project Description:

The project proposes consolidation of two existing legal lots into one, and the creation of 26 commercial condominiums from existing tenant spaces: 12 units at 5665 Oberlin Drive, and 14 units at 5677 Oberlin Drive. The project proposes the following improvements: curb ramp and curb and sidewalk at the intersection of Oberlin Drive and Youngstown Way, the installation of two new street trees along Oberlin Drive and four street trees along Youngstown Way, and public right-of-way dedications along Oberlin Drive and Youngstown Way to provide a 12-foot-wide curb to property line distance. The project site does not currently have overhead utilities. Therefore, a waiver of the requirement to underground existing overhead utility lines is not required.

Permit Required

- A Tentative Map is required pursuant to [San Diego Municipal Code \(SDMC\) Section 125.0410\(a\)\(2\)](#) for the proposed subdivision of existing commercial units into commercial condominiums. This project is a Process Three, Hearing Officer decision in accordance with [SDMC Section 125.0430](#), with appeal rights to the Planning Commission. In accordance with [SDMC Section 125.0440](#), the decision maker may approve a Tentative Map if the decision maker makes certain findings in accordance with the Subdivision Map Act and the SDMC regulations.

Community Plan Analysis: The Mira Mesa Community Plan (MMCP) designates the project site as Technology Park, which allows high-technology uses related to applied sciences, research and development, corporate headquarters, light manufacturing, and storage and distribution uses. It also allows for office uses with functions directly related to high technology uses (MMCP, Figure 2-2). The IL-2-1 zone implements the Technology Park designation in accordance with [SDMC Section 131.0603](#) and [SDMC Section 131.0622](#).

The creation of 26 commercial condominiums will provide ownership and expansion opportunities for industrial and commercial businesses. The MMCP identifies the Land Use and Economic Prosperity Goal of “land use and infrastructure investments that promote more start-ups, craft business, creative industries, and knowledge-based jobs, while preserving industrial land for manufacturing, logistics, and warehousing” (MMCP, page 21). The project supports this goal through the preservation of the existing land use and zoning, the proposed public improvements that include new street trees, curb ramp, curb and sidewalk. The project is a mapping action only and does not propose any new development or deviations from the Land Development Code or the MMCP.

Conclusion:

Staff has reviewed the proposed project, and all issues identified through the review process have been resolved in conformance with adopted City Council policies, the Land Development Code Regulations, and the Subdivision Map Act. Staff determined that the project is consistent with the requirements of the Subdivision Map Act, the recommended land use, and development standards in effect for this site. Staff has provided draft findings and conditions in support of approval and recommends that the Hearing Officer approve Tentative Map No. PMT-3388813.

ALTERNATIVES

1. Approve TENTATIVE MAP NO. PMT-3388813, with modifications.
2. Deny TENTATIVE MAP NO. PMT-3388813, if the findings required to approve the project cannot be affirmed.

Respectfully submitted,

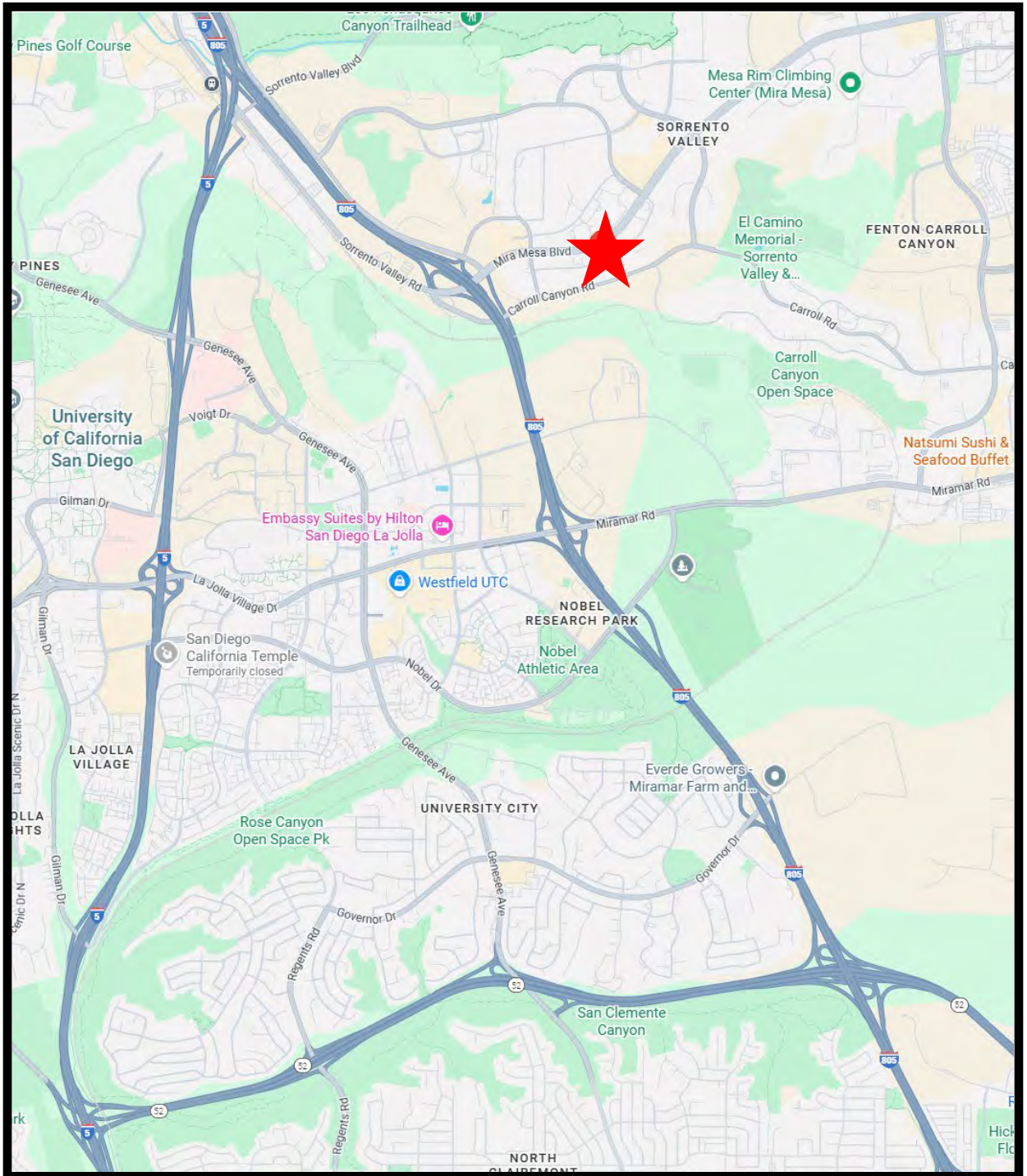


Jose Bautista
Development Project Manager
Development Services Department

Attachments:

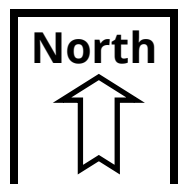
1. Project Location Map
2. Community Plan Land Use Map
3. Aerial Photograph
4. Draft Tentative Map Resolution with Findings
5. Draft Tentative Map Conditions
6. Environmental Exemption or Notice of Right to Appeal
7. Ownership Disclosure Statement

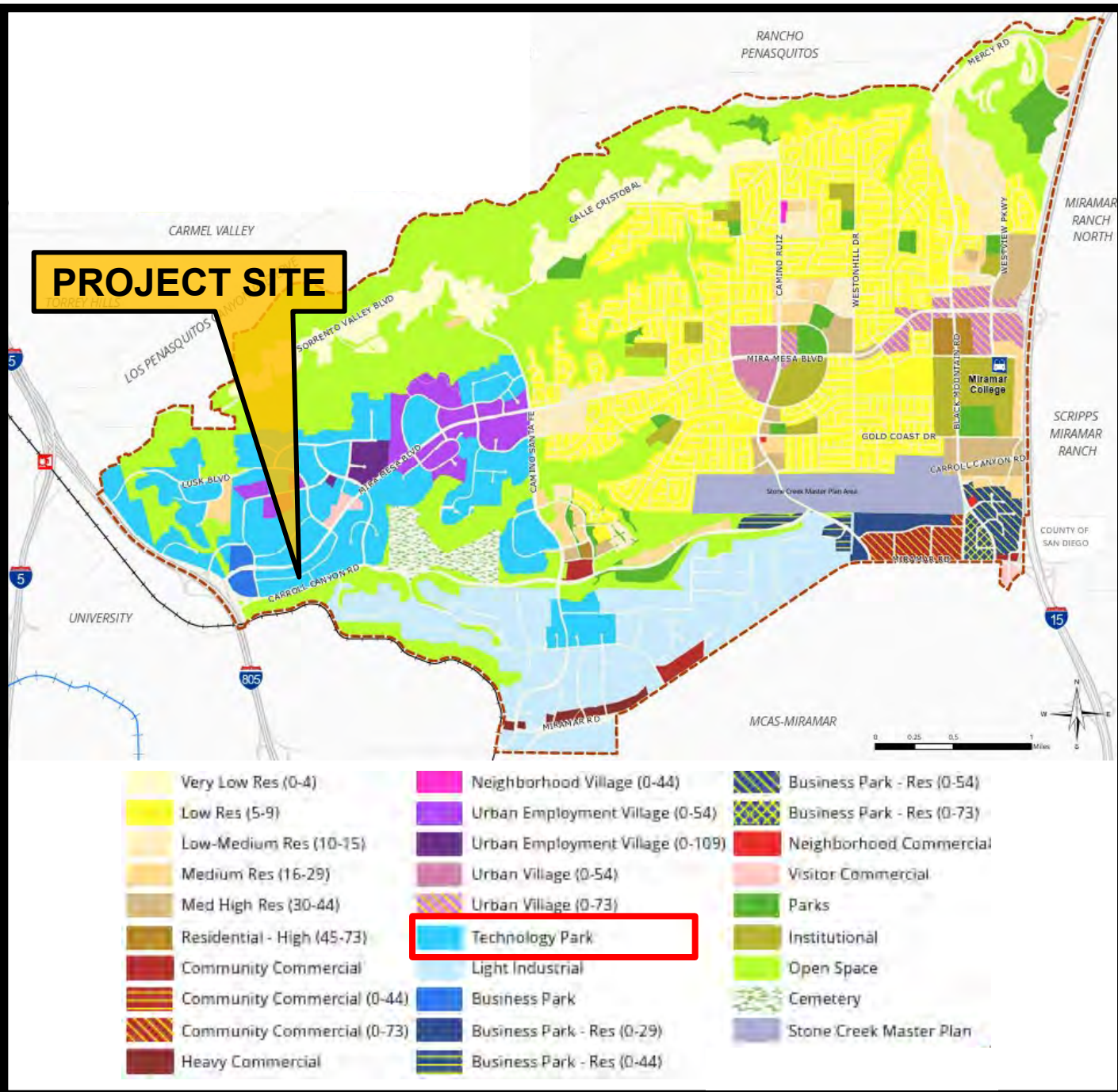
8. Community Planning Group Recommendation
9. Project Plans



Project Location

5665 and 5677 Oberlin Drive
Project No. PRJ-1131909

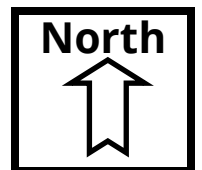






Aerial Photo

5665 and 5677 Oberlin Drive
Project No. PRJ-1131909



HEARING OFFICER
RESOLUTION NUMBER R-_____
TENTATIVE MAP NO. PMT-3388813
5665 AND 5677 OBERLIN DRIVE – PROJECT NO. PRJ-1131909

WHEREAS, AEI INVESTMENTS, LLC, a California limited liability company, Subdivider, and WARE MALCOMB, Engineer, submitted an application to the City of San Diego for a Tentative Map (Tentative Map No. PMT-3388813) for the 5665 and 5677 Oberlin Drive Tentative Map project. The project site is located at 5665 and 5677 Oberlin Drive, within the IL-2-1 (Industrial Light) zone, Prime Industrial Lands, the Airport Land Use Compatibility Overlay Zone for Marine Corps Air Station (MCAS) Miramar, a Transit Priority Area, the Airport Influence Area for MCAS Miramar (Review Area 1), the Airport Safety Zone (MCAS Miramar Accident Potential Zone 2), and the Federal Aviation Administration (FAA) Part 77 Noticing Area within the Mira Mesa Community Plan. The property is legally described as LOTS 43 AND 44 OF LUSK INDUSTRIAL PARK UNIT NO. 1, IN THE CITY OF SAN DIEGO, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO MAP THEREOF NO. 9694, FILED IN THE OFFICE OF THE COUNTY RECORDER OF SAN DIEGO COUNTY, JUNE 27, 1980; and

WHEREAS, the project proposes the consolidation of two existing legal lots on a 1.35-acre project site into one lot, and the creation of 26 commercial condominium units in two buildings: 1. 12 units in an existing 8,854-square-foot (sf) two-story commercial building at 5665 Oberlin Drive, and 2. 14 units in an existing 9,650 sf two-story commercial building at 5677 Oberlin Drive, and associated site improvements; and

WHEREAS, on November 6, 2025, the City of San Diego, as Lead Agency, through the Development Services Department, made and issued an Environmental Determination that the project is exempt from the California Environmental Quality Act [CEQA] (Public Resources Code section 21000 et. seq.) under CEQA Guideline Section 15301 (Existing Facilities); and there was no

appeal of the Environmental Determination filed within the time period provided by San Diego Municipal Code Section 112.0520; and

WHEREAS, a preliminary soils and geological reconnaissance report are waived by the City Engineer pursuant to Subdivision Map Act section 66491(a) and San Diego Municipal Code (SDMC) Sections 144.0220(a) and 144.0220(b); and

WHEREAS, the subdivision is a condominium project as defined in California Civil Code section 6542 and filed pursuant to the Subdivision Map Act. The total number of commercial condominium units is 26; and

WHEREAS, on January 14, 2026, the Hearing Officer of the City of San Diego considered Tentative Map No. PMT-3388813 and pursuant to San Diego Municipal Code Section(s) 125.0440, 125.0444, and 144.0240 and Subdivision Map Act section 66428, received for its consideration written and oral presentations, evidence having been submitted, and testimony having been heard from all interested parties at the public hearing, and the Hearing Officer having fully considered the matter and being fully advised concerning the same; NOW THEREFORE,

BE IT RESOLVED by the Hearing Officer of the City of San Diego, that it adopts the following findings with respect to Tentative Map No.3388813:

1. The proposed subdivision and its design or improvement are consistent with the policies, goals, and objectives of the applicable land use plan.

The project proposes the creation of 26 commercial condominium units in two buildings: 12 units in an existing 8,854-square-foot (sf) two-story commercial building at 5665 Oberlin Drive, and 14 units in an existing 9,650 sf two-story commercial building at 5677 Oberlin Drive, as well as associated site improvements currently under construction. The 1.35-acre project site is located in the IL-2-1 (Industrial Light) zone, Prime Industrial Lands, the Airport Land Use Compatibility Overlay Zone for Marine Corps Air Station (MCAS) Miramar, a Transit Priority Area, the Airport Influence Area for MCAS Miramar (Review Area 1), the Airport Safety Zone (MCAS Miramar Accident Potential Zone 2), and the Federal Aviation Administration (FAA) Part 77 Noticing Area within the Mira Mesa

Community Plan (MMCP) planning area. The project site is located east of Interstate 805, north of Miramar Road, and south of Mira Mesa Boulevard.

The project is a mapping action only with public right-of-way and landscaping improvements and does not propose any new development or deviations from the Land Development Code (LDC). The MMCP designates the site as Technology Park, which allows high technology uses related to applied sciences, research and development, corporate headquarters, light manufacturing, storage and distribution. It also allows for office uses with functions directly related to high technology uses (MMCP, Figure 2-2). The project site was originally developed as two commercial buildings and the project is not proposing to change the existing use.

The project supports the following MMCP policies:

Land Use and Economic Prosperity Policy 2.12:

- Incorporate live-work/work-live and shopkeeper units that allow for residential for creative industries, arts, and innovation and allow residents to own and operate office, professional, and retail uses (MMCP, page 33).

The project supports this policy by providing commercial condominiums available for ownership. The site is within an urban, developed neighborhood surrounded by commercial and industrial uses, and the site is located in Prime Industrial Lands (MMCP, Figure 2-1).

Employment Policy 2.16:

- Utilize Prime Industrial Lands for base sector employment and provide flexibility to serve operational and expansion needs of existing industrial employers within Prime Industrial lands (MMCP, page 33).

The project supports this policy since the MMCP has designated the area west of Camino Santa Fe and south of Carroll Canyon Road for commercial office use, research and development corporate headquarters, storage and distribution uses and light manufacturing uses. The creation of commercial condominiums will continue to allow the expansion of neighboring industrial and commercial employers, creating a site with shared amenities, business incubators, and flexible innovation spaces.

In addition, the project supports City of San Diego General Plan Urban Design Element Policy UD-47:

- Provide expanded opportunities for local access and address the circulation needs of pedestrians within and among office and business park development (UD-47).

The project supports this policy through the implementation of public improvements along Oberlin Drive, including curb ramp, curb and sidewalk, the installation of two new street trees along Oberlin Drive and four street trees along Youngstown Way.

The MMCP identifies policies that provide a land use direction covering a 30-year planning horizon and is estimating a 32,800 increase to their employment sector (MMCP, Figure 2-3). The MMCP also identifies the following Employment Policy 2.13:

- Design building types that can accommodate or be adapted to a variety of industrial, technology, and business uses and activities (MMCP, page 33).

The project supports this employment policy and provides commercial spaces for the expected job growth by allowing the opportunity for businesses to expand their operations on a site with shared amenities, business incubators, and flexible innovation spaces.

The City of San Diego General Plan identifies the following Mobility Element Goal:

- Design and operate sidewalks, streets, and intersections to emphasize pedestrian safety and comfort through a variety of street design and traffic management solutions, including but not limited to those described in the Pedestrian Improvements Toolbox, Table ME-1 (ME-17).

The project supports this goal through the implementation of a curb ramp and curb and sidewalk at the intersection of Oberlin Drive and Youngstown Way. The project is also dedicating public right-of-way space along Oberlin Drive and Youngstown Way to satisfy the requirement of a 12-foot-wide curb to property line distance to the satisfaction of the City Engineer. Additionally, the project proposes the installation of two new street trees along Oberlin Drive and four street trees along Youngstown Way. These public improvements will improve existing sidewalks that provide pedestrian accessibility to and from the site.

Furthermore, the project also supports the following City of San Diego General Plan Mobility Element goal:

- Improve operations and maintenance on City streets and sidewalks (ME-E.9)

The project will implement 12-foot-wide parkways with a non-contiguous sidewalk along Oberlin Street and Youngstown Way. The project will also incorporate six street trees and associated landscape and irrigation improvements providing shading and pedestrian connectivity through Oberlin Street and Youngstown Way. There are three bus stops along Mira Mesa Boulevard, and two along Oberlin Drive. One bus stop is across the street from 5677 Oberlin Drive along Youngstown Way. Therefore, the proposed subdivision and its design or improvement are consistent with the policies, goals, and objectives of the applicable land use plan.

2. The proposed subdivision complies with the applicable zoning and development regulations of the Land Development Code, including any allowable deviations pursuant to the Land Development Code.

The project is a mapping action only, and the consolidated lot will meet the requirements of the IL-2-1 zone. The project site was originally developed as two commercial buildings and the project is not proposing to change the existing use. The project is a mapping action only with public right-of-way and landscaping improvements and does not include any additional development, nor does it request any deviations. The subdivision will continue to comply with the development regulations of

the base zone. The project will also comply with the Tentative Map conditions, including the creation of a condominium map.

All existing utilities at the project site have been undergrounded; therefore, a waiver to underground utilities is not necessary. The project proposes to consolidate two existing legal lots into one, and the creation of existing commercial units into commercial condominiums, providing ownership opportunities. Therefore, the proposed subdivision complies with the applicable zoning and development regulations of the Land Development Code.

3. The site is physically suitable for the type and density of development.

The project site is situated within an urban environment that provides access to suitable public services and utilities, and proposes no additional building construction, ensuring no additional impact on existing utilities and emergency services response times for the community. The project is a mapping action only with public right-of-way and landscaping improvements and does not include any additional physical development. The site currently provides 86 parking spaces when 86 spaces are required in accordance with SDMC Section 142.0540. Therefore, the requested mapping action is physically suitable for the type and density of the proposed development.

4. The design of the subdivision or the proposed improvements are not likely to cause substantial environmental damage or substantially and avoidably injure fish or wildlife or their habitat.

The project is a mapping action only with public right-of-way and landscaping improvements and does not include any physical development. The project site has two existing two-story commercial buildings on a 1.35-acre site and associated private improvements. The project site is in an urban developed neighborhood with no Environmentally Sensitive Lands (ESL). Multi-Habitat Planning Area (MHPA) lands is located south of the project site across from Carroll Canyon Road within Carroll Canyon. No development or public improvements are proposed within or near MHPA lands. The project was determined to be categorically exempt from the California Environmental Quality Act (CEQA) pursuant to Section 15301 (Existing Facilities) of the State of CEQA Guidelines. No physical construction or change in land use designation is proposed as part of this mapping action. Therefore, the design of the subdivision and the proposed improvements are not likely to cause substantial environmental damage or substantially and avoidably injure fish or wildlife or their habitat.

5. The design of the subdivision or the type of improvement will not be detrimental to the public health, safety, and welfare.

The site has two existing buildings consisting of an 8,854-square-foot two-story commercial building located at 5665 Oberlin Drive, a 9,650-square-foot two-story commercial building located at 5677 Oberlin Drive, an existing parking lot and associated existing site improvements. Pedestrian access is provided via the public right-of-way on Oberlin Drive. The project is a mapping action only with public right-of-way and landscaping improvements. Therefore, there will be no additional demand for public services or available fiscal and environmental resources associated with the creation of the 26 commercial condominiums.

6. The design of the subdivision or the type of improvements will not conflict with easements acquired by the public at large for access through or use of property within the proposed subdivision.

The proposed subdivision is described in Tentative Map findings 1 through 5 above, incorporated herein by reference. As identified in the findings above, the project is a mapping action only with public right-of-way and landscaping improvements and does not include any additional development, nor does it include any requested deviations. The project site has the following existing easement:

- Easement for pole lines, underground conduits, together with the right of ingress and egress and incidental purposes, recorded June 16, 1981.

The location of the easement cannot be determined from record information. The project has been conditioned to include a right-of-way dedication along Oberlin Drive and Youngstown Way to satisfy the requirement of a 12-foot curb to property line distance to the satisfaction of the City Engineer. Therefore, the design of the subdivision or the type of improvements will not conflict with easements acquired by the public at large for access through or use of property within the proposed subdivision.

7. The design of the proposed subdivision provides, to the extent feasible, for future passive or natural heating and cooling opportunities.

The project site is within a developed neighborhood with existing infrastructure and is a mapping action only with public right-of-way and landscaping improvements. Existing and future development must comply with all applicable building and zoning review and requirements including setbacks, building materials, site orientation, architectural treatments, and landscaping to provide for future passive or natural heating and cooling opportunities to the project site, including the addition of six street trees and associated landscape and irrigation improvements. Therefore, the design of the proposed subdivision provides, to the extent feasible, for future passive and natural heating and cooling opportunities.

8. The decision maker has considered the effects of the proposed subdivision on the housing needs of the region and that those needs are balanced against the needs for public services and the available fiscal and environmental resources.

The proposed subdivision is described in Tentative Map findings 1 through 7 above, incorporated herein by reference. The project proposes to consolidate two existing legal lots into one, and the creation of 26 existing commercial tenant spaces into commercial (non-residential) condominiums for commercial ownership opportunities. Therefore, since this project is for the creation of commercial condominiums and no residential is proposed, this finding does not apply.

The above findings are supported by the minutes, maps, and exhibits, all of which are herein incorporated by reference.

ATTACHMENT 4

(R-[Reso Code])

BE IT FURTHER RESOLVED, that based on the Findings hereinbefore adopted by the Hearing Officer, Tentative Map No. 3388813, hereby granted to AEI Investments, LLC, a California limited liability company, subject to the attached conditions which are made a part of this resolution by this reference.

By

Jose Bautista
Development Project Manager
Development Services Department

ATTACHMENT: Tentative Map Conditions

Internal Order No: 11004543

HEARING OFFICER
CONDITIONS FOR TENTATIVE MAP NO. PMT-3388813
5665 AND 5667 OBERLIN DRIVE – **PROJECT NO.** PRJ-1131909
ADOPTED BY RESOLUTION NO. R-_____ ON JANUARY 14, 2026.

GENERAL

1. This Tentative Parcel Map will expire January 29, 2029.
2. Compliance with all of the following conditions shall be completed and/or assured, to the satisfaction of the City Engineer, prior to the recordation of the Parcel Map, unless otherwise noted.
3. Conformance with the "General Conditions for Tentative Subdivision Maps," filed in the Office of the City Clerk under Document No. 767688 on May 7, 1980, is required. Only those exceptions to the General Conditions which are shown on the Tentative Map and covered in these special conditions will be authorized. All public improvements and incidental facilities shall be designed in accordance with criteria established in the Street Design Manual, filed with the City Clerk as Document No. RR-297376.
4. The Subdivider shall defend, indemnify, and hold the City (including its agents, officers, and employees [together, "Indemnified Parties"]) harmless from any claim, action, or proceeding, against the City and/or any Indemnified Parties to attack, set aside, void, or annul City's approval of this project, which action is brought within the time period provided for in Government Code section 66499.37. City shall promptly notify Subdivider of any claim, action, or proceeding and shall cooperate fully in the defense. If City fails to promptly notify Subdivider of any claim, action, or proceeding, or if City fails to cooperate fully in the defense, Subdivider shall not thereafter be responsible to defend, indemnify, or hold City and/or any Indemnified Parties harmless. City may participate in the defense of any claim, action, or proceeding if City both bears its own attorney's fees and costs, City defends the action in good faith, and Subdivider is not required to pay or perform any settlement unless such settlement is approved by the Subdivider.

ENGINEERING

5. The Subdivider shall dedicate an additional two feet on both Oberlin Drive and Youngstown Way to provide a 12-foot-wide curb-to-property line distance, in accordance with Exhibit 'A', to the satisfaction of the City Engineer.
6. The Subdivider shall, by permit and bond, assure the reconstruction of existing curb ramp at the north-east corner of the project site on Oberlin Drive and Youngstown Way, with City Standard Curb Ramp with Detectible Warning Tiles, in accordance with Exhibit 'A', to the satisfaction of the City Engineer.
7. The Subdivider shall, by permit and bond, assure to reconstruct the damaged portions of the sidewalk with current City Standard Sidewalk, maintaining the existing sidewalk scoring

pattern and preserving the contractor's stamp adjacent to the site, in accordance with Exhibit 'A', to the satisfaction of the City Engineer.

8. The Subdivider shall obtain an Encroachment Maintenance Removal Agreement (EMRA) for the existing landscaping and irrigation within the Oberlin Drive Right-of-Way in accordance with Exhibit 'A', to the satisfaction of the City Engineer.
9. The Subdivider shall ensure that all onsite utilities serving the subdivision are undergrounded under the appropriate permits. The subdivider shall provide written confirmation from applicable utility providers that the conversion has been completed, or provide other means of assurance, to the satisfaction of the City Engineer.
10. The Subdivider shall underground any new service run to any new or proposed structures within the subdivision.
11. The drainage system proposed for this development, as shown on the site plan, is private and subject to the approval of the City Engineer.

MAPPING

12. The Parcel Map shall be based on field survey and all lot corners must be marked with durable survey monuments pursuant to Section 144.0311(d) of the City of San Diego Land Development Codes and Subdivision Map Act Section 66495.

All survey monuments shall be set prior to the recordation of the Parcel Map, unless the setting of monuments is deemed impractical due to the proposed improvements and/or grading associated with the project, in which case, delayed monumentation may be applied on the Parcel Map in accordance with Section 144.0130 of the City of San Diego Land Development Codes.

13. All subdivision maps in the City of San Diego are required to be tied to the California Coordinate System of 1983 (CCS83), Zone 6 pursuant to section 8801 through 8819 of the California Public Resources Code.

The Parcel Map shall:

- a. Use the California Coordinate System for its "Basis of Bearings" and express all measured and calculated bearing values in terms of said system. The angle of grid divergence from a true meridian (theta or mapping angle) and the north point of said map shall appear on each sheet thereof. Establishment of said Basis of Bearings may be by use of existing Horizontal Control stations or astronomic observations.
- b. Show two measured ties from the boundary of the map to existing Horizontal Control stations having California Coordinate values of First Order accuracy. These tie lines to the existing control shall be shown in relation to the California Coordinate System (i.e., grid bearings and grid distances). All other distances shown on the map are to be shown as ground distances. A combined factor for conversion of grid-to-ground distances shall be shown on the map.

14. "California Coordinate System" means the coordinate system as defined in Section 8801 through 8819 of the California Public Resources Code. The specified zone for San Diego County is "Zone 6," and the official datum is the "North American Datum of 1983."
15. "Basis of Bearings" means the source of uniform orientation of all measured bearings shown on the map. Unless otherwise approved, this source shall be the California Coordinate System, Zone 6, North American Datum of 1983 [NAD 83].
16. Prior to the Tentative Map expiration date, a Parcel Map to consolidate the existing lots into one lot and subdivide the 1.35-acre properties into 26 commercial condominium units, shall be recorded in the Office of the San Diego County Recorder.
17. Prior to the recordation of the Parcel Map, taxes must be paid or bonded for this property pursuant to Subdivision Map Act section 66492. To satisfy this condition, a current original tax certificate stating that there are no unpaid lien conditions against the subdivision must be recorded in the Office of the San Diego County Recorder.

Please note if a tax bond is required as indicated in the tax certificate, please make sure that it is paid or posted, and submit evidence (e.g., filed bond letter or receipt from Clerk of the Board) indicating the required tax bond amount has been paid or bonded.

LANDSCAPE/BRUSH MANAGEMENT

18. Prior to the issuance of any construction permit for public improvements, the Owner/Permittee shall submit complete landscape construction documents for right-of-way improvements to the Development Services Department for approval. Improvement plans shall show, label, and dimension a 40-square-foot area around each tree which is unencumbered by utilities. Driveways, utilities, drains, water and sewer laterals shall be designed so as not to prohibit the placement of street trees.
19. The Owner/Permittee shall be responsible for the maintenance of all landscape improvements shown on the approved plans, including in the right-of-way, unless long-term maintenance of said landscaping will be the responsibility of another entity approved by the Development Services Department. All required landscape shall be maintained consistent with the Landscape Standards in a disease, weed, and litter free condition at all times. Severe pruning or "topping" of trees is not permitted.
20. If any required landscape (including existing or new plantings, hardscape, landscape features, etc.) indicated on the approved construction Plans is damaged or removed, the Owner/Permittee shall repair and/or replace in kind and equivalent size per the approved documents to the satisfaction of the Development Services Department within 30 days of damage or Final inspection.

INFORMATION:

- The approval of this Tentative Map by the Hearing Officer of the City of San Diego does not authorize the subdivider to violate any Federal, State, or City laws,

ordinances, regulations, or policies including but not limited to, the Federal Endangered Species Act of 1973 and any amendments thereto (16 USC § 1531 et seq.).

- If the Subdivider makes any request for new water and sewer facilities (including services, fire hydrants, and laterals), the Subdivider shall design and construct such facilities in accordance with established criteria in the most current editions of the City of San Diego water and sewer design guides and City regulations, standards and practices pertaining thereto. Off-site improvements may be required to provide adequate and acceptable levels of service and will be determined at final engineering.
- Subsequent applications related to this Tentative Map will be subject to fees and charges based on the rate and calculation method in effect at the time of payment.
- Any party on whom fees, dedications, reservations, or other exactions have been imposed as conditions of approval of the Tentative Map, may protest the imposition within ninety days of the approval of this Tentative Map by filing a written protest with the San Diego City Clerk pursuant to Government Code sections 66020 and/or 66021.
- Where in the course of development of private property, public facilities are damaged or removed, the Subdivider shall at no cost to the City, obtain the required permits for work in the public right-of-way, and repair or replace the public facility to the satisfaction of the City Engineer (San Diego Municipal Code § 142.0607).

Internal Order No. 11004543



THE CITY OF SAN DIEGO

DATE OF NOTICE: November 6, 2025

NOTICE OF RIGHT TO APPEAL ENVIRONMENTAL DETERMINATION

DEVELOPMENT SERVICES DEPARTMENT

SAP No. 11004500

PROJECT NAME / NUMBER: 5665 and 5677 Oberlin Drive/ PRJ-1131909

COMMUNITY PLAN AREA: Mira Mesa

COUNCIL DISTRICT: 6

LOCATION: 5665 and 5677 Oberlin Dr, San Diego, CA 92121

PROJECT DESCRIPTION: The project proposes a Tentative Map (TM) for the consolidation of two existing legal lots into one lot, the conversion of an existing 8,854-square-foot (sf) two-story commercial building and an existing 9,650 sf two-story commercial building to 12 commercial condominium units at 5665 Oberlin Drive and 14 commercial condominium units at 5677 Oberlin Drive for a total of 26 commercial condominium units. Landscape and hardscaping improvements are proposed. The 1.35-acre site is in the IL-2-1 (Industrial Light) base zone with overlay zones including Prime Industrial Lands, Complete Communities Mobility Zone 2, Airport Land Use Compatibility Overlay Zone (MCAS Miramar), Transit Priority Area, Airport Influence Area (MCAS Miramar Review Area 1), Airport Safety Zone (MCAS Miramar Accident Potential Zone 2), and FAA Part 77 Noticing Area. The site is designated Technology Park within the Mira Mesa Community Plan Area. **LEGAL DESCRIPTION:** Lots 43 and 44 of Lusk Industrial Park Unit No. 1.

ENTITY CONSIDERING PROJECT APPROVAL: City of San Diego Hearing Officer

ENVIRONMENTAL DETERMINATION: Categorically exempt from CEQA pursuant to CEQA State Guidelines, Section 15301, Existing Facilities.

ENTITY MAKING ENVIRONMENTAL DETERMINATION: City of San Diego

STATEMENT SUPPORTING REASON FOR ENVIRONMENTAL DETERMINATION: The City of San Diego determined the project would not have the potential to cause a significant effect on the environment. The project meets the criteria set forth in CEQA Section 15301, which consists of the operation, repair, maintenance, permitting, leasing, licensing, or minor alteration of existing public or private structures, facilities, mechanical equipment, or topographical features, involving negligible or no expansion of existing or former use. The project is requesting a Tentative Map Waiver to

convert two existing commercial buildings into 26 Commercial Condominium Units. Physical improvements include minor landscape and hardscape improvements and there is no expansion of use proposed. Therefore, this exemption was deemed appropriate. In addition, the exceptions listed in CEQA Section 15300.2 would not apply. **The site is not included on any list compiled pursuant to Government Code Section 65962.5 for hazardous waste sites.**

DEVELOPMENT PROJECT MANAGER: Jose Bautista
MAILING ADDRESS: 7650 Mission Valley Road, MS DSD-1A, San Diego, CA 92108
PHONE NUMBER / EMAIL: 619-557-7983 / JABautista@sandiego.gov

On November 6, 2025 the City of San Diego (City), as Lead Agency, has made the above-referenced environmental determination pursuant to the California Environmental Quality Act (CEQA). This determination is appealable to the City Council. If you have any questions about this determination, contact the City Development Project Manager listed above.

Applications to appeal CEQA determination made by staff (including the City Manager) to the City Council must be filed in the office of the City Clerk by 5:00pm within ten (10) business days from the date of the posting of this Notice (November 21, 2025). Appeals to the City Clerk must be filed by email or in-person as follows:

- 1) Appeals filed via E-mail: The Environmental Determination Appeal Application Form [DS-3031](#) can be obtained at <https://www.sandiego.gov/sites/default/files/legacy/development-services/pdf/industry/forms/ds3031>. Send the completed appeal form (including grounds for appeal and supporting documentation in pdf format) by email to Hearings1@sandiego.gov by 5:00p.m. on the last day of the appeal period; your email appeal will be acknowledged within 24 business hours. You must separately mail the appeal fee by check payable to the City Treasurer to: City Clerk/Appeal, MS 2A, 202 C Street, San Diego, CA 92101. The appeal filing fee must be United States Postal Service (USPS) postmarked) before or on the final date of the appeal. Please include the project number on the memo line of the check.
- 2) Appeals filed in person: Environmental Determination Appeal Application Form [DS-3031](#) can be obtained at <https://www.sandiego.gov/sites/default/files/legacy/development-services/pdf/industry/forms/ds3031.pdf>. Bring the fully completed appeal application [DS-3031](#) (including grounds for appeal and supporting documentation) to the City Administration Building-Public Information Counter (Open 8:00am to 5:00pm Monday through Friday excluding City-approved holidays), 1st Floor Lobby, located at 202 C Street, San Diego, CA 92101, by 5:00pm on the last day of the appeal period. The completed appeal form shall include the required appeal fee, with a check payable to: City Treasurer.

This information will be made available in alternative formats upon request.

POSTED ON THE CITY'S CEQA WEBSITE

POSTED: 11/6/25

REMOVED: 11/21/25

POSTED BY: *Myra Lee*

FORM

DS-318

July 2024

Ownership Disclosure Statement

Permit/Approval Type: Check the appropriate box for permit/approval and type(s) requested (See [Project Submittal Manual](#)):

☐ **Development Permit:** _____

☒ **Subdivision Approval:** Tentative Parcel Map for Condominium Conversion for Commercial Offices (Non-residential)

☐ **Policy Approval:** _____

Project Title: 5665 & 5677 Oberlin Drive **Project No. For City Use Only:** _____

Project Location/Address/Accessor's Parcel Number:

5665 & 5677 Oberlin Drive, San Diego, CA 92121

Specify Form of Ownership/Legal Status (please check):

☐ Individual ☐ Partnership ☐ Corporation ☒ Limited Liability -or- ☐ General – What State? CA

Corporate Identification No.: _____ ☐ Trust - Date of Trust: _____

☐ City of San Diego/Asset Management Department: _____

By signing the Ownership Disclosure Statement, the owner(s) acknowledge that an application for a permit, map or other matter will be filed with the City of San Diego on the subject property with the intent to record an encumbrance against the property. On the second page of this form, please list the owner(s), the applicant(s), and other financially interested persons of the above-referenced property. A financially interested party includes any individual, firm, co-partnership, joint venture, association, social club, fraternal organization, corporation, estate, trust, receiver or syndicate with a financial interest in the application, or:

Important Instructions

1. If the applicant includes a corporation or partnership, include the names, titles, and addresses of all individuals owning more than 10% of the shares.
2. If it's a publicly owned corporation, include the names, titles, and addresses of the corporate officers.
3. If any person is a nonprofit organization or a trust, list the names and addresses of ANY person serving as an officer, director, trustee or beneficiary of the nonprofit organization.
4. The applicant is responsible for notifying the Project Manager of any changes in ownership during the time the application is being processed or considered. Changes in ownership are to be given to the Project Manager at least 30 days prior to any public hearing on the subject property. Failure to provide accurate and current ownership information could result in a delay in the hearing process.
5. A signature is required of at least one of the property owners.
6. Attach additional pages if needed.

Property Owner/Authorized Agent*(Per [SDMC 5112.0102](#))*

☒ Owner
 ☒ Authorized Agent
 ☐ Member
 ☐ Trustee
 ☐ Tenant/Lessee
 ☐ Successor Agency
☐ City of San Diego/Asset Management Department*

Name of Individual: **Daniel Jacoben**On behalf of: **AEI Investments LLC**Street Address: **11100 Santa Monica Blvd. Ste. 260**City: **Los Angeles**State: **CA**Zip: **90025**Phone Number: **(619) 990-3194**Email: **djacobsen@abingtonemerson.com**

Signature:



Date:

02/14/2025Additional pages attached: ☐ Yes ☐ No**(Signature within this section not required for City of San Diego/Asset Management Department)***Applicant ☒ Check if Same as Property Owner/Authorized Agent***(Per [SDMC 5112.0102](#))*

☐ Owner
 ☒ Authorized Agent
 ☐ Member
 ☐ Trustee
 ☐ Tenant/Lessee
 ☐ Successor Agency

Name of Individual: **Daniel Jacobsen**On behalf of: **AEI Investments LLC**Street Address: **11100 Santa Monica Blvd. Ste. 260**City: **Los Angeles**State: **CA**Zip: **90025**Phone Number: **(619) 990-3194**Email: **djacobsen@abingtonemerson.com**

Signature:



Date:

02/14/2025Additional pages attached: ☐ Yes ☒ No**Other Financially Interested Persons ☐ Check if N/A**

☐ Owner
 ☒ Authorized Agent
 ☐ Member
 ☐ Trustee
 ☐ Tenant/Lessee
 ☐ Successor Agency

Name of Individual: **Daniel Jacoben**On behalf of: **AEI Investments LLC**Street Address: **11100 Santa Monica Blvd. Ste. 260**City: **Los Angeles**State: **CA**Zip: **90025**Phone Number: **(619) 990-3194**Email: **djacobsen@abingtonemerson.com**

Signature:



Date:

02/14/2025Additional pages attached: ☐ Yes ☐ NoVisit our web site: sandiego.gov/DSD.

Upon request, this information is available in alternative formats for persons with disabilities.

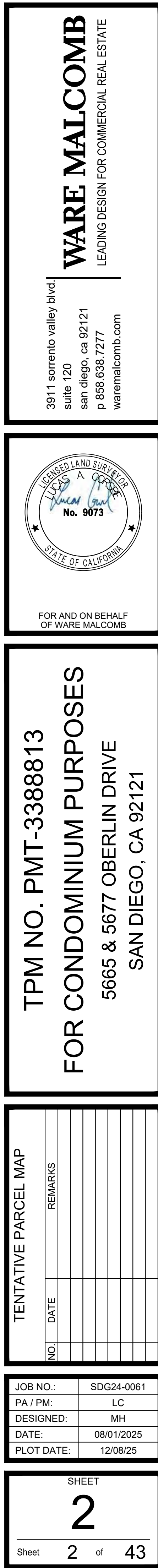
DS-318 (07-24)

Page 3		City of San Diego · Information Bulletin 620		August 2018	
		City of San Diego Development Services 1222 First Ave., MS-302 San Diego, CA 92101		Community Planning Committee Distribution Form	
Project Name: a. Commercial office condominium for 5665 & 5677 Oberlin Dr Community: Mira Mesa			Project Number: PRJ-1131909		
For project scope and contact information (project manager and applicant), log into OpenDSD at https://aca.accela.com/SANDIEGO. Select "Search for Project Status" and input the Project Number to access project information.					
☒ Vote to Approve ☐ Vote to Approve with Conditions Listed Below ☐ Vote to Approve with Non-Binding Recommendations Listed Below ☐ Vote to Deny				Date of Vote: August 18, 2025	
# of Members Yes 14		# of Members No 0		# of Members Abstain 0	
Conditions or Recommendations:					
☐ No Action (Please specify, e.g., Need further information, Split vote, Lack of quorum, etc.)					
NAME: Jeffry L Stevens					
TITLE: Chair, Mira Mesa Community Planning Group				DATE: August 22, 2025	

Visit our web site at www.sandiego.gov/development-services.

Upon request, this information is available in alternative formats for persons with disabilities.

DS-5620 (08-18) ONLINE FORM



P:\SDG24\006100\Shell\Civil\Sheets\Planning\SDG24-0061_Tentative Parcel Map.dwg 12/08/2025 12:50 PM MHCE 1:1



LEGEND	
EXISTING	
BOUNDARY LINE	---
EX. ROW LINE	---
EASEMENT LINE	---
CENTERLINE	---
SETBACK LINE	---
CURB & GUTTER	---
TREE (VARIOUS)	---
TREELINE	---
CONTOUR	(5280)
EX. SIDEWALK	---
INDICATES FOUND IRON PIPE AS NOTED	●
INDICATES FOUND LEAD AND DISK AS NOTED	■

FOR AND ON BEHALF OF WARE MALCOMB

STATE OF CALIFORNIA

LAND SURVEYOR

W. A. WARE

No. 9073

TPM NO. PMT-3388813

FOR CONDOMINIUM PURPOSES

5665 & 5677 OBERLIN DRIVE

SAN DIEGO, CA 92121

TENTATIVE PARCEL MAP	
NO.	REMARKS

JOB NO.:	SDG24-0061
PA / PM:	LC
DESIGNED:	MH
DATE:	08/01/2025
PLOT DATE:	12/08/25

SHEET

3

Sheet 3 of 43

WARE MALCOMB assumes no responsibility for utility locations. The utilities shown on this drawing have been plotted from the best available information. It is, however, the contractors responsibility to field verify the location of all utilities prior to the commencement of any construction.

PRJ NO. PRJ-1131909
TM NO. PMT-3388813
1904-6269
NAD83 COORDINATES
284-1709
LAMBERT COORDINATES

NOT FOR CONSTRUCTION

5665 OBERLIN DR.
SAN DIEGO, CA



ABINGTON EMERSON

5665 OBERLIN DR.
SAN DIEGO, CALIFORNIA 92121

PA/PM:	AN
DRAWN BY.:	MCJ / AN
JOB NO.:	SDG24-0061-00

SHEET
HARDSCAPE
SCHEDULES & NOTES

L1.0

1. VISIT THE SITE PRIOR TO SUBMITTING BIDS.
2. SUBMIT A UNIT COST FOR IMPORT SOIL IN-PLACE AND BE COMPLETELY AWARE OF THE AMOUNT OF SOIL NEEDED TO REACH THE SATISFACTORY GROUND LEVEL.
3. VERIFY ALL PROPERTY LINES OR OTHER LIMIT OF WORK LINES PRIOR TO COMMENCING WORK.
4. CONCRETE PAVING JOINTS INCLUDE THREE BASIC JOINT TYPES: CONTRACTION, DOWELED CONSTRUCTION, AND ISOLATION. SEE HARDCAPE DETAILS FOR ADDITIONAL INFORMATION. PROVIDE DOWELED CONSTRUCTION JOINTS BETWEEN DIFFERENT PAVING TYPES. CHANGES IN DIRECTION, 50-FEET ON-CENTER FOR LINEAR WALKS, END OF PAIRS, OR WHERE SPECIFICALLY INDICATED ON THE PLANS.
5. PROVIDE AN ISOLATION JOINT WHERE CONCRETE PAVING ABUTS A VERTICAL SURFACE SUCH AS BUILDINGS, WALLS, STEPS, ETC. SEE HARDCAPE DETAILS FOR ADDITIONAL INFORMATION.
6. SUBMIT A "PAVING JOINT AND POUR SEQUENCE PLAN" TO LANDSCAPE ARCHITECT FOR REVIEW AND APPROVAL PRIOR TO INSTALLING CONCRETE PAVING. THIS PLAN SHOULD CLEARLY INDICATE CONTRACTOR'S PROPOSED CONCRETE POUR SEQUENCE WITH JOINT LOCATIONS TO INCLUDE CONTRACTION, DOWELED CONSTRUCTION, AND ISOLATION JOINTS. PLAN TO ALSO CONFIRM JOINT TYPE WHETHER HAND-TOOLED OR SAW CUT.
7. USE PIERI "FACE-OFF" BY WR GRACE, OR APPROVED EQUAL, TO PREVENT PERMANENT CEMENTITIOUS STAINING ON ADJACENT HARDCAPE ELEMENTS WHEN PLACING CONCRETE.
8. REPAIR OR REPLACE ANY DAMAGE TO ADJACENT PROPERTIES, CURBS, WALKS, PLANTING, WALLS, ETC. AT NO ADDITIONAL COST TO THE OWNER.
9. VERIFY ALL EXISTING CONDITIONS, DIMENSIONS AND ELEVATIONS BEFORE PROCEEDING WITH THE WORK. NOTIFY THE LANDSCAPE ARCHITECT IMMEDIATELY SHOULD FIELD CONDITIONS VARY FROM THOSE SHOWN ON PLAN.
10. REPORT DISCREPANCIES IN THE DRAWINGS OR BETWEEN THE DRAWINGS AND ACTUAL FIELD CONDITIONS TO THE LANDSCAPE ARCHITECT. CORRECTED DRAWINGS OR INSTRUCTIONS SHALL BE ISSUED PRIOR TO THE CONTINUATION OF THIS WORK. ASSUME FULL RESPONSIBILITY FOR ALL NECESSARY CORRECTIONS DUE TO FAILURE TO REPORT KNOWN DISCREPANCIES.

1. HARDSCAPE PAVING - PROVIDE (1) 4" x 4" SQUARE MOCK-UP FOR EACH PAVING TYPE NOTED IN THE COLOR AND FINISH SCHEDULE. EACH MOCK-UP TO INCLUDE THE COLOR, FINISH, JOINT, FINISH, AN EXAMPLE OF EACH JOINTING TYPE NOTED IN THE CONSTRUCTION KEYNOTES AND DETAILS, AND SPECIFIED SEALER. IN PLACE MOCK-UPS WILL NOT BE ACCEPTED. CONTRACTOR SHALL PROVIDE ADDITIONAL SAMPLES UNTIL THE COLOR AND FINISH IS CONSIDERED ACCEPTABLE BY THE OWNER'S REPRESENTATIVE, AT NO ADDITIONAL COST TO THE OWNER.
2. MOCK-UP LEAD TIMES - BE AWARE OF POSSIBLE LEAD TIMES FOR ITEMS SUCH AS BUT NOT LIMITED TO PRE-CAST CONCRETE PAVERS, SIMILAR COLORS AND SIZES WILL NOT BE ACCEPTED AS A MOCK-UP REVIEW.
3. HARDSCAPE ELEMENTS - PROVIDE A PHYSICAL SAMPLE OF SPECIFIED MATERIALS (COLOR, FINISH, AND SEALER) TO THE OWNER AND LANDSCAPE CONTRACTOR FOR REVIEW PRIOR TO PLACING ORDER. ITEMS SUCH AS BUT NOT LIMITED TO PRE-CAST CONCRETE ELEMENTS, INDICATED WOOD SAMPLES, AND OTHER SITE FURNISHING MATERIALS.
4. WALLS - PROVIDE (1) 3" TALL BY 3' LONG BY 8" WIDE MOCK-UP FOR EACH WALL TYPE NOTED IN THE WALL SCHEDULE. EACH MOCK-UP TO INCLUDING THE SPECIFIED COLOR, FINISH, JOINTING, EDGING, CAP AS NOTED IN THE CONSTRUCTION KEYNOTES AND DETAILS. PROVIDE SPECIFIED SEALER. CONTRACTOR SHALL PROVIDE ADDITIONAL SAMPLES UNTIL THE COLOR AND FINISH IS CONSIDERED ACCEPTABLE BY THE OWNER'S REPRESENTATIVE, AT NO ADDITIONAL COST TO THE OWNER.
5. MOCK-UPS TO BE PROTECTED ON-SITE THROUGHOUT THE DURATION OF THE CONSTRUCTION SCHEDULE.
6. REMOVE MOCK-UPS AT COMPLETION OF CONSTRUCTION WHEN DIRECTED BY THE OWNER OR LANDSCAPE ARCHITECT.
7. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.

KEY	DESCRIPTION		DETAIL	MFR. / SUPPLIER	COLOR	FINISH	JOINTS	COMMENTS
P1	CONCRETE PAVING		A-C, L2.1	---	NATURAL GRAY	MEDIUM BROOM PERPENDICULAR TO PATH OF TRAVEL	TOOLED CONTRACTION / CONSTRUCTION	RED: 3000 PSI VEH: 4200 PSI VERIFY PSI WITH GEOTECH PRIOR TO START SEALER: SEE SPECS.
P2	CONCRETE PAVING		A-C, L2.1	---	NATURAL GRAY	GRACE TOP-CAST #405 MIX DESIGN: 50% SAND / 50% PEA GRAVEL	SAWCUT CONTRACTION / CONSTRUCTION	RED: 3000 PSI VEH: 4200 PSI VERIFY PSI WITH GEOTECH PRIOR TO START SEALER: SEE SPECS.
P3	PRE-CAST TRUNCATED DOME PAVERS		D, L2.1	ORCO BLOCK (714) 527-2239	12" SQ. (ACTUAL) TRUNCATED DOME PAVER	- FEDERAL YELLOW - PERIMETER GROUT JNT. - LATI-CRETE COLOR TO BE SELECTED	STANDARD FINISH	- MOCK-UP IS REQUIRED ON THIS PROJECT - PAVERS SHALL BE LAID OUT IN ORTHOGONAL PATTERN, PIECE/UT PAVERS WILL NOT BE ACCEPTED

NOTES:

- A. CONTRACTOR SHALL PREPARE MOCK-UPS FOR PAVING. SEE 'MOCK-UP REQUIREMENTS', SHEET L1.0.
- B. PROVIDE AN ISOLATION JOINT WHERE PAVING ABUTS VERTICAL SURFACES SUCH AS BUILDINGS, WALLS, STEPS, OR, AS NOTED IN THESE DRAWINGS.
- C. CONTRACTOR TO PROVIDE A DETECTABLE WARNING PRODUCT SAMPLE TO THE BUILDING INSPECTOR FOR APPROVAL OF COLOR CONTRAST WITH FINISH SURFACE.

KEY	DESCRIPTION	DETAIL	MFR. / SUPPLIER	MODEL	COLOR	FINISH	COMMENTS
W1	C.I.P. CONCRETE LOW WALL	---	---	---	NATURAL GRAY	GRACE TOP-CAST #03 MIX DESIGN 50% SAND / 50% PEA GRAVEL	SAWCUt CONTRACTION JOINTS
	BENCH MOUNTED TO TOP OF WALL	E, L2.1	LANDSCAPE FORMS (818) 541-6691	LINK BENCH	IPE WOOD	MATTE BLACK POWDERCOAT	STRAIGHT INLINE BACKLESS, NO ARMS, TOP OF WALL MOUNT SUPPORT

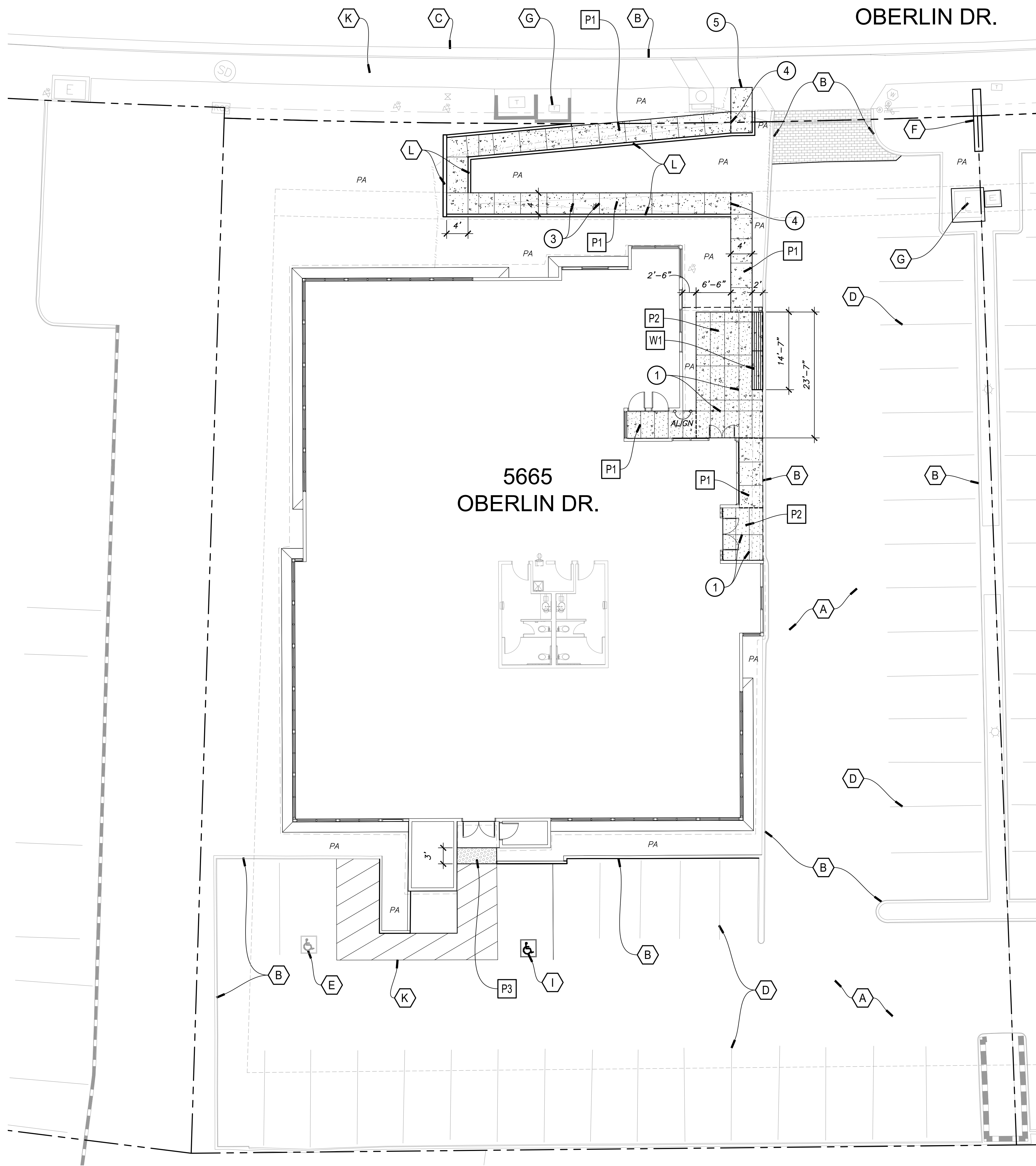
NOTES:
A. CONTRACTOR SHALL PREPARE MOCK-UPS FOR WALLS. SEE 'MOCK-UP REQUIREMENTS', SHEET L1.0.
B. PROVIDE AN ISOLATION JOINT WHERE PAVING ABUTS VERTICAL SURFACES SUCH AS BUILDINGS, WALL, STEPS, OR, AS NOTED IN THESE DRAWINGS.

KEY	DESCRIPTION	DETAIL
①	CONSTRUCT SAWCUT CONTRACTION JOINT	B, L2.1
②	CONSTRUCT SAWCUT DOWELED CONSTRUCTION JOINT	B, L2.1
③	CONSTRUCT TOOLED CONTRACTION JOINT	B, L2.1
④	CONSTRUCT TOOLED DOWELED CONSTRUCTION JOINT	B, L2.1
⑤	CONSTRUCT NEW TO EXISTING CONCRETE PAVING	B, L2.1
⑥	CONSTRUCT CONCRETE PAVING TO CURB CONNECTION	C, L2.1

KEY	DESCRIPTION	DETAIL
	EXISTING A.C. PAVING	EXISTING
	EXISTING CONCRETE CURB	EXISTING
	EXISTING CONCRETE GUTTER	EXISTING
	EXISTING PAVEMENT STRIPING	EXISTING
	EXISTING ADA STALL SIGNAGE	EXISTING
	PROPOSED SIGNAGE	PER SEPARATE SUBMITTAL
	EXISTING UTILITIES	EXISTING
	EXISTING CONCRETE SIDEWALK	EXISTING
	PROPOSED ADA STALL SIGNAGE	PER CIVIL ENG. PLANS
	PROPOSED CONCRETE CURB	PER CIVIL ENG. PLANS
	PROPOSED PAVEMENT STRIPING	PER CIVIL ENG. PLANS
	RETAINING WALL / CURB	PER CIVIL ENG. PLANS

SYMBOL	DESCRIPTION
-----	DOWELED CONSTRUCTION JOINT
_____	CONTRACTION JOINT
PA	PLANTING AREA

FOR HARDSCAPE PLAN - SEE SHEET L1.1
FOR HARDSCAPE DETAILS - SEE SHEET L2.1
FOR LANDSCAPE SPECIFICATIONS - SEE SHEETS L9.1 - L9.5



WALL SCHEDULE			
KEY	DESCRIPTION	DETAIL	MFR. / SUPPLIER
W1	C.I.P. CONCRETE LOW WALL	E, L2.1	LANDSCAPE FORMS (818) 541-6691
	BENCH MOUNTED TO TOP OF WALL		

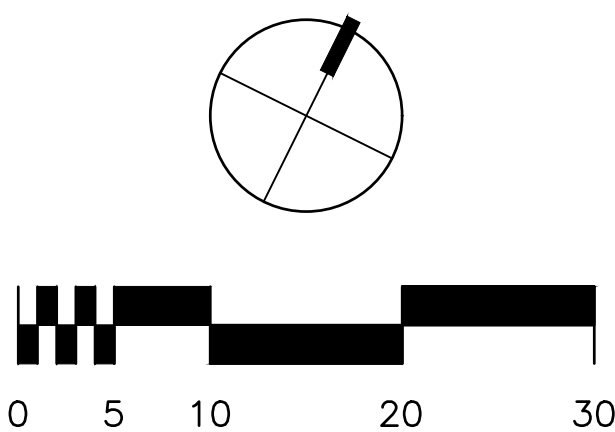
HARDSCAPE KEYNOTES		
KEY	DESCRIPTION	DETAIL
1	CONSTRUCT SAWCUT CONTRACTION JOINT	B, L2.1
2	CONSTRUCT SAWCUT DOWELED CONTRACTION JOINT	B, L2.1
3	CONSTRUCT TOOLED CONTRACTION JOINT	B, L2.1
4	CONSTRUCT TOOLED DOWELED CONTRACTION JOINT	B, L2.1
5	CONSTRUCT NEW TO EXISTING CONCRETE PAVING	B, L2.1
6	CONSTRUCT CONCRETE PAVING TO CURB CONNECTION	C, L2.1

REFERENCE KEYNOTES		
KEY	DESCRIPTION	DETAIL
A	EXISTING A.C. PAVING	EXISTING
B	EXISTING CONCRETE CURB	EXISTING
C	EXISTING CONCRETE GUTTER	EXISTING
D	EXISTING PAVEMENT STRIPING	EXISTING
E	EXISTING ADA STALL SIGNAGE	EXISTING
F	PROPOSED SIGNAGE	PER SEPARATE SUBMITTAL
G	EXISTING UTILITIES	EXISTING
H	EXISTING CONCRETE SIDEWALK	EXISTING
I	PROPOSED ADA STALL SIGNAGE	PER CIVIL ENG. PLANS
J	PROPOSED CONCRETE CURB	PER CIVIL ENG. PLANS
K	PROPOSED PAVEMENT STRIPING	PER CIVIL ENG. PLANS
L	RETAINING WALL / CURB	PER CIVIL ENG. PLANS

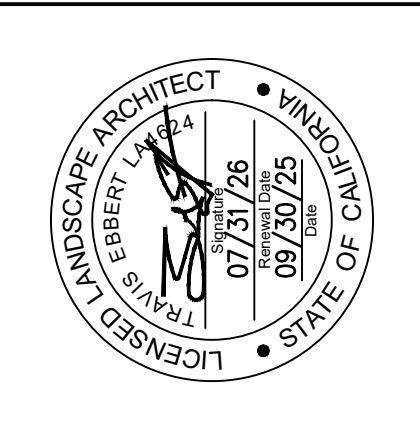
SYMBOL LEGEND	
SYMBOL	DESCRIPTION
---	DOWELED CONSTRUCTION JOINT
---	CONTRACTION JOINT
PA	PLANTING AREA

PAVING SCHEDULE		
KEY	DESCRIPTION	DETAIL
P1	CONCRETE PAVING	A-C, L2.1
P2	CONCRETE PAVING	A-C, L2.1
P3	PRE-CAST TRUNCATED DOME PAVERS	D, L2.1

FOR COMPLETE HARDSCAPE SCHEDULES & NOTES
- SEE SHEET L1.0
FOR HARDSCAPE DETAILS - SEE SHEET L2.1
FOR LANDSCAPE SPECIFICATIONS - SEE SHEETS
L9.1 - L9.5



WARE MALCOMB
ARCHITECTURE
PLANNING
INTERIORS
CIVIL ENGINEERING
BRANDING
BUILDING MEASUREMENT
3011 Sorrento Valley Blvd Suite #120
San Diego, CA 92121
P 858.638.7277



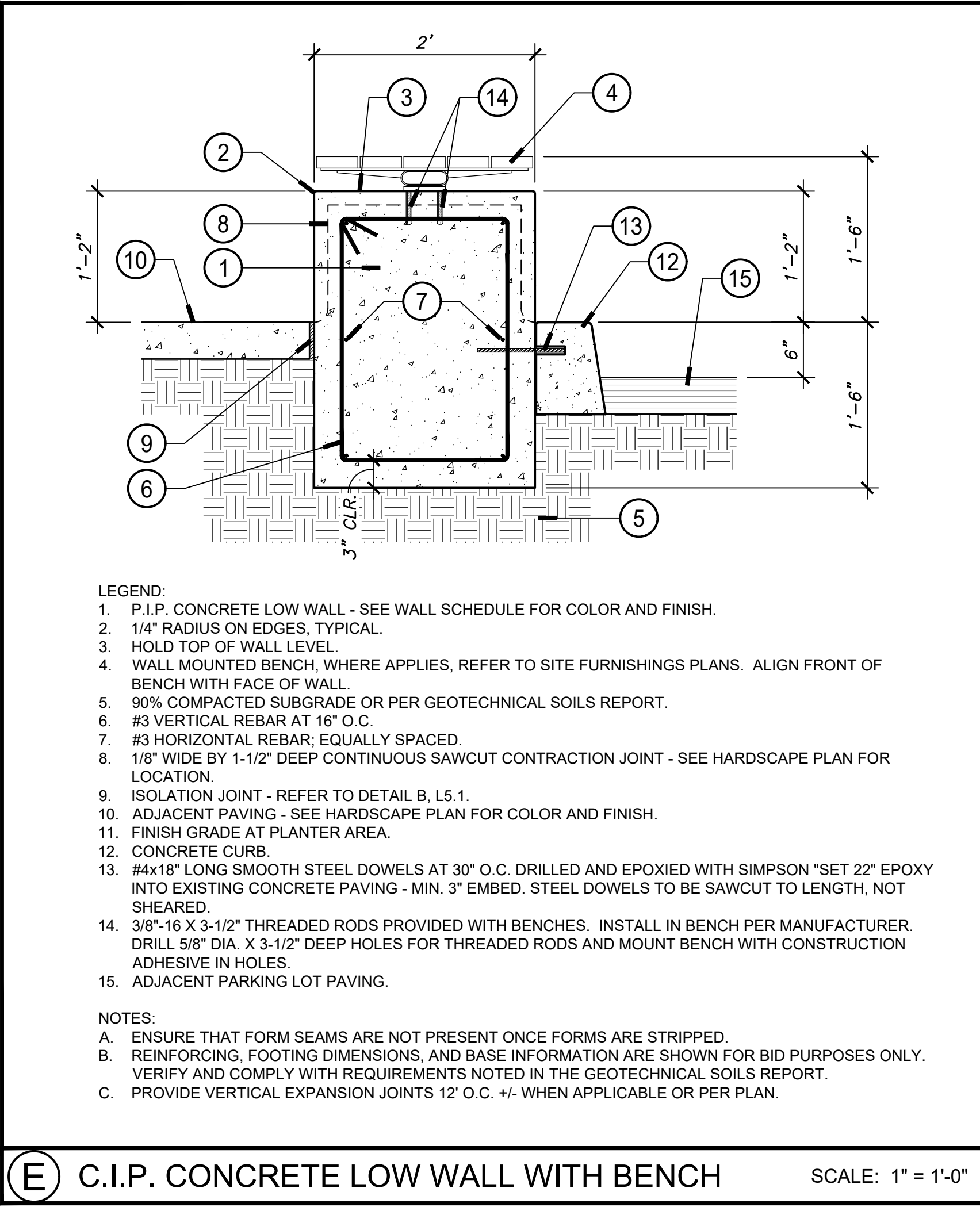
ABINGTON EMERSON
5665 OBERLIN DR.
SAN DIEGO, CALIFORNIA 92121

PROJECT DATA	
DATE	06/10/2025
DATE	08/17/2025
REMARKS	CITY RESUBMISSION 01
REMARKS	IPC SET

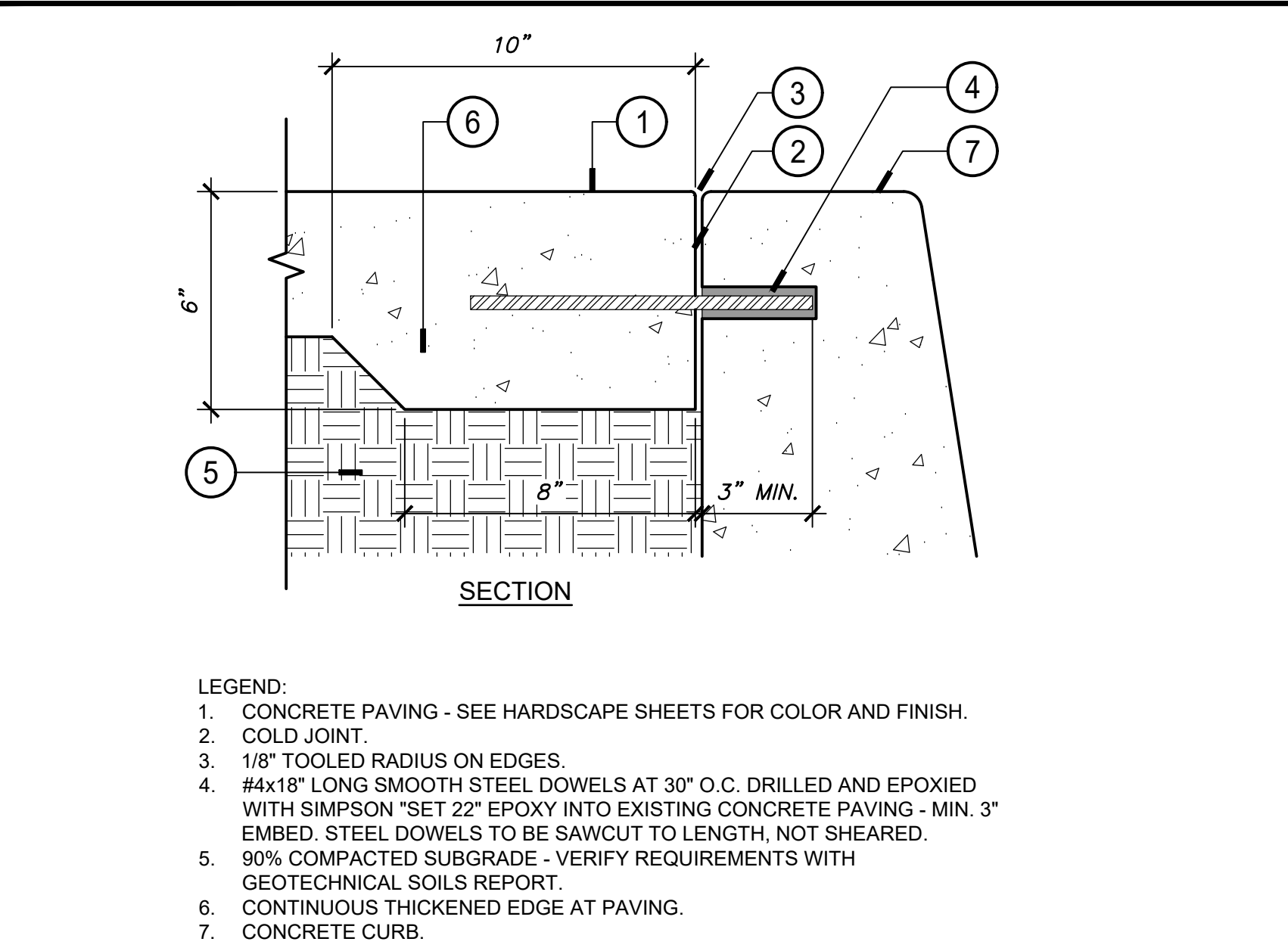
PA/PM:	AN
DRAWN BY.:	MCJ / AN
JOB NO.:	SDG24-0061-00

SHEET
HARDSCAPE PLAN
L1.1

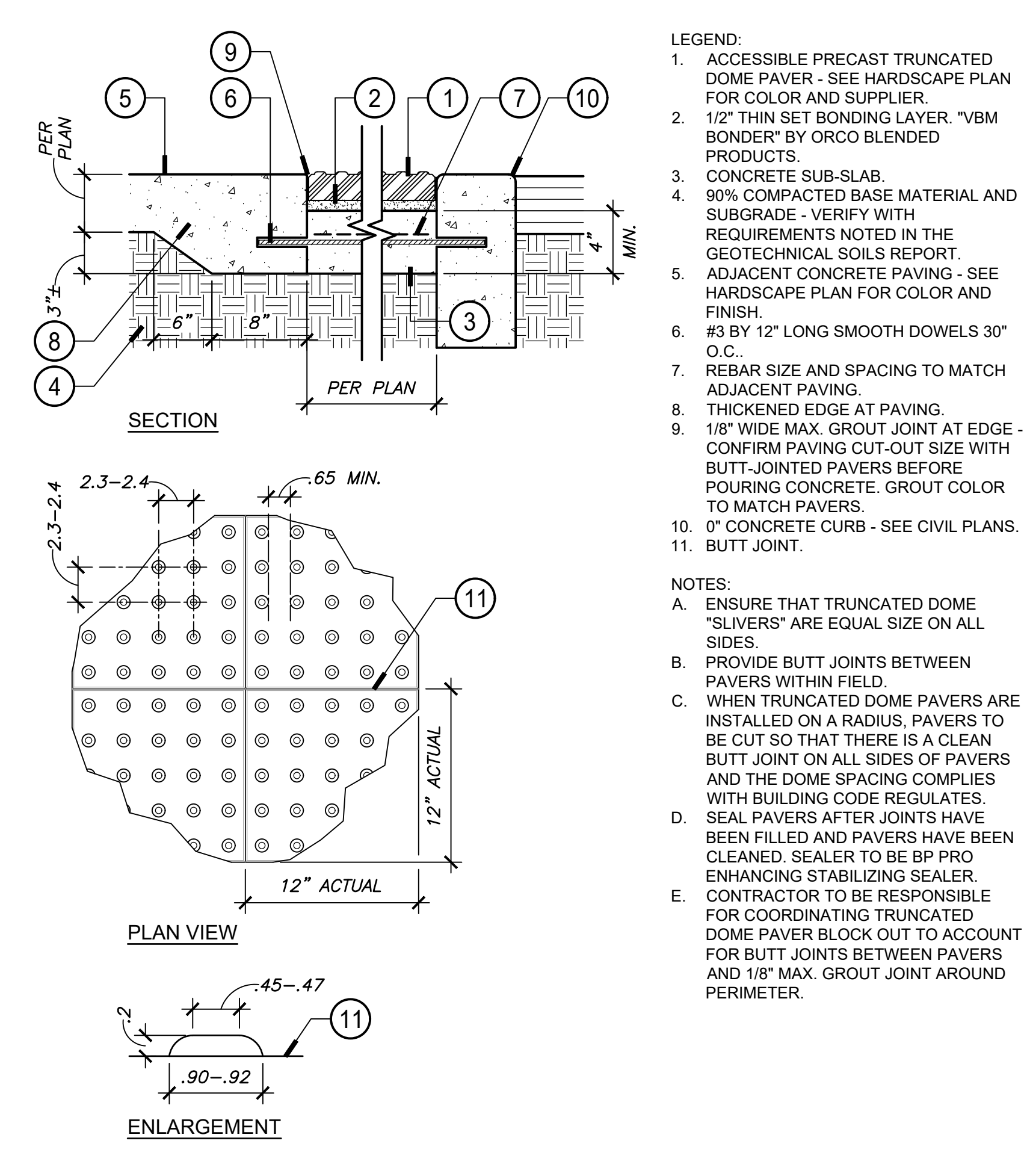
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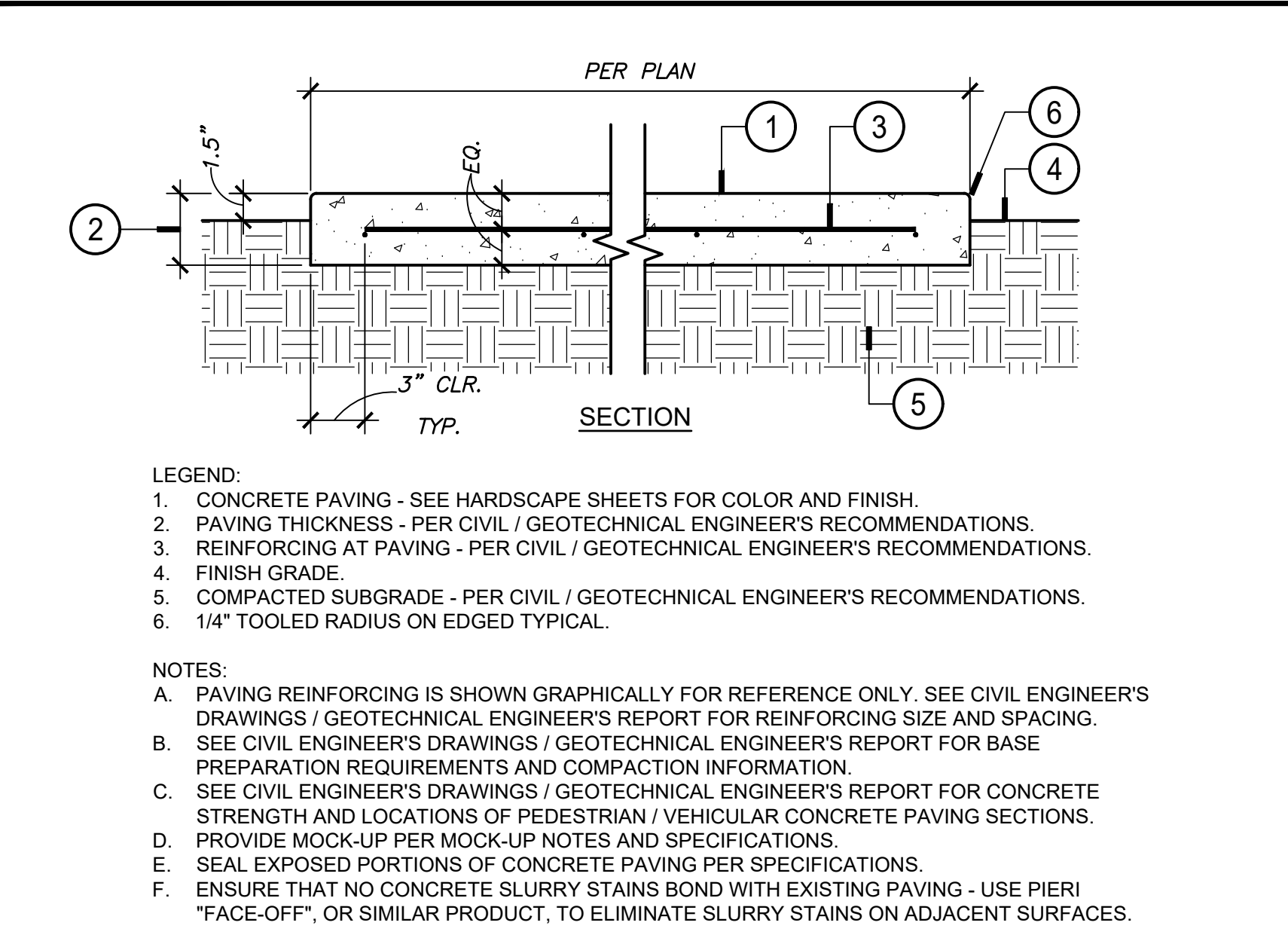
E C.I.P. CONCRETE LOW WALL WITH BENCH SCALE: 1" = 1'-0"



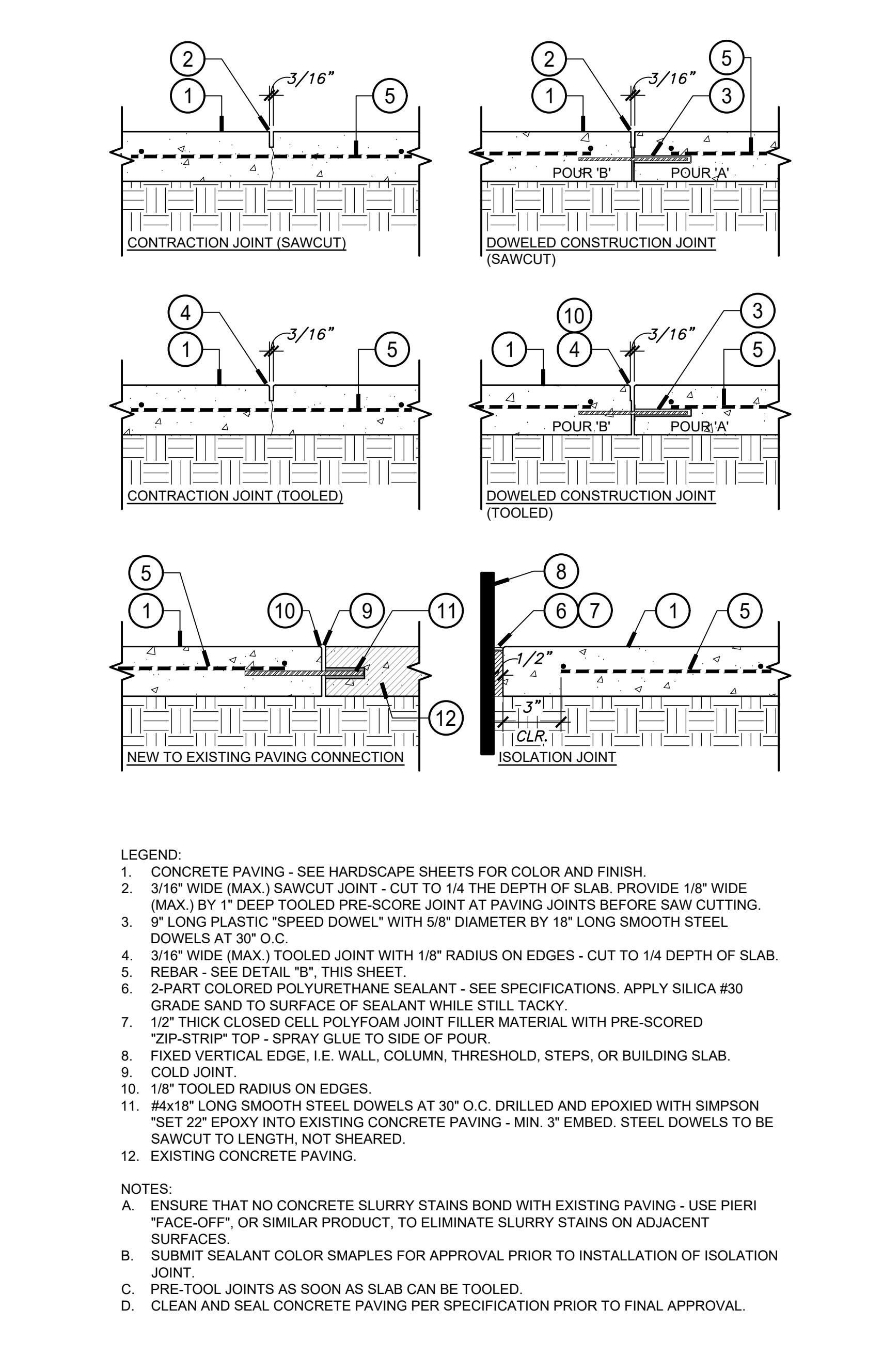
C CONCRETE PAVING AT CURB CONNECTION SCALE: 3" = 1'-0"



D PRE-CAST TRUNCATED DOME PAVERS SCALE: 1-1/2" = 1'-0"



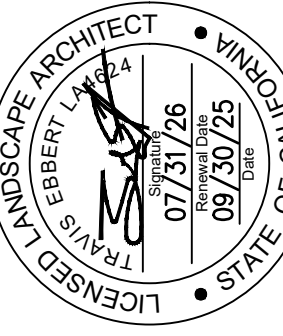
A CONCRETE PAVING SCALE: 1-1/2" = 1'-0"



B CONCRETE PAVING JOINTS SCALE: 1-1/2" = 1'-0"

FOR COMPLETE HARDSCAPE SCHEDULES & NOTES - SEE SHEET L1.0
FOR HARDSCAPE PLAN - SEE SHEET L1.1
FOR LANDSCAPE SPECIFICATIONS - SEE SHEETS L9.1 - L9.5

WARE MALCOMB
ARCHITECTURE
PLANNING
INTERIORS
CIVIL ENGINEERING
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BUILDING MEASUREMENT
3911 Sorrento Valley Blvd. Suite #120
San Diego, CA 92121
P 858.638.7277



ABINGTON EMERSON
5665 OBERLIN DR.
SAN DIEGO, CALIFORNIA 92121

PROJECT DATA	
DATE	REMARKS
06/10/2025	CITY RESUBMISSION 01
08/17/2025	IPC SET
A	

PA/PM:	AN
DRAWN BY.:	MCJ / AN
JOB NO.:	SDG24-0061-00

SHEET
HARDSCAPE DETAILS

As noted, this is a preliminary drawing and shall not be used for any other work without the written approval of WARE MALCOMB. ANY CHANGES TO THIS DRAWING SHALL BE MADE BY THE ARCHITECT OR THE OWNER. THE ARCHITECT OR THE OWNER SHALL BE RESPONSIBLE FOR THE COMPLETION OF ANY WORK.

EXISTING EQUIPMENT LEGEND	
SYMBOL	MANUFACTURE / MODEL NO. / DESCRIPTION
	(EXISTING) BUILDING POTABLE WATER METER. VERIFY SIZE, LOCATION, AND STATIC WATER PRESSURE IN FIELD.
	(EXISTING) R/P BACKFLOW PREVENTION ASSEMBLY AND PRESSURE REGULATOR. VERIFY AND TEST FOR PROPER OPERATION. HAVE R/P TESTED BY DISTRICT APPROVED BACKFLOW ASSEMBLY TECHNICIAN FOR CERTIFICATION. REPAIR OR REPLACE IF DAMAGED.
	(EXISTING) IRRIGATION CONTROLLER SHALL BE REMOVED AND REPLACED WITH NEW "ET" WEATHER BASED SMART IRRIGATION CONTROLLER. SEE ABOVE CONTROLLER LEGEND FOR SIZE AND TYPE.
	CONNECTION OF PROPOSED MAINLINE AND CONTROL WIRES TO EXISTING IRRIGATION SYSTEM. VERIFY MAINLINE SIZE, QUANTITY OF WIRES REQUIRED, INCLUDING SPARE WIRES AND EXACT CONNECTION POINT LOCATIONS IN FIELD.
	(EXISTING) IRRIGATION MAINLINE SHOWN FOR REFERENCE ONLY. PROTECT IN PLACE. REPAIR ANY DAMAGE DUE TO CONSTRUCTION. VERIFY SIZE, TYPE, AND EXACT LOCATION IN FIELD. IF CONTRACTOR IS NOT ABLE TO LOCATE EXISTING MAINLINE CONTRACTOR SHALL PROVIDE AND INSTALL NEW MAINLINE AND MAKE ALL NECESSARY CONNECTIONS FOR PROPER OPERATION OF NEW AND EXISTING IRRIGATION SYSTEM.
	(EXISTING) PVC PIPE AS LATERAL LINES SHOWN FOR REFERENCE ONLY. VERIFY EXACT LOCATION IN FIELD. PROTECT IN PLACE. REPAIR ANY DAMAGE DUE TO CONSTRUCTION.
	IRRIGATION TIE-IN CONNECTION OF NEW LATERAL LINE TO EXISTING SYSTEM LATERAL LINE. VERIFY SIZE, LOCATION AND CONNECTION POINTS IN FIELD.
	(EXISTING) SLEEVING FOR MAINLINE AND CONTROL WIRES. VERIFY SIZE AND EXACT LOCATION IN FIELD. IF CONTRACTOR IS NOT ABLE TO LOCATE OR UTILIZE EXISTING SLEEVE CONTRACTOR SHALL SAWCUT PAVING/CONCRETE OR BORE UNDER AND INSTALL NEW PIPE AND OR CONTROL WIRES PLACED IN NEW SLEEVE FOR CONNECTION TO EXISTING IRRIGATION SYSTEM. BACKFILL AND INSTALL ASPHALT SLURRY MIX OR CONCRETE TO MATCH EXISTING CONDITIONS. AS APPROVED BY OWNER. VERIFY ALL SLEEVE LOCATIONS PRIOR TO BIDDING AND COMMENCING WORK.
	(EXISTING) IRRIGATION TO REMAIN. PROTECT IN PLACE. VERIFY AND TEST FOR PROPER OPERATION PRIOR TO CONSTRUCTION. REPAIR OR REPLACE IF DAMAGED. PROVIDE 100% COVERAGE WITH NO PONDING, RUNOFF OR OVER SPRAY. THE OWNER'S REPRESENTATIVE MUST REVIEW ANY REQUIRED MODIFICATIONS TO THESE AREAS PRIOR TO COMMENCING WORK. THE CONTRACTOR MUST NOTIFY THE OWNER'S AUTHORIZED REPRESENTATIVE OF THESE CONDITIONS OR ANY DISCREPANCIES PRIOR TO COMMENCING WORK.

IRRIGATION CONTROLLER LEGEND			
SYMBOL	MANUFACTURE / MODEL NO. / DESCRIPTION	DETAIL	SHEET
	SITEONE LANDSCAPE SUPPLY - GREEN TECH DIVISION- HUNTER "ICC2" CONTROLLER ASSEMBLY. MODEL# CA12-HU10-24 / LPP / HWSSE-P / GTHCFS-150HC: ICA12 = V.I.T. STRONG BOX STAINLESS STEEL LIGHT DUTY WALL MOUNT CONTROLLER ENCLOSURE. HU10 = HUNTER "ICC2". 24 = NUMBER OF CONTROLLER STATIONS. LPP = LINE SURGE PROTECTION". HWSSE-P = SOLAR SYNC "ET" DATA - POLE MOUNTED WITHIN V.I.T. STAINLESS STEEL ENCLOSURE. GTHCFS-150HC - 1-1/2" HYDRAWISE SERIES FLOW METER. FOR FURTHER INFORMATION CONTACT ERIC ANDERSON WITH SITEONE LANDSCAPE SUPPLY, GREEN TECH DIVISION, LAGUNA HILLS, CA. (949) 285-4048 or 800-427-0779, EAnderson@siteone.com THE INSTALLATION OF CONTROLLER ASSEMBLY AND CELLULAR SERVICE ACTIVATION MUST BE APPROVED AND CERTIFIED BY SITEONE LANDSCAPE SUPPLY. PROVIDE COPIES OF CERTIFICATION TO THE OWNER'S AUTHORIZED REPRESENTATIVE AND LANDSCAPE ARCHITECT.	N	L5.2
	HUNTER - "SOLAR-SYNC-SEN" (ET) MODULE AND RAIN SENSOR. INSTALL PER MANUFACTURES RECOMMENDATIONS. MOUNT SENSOR ON 10x2" GALVANIZED PIPE CLEAR OF ANY OBSTRUCTIONS IN FULL SUN AND WIRE TO CONTROLLER. VERIFY EXACT LOCATION IN FIELD WITH HUNTER INDUSTRIES AND OWNERS AUTHORIZED REPRESENTATIVE PRIOR TO INSTALLATION.	N	L5.2
	120 VOLT ELECTRICAL POWER PROVIDED BY ELECTRICIAN. VERIFY ACTUAL LOCATION IN FIELD. THE COORDINATION OF POWER AND CONNECTION OF CONTROLLER SHALL BE THE RESPONSIBILITY OF THE LANDSCAPE CONTRACTOR.	N/A	N/A
NOTE: 1. INSTALL CONTROLLER, CONTROL WIRE CONNECTORS, AND CONTROLLER GROUNDING PROTECTION AND ALL RELATED EQUIPMENT PER MANUFACTURE RECOMMENDATIONS. 2. FOR MULTIPLE CONTROLLERS USE DIFFERING COLOR STRIPE FOR COMMON WIRE, PER CONTROLLER. 3. CONTRACTOR SHALL COORDINATE A PRE CONSTRUCTION MEETING WITH SITEONE AND HUNTER INDUSTRIES REPRESENTATIVE PRIOR TO CONSTRUCTION.			

IRRIGATION PIPE & WIRE LEGEND			
SYMBOL	MANUFACTURE / MODEL NO. / DESCRIPTION	DETAIL	SHEET
	BURIED NON-PRESSURE LATERAL LINE PIPE: SCH. 40, IPS, SOLVENT WELD, PVC PIPE FOR SIZES 3/4" TO 2-1/2". MINIMUM PIPE SIZE SHALL BE 3/4" - SIZE LATERALS PER PLAN.	O	L5.2
	BURIED PRESSURE IRRIGATION MAINLINE: SCH. 40, IPS, SOLVENT WELD, PVC PIPE FOR MAINLINE SIZES (1-1/2" AND SMALLER). CLASS 315, IPS, SOLVENT WELD, PVC PIPE FOR MAINLINE SIZES (2" -2-1/2").	O	L5.2
	SLEEVING - SCH 40, IPS, SOLVENT WELD, PVC PIPE, EXTEND 12" BEYOND EDGE OF HARDSCAPE. SLEEVE SHALL BE MINIMUM TWICE THE DIAMETER OF THE PIPE OR WIRE BUNDLE CARRIED, MINIMUM 2" SIZE. PLACE BELOW ALL PAVING, HARDSCAPE, ETC., AND AS DIRECTED BY OWNER'S AUTHORIZED REPRESENTATIVE. SLEEVE LOCATIONS SHALL BE MARKED AT EACH END AT THE TIME OF INSTALLATION WITH A PAINTED SPOT OR OTHER SIMILAR MARKING ON THE BACK OF THE CURB. EXACT SLEEVE LOCATIONS SHALL BE RECORDED ON RECORD DRAWINGS WITH DIMENSIONING FOR IRRIGATION AS-BUILT PLANS PRIOR TO BACKFILL.	P	L5.2
	CONTROL WIRE CONDUIT - SCH. 40 PVC, GRAY, COLOR ELECTRICAL CONDUIT WITH SWEEP ELLS. INSTALL UNDER ALL PAVING / HARDSCAPE AREAS. CONDUIT SHALL BE MINIMUM TWICE THE DIAMETER OF WIRE BUNDLE CARRIED, MINIMUM 2" SIZE.	P	L5.2
NO SYMBOL	PAIGE - P7079D, DIRECT BURIAL WIRE (U.L. APPROVED), FOR LEAD WIRES - INSTALL BLACK #14UF AWG. - FOR COMMON WIRES INSTALL #12UF AWG. WHITE WITH COLORED STRIPE. (FOR MULTIPLE CONTROLLERS USE DIFFERING COLOR COMMON WIRE STRIPE PER CONTROLLER)	O, P, Q	L5.2 L5.3
NO SYMBOL	3M - DBRY-6 DIRECT BURIAL WIRE CONNECTORS FOR USE ON ALL WIRE CONNECTIONS.	Q	L5.3
NO SYMBOL	K.B.I. - KSC-xxx-S SWING CHECK VALVE. LINE SIZE, 1' DOWNSTREAM OF EACH RCV WHEN RCV IS LOWER THAN THE SPRINKLERS. INSTALL VALVE WITHIN 6" ROUND PLASTIC VALVE BOX.	N/A	N/A
NO SYMBOL	K.B.I. - KC-xxx-S SPRING CHECK VALVE. LINE SIZE, 1' DOWNSTREAM OF EACH RCV IMMEDIATELY ABOVE FIRST LATERAL LINE TEE, WHEN RCV IS HIGHER THAN THE SPRINKLERS. INSTALL VALVE WITHIN 6" ROUND PLASTIC VALVE BOX. INSTALL WHEN REQUIRED TO PREVENT LOW HEAD DRAINAGE. ABSOLUTELY NO LOW HEAD DRAINAGE ALLOWED.	N/A	N/A
NOTE: ALL WIRE SPLICES SHALL BE PLACED WITHIN PLASTIC VALVE BOX OR WIRE PULL BOX. WIRE SPLICES MUST BE TWISTED WITH WIRE TWISTING TOOL WITH A MAXIMUM OF TWO WIRES PER TWIST. REFER TO MANUFACTURE RECOMMENDATION FOR PROPER WIRE CONNECTIONS. SPLICING RECOMMENDATIONS: WIRE SPLICES ARE THE WEAK LINK OF ANY ELECTRICAL CIRCUIT. IT IS ESPECIALLY IMPORTANT TO MAKE PROPER JOINTS IN IRRIGATION SYSTEMS BECAUSE THE JOINTS ARE EXPOSED TO WET AND DAMP ENVIRONMENTS THAT CAN CAUSE CORROSION OF THE COPPER CONDUCTOR, AND PREMATURE FAILURE. RLA RECOMMENDS THE STRICT USE OF MODEL DBRY-6, AS MANUFACTURED BY THE 3M COMPANY (PAIGE SPECIFICATION P7364D)			

EXISTING TREE DRIP RING IRRIGATION LEGEND							
SYMBOL	MANUFACTURE / MODEL NO. / DESCRIPTION	GPH	PSI	RADIUS	PREC RATE	DETAIL	SHEET
	RAIN BIRD - XFS-CV-P-06-12, XFS SUB-SURFACE "PURPLE" DRIPLINE. PLACE IN RINGS SURROUNDING BASE OF TREE TRUNK, MINIMUM TWO RINGS PER TREE, APPROX. 30' FEET OF DRIP TUBING PER TREE. (0.3 GPM PER TREE)	0.61	30	N/A	0.65	T	L5.3
NOTE: TREE RING DRIP TUBING SHALL BE INSTALLED ON GRADE ANCHORED WITH RAIN BIRD 6" GALVANIZED WIRE STAKES, MODEL, TDS-050 BEND, INSTALLED MAXIMUM THREE (3) FEET ON CENTER.							

IN-LINE DRIP IRRIGATION LEGEND							
SYMBOL	MANUFACTURE / MODEL NO. / DESCRIPTION	GPH	PSI	RADIUS	PREC RATE	DETAIL	SHEET
	RAIN BIRD - XFS-CV-06-12, XFS SUB-SURFACE "COPPER SHIELD" SERIES 17mm, 12" O.C. EMITTER, DRIPLINE WITH PRESSURE COMPENSATING, ANTI SIPHON CHECK VALVE AND COPPER SHIELD ROOT INTRUSION PROTECTION EMITTER. INSTALL DRIPLINE 3' BELOW GRADE @ 18" MAXIMUM ROW SPACING.	0.61	30	N/A	0.65	A, B, C, D	L5.1
NO SYMBOL	RAIN BIRD - DRIPLINE CONNECTIONS SHALL BE MADE USING "XF SERIES" 17mm DRIPLINE INSERT FITTINGS. INSTALL STAINLESS STEEL CLAMPS ON FITTINGS FOR ANY SYSTEM THAT EXCEEDS 50 PSI.					B, C, D, E	L5.1
	AS APPROVED - SCH. 40 PVC PIPE SUPPLY HEADER AND EXHAUST FOOTER CONNECTION TO DRIPLINE INTAKE/EXHAUST HEADER PIPE SIZING CHART. IN NO INSTANCE SHALL PIPE SIZE EXCEED 5" F.P.S. OR DESIGNATED G.P.M. RANGE.					B, C, D, E	L5.1
	HUNTER - AFV-T, 1/2" THREADED AUTOMATIC FLUSH VALVE. LOCATE AT END OF DRIP ZONE IN EACH DIRECTION. INSTALL INSIDE A 10" ROUND VALVE BOX 18" FROM PAVING.					F	L5.1
	RAIN BIRD - ARV-050, 1/2" AIR/VACUUM RELIEF VALVE. LOCATE AT HIGHEST POINT OF THE DRIPLINE ZONE. INSTALL INSIDE A 6" ROUND VALVE BOX 18" FROM PAVING.					G	L5.1
	HUNTER - ECO-ID, 6" POP-UP ECO-INDICATOR WITH YELLOW STEM, DRIP SYSTEM POP-UP OPERATION INDICATOR.					H	L5.1
NO SYMBOL	NETAFIM - TLOCV50M1-B, IN-LINE DRIP CHECK VALVE. INSTALL ON DRIPLINE TUBING WITH 8' OR GREATER ELEVATION CHANGE TO PREVENT LOW-POINT DRAINAGE. INSTALL MINIMUM ONE CHECK VALVE FOR EACH LINE IN SYSTEM.					N/A	N/A
	RAIN BIRD - XP-600X, XERI-POP MICRO SPRAY 6" POP-UP HEAD WITH RAIN BIRD SQ-SERIES, SQ-QTR. QUARTER PATTERN NOZZLE. PLACE AT EDGE OF TREE ROOTBALL ON OPPOSITE SIDES OF TREE. EACH SYMBOL REPRESENTS (2) MICRO-SPRAYS PER TREE LOCATED WITHIN IN-LINE DRIP TUBING AREAS.	13.0 (26.0)	30	N/A	0.98	R, S	L5.3
DRIP NOTES: A. SUB-SURFACE IN-LINE DRIP TUBING SHALL BE INSTALLED @ 18" MAXIMUM ROW SPACING FOR TYPICAL SHRUB AREAS AND 12" MAXIMUM ROW SPACING FOR ANY GROUNDCOVER AREAS. INSTALL TUBING WITH TRIANGULAR SPACED EMITTER LAYOUT, 3' BELOW FINISH SOIL GRADE, ANCHORED WITH RAIN BIRD 6" GALVANIZED WIRE STAKES, MODEL #TDS-050 BEND, INSTALLED FIVE (5) FEET ON CENTER. B. INSTALL PERIMETER TUBING MAXIMUM 6" FROM PERIMETER EDGE FOR GROUNDCOVER AREAS AND 10" SHRUB AREAS. CONTRACTOR SHALL DETERMINE MINIMUM ROW SPACING IN THE FIELD AFTER REVIEW OF PLANT SPACING FOR EACH PLANTER. EACH AND EVERY SHRUB SHALL RECEIVE WATER FROM A MINIMUM OF TWO INLINE DRIP EMITTERS, ONE (1) ON EACH SIDE. AREAS OF TIGHTLY SPACED GROUNDCOVER OR SANDY SOILS WILL REQUIRE CLOSER, 12" ROW SPACING. FOR ANY 'SINGLE' OR 'DOUBLE' ROW TYPE PLANTINGS, INSTALL DRIP TUBING ON BOTH SIDES OF THE SHRUB ROW TO IRRIGATE SHRUBS ON EITHER SIDE. DUE TO SOIL STRATA DIFFERENCES AND POSSIBLE COMPACTION CONTRACTOR SHALL FIELD VERIFY PRIOR TO STARTING WORK AND BEFORE BACKFILLING THAT THE FINAL LAYOUT AND ROW SPACING WILL PROVIDE ADEQUATE WATER TO ALL PLANTS. C. FOR SLOPE AREAS CONTRACTOR SHALL ALWAYS FOLLOW AND ROUTE INLINE TUBING PARALLEL TO GRADE. DIRECTIONAL LAYOUT AS SHOWN IN THE PLANS MAY NOT BE EXACTLY ACROSS SLOPE. DRIP HATCH PATTERN ANGLE SHOWN ON PLAN ARE DIAGRAMMATICAL ONLY. ALWAYS INSTALL DRIP LINES ACROSS SLOPE. INSTALL IN-LINE DRIP CHECK VALVE FOR DRIPLINE TUBING WITH 8' OR GREATER ELEVATION CHANGE MINIMUM ONE CHECK VALVE FOR EACH DRIP LINE IN SYSTEM TO PREVENT ANY LOW DRAINAGE. D. FOR ALL INLINE DRIP TUBING AREAS ON SLOPE THE CONTRACTOR SHALL BE HELD ACCOUNTABLE FOR CREATING A TRIANGULAR WETTING PATTERN ACROSS ANY SLOPE. OFF-SET THE EMITTERS BY HALF THE EMITTER SPACING WHEN INSTALLING TUBING TO CREATE A TRIANGULAR WETTING PATTERN ACROSS THE SLOPE. DO NOT INSTALL TUBING WHERE THE EMITTERS ARE DIRECTLY IN LINE (PERPENDICULAR) WITH EACH OTHER.							

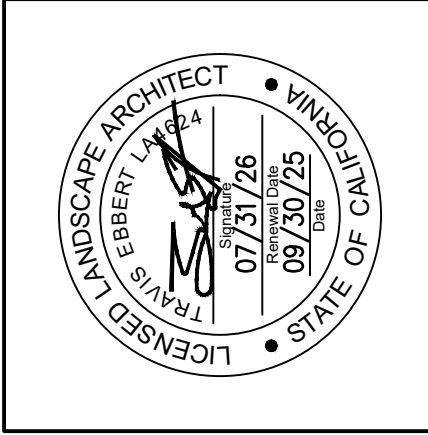
IRRIGATION EQUIPMENT LEGEND			
SYMBOL	MANUFACTURE / MODEL NO. / DESCRIPTION	DETAIL	SHEET
	P.O.C. / POINT OF CONNECTION - DOMESTIC WATER BUILDING SERVICE LINE, UPSTREAM FROM BUILDING BACKFLOW DEVICE. VERIFY EXACT LOCATION IN FIELD WITH OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO ANY EXCAVATION.	N/A	N/A
	SUPERIOR - 3200-150, SERIES 1-1/2" NORMALLY CLOSED, MASTER CONTROL VALVE. WIRE TO CONTROLLER WITH BLUE & WHITE TWISTED DIRECT BURIAL WIRES. INSTALL PER MANUFACTURERS RECOMMENDATIONS.	I	L5.2
	HUNTER - MODEL HC-150-FLOW, SERIES 1-1/2" HYDRAWISE IRRIGATION FLOW METER WITH IRRIGATION SUB-METER. INSTALL PER MANUFACTURERS RECOMMENDATIONS. WIRE TO CONTROLLER WITH PAIGE, #P7162D, FLOW SENSOR COMMUNICATION CABLE, 2 CONDUCTOR, SHIELDED 16 AWG SOLID COPPER INSTALLED WITHIN 1" PVC CONDUIT. NO WIRE SPLICES ALLOWED. FLOW METER IS SUPPLIED AS PART OF CONTROLLER ASSEMBLY.	J	L5.2
	NIBCO - T-580-70-66, BRONZE BALL VALVE WITH STAINLESS STEEL STEM AND HANDLE NUT, LINE SIZE PER MAINLINE.	K	L5.2
	HUNTER - ICZ-40, (1" OR 1-1/2") SERIES DRIP REMOTE CONTROL VALVE ASSEMBLY, SIZE AS SHOWN. DRIP ASSEMBLY KIT IS FACTORY INSTALLED WITH HUNTER STAINLESS STEEL SCREEN Y-FILTER AND 40 PSI. INLINE PRESSURE REGULATOR - SEE BELOW FOR VALVE GPM/FLOW SIZES. FOR DEMANDS (0.5 - 1.0) GPM, INSTALL ICZ-101-40-LF, 1" (LOW FLOW) DRIP VALVE ASSEMBLY. FOR DEMANDS (2 - 19) GPM, INSTALL ICZ-101-40, 1" DRIP VALVE ASSEMBLY. FOR DEMANDS (20 - 50) GPM, INSTALL ICZ-151-40-XL, 1-1/2" DRIP VALVE ASSEMBLY.	L	L5.2
	RAIN BIRD - 33DLRC, 3/4" QUICK COUPLER VALVE WITH LOCKING COVER.	M	L5.2

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ABINGTON EMERSON

5665 OBERLIN DR.
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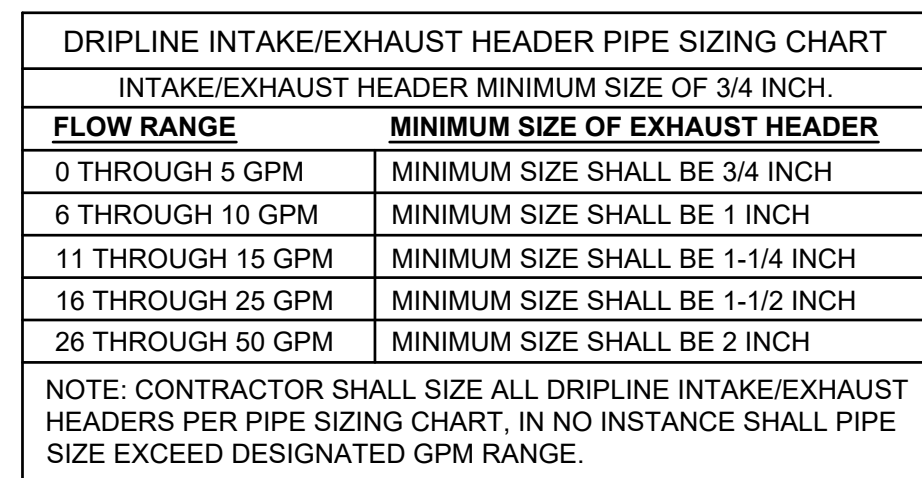
PROJECT DATA	
DATE	REMARKS
06/10/2025	CITY RESUBMISSION 01
08/17/2025	IPC SET
A	

PA/PM:	AN
DRAWN BY.:	MCJ / AN
JOB NO.:	SDG24-0061-00

SHEET
IRRIGATION
SCHEDULES

L3.0

FOR IRRIGATION PLAN - SEE SHEET L3.1
FOR IRRIGATION NOTES & CALCULATIONS - SEE SHEETS L4.1 - L4.2
FOR IRRIGATION DETAILS - SEE SHEETS L5.1 - L5.3
FOR LANDSCAPE SPECIFICATIONS - SEE SHEETS L9.1 - L9.5





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SAN DIEGO, CALIFORNIA 92121

PA/PM:	AN
DRAWN BY.:	MCJ / AN
JOB NO.:	SDG24-0061-00

L4.1

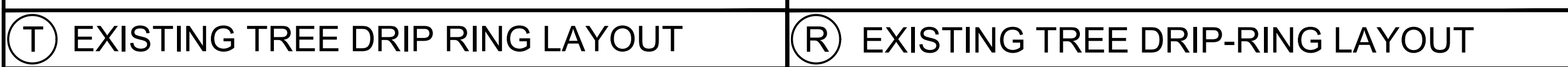
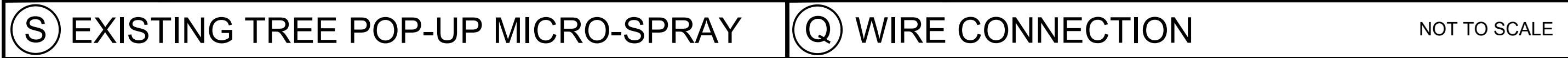
1. UPON COMPLETION OF INSTALLATION, THE ENTIRE IRRIGATION CONTROLLER ASSEMBLY SHALL BE INSPECTED AND TESTED FOR PROPER CONNECTIONS AND COMPLETE AND FULL OPERATION BY THE MANUFACTURER'S REPRESENTATIVE. THE REPRESENTATIVE SHALL INCLUDE FULL AND PROPER INTERFERENCE WITH CELLULAR SERVICE, FLOW SENSOR DATA INTERFACE, MASTER CONTROL VALVE, AND ANY OTHER SENSOR / CONTROL COMPONENTS. WRITTEN CERTIFICATION FROM THE MANUFACTURER'S REPRESENTATIVE, VERIFYING INSTALLATION AND OPERATION IN ACCORDANCE WITH THE MANUFACTURER'S SPILL PREVENTION PLAN, SHALL BE PROVIDED TO THE LANDSCAPE ARCHITECT, CITY, AND OWNER'S REPRESENTATIVE PRIOR TO FINAL INSPECTION.
2. CONTROLLER CERTIFICATION SHALL INCLUDE VERIFICATION FROM MANUFACTURER'S / DISTRIBUTOR'S REPRESENTATIVE THAT CONTROLLER IS FUNCTIONING PROPERLY IN TEST COMMUNICATION MODE. THE FOLLOWING PARAMETERS SHALL BE PROGRAMMED INTO THE CONTROLLER **PRIOR** TO START OF 90 DAY MAINTENANCE PERIOD (FOR EACH CONTROLLER VALVE STATION / CIRCUIT):
3. CONTROLLER SETUP SHALL INCLUDE:
 - A. CELLULAR SERVICE COMMUNICATION SET UP IN OWNER NAME.
 - B. FLOW RATES ACQUIRED FOR ALL STATIONS.
 - C. STATION DESCRIPTION
 - D. STATION GROUPS NAMES BY GROUP AND ASSIGNED TO CORRECT PROGRAM.
 - E. STATION PRIORITIES.
 - F. ALERT ACTIONS SET TO HIGH FLOW ALERT/SHUT OFF AND LOW FLOW ALERTING ACTION.
 - G. HIGH AND LOW FLOW SENSORS TO CENTRAL CONTROLLER COMMUNICATION FOR "ET" AND RAIN USE.
 - H. BUDGETS SETUP IN PROGRAMMING.
- CONTRACTOR SHALL PROVIDE CONTROLLER ASSEMBLY INSTALLATION CERTIFICATION **PRIOR** TO START OF 90 DAY MAINTENANCE PERIOD.
- CONTRACTOR SHALL BE RESPONSIBLE FOR THE WATER BUDGET ALLOCATED BY THE WATER DISTRICT **PRIOR** TO COMMENCEMENT OF MAINTENANCE.

FOR IRRIGATION SCHEDULES - SEE SHEET L3.0
FOR IRRIGATION PLAN - SEE SHEET L3.1
FOR IRRIGATION NOTES & CALCULATIONS - SEE SHEETS L4.1 - L4.2
FOR IRRIGATION DETAILS - SEE SHEETS L5.1 - L5.3
FOR LANDSCAPE SPECIFICATIONS - SEE SHEETS L9.1 - L9.5



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PROJECT DATA		
	DATE	REMARKS
A	06/16/2025	CITY RESUBMISSION 01
	09/11/2025	IFC SET

TREE PROTECTION NOTES

- THE LIMITS OF ALL TREE PROTECTION ZONES SHALL BE STAKED IN THE FIELD. A 6'-0" HIGH CHAIN LINK FENCE WITH POSTS SUNK INTO THE GROUND SHALL BE ERRECTED TO ENCLOSE THE TREE PROTECTION ZONE.
- B. THE TREE PROTECTION ZONE (TPZ) IS DEFINED AS THE LARGER OF THE DRIP LINE OF THE TREE OR THE DISTANCE FROM THE TRUNK EDGE TO ONE (1) FOOT FOR EACH INCH OF TRUNK DIAMETER MEASURED AT FOUR AND A HALF (4.5) FEET ABOVE EXISTING GRADE (AKA DBH: DIAMETER AT BREAST HEIGHT).
- C. FENCES ARE TO REMAIN UNTIL ALL SITE WORK HAS BEEN COMPLETED. FENCES MAY NOT BE RELOCATED OR MOVED WITHOUT THE WRITTEN PERMISSION OF THE LANDSCAPE ARCHITECT.
- D. STRUCTURES AND UNDERGROUND FEATURES TO BE REMOVED WITHIN THE TREE PROTECTION ZONE SHALL USE THE SMALLEST EQUIPMENT POSSIBLE, AND OPERATE FROM OUTSIDE THE TREE PROTECTION ZONE.
- E. IF TEMPORARY HAIL OR ACCESS ROADS MUST PASS OVER THE ROOT AREA OF TREES TO BE RETAINED, A ROAD BED OF 6" OF MULCH OR GRAVEL SHALL BE CREATED TO PROTECT THE SOIL. THE ROAD BED MATERIAL SHALL BE REPLENISHED AS NECESSARY TO MAINTAIN A 6" DEPTH.
- F. CONSTRUCTION TRAILERS AND TRAFFIC AND STORAGE AREAS MUST REMAIN OUTSIDE FENCED AREAS AT ALL TIMES.
- G. NO MATERIALS, EQUIPMENT, WASTE OR WASHOUT WATER MAY BE DEPOSITED, STORED, OR PARKED WITHIN THE TREE PROTECTION ZONE. NO DEBRIS OR GARBAGE MAY BE DUMPED OR BURIED WITHIN THE TREE PROTECTION ZONE.
- K. ANY GRADING, CONSTRUCTION, DEMOLITION OR OTHER WORK THAT IS EXPECTED TO ENCOUNTER TREE ROOTS, MUST BE MONITORED BY THE LANDSCAPE ARCHITECT.
- L. ALL UNDERGROUND UTILITIES AND DRAIN OR IRRIGATION LINES SHALL BE ROUTED OUTSIDE THE TREE PROTECTION ZONE. IF ROUTING IS NOT POSSIBLE, TRENCHING WITHIN THE TPZ IS TO BE PERFORMED BY AIRSHADE UNDER THE SUPERVISION AND DIRECTION OF A LICENSED ARBORIST. IF AT ANY TWENTY-FIVE (25) PERCENT OF THE AREA WITHIN THE TREE PROTECTION ZONE WOULD BE SEPARATED FROM THE TREE BY A TRENCH, THE LINE SHALL BE LOCATED BY BORING.
- M. NO ROOTS LARGER THAN ONE INCH (1.5") DIAMETER SHALL BE CUT UNLESS REVIEWED AND APPROVED BY LICENSED ARBORIST. ALL SMALLER ROOTS THAT REQUIRE CUTTING SHALL BE CUT WITH PRUNING SAWS (NO TRENCHES OR BACKHOES). CUTS SHALL BE MADE FLUSH WITH THE SIDE OF THE EXCAVATION.
- O. MINOR ROOT DAMAGE DURING GRADING OR CONSTRUCTION SHALL BE PRUNED TO SOUND TISSUE AND CUT CLEANLY WITH A SAW. CONTRACTOR SHALL CONTACT LANDSCAPE ARCHITECT IMMEDIATELY IN THE EVENT OF EXTENSIVE ROOT DAMAGE.
- M. ADDITIONAL TREE PRUNING REQUIRED FOR CLEARANCE DURING CONSTRUCTION MUST BE PERFORMED BY A QUALIFIED ARBORIST OR AT THE DIRECTION OF THE LANDSCAPE ARCHITECT AND NOT BY CONSTRUCTION PERSONNEL.
- N. EROSION CONTROL DEVICES SUCH AS SILT FENCING, DEBRIS BASINS, AND WATER DIVERSION STRUCTURES SHALL BE INSTALLED TO PREVENT SILTATION AND/OR EROSION WITHIN THE TREE PROTECTION ZONE, EITHER TEMPORARILY OR PERMANENTLY.
- O. SPOIL FROM TRENCHES OR OTHER EXCAVATIONS SHALL NOT BE PLACED WITHIN THE TREE PROTECTION ZONE, EITHER TEMPORARILY OR PERMANENTLY.
- P. IF INJURY SHOULD OCCUR TO ANY TREE DURING CONSTRUCTION, THE LANDSCAPE ARCHITECT SHALL BE NOTIFIED IMMEDIATELY IN ORDER TO RECOMMEND EVALUATION BY A LICENSED ARBORIST. PROCUREMENT OF A LICENSED ARBORIST SHALL BE AT NO ADDITIONAL COST TO THE OWNER.

TREES									
SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE / FORM	HT. X SPRD. X CAL. (MIN)	WATER USE	DESCRIPTION	DETAIL	QTY.	
	CUPANOPSIS ANACARDIOIDES	CARROTWOOD	24" BOX STD.	8'H X 5'W X 1-1/2" CAL.	M	STREET TREE	D & E, L7.1	1	
SHRUBS, GRASSES, & GROUNDCOVERS									
SYMBOL	KEY	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	WATER USE	DESCRIPTION	DETAIL	QTY.
	AGA BF	AGAVE 'BLUE FLAME'	BLUE FLAME AGAVE	5 GAL.	36" O.C.	LOW	SUCCULENT ACCENT	A-C, L7.1	67
	ALO BE	ALOE 'BLUE ELF'	BLUE ELF ALOE	1 GAL.	18" O.C.	LOW	SUCCULENT GROUNDCOVER	A-C, L7.1	95
	ALO VER	ALOE VERA	MEDICINAL ALOE	5 GAL.	30" O.C.	LOW	SUCCULENT ACCENT	A-C, L7.1	53
	CAL SPE	CALANDRINIA SPECTABILIS	ROCK PURSLANE	5 GAL.	24" O.C.	LOW	SUCCULENT ACCENT	A-C, L7.1	33
	CAR DIV	CAREX DIVULSA	BERKELEY SEDGE	1 GAL.	24" O.C.	LOW	ORNAMENTAL GRASS	A-C, L7.1	72
	CHO ELE	CHONDROPETALUM ELEPHANTINUM	LARGE CAPE RUSH	5 GAL.	36" O.C.	LOW	ORNAMENTAL GRASS	A-C, L7.1	30
	CRA CAP	CRASSULA CAPITELLA 'CAMPFIRE'	CAMPFIRE CRASSULA	1 GAL.	12" O.C.	LOW	SUCCULENT GROUNDCOVER	A-C, L7.1	23
	CYC REV	CYCAS REVOLUTA	SAGO PALM	EXISTING TO BE RELOCATED		LOW	PALM ACCENT	A-C, L7.1	2
	DIA VAR	DIANELLA TASMANICA 'VARIEGATA'	VARIEGATED FLAX LILY	5 GAL.	36" O.C.	LOW	UPRIGHT ACCENT	A-C, L7.1	36
	LOM BRE	LOMANDRA LONGIFOLIA 'BREEZE'	BREEZE DWARF MAT RUSH	5 GAL.	36" O.C.	LOW	ORNAMENTAL GRASS	A-C, L7.1	128
	PHI XAN	PHILODENDRON 'XANADU'	XANADU SPLIT LEAF PHILODENDRON	5 GAL.	36" O.C.	LOW	EVERGREEN SHRUB	A-C, L7.1	24
WATER USE KEY: VL = VERY LOW WATER USE, L = LOW WATER USE, M = MODERATE WATER USE, H = HIGH WATER USE. WATER USE STATED IS PER 'WATER USE CLASSIFICATION OF LANDSCAPE SPECIES' (ALSO REFERRED TO AS WUCOLS IV) FOR THE CITY OF SAN DIEGO									
	DENOTES SOIL SAMPLE LOCATION - REFER TO PLANTING NOTE '9' FOR ADDITIONAL INFORMATION.								

TREES			
SYMBOL	BOTANICAL NAME	COMMON NAME	COMMENTS
	ARBUTUS UNEDO	STRAWBERRY TREE	TO BE REMOVED
	CUPANIOPSIS ANACARDIOIDES	CARROTWOOD	--
	ERIOBOTRYA DEFLEXA	BRONZE LOQUAT	--
	LAGERSTROEMIA INDICA	GRAPE MYRTLE	--
	PINUS SP.	PINE TREE	--
SHRUBS, GRASSES, & GROUNDCOVERS			
SYMBOL	DESCRIPTION	COMMENTS	
	EXISTING SHRUBS AND GROUNDCOVER	PROTECT IN PLACE	
	EXISTING OFFSITE SHRUBS AND GROUNDCOVER	PROTECT IN PLACE	
NOTE: THE LETTER (E) NEXT TO A TREE SYMBOL INDICATES AN EXISTING TREE TO BE			

STREET FRONTAGE: 118 L.F.
REQUIRED STREET TREES: 4 TREES (1:30 L.F.)
PROVIDED STREET TREES: 4 PROVIDED
(3 EXISTING + 1 NEW)

PROJECT DATA

	A
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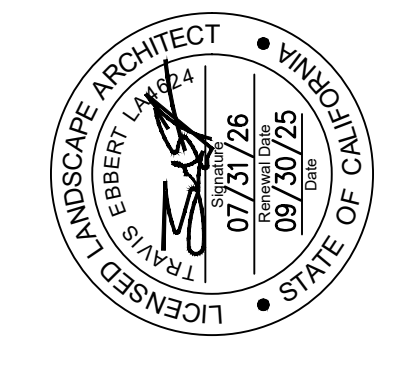
Y.: MCJ / AN

SDG24-006

SHEET
ING SCHEDULES
& NOTES

L6.0

SHEET 15 OF 43



ABINGTON EMERSON

5665 OBERLIN DR.
SAN DIEGO, CALIFORNIA 92121

PROJECT DATA

REMARKS
CITY RESUBMISSION 01
IEC SET

DATE

PA/PM:	AN
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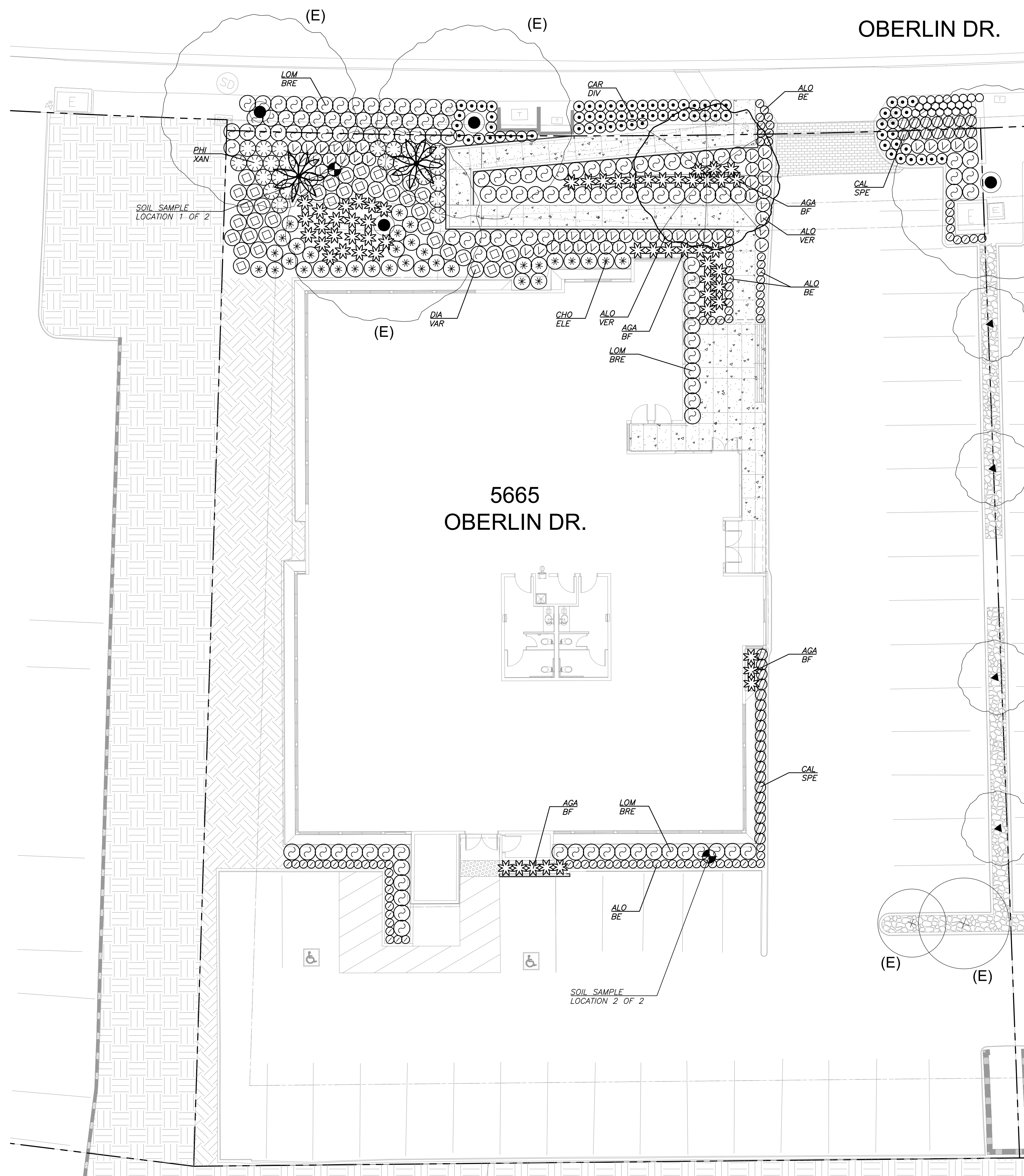
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JOB NO.:	SDG24-0061-00
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SHEET
PLANTING PLAN

L6.1

SHEET 16 OF 43

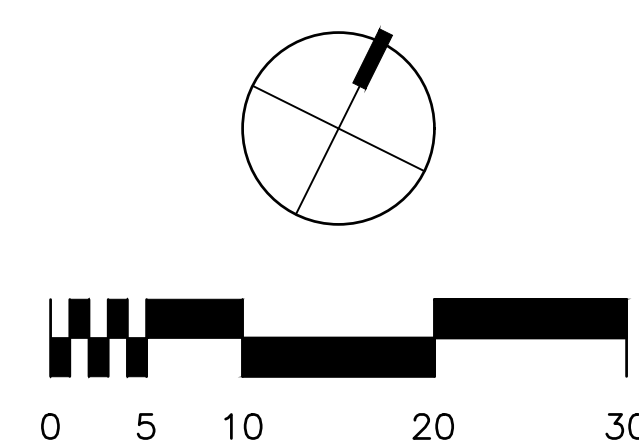


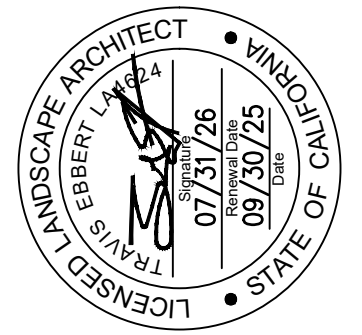
TREES							
SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE / FORM	HT. X SPRD. X CAL. (MN)	WATER USE	DESCRIPTION	
	CUPANIOPSIS ANACARDIOIDES	CARROTWOOD	24" BOX STD.	8'H X 5'W X 1-1/2" CAL.	M	STREET TREE	
SHRUBS, GRASSES, & GROUNDCOVERS							
SYMBOL	KEY	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	WATER USE	DESCRIPTION
	AGA BF	AGAVE 'BLUE FLAME'	BLUE FLAME AGAVE	5 GAL.	36" O.C.	LOW	SUCCULENT ACCENT
	ALO BE	ALOE 'BLUE ELF'	BLUE ELF ALOE	1 GAL.	18" O.C.	LOW	SUCCULENT GROUNDCOVER
	ALO VER	ALOE VERA	MEDICINAL ALOE	5 GAL.	30" O.C.	LOW	SUCCULENT ACCENT
	CAL SPE	CALANDRINIA SPECTABILIS	ROCK PURSLANE	5 GAL.	24" O.C.	LOW	SUCCULENT ACCENT
	CAR DIV	CAREX DIVULSA	BERKELEY SEDGE	1 GAL.	24" O.C.	LOW	ORNAMENTAL GRASS
	CHO ELE	CHONDROPETALUM ELEPHANTINUM	LARGE CAPE RUSH	5 GAL.	36" O.C.	LOW	ORNAMENTAL GRASS
	CRA CAP	CRASSULA CAPITELLA 'CAMPFIRE'	CAMPFIRE CRASSULA	1 GAL.	12" O.C.	LOW	SUCCULENT GROUNDCOVER
	CYC REV	CYCAS REVOLUTA	SAGO PALM	EXISTING TO BE RELOCATED		LOW	PALM ACCENT
	DIA VAR	DIANELLA TASMANICA 'VARIEGATA'	VARIEGATED FLAX LILY	5 GAL.	36" O.C.	LOW	UPRIGHT ACCENT
	LOM BRE	LOMANDRA LONGIFOLIA 'BREEZE'	BREEZE DWARF MAT RUSH	5 GAL.	36" O.C.	LOW	ORNAMENTAL GRASS
	PHI XAN	PHILODENDRON 'XANADU'	XANADU SPLIT LEAF PHILODENDRON	5 GAL.	36" O.C.	LOW	EVERGREEN SHRUB
	DENOTES SOIL SAMPLE LOCATION - REFER TO PLANTING NOTE '9' FOR ADDITIONAL INFORMATION.						

TREES			
SYMBOL	BOTANICAL NAME	COMMON NAME	COMMENTS
	ARBUTUS UNEDO	STRAWBERRY TREE	TO BE REMOVED
	CUPANIOPSIS ANACARDIOIDES	CARROTWOOD	--
	ERIOBOTRYA DEFLEXA	BRONZE LOQUAT	--
	LAGERSTROEMIA INDICA	GRAPE MYRTLE	--
	PINUS SP.	PINE TREE	--
SHRUBS, GRASSES, & GROUNDCOVERS			
SYMBOL	DESCRIPTION	COMMENTS	
	EXISTING SHRUBS AND GROUNDCOVER	PROTECT IN PLACE	
	EXISTING OFFSITE SHRUBS AND GROUNDCOVER	PROTECT IN PLACE	
NOTE: THE LETTER (E) NEXT TO A TREE SYMBOL INDICATES AN EXISTING TREE TO BE PROTECTED IN PLACE. THE LETTER (R) INDICATES AN EXISTING TREE TO BE REMOVED FROM SITE.			

STREET FRONTAGE: 118 L.F.
REQUIRED STREET TREES: 4 TREES (1:30 L.F.)
PROVIDED STREET TREES: 4 PROVIDED
(3 EXISTING + 1 NEW)

FOR PLANTING PLAN - SEE SHEET L6.1
FOR PLANTING DETAILS - SEE SHEET L7.1
FOR LANDSCAPE SPECIFICATIONS -
SEE SHEETS L9.1 - L9.5





ABINGTON EMERSON

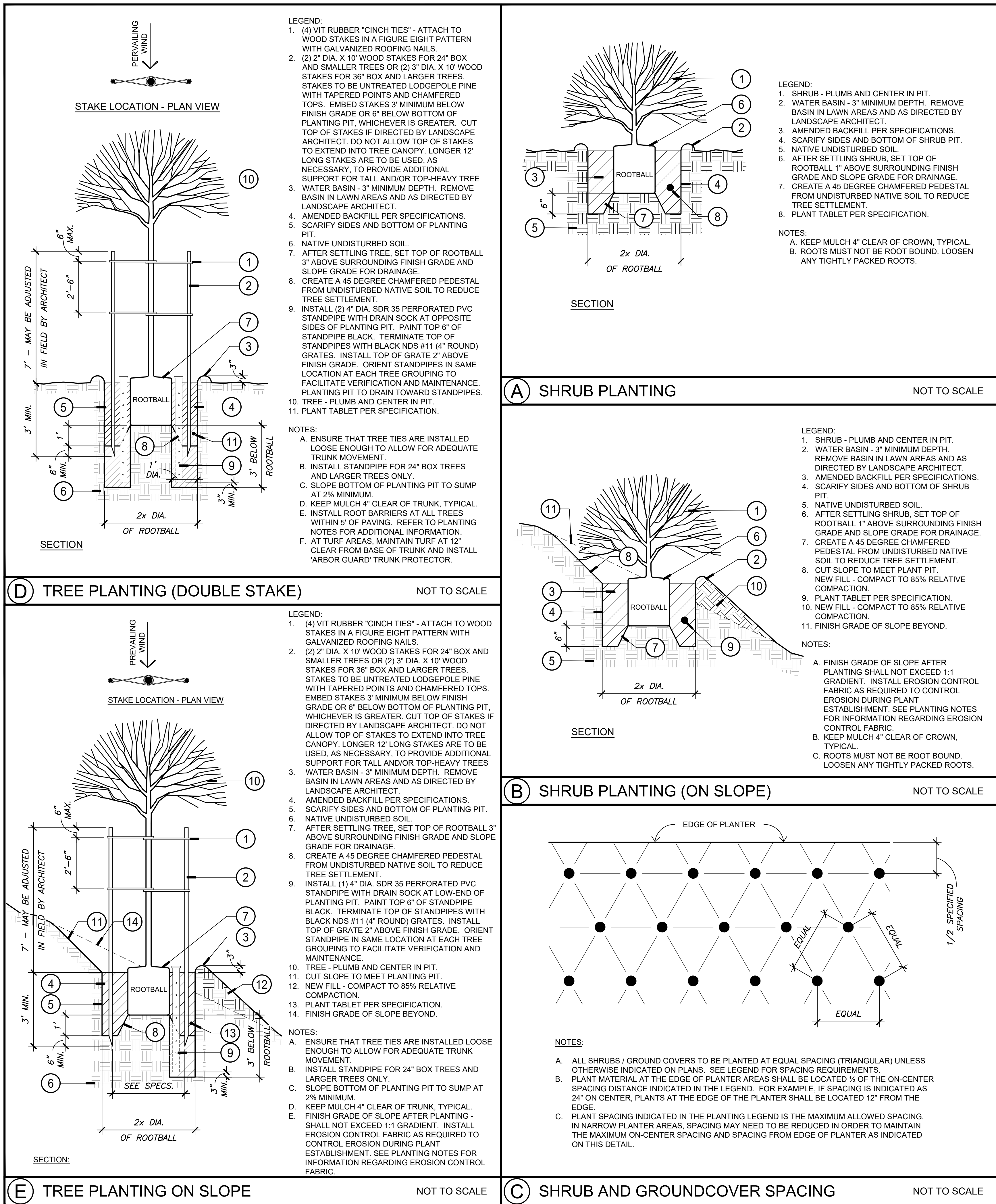
5665 OBERLIN DR.
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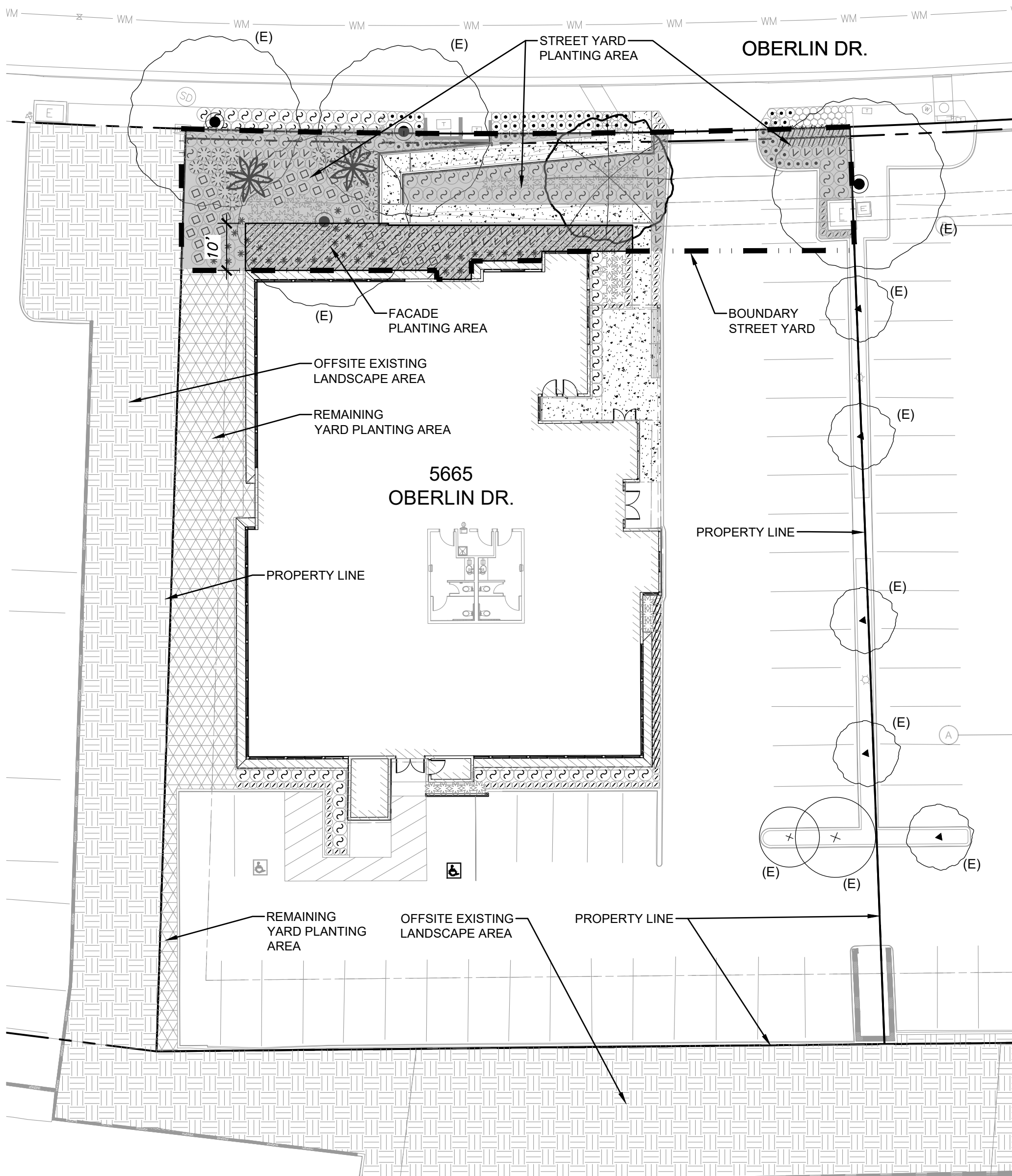
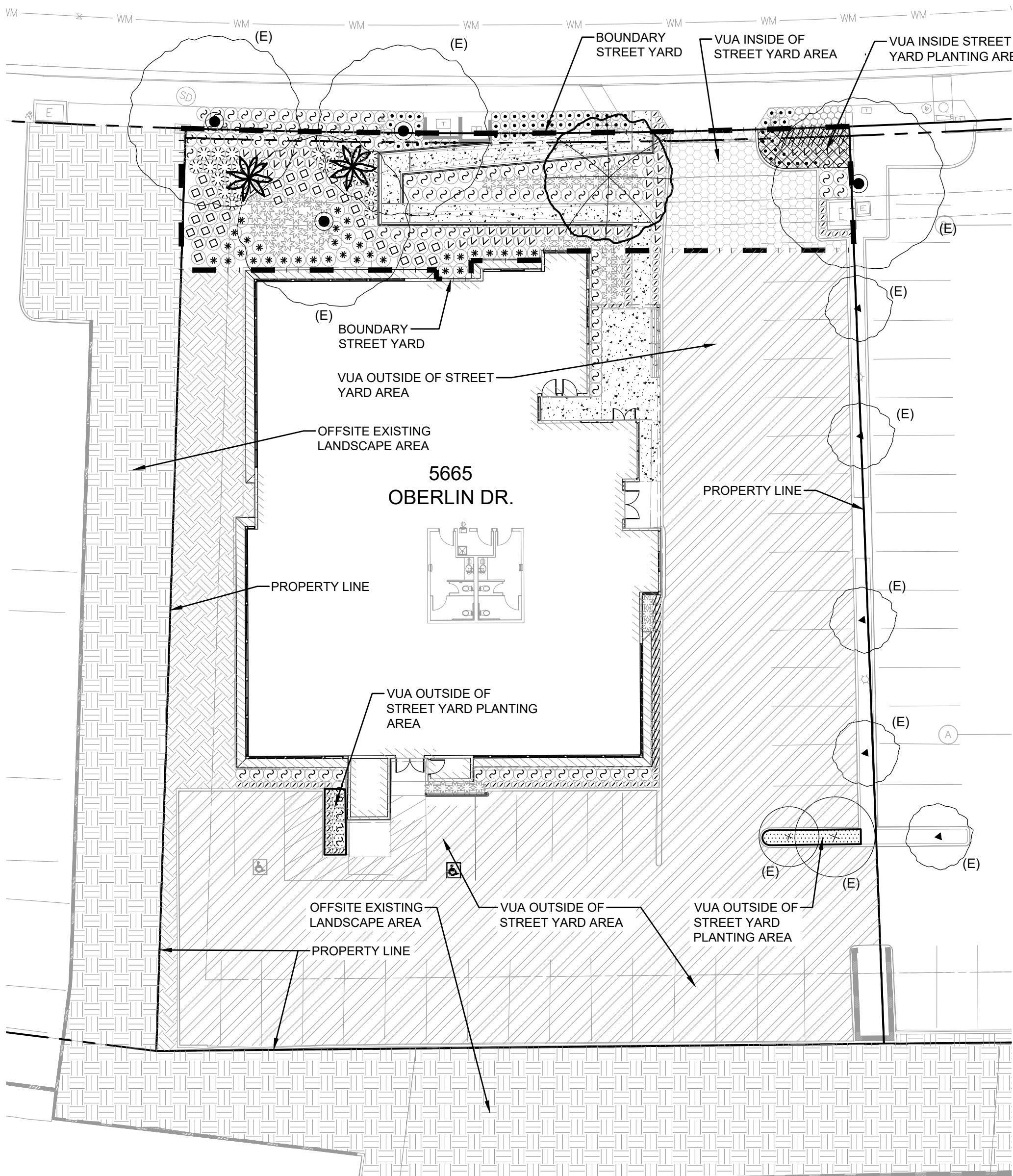
PA/PM:	AN
DRAWN BY.:	MCJ / AN
JOB NO.:	SDG24-0061-00

SHEET
PLANTING DETAILS

L7.1



FOR PLANTING PLAN - SEE SHEET L6.1
FOR PLANTING DETAILS - SEE SHEET L7.1
FOR LANDSCAPE SPECIFICATIONS - SEE



A DS-5 LANDSCAPE CALCULATIONS

SCALE: 1" = 20'-0"

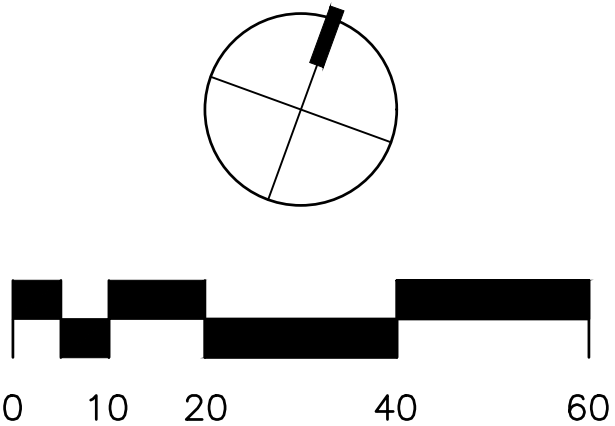
TREES					
SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE / FORM	HT. X SPRD. X CAL. (MIN)	
	CUPANIOPSIS ANACARDIODES	CARROTWOOD	24" BOX STD.	8'H X 5'W X 1-1/2" CAL.	
SHRUBS, GRASSES, & GROUNDCOVERS					
SYMBOL	KEY	BOTANICAL NAME	COMMON NAME	SIZE	SPACING
	AGA BF	AGAVE 'BLUE FLAME'	BLUE FLAME AGAVE	5 GAL.	36" O.C.
	ALO BE	ALOE 'BLUE ELF'	BLUE ELF ALOE	1 GAL.	18" O.C.
	ALO VER	ALOE VERA	MEDICINAL ALOE	5 GAL.	30" O.C.
	CAL SPE	CALANDRINA SPECTABILIS	ROCK PURSLANE	5 GAL.	24" O.C.
	CAR DIV	CAREX DIVULSA	BERKELEY SEDGE	1 GAL.	24" O.C.
	CHO ELE	CHONDROPETALUM ELEPHANTINUM	LARGE CAPE RUSH	5 GAL.	36" O.C.
	CRA CAP	CRASSULA CAPITELLA 'CAMPFIRE'	CAMPFIRE CRASSULA	1 GAL.	12" O.C.
	CYC REV	CYCAS REVOLUTA	SAGO PALM		EXISTING TO BE RELOCATED
	DIA VAR	DIANELLA TASMANICA 'VARIEGATA'	VARIEGATED FLAX LILY	5 GAL.	36" O.C.
	LOM BRE	LOMANDRA LONGIFOLIA 'BREEZE'	BREEZE DWARF MAT RUSH	5 GAL.	36" O.C.
	PHI XAN	PHILODENDRON 'XANADU'	XANADU SPLIT LEAF PHILODENDRON	5 GAL.	36" O.C.

EXISTING PLANT SCHEDULE

TREES		
SYMBOL	BOTANICAL NAME	COMMON NAME
	ARBUTUS UNEDO	STRAWBERRY TREE
	CUPANIOPSIS ANACARDIODES	CARROTWOOD
	ERIOBOTRYA DEFLEXA	BRONZE LOQUAT
	LAGERSTROEMIA INDICA	CRAPE MYRTLE
	PINUS SP.	PINE TREE
SHRUBS, GRASSES, & GROUNDCOVERS		
SYMBOL	DESCRIPTION	
	EXISTING SHRUBS AND GROUNDCOVER	
	EXISTING OFFSITE SHRUBS AND GROUNDCOVER	

LEGEND:

- VUA INSIDE OF STREET YARD AREA
- VUA OUTSIDE OF STREET YARD AREA
- BOUNDARY STREET YARD
- FACADE PLANTING AREA
- STREET YARD PLANTING AREA
- REMAINING YARD PLANTING AREA
- VUA INSIDE OF STREET YARD PLANTING AREA
- VUA OUTSIDE OF STREET YARD PLANTING AREA



	City of San Diego Development Services 1222 First Ave., MS-501 San Diego, CA 92101	Landscape Calculations Worksheet Vehicular Use Area (VUA)	FORM DS-5 August 2020
Provide the following information on the Landscape Plans. The Landscape Calculations determine the planting area and plant points required by the Landscape Regulations, Chapter 14, Article 2, Division 4 of the Land Development Code. Refer to §142.0403 Table 142-04B for proposed and existing plant point schedule.			
- At least one-half of the required planting points shall be achieved with trees. - If any of the requirements of Landscape Regulations, Section 142.0405(a) 1, 2, and 3 apply to your project, provide a written summary explaining how requirements are being met.			
VEHICULAR USE AREA (≥6,000 sf) [§142.0406 - §142.0407]			
Planting Area Required		Plant Points Provided	
40 sq. ft. per tree.		points	
Plant Points Required		Excess Points Provided	
Total Area sq. ft. x 0.05 = points		points	
		Plant Points Achieved with Trees (50%)	
		points	
VEHICULAR USE AREA (≥6,000 sf) [§142.0406 - §142.0407]			
Planting Area Required		Planting Area Provided	
VUA Inside Street Yard sq. ft. x 0.05 = sq. ft.		sq. ft.	
VUA Outside Street Yard sq. ft. x 0.03 = sq. ft.		sq. ft.	
Plant Points Required		Plant Points Provided	
VUA Inside Street Yard sq. ft. x 0.05 = points		points	
		points	
		Plant Points Achieved with Trees (50%)	
		points	
VUA Outside Street Yard sq. ft. x 0.03 = sq. ft.		sq. ft.	
		points	
		Plant Points Achieved with Trees (50%)	
		points	
TEMPORARY VEHICULAR USE AREA [§142.0408] (a specified time limit of less than 5 years from the date of construction permit issuance.)			
Planting Area Required		Planting Area Provided	
Length of Public ROW adjacent to VUA ft. x 3 ft. = sq. ft.		sq. ft.	

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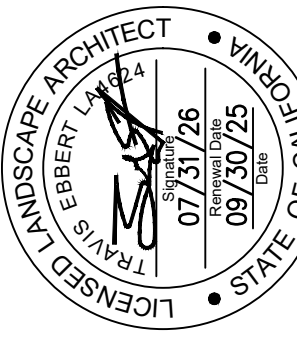
DS-5 (08-20)

	City of San Diego Development Services 1222 First Ave., MS-501 San Diego, CA 92101	Landscape Calculations Worksheet Industrial Development in All Zones Except RM & C	FORM DS-7 August 2020
Provide the following information on the Landscape Plans. The Landscape Calculations determine the planting area and plant points required by the Landscape Regulations, Chapter 14, Article 2, Division 4 of the Land Development Code. Refer to §142.0403 Table 142-04B for proposed and existing plant point schedule.			
- At least one-half of the required planting points shall be achieved with trees. - If any of the requirements of Landscape Regulations, Section 142.0405(a) 1, 2, and 3 apply to your project, provide a written summary explaining how requirements are being met.			
STREET YARD [§142.0404 - §142.0405]			
Planting Area Required		Planting Area Provided	
Total Area sq. ft. x 25% = sq. ft.		sq. ft.	
Plant Points Required		Plant Points Provided	
Total Area sq. ft. x 0.05* = points		points	
		points	
		Plant Points Achieved with Trees (50%)	
		points	
FACADE PLANTING AREA [§142.0404 - §142.0405]			
Planting Area Required		Planting Area Provided	
Length of Street Wall ft. x 50% x 10' = sq. ft.		sq. ft.	
		sq. ft.	
		Plant Points Provided	
Planting Area Required sq. ft. x 0.50 = points*		points	
		points	
		Plant Points Achieved with Trees (50%)	
		points	
REMAINING YARD [§142.0404 - §142.0405]			
Planting Area Required		Planting Area Provided	
Length of Property Lines Adjacent to Remaining Yard ft. x 5' = sq. ft.		sq. ft.	
		sq. ft.	
		Plant Points Provided	
Planting Area Required sq. ft. x 0.50 = points		points	
		points	
		Plant Points Achieved with Trees (50%)	
		points	

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DS-7 (08-20)

WARE MALCOMB
ARCHITECTURE
PLANNING
INTERIORS
3011 Sorrento Valley Blvd. Suite #120
San Diego, CA 92121
P 658.638.7277



ABINGTON EMERSON
5665 OBERLIN DR.
SAN DIEGO, CALIFORNIA 92121

PROJECT DATA

DATE	REMARKS
06/10/2025	CITY RESUBMISSION 01
08/17/2025	IPC SET
A	

PA/PM:	AN
DRAWN BY.:	MCJ / AN
JOB NO.:	SDG24-0061-00

**SHEET
LANDSCAPE
CALCULATIONS**

L8.1

SECTION 321313 - CONCRETE PAVING

PART 1 - GENERAL

1.1 SUMMARY

A. SECTION INCLUDES:

1. CONCRETE PAVING, BANDS, CURBS, MOW STRIPS, STEPS AND WALLS.
2. REINFORCEMENT.
3. SURFACE FINISH.
4. SPECIAL CURING.

B. RELATED SECTIONS:

1. SECTION 312000 - EARTH MOVING, FOR BACKFILLING AND COMPACTED FILL FOR PAVING.
2. SECTION 321373 - JOINT SEALANTS, FOR PAVING CONTRACTION JOINT SEALING.

1.2 ACTION SUBMITTALS

A. PRODUCT DATA: FOR EACH TYPE OF PRODUCT INDICATED.

B. LEED SUBMITTALS:

1. PRODUCT DATA FOR CREDIT MR 4: FOR PRODUCTS HAVING RECYCLED CONTENT, DOCUMENTATION INDICATING PERCENTAGES BY WEIGHT OF POSTCONSUMER AND PRE-CONSUMER RECYCLED CONTENT. INCLUDE STATEMENT INDICATING COST FOR EACH PRODUCT HAVING RECYCLED CONTENT.

C. SAMPLES: PROVIDE A 4 X 4 FOOT JOB SITE SAMPLE OF EACH PAVING FINISH SPECIFIED, FOR REVIEW AND APPROVAL BY OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION. SAMPLE SHALL REPRESENT FINAL APPEARANCE OF PAVING, INCLUDING ANY STAIN, SEALER OR OTHER SURFACE APPLICATIONS. PROVIDE ADDITIONAL SAMPLES UNTIL FINISH IS CONSIDERED ACCEPTABLE BY THE OWNER'S REPRESENTATIVE, AT NO ADDITIONAL COST TO THE OWNER. THE APPROVED SAMPLE SHALL SERVE AS A STANDARD OF APPEARANCE FOR THE FINAL WORK TO BE PRODUCED AND SHALL REMAIN ON SITE UNTIL ALL SITE CONCRETE HAS BEEN REVIEWED AND APPROVED BY THE OWNER'S REPRESENTATIVE.

D. OTHER ACTION SUBMITTALS:

1. DESIGN MIXTURES: FOR EACH CONCRETE PAVING MIXTURE. INCLUDE ALTERNATE DESIGN MIXTURES WHEN CHARACTERISTICS OF MATERIALS, PROJECT CONDITIONS, WEATHER, TEST RESULTS, OR OTHER CIRCUMSTANCES WARRANT ADJUSTMENTS.

1.3 QUALITY ASSURANCE

A. READY-MIX-CONCRETE MANUFACTURER QUALIFICATIONS: A FIRM EXPERIENCED IN MANUFACTURING READY-MIXED CONCRETE PRODUCTS AND THAT COMPLIES WITH ASTM C 94/C 94M REQUIREMENTS FOR PRODUCTION FACILITIES AND EQUIPMENT.

B. ACI PUBLICATIONS: COMPLY WITH ACI 301 UNLESS OTHERWISE INDICATED.

1.4 TESTS

A. TESTING AND ANALYSIS WILL BE PERFORMED UNDER PROVISIONS OF SECTION 014000 - QUALITY REQUIREMENTS.

B. MAKE AVAILABLE PROPOSED MIX DESIGN OF EACH CLASS OF CONCRETE TO APPOINTED FIRM FOR REVIEW PRIOR TO COMMENCEMENT OF WORK.

C. TESTING FIRM WILL TAKE CYLINDERS AND PERFORM SLUMP AND AIR ENTRAINMENT TESTS IN ACCORDANCE WITH ACI 301.

D. TESTS OF CEMENT AND AGGREGATES WILL BE PERFORMED TO ENSURE CONFORMANCE WITH SPECIFIED REQUIREMENTS.

E. THREE CONCRETE TEST CYLINDERS WILL BE TAKEN FOR EVERY 75 OR LESS CUBIC YARDS OF EACH CLASS OF CONCRETE PLACED EACH DAY.

F. ONE ADDITIONAL TEST CYLINDER WILL BE TAKEN AND BE CURED ON SITE UNDER SAME CONDITIONS AS CONCRETE IT REPRESENTS.

G. ONE SLUMP TEST WILL BE TAKEN FOR EACH SET OF TEST CYLINDERS TAKEN.

PART 2 - PRODUCTS

2.1 CONCRETE MATERIALS

A. CEMENTITIOUS MATERIAL: USE THE FOLLOWING CEMENTITIOUS MATERIALS, OF SAME TYPE, BRAND, AND SOURCE THROUGHOUT PROJECT:

1. CEMENT: ASTM C 150 NORMAL-TYPE I, GRAY PORTLAND CEMENT.
2. BLENDED HYDRAULIC CEMENT: ASTM C 595, CEMENT.

B. NORMAL-WEIGHT AGGREGATES: ASTM C 33, CLASS 45, UNIFORMLY GRADED. PROVIDE AGGREGATES FROM A SINGLE SOURCE.

C. WATER: CLEAN, POTABLE AND COMPLYING WITH ASTM C 94/C 94M.

D. AIR-ENTRAINING ADMIXTURE: ASTM C 260.

E. CHEMICAL ADMIXTURES: ADMIXTURES CERTIFIED BY MANUFACTURER TO BE COMPATIBLE WITH OTHER ADMIXTURES AND TO CONTAIN NO MORE THAN 0.1 PERCENT WATER-SOLUBLE CHLORIDE IONS BY MASS OF CEMENTITIOUS MATERIAL.

F. COLOR PIGMENT: ASTM C 979, SYNTHETIC MINERAL-OXIDE PIGMENTS OR COLORED WATER-REDUCING ADMIXTURES, COLOR STABLE, NONFADING, AND RESISTANT TO LIME AND OTHER ALKALIS.

1. COLOR: AS INDICATED.

2.2 FORM MATERIALS

A. CONFORM TO ACI 301.

B. WOOD OR STEEL FORM MATERIAL, PROFILED TO SUIT CONDITIONS.

2.3 STEEL REINFORCEMENT

A. RECYCLED CONTENT: POSTCONSUMER RECYCLED CONTENT PLUS ONE-HALF OF PRE-CONSUMER RECYCLED CONTENT NOT LESS THAN 25 PERCENT.

B. PLAIN-STEEL WELDED WIRE REINFORCEMENT: ASTM A 185/A 185M, UNCOATED FINISH, FABRICATED FROM AS-DRAWN STEEL WIRE INTO FLAT SHEETS.

C. REINFORCING BARS: ASTM A 615/A 615M, DEFORMED, UNCOATED FINISH.

D. PLAIN-STEEL WIRE: ASTM A 82/A 82M, AS DRAWN.

E. TIE WIRE: ANNEALED STEEL, MINIMUM 16 GAGE SIZE.

F. DOWEL BARS: ASTM A 615/A 615M, PLAIN-STEEL BARS. CUT BARS TRUE TO LENGTH WITH ENDS SQUARE AND FREE OF BURRS, UNCOATED FINISH.

G. BAR SUPPORTS: BOLSTERS, CHAIRS, SPACERS, AND OTHER DEVICES FOR SPACING, SUPPORTING, AND FASTENING REINFORCING BARS, WELDED WIRE REINFORCEMENT, AND DOWELS IN PLACE. MANUFACTURE BAR SUPPORTS ACCORDING TO CRSI MANUAL OF STANDARD PRACTICE FROM STEEL WIRE, PLASTIC, OR PRECAST CONCRETE OF GREATER COMPRESSIVE STRENGTH THAN CONCRETE SPECIFIED.

2.4 FIBER REINFORCEMENT

A. SYNTHETIC FIBER: FIBRILLATED POLYPROPYLENE FIBERS ENGINEERED AND DESIGNED FOR USE IN CONCRETE PAVING, COMPLYING WITH ASTM C 1116/C 1116M, TYPE III, 1/2 INCH LONG.

2.5 ACCESSORIES

A. PRE-EMERGENT HERBICIDE: SURFLAN.

B. CURING COMPOUND: FS TT-C-800, TYPE 1, 30 PERCENT SOLIDS; ASTM C309, ASHFORD FORMULA.

C. INTEGRAL COLOR (NON-IMMERSION CONDITIONS): DAVIS COLORS, OR APPROVED EQUAL.

D. CHEMICAL SURFACE RETARDER: TOP-CAST BY GRACE CONSTRUCTION PRODUCTS.

E. LIQUID SURFACE SEALER: "HLO-125" BY SINAK CORPORATION.

F. PATCH BOND: WELD-CRETE.

2.6 RELATED MATERIALS

A. JOINT FILLERS: ASTM D 4819, LIGHT WEIGHT POLYETHYLENE CLOSED CELL EXPANSION JOINT FILLER.

2.7 PAVEMENT MARKINGS

A. PAVEMENT-MARKING PAINT: LATEX, WATERBORNE EMULSION, LEAD AND CHROMATE FREE, READY MIXED, COMPLYING WITH FS TP-1952, TYPE II, WITH DRYING TIME OF LESS THAN 45 MINUTES.

1. COLOR: AS INDICATED.

B. PAVEMENT-MARKING PAINT: MPI #97 LATEX TRAFFIC MARKING PAINT.

1. COLOR: AS INDICATED.

2.8 WHEEL STOPS

A. WHEEL STOPS: PRECAST, AIR-ENTRAINED CONCRETE.

1. COLOR: GRAY.
2. DOWELS: GALVANIZED STEEL, 3/4 INCH IN DIAMETER, 10-INCH MINIMUM LENGTH.
3. ADHESIVE: AS RECOMMENDED BY WHEEL STOP MANUFACTURER FOR APPLICATION TO CONCRETE PAVEMENT.

2.9 CONCRETE MIXTURES

A. MIX CONCRETE IN ACCORDANCE WITH ASTM C94.

B. PREPARE DESIGN MIXTURES, PROPORTIONED ACCORDING TO ACI 301, WITH THE FOLLOWING PROPERTIES:

1. COMPRESSIVE STRENGTH (28 DAYS): 3000 PSI.
2. MAXIMUM WATER-CEMENTITIOUS MATERIALS RATIO AT POINT OF PLACEMENT: 0.50.
3. SLUMP LIMIT: 4 INCHES, PLUS OR MINUS 1 INCH.
4. AIR CONTENT: 6 PERCENT PLUS OR MINUS 1.5 PERCENT.

C. CHEMICAL ADMIXTURES:

1. USE ACCELERATING ADMIXTURES IN COLD WEATHER ONLY WHEN APPROVED BY OWNER'S REPRESENTATIVE. USE OF ADMIXTURES WILL NOT RELAX COLD WEATHER PLACEMENT REQUIREMENTS.
2. USE SET-RETARDING ADMIXTURES DURING HOT WEATHER ONLY WHEN APPROVED BY OWNER'S REPRESENTATIVE.

D. SYNTHETIC FIBER: UNIFORMLY DISPERSE IN CONCRETE MIXTURE AT MANUFACTURER'S RECOMMENDED RATE, BUT NOT LESS THAN 1.0 POUND/CU. YD.

E. COLOR PIGMENT: ADD COLOR PIGMENT TO CONCRETE MIXTURE ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS.

F. ADD AIR ENTRAINING AGENT TO CONCRETE MIX FOR CONCRETE WORK AS NECESSARY.

2.10 CONCRETE MIXING

A. READY-MIXED CONCRETE: MEASURE, BATCH, AND MIX CONCRETE MATERIALS AND CONCRETE ACCORDING TO ASTM C 94/C 94M. FURNISH BATCH CERTIFICATES FOR EACH BATCH DISCHARGED AND USED IN THE WORK.

PART 3 - EXECUTION

3.1 EXAMINATION AND PREPARATION

A. VERIFY COMPACTED SUBGRADE AND/OR BASE IS READY TO SUPPORT PAVING AND IMPOSED LOADS.

B. VERIFY GRADIENTS AND ELEVATIONS OF BASE ARE CORRECT.

C. BEGINNING OF INSTALLATION MEANS ACCEPTANCE OF EXISTING CONDITIONS.

D. MOISTEN BASE TO MINIMIZE ABSORPTION OF WATER FROM FRESH CONCRETE.

E. NOTIFY OWNER'S REPRESENTATIVE MINIMUM 24 HOURS PRIOR TO COMMENCEMENT OF CONCRETING OPERATIONS.

F. PROOF-ROLL PREPARED SUB-BASE SURFACE BELOW CONCRETE PAVING TO IDENTIFY SOFT POCKETS AND AREAS OF EXCESS YIELDING.

G. REMOVE LOOSE MATERIAL FROM COMPACTED SUB-BASE SURFACE IMMEDIATELY BEFORE PLACING CONCRETE.

3.2 EDGE FORMS AND SCREED CONSTRUCTION

A. SET, BRACE, AND SECURE EDGE FORMS, BULKHEADS, AND INTERMEDIATE SCREED GUIDES TO REQUIRED LINES, GRADES, AND ELEVATIONS. INSTALL FORMS TO ALLOW CONTINUOUS PROGRESS OF WORK AND SO FORMS CAN REMAIN IN PLACE AT LEAST 24 HOURS AFTER CONCRETE PLACEMENT. OBTAIN LAYOUT APPROVAL PRIOR TO POUR.

B. ASSEMBLE FORMWORK TO PERMIT EASY STRIPPING AND DISMANTLING WITHOUT DAMAGING CONCRETE. USE OF PERMANENT CONCRETE SCREED IS PERMISSIBLE. CLEAN FORMS AFTER EACH USE AND COAT WITH FORM-RELEASE AGENT TO ENSURE SEPARATION FROM CONCRETE WITHOUT DAMAGE.

C. PLACE JOINT FILLERS VERTICAL IN POSITION, IN STRAIGHT LINES. SECURE TO FORMWORK DURING CONCRETE PLACEMENT.

3.3 REINFORCEMENT

A. PLACE REINFORCEMENT. COMPLY WITH CRSI'S MANUAL OF STANDARD PRACTICE FOR FABRICATING, PLACING, AND SUPPORTING REINFORCEMENT.

B. INTERRUPT REINFORCEMENT AT CONSTRUCTION JOINTS.

C. PLACE REINFORCEMENT TO ACHIEVE SLAB AND CURB ALIGNMENT AS DETAILED.

D. PROVIDE DOWELED JOINTS AT INTERRUPTIONS OF CONCRETE WITH ONE END OF DOWEL SET IN CAPPED SLEEVE TO ALLOW LONGITUDINAL MOVEMENT.

3.4 JOINTS

A. GENERAL: FORM CONTRACTION, ISOLATION, AND DOWELED CONSTRUCTION JOINTS AND TOOL EDGES TRUE TO LINE, WITH FACES PERPENDICULAR TO SURFACE PLANE OF CONCRETE. CONSTRUCT CONTRACTION JOINTS AT MAXIMUM 5 FOOT INTERVALS OF PAVING AND AT RIGHT ANGLES TO CENTERLINE UNLESS OTHERWISE INDICATED. ALIGN CURB, GUTTER AND SIDEWALK JOINTS WHEN POSSIBLE.

B. DOWELED CONSTRUCTION JOINTS: SET CONSTRUCTION JOINTS AT SIDE, END TERMINATIONS OF PAVING, BETWEEN PAVING AREAS WITH DIFFERING COLOR FINISHES, AND AT LOCATIONS WHERE PAVING OPERATIONS ARE STOPPED FOR MORE THAN ONE-HALF HOUR UNLESS PAVING TERMINATES AT ISOLATION JOINTS. IN LINEAR PAVING CONDITIONS, PROVIDE DOWELED CONSTRUCTION JOINTS AT 20-FOOT INTERVALS UNLESS OTHERWISE SHOWN.

C. ISOLATION JOINTS: FORM ISOLATION JOINTS OF PREFORMED JOINT-FILLER STRIPS ABUTTING CONCRETE CURBS, CATCH BASINS, MANHOLES, INLETS, STRUCTURES, OTHER FIXED VERTICAL OBJECTS, AND WHERE INDICATED.

D. EDGING: AFTER INITIAL FLOATING, TOOL EDGES OF PAVING, GUTTERS, CURBS, AND JOINTS IN CONCRETE WITH AN EDGING TOOL TO A 1/8-INCH RADIUS. REPEAT TOOLING OF EDGES AFTER APPLYING SURFACE FINISHES. ELIMINATE EDGING-TOOL MARKS ON CONCRETE SURFACES.

3.5 CONCRETE PLACEMENT

A. COMPLY WITH ACI 301 REQUIREMENTS FOR MEASURING, MIXING, TRANSPORTING, PLACING, AND CONSOLIDATING CONCRETE.

B. ENSURE REINFORCEMENT, INSERTS, EMBEDDED PARTS AND FORMED JOINTS ARE NOT DISTURBED DURING CONCRETE PLACEMENT.

C. DEPOSIT AND SPREAD CONCRETE IN A CONTINUOUS OPERATION BETWEEN PREDETERMINED CONSTRUCTION JOINTS. DO NOT PUSH OR DRAG CONCRETE INTO PLACE OR USE VIBRATORS TO MOVE CONCRETE INTO PLACE. DO NOT BREAK OR INTERRUPT SUCCESSIVE POURS SUCH THAT COLD JOINTS OCCUR.

D. PLACE CONCRETE TO PATTERN INDICATED.

E. COORDINATE POURS OF INTEGRAL COLOR CONCRETE TO ENSURE CONSISTENCY OF COLOR THROUGHOUT. COLOR INCONSISTENCY WILL NOT BE ACCEPTED.

F. FOR STEPS, WALLS OR OTHER CAST-IN-PLACE ELEMENTS, SETTLE CONCRETE BY VIBRATION TO ELIMINATE HONEYCOMBS. CONCRETE WITH VISIBLE HONEYCOMBS WILL BE REJECTED.

G. SCREED PAVING SURFACE WITH A STRAIGHTEDGE AND STRIKE OFF.

H. COMMENCE INITIAL FLOATING USING BULL FLOATS OR DARBIES TO IMPART AN OPEN-TEXTURED AND UNIFORM SURFACE PLANE BEFORE EXCESS MOISTURE OR BLEED WATER APPEARS ON THE SURFACE. DO NOT FURTHER DISTURB CONCRETE SURFACES BEFORE BEGINNING FINISHING OPERATIONS OR SPREADING SURFACE TREATMENTS.

I. TOLERANCES IN HORIZONTAL ALIGNMENT OF HARDSCAPE ELEMENTS SUCH AS PAVING EDGES, JOINTS, WALLS AND STEPS SHALL NOT EXCEED 1/4 INCH IN 10 FEET, OR 1/2 INCH IN 50 FEET.

3.6 FINISHING

A. SEE PLAN FOR FINISHES AND FINISH LOCATIONS.

B. CURBS, MOW STRIPS AND GUTTERS: LIGHT BROOM, UNLESS OTHERWISE SPECIFIED.

C. FINISHES:

1. GENERAL: DO NOT ADD WATER TO CONCRETE SURFACES DURING FINISHING OPERATIONS. COMPACT AND TAMP CONCRETE (UNLESS RETARDANT FINISH IS SPECIFIED), TO BRING 3/8 INCH OF MORTAR TO SURFACE. FLOAT WITH WOOD SCREEDS AND FLOATS ONLY, AND APPLY FOLLOWING FINISHES AFTER SURFACE FLOATING. DO NOT USE STEEL OR ANY PLASTIC SCREEDS, FLOATS OR "FRESNO" FOR INITIAL FLOATING AND SCREEDING OPERATIONS. FOR RETARDANT FINISH, THE CONCRETE SHALL BE PLACED AND CONSOLIDATED SO AS TO COMPLETELY FILL ALL SPACES IN THE FORMS; HOWEVER, TAMPING WILL NOT BE PERMITTED BECAUSE THE AGGREGATE MUST REMAIN NEAR THE SURFACE FOR LATER

EXPOSURE.

2. ALL CONCRETE FINISHES SHALL BE AS LISTED ON THE DRAWINGS. FINISHES ARE AS FOLLOWS:

a. FINE-TO-MEDIUM-TEXTURED BROOM FINISH: DRAW A SOFT-BRISTLE BROOM ACROSS FLOAT-FINISHED CONCRETE SURFACE PERPENDICULAR TO LINE OF TRAFFIC TO PROVIDE A UNIFORM, FINE-LINE TEXTURE.

b. MEDIUM-TO-COARSE-TEXTURED BROOM FINISH: PROVIDE A COARSE FINISH BY STRIATING FLOAT-FINISHED CONCRETE SURFACE 1/16 TO 1/8 INCH DEEP WITH A STIFF-BRISTLED BROOM, PERPENDICULAR TO LINE OF TRAFFIC.

c. ROUGH TROWEL SWIRL FINISH: PROVIDE ROUGH TROWEL FINISH TO SLAB SURFACES. AFTER PLACING SLABS, CONSOLIDATE SURFACE BY FLOATING TO A UNIFORM, SMOOTH, GRANULAR TEXTURE.

d. SCRATCH FINISH: PROVIDE SCRATCH FINISH TO SLAB SURFACES THAT ARE TO RECEIVE MORTAR SETTING BEDS FOR PRECAST TILE PAVERS AS NOTED ON DRAWINGS.

e. STEEL TROWEL FINISH: AFTER SURFACE WATER DISAPPEARS AND FLOATED SURFACE IS SUFFICIENTLY HARDENED, STEEL TROWEL AND RE-TROWEL TO SMOOTH, DENSE, HARD FINISH. AFTER CONCRETE HAS SET SUFFICIENTLY, RE-TROWEL TO A SMOOTH, UNIFORM FINISH FREE OF TROWEL MARKS OR OTHER BLEMISHES. AVOID EXCESSIVE TROWELING THAT PRODUCES BURNED AREAS.

f. SANDBLAST FINISH (DRY SAND METHOD):

1) CONTRACTOR SHALL SCHEDULE THIS WORK TO BE EXECUTED WITH AS LITTLE CONFLICT WITH OTHER TRADES AS POSSIBLE. CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OR MASKING OF ADJACENT SURFACES, IF NECESSARY.

2) TEST AREAS FOR SAMPLE OF BLASTING WILL BE ESTABLISHED WHERE SURFACES WILL NOT BE LEFT EXPOSED. OWNER'S REPRESENTATIVE SHALL BE PRESENT AT TIME OF SAMPLE BLASTING AND APPROVE THE DESIRED FINISH.

3) CARE SHALL BE TAKEN TO PROTECT ALL ADJACENT SURFACES FROM DAMAGE WHICH ARE NOT RECEIVING SANDBLASTING.

4) SANDBLASTING SHALL BE ACCOMPLISHED USING QUALIFIED WORKMEN FAMILIAR WITH THE PROPER TECHNIQUE.

5) SANDBLASTING WORK SHALL BE BY THE DRY SANE METHOD, UTILIZING APPROPRIATE EQUIPMENT AND ADEQUATE AIR PRESSURE. ABRASIVES SHALL BE WASHED SILICA SAND FREE FROM SALT, CLAY OR OTHER FOREIGN MATERIALS. NOZZLE POSITION DURING THE OPERATION SHALL BE AS DETERMINED IN THE MAKING OF THE APPROVED SAMPLES.

6) ALL CONCRETE AREAS REQUIRING PATCHING SHALL BE PATCHED, WITH ALL ROUGH SPOTS AND UNEVENNESS IN THE CONCRETE SURFACE GROUND SMOOTH BEFORE THE SANDBLASTING OPERATION IS BEGUN.

9. ETCHED OR RETARDANT FINISH (WITH SURFACE RETARDER):

1) ALL WORK SHALL CONFORM TO APPLICABLE OSHA AND EPA STANDARDS.

2) CONTRACTOR SHALL SCHEDULE THIS WORK TO BE EXECUTED WITH AS LITTLE CONFLICT WITH OTHER TRADES AS POSSIBLE. IF NECESSARY, CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ADJACENT MASONRY AND CONCRETE SURFACES WITH A FILM-FORMING PROTECTIVE COATING, "FACE-OFF" BY GRACE CONSTRUCTION PRODUCTS, OR APPROVED EQUAL, ALLOWING TIME FOR COATING TO DRY PRIOR TO POURING CONCRETE.

3) PREPARATORY WORK: THE CONCRETE SHOULD BE PLACED AND CONSOLIDATED SO AS TO COMPLETELY FILL ALL SPACES IN THE FORMS. TAMPING WILL NOT BE PERMITTED FOR TOP-CAST FINISH #22 OR HIGHER BECAUSE THE AGGREGATE MUST REMAIN NEAR THE SURFACE FOR LATER EXPOSURE.

4) APPLICATION OF RETARDER: SURFACE RETARDER SHALL BE APPLIED BY QUALIFIED WORKMEN FAMILIAR WITH THE PROPER TECHNIQUE. AFTER CONCRETE HAS BEEN FLOATED OR TROWEL FINISHED AND INITIAL BLEED WATER HAS RISEN TO THE SURFACE, APPLY FILM-FORMING TOP SURFACE RETARDER, TOP-CAST BY GRACE CONSTRUCTION PRODUCTS OR APPROVED EQUAL, AT SPECIFIED GRADIENT, USING A LOW-PRESSURE SPRAYER WITH A 0.5 GPM TIP AT A RATE OF 200-350 SQUARE FEET PER GALLON UNTIL SURFACE HAS A COMPLETE HIDING COAT. ONCE SURFACE RETARDER HAS CURED ADEQUATELY, DEPENDENT ON WEATHER AND SITE CONDITIONS, REMOVE BY PRESSURE WASHING. REMOVE RINSE WATER AND CEMENT MATRIX FROM SITE IN ACCORDANCE WITH LOCAL CODES.

3.7 CONCRETE PROTECTION, CURING AND SEALING

A. GENERAL: PROTECT FRESHLY PLACED CONCRETE FROM PREMATURE DRYING AND EXCESSIVE COLD OR HOT TEMPERATURES.

B. COMPLY WITH ACI 306.1 FOR COLD-WEATHER PROTECTION.

C. EVAPORATION RETARDER: APPLY EVAPORATION RETARDER TO CONCRETE SURFACES IF HOT, DRY, OR WINDY CONDITIONS CAUSE MOISTURE LOSS APPROACHING 0.2 POUNDS/SQUARE FOOT X H BEFORE AND DURING FINISHING OPERATIONS. APPLY ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS AFTER PLACING, SCREEDING, AND BULL FLOATING OR DARBING CONCRETE BUT BEFORE FLOAT FINISHING.

D. BEGIN CURING AFTER FINISHING CONCRETE BUT NOT BEFORE FREE WATER HAS DISAPPEARED FROM CONCRETE SURFACES.

E. CURING METHODS: CURE CONCRETE BY MOISTURE-RETAINING-COVER CURING, CURING COMPOUND OR A COMBINATION OF THESE.

F. CONCRETE SURFACE SEALER: ALL CONCRETE PAVING SHALL BE SEALED WITH A CLEAR, PENETRATING CONCRETE SEALER. IF EFFLORESCENCE OR ALKALI-STAINING IS EVIDENT AFTER THE CONCRETE HAS CURED, LIGHTLY WASH THE SURFACE WITH A MILD MURIATIC ACID SOLUTION (USUALLY A 10:1 DILUTION) THAT HAS BEEN THOROUGHLY RINSED WITH WATER AND CLEANED WITH DILUTED LITHIUM CHROME FLOOR CLEANER BY L.M. SCOFIELD, OR APPROVED EQUAL. RINSE AGAIN AND DRY THOROUGHLY. AFTER CONCRETE MIX HAS CURED FOR AT LEAST ONE MONTH, THE CONCRETE SURFACE SHALL BE THOROUGHLY WASHED WITH FRESH, CLEAN WATER. AFTER SURFACE IS THOROUGHLY DRIED, APPLY "HLO-125" AS MANUFACTURED BY SINAK CORPORATION, PER MANUFACTURER'S SPECIFICATIONS.

3.8 PAVING TOLERANCES

A. COMPLY WITH TOLERANCES IN ACI 117 AND AS FOLLOWS:

1. ELEVATION: 3/4 INCH.
2. THICKNESS: PLUS 3/8 INCH, MINUS 1/4 INCH.
3. SURFACE: GAP BELOW 10-FOOT- LONG, UNLEVELLED STRAIGHTEDGE NOT TO EXCEED 1/2 INCH.
4. JOINT SPACING: 3 INCHES.
5. CONTRACTION JOINT DEPTH: PLUS 1/4 INCH, NO MINUS.
6. JOINT WIDTH: PLUS 1/16 INCH, NO MINUS.

3.9 PAVEMENT MARKING

A. ALLOW CONCRETE PAVING TO CURE FOR A MINIMUM OF 28 DAYS AND BE DRY BEFORE STARTING PAVEMENT MARKING.

B. SWEEP AND CLEAN SURFACE TO ELIMINATE LOOSE MATERIAL AND DUST.

C. APPLY PAINT WITH MECHANICAL EQUIPMENT TO PRODUCE MARKINGS OF DIMENSIONS INDICATED WITH UNIFORM, STRAIGHT EDGES. APPLY AT MANUFACTURER'S RECOMMENDED RATES TO PROVIDE A MINIMUM WET FILM THICKNESS OF 15 MILLIMETERS.

3.10 WHEEL STOPS

A. INSTALL WHEEL STOPS IN BED OF ADHESIVE APPLIED AS RECOMMENDED BY MANUFACTURER.

B. SECURELY ATTACH WHEEL STOPS TO PAVING WITH NOT LESS THAN TWO STEEL DOWELS LOCATED AT ONE-QUARTER TO ONE-THIRD POINTS. INSTALL DOWELS IN DRILLED HOLES IN THE PAVING AND BOND DOWELS TO WHEEL STOP. RECESS HEAD OF DOWEL BENEATH TOP OF WHEEL STOP.

3.11 REPAIRS AND PROTECTION

A. REMOVE AND REPLACE CONCRETE PAVING THAT IS BROKEN, DAMAGED, OR DEFECTIVE OR THAT DOES NOT COMPLY WITH REQUIREMENTS IN THIS SECTION. REMOVE WORK IN COMPLETE SECTIONS FROM JOINT TO JOINT UNLESS OTHERWISE APPROVED BY OWNER'S REPRESENTATIVE.

B. PROTECT CONCRETE PAVING FROM DAMAGE. EXCLUDE TRAFFIC FROM PAVING FOR AT LEAST 14 DAYS AFTER PLACEMENT. WHEN CONSTRUCTION TRAFFIC IS PERMITTED, MAINTAIN PAVING AS CLEAN AS POSSIBLE BY REMOVING SURFACE STAINS AND SPILLAGE OF MATERIALS AS THEY OCCUR.

C. MAINTAIN CONCRETE PAVING FREE OF STAINS, DISCOLORATION, DIRT, AND OTHER FOREIGN MATERIAL. SWEEP PAVING NOT MORE THAN TWO DAYS BEFORE DATE SCHEDULED FOR SUBSTANTIAL COMPLETION INSPECTIONS.

END OF SECTION 321313

SECTION 321373 - CONCRETE PAVING JOINT SEALANTS

PART 1 - GENERAL

1.1 SUMMARY

A. SECTION INCLUDES:

1. COLD-APPLIED JOINT SEALANTS.
2. HOT-APPLIED JOINT SEALANTS.

1.2 PRECONSTRUCTION TESTING

A. PRECONSTRUCTION COMPATIBILITY AND ADHESION TESTING: SUBMIT TO JOINT-SEALANT MANUFACTURERS, EIGHT SAMPLES OF MATERIALS THAT WILL CONTACT OR AFFECT JOINT SEALANTS. USE MANUFACTURER'S STANDARD TEST METHOD TO DETERMINE WHETHER PRIMING AND OTHER SPECIFIC JOINT-PREPARATION TECHNIQUES ARE REQUIRED TO OBTAIN RAPID, OPTIMUM ADHESION OF JOINT SEALANTS TO JOINT SUBSTRATES.

1.3 ACTION SUBMITTALS

A. PRODUCT DATA: FOR EACH JOINT-SEALANT PRODUCT INDICATED.

B. SAMPLES: FOR EACH KIND AND COLOR OF JOINT SEALANT REQUIRED.

C. PAVEMENT-JOINT-SEALANT SCHEDULE: INCLUDE THE FOLLOWING INFORMATION:

1. JOINT-SEALANT APPLICATION, JOINT LOCATION, AND DESIGNATION.
2. JOINT-SEALANT MANUFACTURER AND PRODUCT NAME.
3. JOINT-SEALANT FORMULATION.
4. JOINT-SEALANT COLOR.

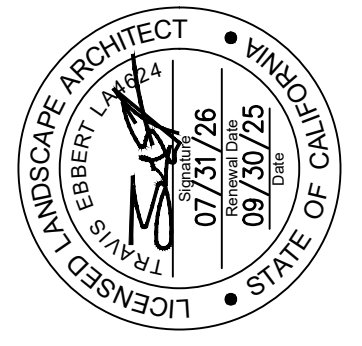
1.4 INFORMATIONAL SUBMITTALS

A. PRODUCT CERTIFICATES.

B. PRODUCT TEST REPORTS.

C. PRECONSTRUCTION COMPATIBILITY AND ADHESION TEST REPORTS.

1.5 QUALITY ASSURANCE



ABINGTON EMERSON

5665 OBERLIN DR.
SAN DIEGO CALIFORNIA 92121

PROJECT DATA

[illegible]

PA/PM:	AN
DRAWN BY.:	MCJ / AN
JOB NO.:	SDG24-0061-00

SHEET
LANDSCAPE
SPECIFICATIONS

SHEET 20 OF 43

SECTION 321726 - TACTILE WARNING SURFACING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. DRAWINGS AND GENERAL PROVISIONS OF THE CONTRACT, INCLUDING GENERAL AND SUPPLEMENTARY CONDITIONS AND DIVISION 01 SPECIFICATION SECTIONS, APPLY TO THIS SECTION.

1.2 SUMMARY

A. SECTION INCLUDES:

1. CAST-IN-PLACE DETECTABLE WARNING TILES.

2. SURFACE-APPLIED DETECTABLE WARNING TILES.

3. DETECTABLE WARNING MATS.

4. DETECTABLE WARNING UNIT PAVERS.

B. RELATED REQUIREMENTS:

1. SECTION 321313 "CONCRETE PAVING" FOR CONCRETE WALKWAYS SERVING AS SUBSTRATES FOR TACTILE WARNING SURFACING.

2. SECTION 321400 "UNIT PAVING" FOR UNIT PAVING INSTALLATIONS INCORPORATING DETECTABLE WARNING UNIT PAVERS SPECIFIED IN THIS PAVING INSTALLATIONS.

1.3 ACTION SUBMITTALS

A. PRODUCT DATA: FOR EACH TYPE OF PRODUCT.

B. SAMPLES FOR INITIAL SELECTION: FOR EACH TYPE OF EXPOSED FINISH REQUIRING COLOR SELECTION.

C. SAMPLES FOR VERIFICATION: FOR EACH TYPE OF TACTILE WARNING SURFACE, IN MANUFACTURER'S STANDARD SIZES UNLESS OTHERWISE INDICATED, SHOWING EDGE CONDITION, TRUNCATED-DOME PATTERN, TEXTURE, COLOR, AND CROSS SECTION, WITH FASTENERS AND ANCHORS.

1.4 CLOSEOUT SUBMITTALS

A. MAINTENANCE DATA: FOR TACTILE WARNING SURFACING, TO INCLUDE IN MAINTENANCE MANUALS.

1.5 QUALITY ASSURANCE

A. MOCKUPS: BUILD MOCKUPS TO VERIFY SELECTIONS MADE UNDER SAMPLE SUBMITTALS, TO DEMONSTRATE AESTHETIC EFFECTS, AND TO SET QUALITY STANDARDS FOR MATERIALS AND EXECUTION.

1. SUBJECT TO COMPLIANCE WITH REQUIREMENTS, APPROVED MOCKUPS MAY BECOME PART OF THE COMPLETED WORK IF UNDISTURBED AT TIME OF SUBSTANTIAL COMPLETION.

1.6 PROJECT CONDITIONS

A. COLD-WEATHER PROTECTION: DO NOT USE FROZEN MATERIALS OR MATERIALS MIXED OR COATED WITH ICE OR FROST. DO NOT BUILD ON FROZEN SUBGRADE OR SETTING BEDS. REMOVE AND REPLACE UNIT PAVES WORK DAMAGED BY FROST OR FREEZING.

B. WEATHER LIMITATIONS FOR ADHESIVE APPLICATION:

1. APPLY ADHESIVE ONLY WHEN AMBIENT TEMPERATURE IS ABOVE 50 DEG F (10 DEG C) AND WHEN TEMPERATURE HAS NOT BEEN BELOW 35 DEG F (2 DEG C) FOR 12 HOURS IMMEDIATELY BEFORE APPLICATION. DO NOT APPLY WHEN SUBSTRATE IS WET OR CONTAINS EXCESS MOISTURE.

2. COLD-WEATHER REQUIREMENTS: COMPLY WITH COLD-WEATHER CONSTRUCTION REQUIREMENTS CONTAINED IN ACI 303.1/ASCE 6/TMS 602.

3. HOT-WEATHER REQUIREMENTS: COMPLY WITH HOT-WEATHER CONSTRUCTION REQUIREMENTS CONTAINED IN ACI 303.1/ASCE 6/TMS 602. PROVIDE ARTIFICIAL SHADE AND WINDBREAKS. AND USE COOLED MATERIALS AS REQUIRED. DO NOT APPLY MORTAR TO SUBSTRATES WITH TEMPERATURES OF 100 DEG F (38 DEG C) AND HIGHER.

4. WHEN AMBIENT TEMPERATURE EXCEEDS 100 DEG F (38 DEG C), OR WHEN WIND VELOCITY EXCEEDS 8 MPH (13 KM/H) AND AMBIENT TEMPERATURE EXCEEDS 90 DEG F (32 DEG C), SET UNIT PAVERS WITHIN 1 MINUTE OF SPREADING SETTING-BED MORTAR.

1.7 WARRANTY

A. SPECIAL WARRANTY: MANUFACTURER AGREES TO REPAIR OR REPLACE COMPONENTS OF TACTILE WARNING SURFACES THAT FAIL IN MATERIALS OR WORKSMANSHIP WITHIN SPECIFIED WARRANTY PERIOD.

1. FAILURES INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:

a. CORROSION OR DEGRADATION OF FINISHES BEYOND NORMAL WEATHERING AND WEAR.

b. SEPARATION OR DELAMINATION OF MATERIALS AND COMPONENTS.

2. WARRANTY PERIOD: ONE YEAR FROM DATE OF SUBSTANTIAL COMPLETION.

PART 2 - PRODUCTS

2.1 TACTILE WARNING SURFACING, GENERAL

A. ACCESSIBILITY REQUIREMENTS: COMPLY WITH APPLICABLE PROVISIONS IN THE U.S. ARCHITECTURAL & BARREMENTATION BARRIERS COMPLIANCE BOARD'S ADA-ABA ACCESSIBILITY GUIDELINES FOR BUILDINGS AND FACILITIES AND CALIFORNIA BUILDING CODE CHAPTER FOR TACTILE WARNING SURFACES.

1. FOR TACTILE WARNING SURFACES COMPOSED OF MULTIPLE UNITS, PROVIDE UNITS THAT WHEN INSTALLED PROVIDE CONSISTENT SIDE-TO-SIDE AND END-TO-END DOME SPACING THAT COMPLIES WITH REQUIREMENTS.

2.2 DETECTABLE WARNING TILES

A. CAST-IN-PLACE DETECTABLE WARNING TILES: ACCESSIBLE TRUNCATED-DOME DETECTABLE WARNING TILES CONFIGURED FOR SETTING FLUSH IN NEW CONCRETE WALKWAY SURFACES, WITH SLIP-RESISTANT SURFACING ON DOMES AND FIELD OF TILE.

1. MATERIAL: MOLDED GLASS- AND CARBON-FIBER-REINFORCED POLYESTER.

2. COLOR: FEDERAL YELLOW AS SELECTED BY ARCHITECT FROM MANUFACTURER'S FULL LINE.

3. SHAPES AND SIZES:

a. RECTANGULAR PANEL, 36 BY 48 INCHES (914 BY 1219 MM).

4. DOME SPACING AND CONFIGURATION: 2.3"-2.4" SQUARE.

5. MOUNTING:

a. PERMANENTLY EMBEDDED DETECTABLE WARNING TILE WET-SET INTO FRESHLY POURED CONCRETE.

b. DETECTABLE WARNING TILE SET INTO FORMED RECESS IN CONCRETE AND ADHERED WITH MORTAR.

c. REPLACEABLE DETECTABLE WARNING TILE WET-SET INTO FRESHLY POURED CONCRETE AND SURFACE-FASTENED TO PERMANENTLY EMBEDDED ANCHORS.

D. SURFACE-APPLIED DETECTABLE WARNING TILES: ACCESSIBLE TRUNCATED-DOME DETECTABLE WARNING CONCRETE TILES CONFIGURED FOR SURFACE APPLICATION ON EXISTING CONCRETE WALKWAYS OF NOT MORE THAN 1/4" (6 MM) THICK. PROVIDE SURFACE TREATMENT ON DOMES, FIELD OF TILE, AND BEVELLED OUTSIDE EDGES.

1. MATERIAL: MOLDED GLASS- AND CARBON-FIBER-REINFORCED POLYESTER.

2. COLOR: FEDERAL YELLOW, AS SELECTED BY ARCHITECT FROM MANUFACTURER'S FULL LINE.

3. SHAPES AND SIZES:

a. RECTANGULAR PANEL, 36 BY 48 INCHES (914 BY 1219 MM).

4. DOME SPACING AND CONFIGURATION: 2.3"-2.4" SQUARE.

5. MOUNTING: ADHERED AND FASTENED TO EXISTING CONCRETE WALKWAY.

2.3 DETECTABLE WARNING MATS

A. SURFACE-APPLIED DETECTABLE WARNING MATS: ACCESSIBLE TRUNCATED-DOME DETECTABLE WARNING RESILIENT MATS, UV RESISTANT, MANUFACTURED FOR ADHERING TO EXISTING CONCRETE WALKWAY SURFACES, WITH SLIP-RESISTANT SURFACE TREATMENT ON DOMES, FIELD OF MAT, AND BEVELLED OUTSIDE EDGES.

1. MATERIAL: MODIFIED RUBBER COMPOUND, UV RESISTANT.

2. COLOR: AS SELECTED BY ARCHITECT FROM MANUFACTURER'S FULL RANGE FEDERAL YELLOW.

3. SHAPES AND SIZES:

a. RECTANGULAR PANEL, 36" BY 48"

4. DOME SPACING AND CONFIGURATION: 2.3"-2.4" SQUARE.

5. MOUNTING: ADHERED TO PAVEMENT SURFACE WITH ADHESIVE.

2.4 DETECTABLE WARNING UNIT PAVERS

A. DETECTABLE WARNING CONCRETE UNIT PAVERS: SOLID PAVING UNITS, MADE FROM NORMAL-WEIGHT CONCRETE WITH A COMPRESSIVE STRENGTH OF NOT LESS THAN 5000 PSI (34 MPa), WATER ABSORPTION OF NOT MORE THAN 0.15 PERCENT ACCORDING TO ASTM C 140, AND NO BREAKAGE AND NOT MORE THAN 1 PERCENT MASS LOSS WHEN TESTED FOR FREEZE-THAW RESISTANCE ACCORDING TO ASTM C 67, WITH ACCESSIBLE DETECTABLE WARNING TRUNCATED DOMES ON EXPOSED SURFACE OF UNITS.

4. SHAPES AND SIZES:

a. THICKNESS: 2-1/2 INCHES (63 MM) AT FIELD OF TILE.

b. FACE SIZE: ACTUAL 12 BY 12 INCHES ACTUAL (305 BY 305 MM).

2. DOME SPACING AND CONFIGURATION: 2.3"-2.4" SQUARE.

3. COLOR: AS SELECTED BY ARCHITECT FROM MANUFACTURER'S FULL RANGE - FEDERAL YELLOW.

B. MORTAR SETTING BED:

1. PORTLAND CEMENT- ASTM C 150/C 150M, TYPE II.

2. SAND- ASTM C 33/C 33M.

3. LATEX ADDITIVE- MANUFACTURER'S STANDARD WATER EMULSION, SERVING AS REPLACEMENT FOR PORTLAND CEMENT. USE ONLY THE TYPE SPECIFICALLY RECOMMENDED BY LATEX-ADDITIVE MANUFACTURER FOR USE WITH FIELD-MIXED PORTLAND CEMENT AND AGGREGATE MORTAR BED, AND NOT CONTAINING A RETARDER.

4. THINSET MORTAR- LATEX-MODIFIED PORTLAND CEMENT MORTAR COMPLYING WITH ANSI A118.4.

5. WATER- POTABLE.

2.5 ACCESSORIES

A. FASTENERS AND ANCHORS- MANUFACTURER'S STANDARD AS REQUIRED FOR SECURE ANCHORAGE OF TACTILE WARNING SURFACES, NONCORROSIVE AND COMPATIBLE WITH EACH MATERIAL JOINED, AND COMPLYING WITH THE FOLLOWING:

1. FURNISH TYPE 304 STAINLESS-STEEL FASTENERS FOR EXTERIOR USE.

2. FASTENER HEADS: FOR NONSTRUCTURAL CONNECTIONS, USE FLAT-HEAD OR OVAL COUNTERSUNK SCREWS AND BOLTS WITH TAMPER-RESISTANT HEADS, COLORED TO MATCH TILE.

B. ADHESIVE- AS RECOMMENDED BY MANUFACTURER FOR ADHERING TACTILE WARNING SURFACING UNIT TO PAVER MAT.

C. SEALANT- AS RECOMMENDED BY MANUFACTURER FOR SEALING PERIMETER OF TACTILE WARNING SURFACING UNIT.

PART 3 - EXECUTION

3.1 EXAMINATION

A. VERIFY THAT PAVEMENT IS IN SATISFACTORIAL CONDITION TO BEGIN INSTALLATION ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS. VERIFY THAT INSTALLATION OF TACTILE WARNING SURFACING UNIT WILL COMPLY WITH ACCESSIBILITY REQUIREMENTS UPON COMPLETION.

B. PROCEED WITH INSTALLATION ONLY AFTER UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED.

3.2 INSTALLATION OF TACTILE WARNING SURFACING

A. GENERAL: PREPARE SUBSTRATE AND INSTALL TACTILE WARNING SURFACING ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS UNLESS OTHERWISE INDICATED.

B. PLACE TACTILE WARNING SURFACING UNITS IN DIMENSIONS AND ORIENTATION INDICATED. COMPLY WITH LOCATION REQUIREMENTS OF AASHTO MP 12.

3.3 INSTALLATION OF DETECTABLE WARNING TILES

A. CAST-IN-PLACE DETECTABLE WARNING TILES:

1. CONCRETE PAVING INSTALLATION: COMPLY WITH INSTALLATION REQUIREMENTS IN SECTION 321313 (CONCRETE PAVING) - MIX, PLACE, AND FINISH CONCRETE TO CONDITIONS COMPLYING WITH DETECTABLE WARNING TILE MANUFACTURER'S WRITTEN REQUIREMENTS FOR SATISFACTORY EMBEDMENT OF TILE.

2. SET DETECTABLE WARNING TILE ACCURATELY AND FIRMLY IN PLACE AND COMPLETELY SEAT TILE BACK AND EMBEDMENTS IN WET CONCRETE BY TAMPING OR VIBRATING, IF NECESSARY, TEMPORARILY APPLY WEIGHT TO TILES TO ENSURE FULL CONTACT WITH CONCRETE.

3. SET SURFACE OF TILE FLUSH WITH SURROUNDING CONCRETE AND ADJACENT TILES, WITH VARIATIONS BETWEEN TILES AND BETWEEN CONCRETE AND TILES NOT EXCEEDING PLUS OR MINUS 1/8 INCH (3 MM) FROM FLUSH.

4. PROTECT EXPOSED SURFACES OF INSTALLED TILES FROM CONTACT WITH WET CONCRETE. CONTINUE FINISHING OF CONCRETE PAVING SURROUNDING TILES. REMOVE CONTACT FROM TILE SURFACES.

5. CLEAN TILES USING METHODS RECOMMENDED IN WRITING BY MANUFACTURER.

B. SURFACE-APPLIED DETECTABLE WARNING TILES:

1. LAY OUT DETECTABLE WARNING TILES AS INDICATED AND MARK CONCRETE PAVEMENT.

2. PREPARE EXISTING PAVING SURFACE BY GRINDING AND CLEANING AS RECOMMENDED BY MANUFACTURER.

3. APPLY ADHESIVE TO BACK OF TILES IN AMOUNTS AND PATTERN RECOMMENDED BY MANUFACTURER, AND SET TILES IN PLACE. FIRMLY SEAT TILES IN ADHESIVE BED, ELIMINATING AIR POCKETS AND ESTABLISHING FULL ADHESION TO PAVEMENT. IF NECESSARY, TEMPORARILY APPLY WEIGHT TO TILES TO ENSURE FULL CONTACT WITH CONCRETE.

4. INSTALL ANCHOR DEVICES THROUGH FACE OF TILES AND INTO PAVEMENT USING ANCHORS LOCATED AS RECOMMENDED BY MANUFACTURER. SET HEADS OF ANCHORS FLUSH WITH TOP SURFACE OF MAT.

5. SET PERIMETER OF TILES IN ADJACENT CONCRETE, AND APPLY SEALANT IN CONTINUOUS BEAD AROUND PERIMETER OF TILE INSTALLATION.

6. REMOVE MASKING, ADHESIVE, EXCESS SEALANT, AND SOIL FROM EXPOSED SURFACES OF DETECTABLE WARNING TILES AND SURROUNDING CONCRETE PAVEMENT USING CLEANING AGENTS RECOMMENDED IN WRITING BY MANUFACTURER.

7. PROTECT INSTALLED TILES FROM TRAFFIC UNTIL ADHESIVE HAS SET.

3.4 INSTALLATION OF DETECTABLE WARNING MATS

A. LAY OUT DETECTABLE WARNING MATS AS INDICATED AND MARK CONCRETE PAVEMENT AT EDGES OF MATS.

B. PREPARE EXISTING PAVING SURFACE BY GRINDING AND CLEANING AS RECOMMENDED BY MANUFACTURER.

C. APPLY ADHESIVE TO BACK OF MAT IN AMOUNTS AND PATTERN RECOMMENDED BY MANUFACTURER, AND SET MAT IN PLACE. FIRMLY SEAT MAT IN ADHESIVE BED, ELIMINATING AIR POCKETS AND ESTABLISHING FULL ADHESION TO PAVEMENT. IF NECESSARY, TEMPORARILY APPLY WEIGHT TO MAT TO ENSURE FULL CONTACT WITH ADJACENT CONCRETE.

D. INSTALL ANCHOR DEVICES THROUGH FACE OF MAT AND INTO PAVEMENT USING ANCHORS LOCATED AS RECOMMENDED BY MANUFACTURER. SET HEADS OF ANCHORS FLUSH WITH MAT SURFACE.

E. MASK MAT PERIMETER AND ADJACENT CONCRETE, AND APPLY SEALANT IN CONTINUOUS BEAD AROUND PERIMETER OF MAT.

F. REMOVE MASKING, ADHESIVE, EXCESS SEALANT, AND SOIL FROM EXPOSED SURFACES OF DETECTABLE WARNING MAT AND SURROUNDING CONCRETE PAVEMENT USING CLEANING AGENTS RECOMMENDED IN WRITING BY MANUFACTURER.

G. PROTECT INSTALLED MAT FROM TRAFFIC UNTIL ADHESIVE HAS SET.

3.5 INSTALLATION OF DETECTABLE WARNING UNIT PAVERS

A. UNIT PAVER INSTALLATION, GENERAL:

1. SETTING-BED AND UNIT PAVER INSTALLATION: COMPLY WITH INSTALLATION REQUIREMENTS IN SECTION 321400 (UNIT PAVER MORTAR SET).

2. SET UNIT PAVERS FROM RAILROAD GALLIETS OR CUBES, AS THEY ARE PLACED, TO PRODUCE UNIFORM BLEND OF COLORS AND TEXTURES.

3. CUT UNIT PAVERS WITH MOTOR-DRIVEN MASONRY SAW EQUIPMENT TO PROVIDE PATTERN INDICATED AND TO FIT ADJOINING WORK NEATLY. USE FULL FEET WITHOUT CUTTING WHERE POSSIBLE.

4. TOLERANCES: DO NOT EXCEED 1/4 INCH (1.6 MM) IN LENGTH, 1/8 INCH (3 MM) FROM LEVEL, OR INDICATED SLOPE, FOR FINISHED SURFACE OF PAVING.

B. MORTAR SETTING-BED APPLICATIONS:

1. SATURATE CONCRETE SUBBASE WITH CLEAN WATER SEVERAL HOURS BEFORE PLACING SETTING BED. REMOVE SURFACE WATER ABOUT ONE HOUR BEFORE PLACING SETTING BED.

2. APPLY MORTAR BED BOND COAT OVER SURFACE OF CONCRETE SUBBASE ABOUT 15 MINUTES BEFORE PLACING MORTAR BED. LIMIT AREA OF BOND COAT TO AVOID ITS DRYING OUT BEFORE PLACING SETTING BED. DO NOT EXCEED 116-INCH (1.6-MM) THICKNESS FOR BOND COAT.

3. APPLY MORTAR BED OVER BOND COAT (SPREAD AND SCREED MORTAR BED TO UNIFORM THICKNESS PER SUBGRADE ELEVATIONS REQUIRED FOR ACCURATE SETTING OF PAVERS TO FINISHED GRADINGS INDICATED).

4. MIX AND PLACE ONLY THAT AMOUNT OF MORTAR BED THAT CAN BE COVERED WITH PAVERS BEFORE INITIAL SET. BEHIND INITIAL SET OF MORTAR, DO NOT RETURN TO AREAS ALREADY SET.

5. PLACE PAVERS BEFORE INITIAL SET OF CEMENT COURSE. IMMEDIATELY BEFORE PLACING PAVERS ON MORTAR BED, APPLY UNIFORM 116-INCH (1.6-MM) THICK BOND COAT TO MORTAR BED OR TO BACK OF EACH PAVER WITH A FLAT TROWEL.

6. TAMP OR BEAT PAVERS WITH A WOODEN BLOCK OR RUBBER Mallet TO OBTAIN FULL CONTACT WITH SETTING BED AND TO BRING FINISHED SURFACES WITHIN INDICATED TOLERANCES. SET EACH PAVER IN SMOOTH OPERABLE POSITION TO MATCH ADJACENT PAVERS. DO NOT RETURN TO AREAS ALREADY SET OR DISTURB PAVERS FOR PURPOSES OF REALIGNING FINISHED SURFACES OR ADJUSTING JOINTS.

7. SPACED JOINT WIDTHS: PROVIDE BUTT JOINT WIDTH WITH VARIATIONS NOT EXCEEDING PLUS OR MINUS 1/16 INCH (1.5 MM).

3.6 CLEANING AND PROTECTION

A. REMOVE AND REPLACE TACTILE WARNING SURFACING THAT IS BROKEN OR DAMAGED OR DOES NOT COMPLY WITH REQUIREMENTS IN THIS SECTION. REMOVE IN COMPLETE SECTIONS FROM JOINT TO JOINT UNLESS OTHERWISE APPROVED BY ARCHITECT. REPLACE USING TACTILE WARNING SURFACING INSTALLATION METHODS ACCEPTED TO ARCHITECT.

B. PROTECT TACTILE WARNING SURFACING FROM DAMAGE AND MAINTAIN FREE OF STAINS, DISCOLORATION, DIRT, AND OTHER FOREIGN MATERIAL.

END OF SECTION 32126

SECTION 329113 - SOIL PREPARATION

PART 1 - GENERAL

1.1 SUMMARY

A. SECTION INCLUDES PLANTING SOILS SPECIFIED BY COMPOSITION OF THE MIXES.

B. RELATED REQUIREMENTS:

1. SECTION 311000 SITE CLEARING FOR TOPSOIL STRIPPING AND STOCKPILING.

1.2 DEFINITIONS

A. DUFF LAYER: A SURFACE LAYER OF SOIL, TYPICAL OF FORESTED AREAS, THAT IS COMPOSED OF MOSTLY DECAYED LEAVES, TWIGS, AND DETRITUS.

B. IMPORTED SOIL: SOIL THAT IS TRANSPORTED TO PROJECT SITE FOR USE.

C. MANUFACTURED SOIL: SOIL PRODUCED BY BLENDING SOILS, SAND, STABILIZED ORGANIC SOIL AMENDMENTS, AND OTHER MATERIALS TO PRODUCE PLANTING SOIL.

D. PLANTING SOIL: EXISTING, ON-SITE SOIL; IMPORTED SOIL; OR MANUFACTURED SOIL THAT HAS BEEN MODIFIED AS SPECIFIED WITH SOIL AMENDMENTS AND PERHAPS FERTILIZERS TO PRODUCE A SOIL MIXTURE BEST FOR PLANT GROWTH.

E. SUBGRADE: SURFACE OR ELEVATION OF SUBSOIL REMAINING AFTER EXCAVATION IS COMPLETE, OR THE TOP SURFACE OF A FILL OR BACKFILL BEFORE PLANTING SOIL IS PLACED.

F. SUBSOIL: SOIL BENEATH THE LEVEL OF SUBGRADE; SOIL BENEATH THE TOPSOIL LAYERS OF A NATURALLY OCCURRING SOIL PROFILE, TYPIFIED BY LESS THAN 1 PERCENT ORGANIC MATTER AND FEW SOIL ORGANISMS.

G. SURFACE SOIL: SOIL THAT IS PRESENT AT THE TOP LAYER OF THE EXISTING SOIL PROFILE, IN UNDISTURBED AREAS, SURFACE SOIL IS TYPICALLY CALLED "TOPSOIL," BUT IN DISTURBED AREAS SUCH AS URBAN ENVIRONMENTS, THE SURFACE SOIL CAN BE SUBSOIL.

H. USCC: U.S. COMPOSTING COUNCIL.

1.3 PREINSTALLATION MEETINGS

A. PREINSTALLATION CONFERENCE: CONDUCT CONFERENCE AT PROJECT SITE.

1.4 ACTION SUBMITTALS

A. PRODUCT DATA: FOR EACH TYPE OF PRODUCT.

1.5 LEED SUBMITTALS:

1. PRODUCT CERTIFICATES FOR CREDIT MR 5: FOR PRODUCTS AND MATERIALS REQUIRED TO COMPLY WITH REQUIREMENTS FOR REGIONAL MATERIALS, CERTIFICATES INDICATING LOCATION OF MATERIAL MANUFACTURING AND POINT OF EXTRACTION, HARVEST, OR RECOVERY FOR EACH RAW MATERIAL.
2. PRODUCT STATEMENT OF ENVIRONMENTAL DISTANCE TO PROJECT, COST FOR EACH REGIONAL MATERIAL, AND FRACTION BY WEIGHT THAT IS CONSIDERED REGIONAL.
3. SAMPLES: FOR EACH BULK-SUPPLIED MATERIAL, IN SEALED CONTAINERS LABELED WITH CONTENT, SOURCE, AND DATE OBTAINED, PROVIDING AN ACCURATE REPRESENTATION OF COMPOSITION, COLOR, AND TEXTURE.

1.6 INFORMATIONAL SUBMITTALS

A. FIELD QUALITY-CONTROL REPORTS.

1.7 QUALITY ASSURANCE

A. TESTING AGENCY QUALIFICATIONS: AN INDEPENDENT, STATE-OPERATED, OR UNIVERSITY-OPERATED LABORATORY, EXPERIENCED IN SOIL SCIENCE, SOIL TESTING, AND PLANT NUTRITION; WITH THE EXPERIENCE AND CAPABILITY TO CONDUCT THE TESTING INDICATED, AND THAT SPECIALIZES IN TYPES OF TESTS TO BE PERFORMED.

PART 2 - PRODUCTS

2.1 MATERIALS

A. REGIONAL MATERIALS: IMPORTED SOIL, MANUFACTURED PLANTING SOIL, AND SOIL AMENDMENTS AND FERTILIZERS SHALL BE MANUFACTURED WITHIN 500 MILES OF PROJECT SITE FROM MATERIALS THAT HAVE BEEN GROWN, HARVESTED, OR RECOVERED, AS WELL AS MANUFACTURED, WITHIN 500 MILES OF PROJECT SITE.

2.2 PLANTING SOILS SPECIFIED BY COMPOSITION

A. PLANTING SOIL TYPE: EXISTING, ON-SITE SURFACE SOIL, WITH THE DUFF LAYER, IF ANY, RETAINED; MODIFIED TO PRODUCE VIBLE PLANTING SOIL. BLEND EXISTING, ON-SITE SURFACE SOIL WITH THE FOLLOWING SOIL AMENDMENTS AND FERTILIZERS IN THE FOLLOWING QUANTITIES TO PRODUCE PLANTING SOIL.

B. PLANTING-SOIL TYPE: IMPORTED, NATURALLY FORMED SOIL FROM OFF-SITE SOURCES AND CONSISTING OF SANDY LOAM SOIL ACCORDING TO USDA TEXTURES, AND MODIFIED TO PRODUCE VIBLE PLANTING SOIL.

1. SOURCES: TAKE IMPORTED, UNAMENDED SOIL FROM SOURCES THAT ARE NATURALLY WELL-DRAINED SITES WHERE TOPSOIL OCCURS AT LEAST 4 INCHES DEEP, NOT FROM AGRICULTURAL LAND, BOGS, OR MARSHES, AND THAT DO NOT CONTAIN UNDESIRABLE ORGANISMS; DISEASE-CAUSING PLANT PATHOGENS; OR OBNOXIOUS WEEDS AND INVASIVE PLANTS INCLUDING, BUT NOT LIMITED TO, QUACKGRASS, BERMUDA GRASS, POISON OAK, NUTSEDGE, CANADA THISTLE, BINDWEED, BENTGRASS, AND ANY, PERENNIAL OR ANNUAL, WEEDS OR GRASSES.
2. ADDITIONAL PROPERTIES OF IMPORTED SOIL BEFORE AMENDING: SOIL REACTION OF PH 6 TO 7 AND MINIMUM OF 4 PERCENT ORGANIC-MATTER CONTENT, FRIABLE, AND WITH SUFFICIENT STRUCTURE TO GIVE GOOD TILTH AND AERATION.

C. UNACCEPTABLE PROPERTIES: CLEAN SOIL OF THE FOLLOWING:

1. UNACCEPTABLE MATERIALS: CONCRETE SLURRY, CONCRETE LAYERS OR CHUNKS, CEMENT, PLASTER, BUILDING DEBRIS, OILS, GASOLINE, DIESEL FUEL, PAINT THINNER, TURPENTINE, TAR, ROOFING COMPOUND, ACID, AND OTHER EXTRANEOUS MATERIALS THAT ARE HARMFUL TO PLANT GROWTH.
2. UNSUITABLE MATERIALS: STONES, ROOTS, PLANTS, SOD, CLAY LUMPS, AND POCKETS OF COARSE SAND THAT EXCEED A COMBINED MAXIMUM OF 8 PERCENT BY DRY WEIGHT OF THE IMPORTED SOIL.
3. LARGE MATERIALS: STONES, CLODS, ROOTS, CLAY LUMPS, AND POCKETS OF COARSE SAND EXCEEDING 2 INCHES IN ANY DIMENSION.
4. AMENDED SOIL COMPOSITION: BLEND IMPORTED, UNAMENDED SOIL WITH THE SOIL AMENDMENTS AND FERTILIZERS IN THE QUANTITIES AS RECOMMENDED IN THE SOILS REPORT TO PRODUCE PLANTING SOIL.

C. PLANTING-SOIL TYPE: MANUFACTURED SOIL, CONSISTING OF MANUFACTURER'S BASIC TOPSOIL BLENDED IN A MANUFACTURING FACILITY WITH SAND, STABILIZED ORGANIC SOIL AMENDMENTS, AND OTHER MATERIALS TO PRODUCE VIBLE PLANTING SOIL.

1. ADDITIONAL PROPERTIES OF MANUFACTURER'S BASIC SOIL BEFORE AMENDING: SOIL REACTION OF PH 6 TO 7 AND MINIMUM OF 4 PERCENT ORGANIC-MATTER CONTENT, FRIABLE, AND WITH SUFFICIENT STRUCTURE TO GIVE GOOD TILTH AND AERATION.
2. UNACCEPTABLE PROPERTIES: MANUFACTURED SOIL SHALL NOT CONTAIN THE FOLLOWING:
 1. UNACCEPTABLE MATERIALS: CONCRETE SLURRY, CONCRETE LAYERS OR CHUNKS, CEMENT, PLASTER, BUILDING DEBRIS, OILS, GASOLINE, DIESEL FUEL, PAINT THINNER, TURPENTINE, TAR, ROOFING COMPOUND, ACID, AND OTHER EXTRANEOUS MATERIALS THAT ARE HARMFUL TO PLANT GROWTH.
 2. UNSUITABLE MATERIALS: STONES, ROOTS, PLANTS, SOD, CLAY LUMPS, AND POCKETS OF COARSE SAND THAT EXCEED A COMBINED MAXIMUM OF 5 PERCENT BY DRY WEIGHT OF THE MANUFACTURED SOIL.
 3. LARGE MATERIALS: STONES, CLODS, ROOTS, CLAY LUMPS, AND POCKETS OF COARSE SAND EXCEEDING 2 INCHES IN ANY DIMENSION.
3. BLEND MANUFACTURER'S BASIC SOIL WITH SOIL AMENDMENTS AND FERTILIZERS IN THE QUANTITIES AS RECOMMENDED BY THE SOILS REPORT TO PRODUCE PLANTING SOIL.

2.3 INORGANIC SOIL AMENDMENTS

A. LIME: ASTM C 602, AGRICULTURAL LIMES MATERIAL CONTAINING A MINIMUM OF 80 PERCENT CALCIUM CARBONATE EQUIVALENT AND AS FOLLOWS:

1. CLASS: T, WITH A MINIMUM OF 99 PERCENT PASSING THROUGH A NO. 8 SIEVE AND A MINIMUM OF 75 PERCENT PASSING THROUGH A NO. 60 SIEVE.
2. CLASS: C, WITH A MINIMUM OF 95 PERCENT PASSING THROUGH A NO. 8 SIEVE AND A MINIMUM OF 55 PERCENT PASSING THROUGH A NO. 60 SIEVE.
3. FORM: PROVIDE LIME IN FORM OF GROUND MOLLUSK SHELLS.

B. SULFUR: GRANULAR, BIODEGRADABLE, AND CONTAINING A MINIMUM OF 99 PERCENT ELEMENTAL SULFUR, WITH A MINIMUM OF 99 PERCENT PASSING THROUGH A NO. 8 SIEVE AND A MAXIMUM OF 10 PERCENT PASSING THROUGH A NO. 40 SIEVE.

C. IRON SULFATE: GRANULATED FERROUS SULFATE CONTAINING A MINIMUM OF 20 PERCENT IRON AND 10 PERCENT SULFUR.

PERLITE: HORTICULTURAL PERLITE. SOIL AMENDMENT GRADE.

E. AGRICULTURAL GYPSUM: MINIMUM 98 PERCENT CALCIUM SULFATE, FINELY GROUND WITH 90 PERCENT PASSING THROUGH A NO. 50 SIEVE.

F. SAND: CLEAN, WASHED, NATURAL OR MANUFACTURED, FREE OF TOXIC MATERIALS, AND ACCORDING TO ASTM C 33/C 33M.

2.4 ORGANIC SOIL AMENDMENTS

A. COMPOST: WELL-COMPOSTED, STABLE, AND WEED-FREE ORGANIC MATTER PRODUCED BY COMPOSTING FEEDSTOCK AND BEARING SOLIDS' SEAL OF TESTING ASSURANCE, AND AS FOLLOWS:

1. FEEDSTOCK: LIMITED TO LEAVES.
2. REACTION: PH OF 6.0 TO 7.5.
3. SALINITY: ENSURE THAT SATURATION EXTRACT CONDUCTIVITY DOES NOT EXCEED 3.5 MILLIMOHS PER CENTIMETER AT 25 DEGREES C, AS DETERMINED BY SATURATION EXTRACT METHOD.
4. MOISTURE CONTENT: 35 TO 55 PERCENT BY WEIGHT.
5. ORGANIC-MATTER CONTENT: 30 TO 40 PERCENT OF DRY WEIGHT.
6. PARTICLE SIZE: 95 TO 100 PERCENT PASSING THROUGH A 6.33 MM STANDARD SIEVE; 80 TO 100 PERCENT PASSING THROUGH A 2.33 MM SIEVE.
7. IRON CONTENT: MINIMUM 0.08 PERCENT DILUTE ACID SOLUBLE FE ON DRY WEIGHT BASIS.
8. ASH: 0 TO 6 PERCENT DRY WEIGHT.

B. SPAGNUM PEAT: PARTIALLY DECOMPOSED SPAGNUM PEAT MOSS, FINELY DIVIDED OR OF GRANULAR TEXTURE WITH 100 PERCENT PASSING THROUGH A 1/2-INCH SIEVE, A PH OF 3.4 TO 4.8, AND A MINIMUM CATIONICITY MEASURED BY ELECTRICAL CONDUCTIVITY OF 0.5M.

C. WOOD DERIVATIVES: SHREDED AND COMPOSTED, NITROGEN-TREATED SAWDUST, GROUND BARK, OR WOOD WASTE, OF UNIFORM TEXTURE AND FREE OF CHIPS, STONES, STICKS, SOIL, OR TOXIC MATERIALS.

D. MANURE: WELL-ROTTED, UNLEACHED, STABLE OR CATTLE MANURE CONTAINING NOT MORE THAN 25 PERCENT BY VOLUME OF STRAW, SAWDUST, OR OTHER BEDDING MATERIALS, FREE OF TOXIC SUBSTANCES, STONES, STICKS, SOIL, WEE SEED, DEBRIS, AND MATERIAL HARMFUL TO PLANT GROWTH.

2.5 FERTILIZER

A. PLANTING FERTILIZER: PELLETED OR GRANULAR FORM CONSISTING OF THE FOLLOWING PERCENTS BY WEIGHT AND MIXED BY COMMERCIAL FERTILIZER SUPPLIER: 6-NITROGEN, 20-PHOSPHORIC ACID, 20-POTASH.

B. PLANTING TABLETS: PROVIDE SLOW-RELEASE TYPE WITH POTENTIAL ACIDITY OF NOT MORE THAN 5 PERCENT BY WEIGHT CONTAINING THE FOLLOWING PERCENTS BY WEIGHT OF NUTRIENTS LISTED: 20-NITROGEN, 10-PHOSPHORIC ACID, 5-POTASH, 2.6 COMBINED CALCIUM, 1.60 COMBINED SULFUR, 0.30 COMBINED ELEMENTAL FROM FERROUS SULFATE. PROVIDE IN 21 GRAM TABLETS MANUFACTURED BY AGRIFORM OR OTHER APPROVED.

C. HYDROSEEDING FERTILIZER: PROVIDE AMMONIUM PHOSPHATE WHICH CONSISTS OF THE FOLLOWING PERCENT BY WEIGHT AND MIXED BY A COMMERCIAL FERTILIZER SUPPLIER: 16-NITROGEN, 20-PHOSPHORIC ACID, 0-POTASH.

D. SULFATE OF POTASH: 0-0-50.

E. SINGLE SUPER-PHOSPHATE: COMMERCIAL PRODUCT CONTAINING 18 TO 20 PERCENT AVAILABLE PHOSPHORUS PENTOXIDE, OR OTHER APPROVED.

F. UREA FORMALDEHYDE: 38-0-0.

PART 3 - EXECUTION

3.1 GENERAL

A. PLACE PLANTING SOIL AND FERTILIZERS ACCORDING TO REQUIREMENTS OF THE AGRONOMIC SOILS REPORT RECOMMENDATIONS.

B. VERIFY THAT NO FOREIGN OR CONCRETE LAYERS OR LIQUID SUCH AS PAINT, PAINT WASHOUT, CONCRETE SLURRY, DECELERATOR OR CHUNKS, CEMENT, PLASTER, OILS, GASOLINE, DIESEL FUEL, PAINT THINNER, TURPENTINE, TAR, ROOFING COMPOUND, OR ACID HAS BEEN DEPOSITED IN PLANTING SOIL.

3.2 BLENDING PLANTING SOIL IN PLACE

A. GENERAL: MIX AMENDMENTS WITH IN-PLACE, UNAMENDED SOIL TO PRODUCE REQUIRED PLANTING SOIL, DO NOT APPLY MATERIALS OR TILL IF EXISTING SOIL OR SUBGRADE IS FROZEN, MUDDY, OR EXCESSIVELY WET.

B. PREPARATION: TILL UNAMENDED, EXISTING SOIL IN PLANTING AREAS TO A MINIMUM DEPTH OF 12 INCHES. REMOVE STONES LARGER THAN 1 INCH IN ANY DIMENSION AND STICKS, ROOTS, RUBBISH, AND OTHER EXTRANEOUS MATERIAL AND LEGALLY DISPOSE OF THEM OFF OWNER'S PROPERTY.

C. MIXING: APPLY SOIL AMENDMENTS AND FERTILIZER, IF REQUIRED, EVENLY ON SURFACE, AND THOROUGHLY BLEND THEM INTO FULL DEPTH OF UNAMENDED, IN-PLACE SOIL, TO PRODUCE PLANTING SOIL.

1. MIX SULFUR WITH DRY SOIL, BEFORE MIXING FERTILIZER.
2. MIX FERTILIZER WITH PLANTING SOIL NO MORE THAN SEVEN DAYS BEFORE PLANTING.

D. COMPACTION: COMPACT BLENDED PLANTING SOIL TO 75 TO 82 PERCENT OF MAXIMUM STANDARD PROCTOR DENSITY ACCORDING TO ASTM D 698.

E. FINISH GRADING: GRADE PLANTING SOIL TO A SMOOTH, UNIFORM SURFACE PLANE WITH LOOSE, UNIFORMLY FINE TEXTURE, ROLL AND RAKE, REMOVE RIDGES, AND FILL DEPRESSIONS TO MEET FINISH GRADES.

3.3 PROTECTION AND CLEANING

A. PROTECTION ZONE: IDENTIFY PROTECTION ZONES ACCORDING TO SECTION 015639 "TEMPORARY TREE AND PLANT PROTECTION".

B. PROTECT AREAS OF IN-PLACE SOIL FROM ADDITIONAL COMPACTION, DISTURBANCE, AND CONTAMINATION: PROHIBIT THE FOLLOWING PRACTICES WITHIN THESE AREAS EXCEPT AS REQUIRED TO PERFORM PLANTING OPERATIONS:

1. DISPOSE OF CONSTRUCTION MATERIALS, DEBRIS, OR EXCAVATED MATERIAL.
2. PARKING VEHICLES OR EQUIPMENT.
3. VEHICLE TRAFFIC.
4. FOOT TRAFFIC.
5. ERECTION OF SHEDS OR STRUCTURES.
6. IMPOUNDMENT OF WATER.
7. EXCAVATION OR OTHER DIGGING UNLESS OTHERWISE INDICATED.

C. REMOVE SURPLUS SOIL AND WASTE MATERIAL INCLUDING EXCESS SUBSOIL, UNSUITABLE MATERIALS, TRASH, AND DEBRIS AND LEGALLY DISPOSE OF THEM OFF OWNER'S PROPERTY UNLESS OTHERWISE INDICATED.

1. DISPOSE OF EXCESS SUBSOIL AND UNSUITABLE MATERIALS ON-SITE WHERE DIRECTED BY OWNER.

END OF SECTION 329113

SECTION 328400 - PLANTING IRRIGATION - DOMESTIC WATER

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. IT IS THE INTENT OF THE SPECIFICATIONS AND DRAWINGS THAT THE FINISHED SYSTEM IS COMPLETE IN EVERY RESPECT AND SHALL BE READY FOR OPERATION SATISFACTORY TO THE OWNER.
- B. THE WORK SHALL INCLUDE ALL MATERIALS, LABOR, SERVICES, TRANSPORTATION, AND EQUIPMENT NECESSARY TO PERFORM THE WORK AS IN THESE SPECIFICATIONS, AND AS NECESSARY TO COMPLETE THE CONTRACT.

1.2 CONSTRUCTION DRAWINGS

- A. DUE TO THE SCALE OF THE DRAWINGS, IT IS NOT POSSIBLE TO INDICATE ALL OFFSETS, FITTINGS, SLEEVES, ETC., WHICH MAY BE REQUIRED. THE CONTRACTOR SHALL CAREFULLY INVESTIGATE THE STRUCTURAL AND FINISHED CONDITIONS AFFECTING ALL OF HIS WORK AND PLAN HIS WORK ACCORDINGLY. FURNISHING SUCH FITTINGS, ETC. AS MAY BE REQUIRED TO MEET SUCH CONDITIONS. DRAWINGS ARE GENERALLY DIAGRAMMATIC AND INDICATIVE OF THE WORK TO BE INSTALLED. THE WORK SHALL BE INSTALLED IN SUCH A MANNER AS TO AVOID CONFLICTS BETWEEN IRRIGATION SYSTEMS, PLANTING, SITE UTILITIES AND ARCHITECTURAL FEATURES.
- B. ALL WORK CALLED FOR ON THE DRAWINGS BY NOTES OR DETAILS SHALL BE FURNISHED AND INSTALLED WHETHER OR NOT SPECIFICALLY MENTIONED IN THE SPECIFICATIONS. WHEN AN ITEM IS SHOWN ON THE PLANS BUT NOT SHOWN ON THE SPECIFICATIONS OR VICE VERSA, IT SHALL BE DEEMED TO BE AS SHOWN ON BOTH. THE LANDSCAPE ARCHITECT SHALL HAVE FINAL AUTHORITY FOR CLARIFICATION. WHEN A CONFLICT OCCURS BETWEEN AN ITEM SHOWN ON THE PLAN AND AS SHOWN ON THE SPECIFICATIONS, THE LANDSCAPE ARCHITECT SHALL HAVE FINAL AUTHORITY FOR CLARIFICATION.
- C. THE CONTRACTOR SHALL NOT WILLFULLY INSTALL THE IRRIGATION SYSTEM AS SHOWN ON THE DRAWINGS WHEN IT IS OBVIOUS IN THE FIELD THAT OBSTRUCTIONS, GRADE DIFFERENCES OR DISCREPANCIES IN AREA DIMENSIONS EXIST THAT MIGHT NOT HAVE BEEN CONSIDERED IN THE DESIGN. SUCH OBSTRUCTIONS OR DIFFERENCES SHOULD BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT AS SOON AS DETECTED. IN THE EVENT THIS NOTIFICATION IS NOT PERFORMED, THE IRRIGATION CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ANY REVISIONS NECESSARY.

1.3 QUALITY ASSURANCE

- A. PROVIDE AT LEAST ONE ENGLISH SPEAKING PERSON WHO SHALL BE PRESENT AT ALL TIMES DURING EXECUTION OF THIS PORTION OF THE WORK AND WHO SHALL BE THOROUGHLY FAMILIAR WITH THE TYPE OF MATERIALS BEING INSTALLED AND THE MANUFACTURER'S RECOMMENDED METHODS OF INSTALLATION AND WHO SHALL DIRECT ALL WORK PERFORMED UNDER THIS SECTION
- B. MANUFACTURER'S DIRECTIONS AND DETAILED DRAWINGS SHALL BE FOLLOWED IN ALL CASES WHERE THE MANUFACTURER OF ARTICLES USED IN THE CONTRACT FURNISHES DIRECTIONS COVERING POINTS NOW SHOWN IN THE DRAWINGS AND SPECIFICATIONS.
- C. ALL LOCAL, MUNICIPAL AND STATE LAWS, RULES AND REGULATIONS GOVERNING OR RELATING TO ANY PORTION OF THIS WORK ARE HEREBY INCORPORATED INTO AND MADE A PART OF THESE SPECIFICATIONS, AND THEIR PROVISIONS SHALL BE CARRIED OUT BY THE CONTRACTOR. ANYTHING CONTAINED IN THESE SPECIFICATIONS SHALL NOT BE CONSTRUED TO CONFLICT WITH ANY OF THE ABOVE RULES AND REGULATIONS OF THE SAME. HOWEVER, WHEN THESE SPECIFICATIONS AND DRAWINGS CALL FOR OR DESCRIBE MATERIALS, WORKMANSHIP, OR CONSTRUCTION OF A BETTER QUALITY, HIGHER STANDARD, OR LARGER SIZE THAN IS REQUIRED BY THE ABOVE RULES AND REGULATIONS, THE PROVISIONS OF THESE SPECIFICATIONS AND DRAWINGS SHALL TAKE PRECEDENCE.
- D. ALL MATERIALS SUPPLIED FOR THIS PROJECT SHALL BE NEW AND FREE FROM ANY DEFECTS. ALL DEFECTIVE MATERIALS SHALL BE REPLACED IMMEDIATELY.

1.4 SUBMITTALS

A. MATERIALS LIST:

1. AFTER AWARD OF CONTRACT AND BEFORE ANY IRRIGATION SYSTEM MATERIALS ARE DELIVERED TO THE JOB SITE, SUBMIT TO THE LANDSCAPE ARCHITECT A COMPLETE LIST OF ALL IRRIGATION SYSTEMS, MATERIALS, OR PROCESSES PROPOSED TO BE FURNISHED AND INSTALLED AS PART OF THIS CONTRACT.
2. SHOW MANUFACTURER'S NAME AND CATALOG NUMBER FOR EACH ITEM. FURNISH COMPLETE CATALOG CUTS AND TECHNICAL DATA, AND FURNISH THE MANUFACTURER'S RECOMMENDATIONS AS TO THE METHOD OF INSTALLATION.
3. NO SUBSTITUTIONS WILL BE ALLOWED WITHOUT PRIOR WRITTEN ACCEPTANCE BY THE LANDSCAPE ARCHITECT OR OWNER'S AUTHORIZED REPRESENTATIVE.
4. MANUFACTURER'S WARRANTIES SHALL NOT RELIEVE THE CONTRACTOR OF HIS LIABILITY UNDER THE GUARANTEE. SUCH WARRANTIES SHALL ONLY SUPPLEMENT THE GUARANTEE.

B. SUBSTITUTIONS:

IF THE CONTRACTOR WISHES TO SUBSTITUTE ANY EQUIPMENT OR MATERIALS FOR THOSE LISTED ON THE IRRIGATION DRAWINGS AND SPECIFICATIONS, HE MAY DO SO BY PROVIDING THE FOLLOWING INFORMATION TO THE LANDSCAPE ARCHITECT FOR APPROVAL:

1. A WRITTEN STATEMENT INDICATING THE REASON FOR MAKING THE SUBSTITUTION AND THE DIFFERENCE IN INSTALLED PRICE IF THE ITEM IS ACCEPTED.
2. CATALOG CUT SHEETS, TECHNICAL DATA AND PERFORMANCE INFORMATION FOR EACH SUBSTITUTE ITEM

1.5 EXISTING CONDITIONS

- A. THE CONTRACTOR SHALL VERIFY AND BE FAMILIAR WITH THE LOCATIONS, SIZE AND DETAIL OF POINTS OF CONNECTION PROVIDED AS THE SOURCE OF WATER, ELECTRICAL SUPPLY, AND TELEPHONE LINE CONNECTION TO THE IRRIGATION SYSTEM
- B. IRRIGATION DESIGN IS BASED ON THE AVAILABLE STATIC PRESSURE SHOWN ON THE DRAWINGS. CONTRACTOR SHALL VERIFY STATIC WATER ON THE PROJECT PRIOR TO THE START OF CONSTRUCTION. SHOULD A DISCREPANCY EXIST, NOTIFY THE LANDSCAPE ARCHITECT AND OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO BEGINNING CONSTRUCTION.
- C. PRIOR TO CUTTING INTO THE SOIL, THE CONTRACTOR SHALL LOCATE ALL CABLES, CONDUITS, SEWER LINES, AND OTHER UTILITIES AS ARE COMMONLY ENCOUNTERED AND HE SHALL TAKE PROPER PRECAUTIONS NOT TO DAMAGE OR DISTURB SUCH IMPROVEMENTS. IF A CONFLICT EXISTS BETWEEN SUCH OBSTACLES AND THE PROPOSED WORK, THE CONTRACTOR SHALL PROMPTLY NOTIFY THE LANDSCAPE ARCHITECT WHO WILL ARRANGE FOR RELOCATIONS. THE IRRIGATION CONTRACTOR WILL PROCEED IN THE SAME MANNER IF A ROCK LAYER OR ANY OTHER SUCH CONDITIONS ARE ENCOUNTERED.
- D. THE CONTRACTOR SHALL PROTECT ALL EXISTING UTILITIES AND FEATURES TO REMAIN ON AND ADJACENT TO THE PROJECT SITE DURING CONSTRUCTION. CONTRACTOR SHALL REPAIR, AT HIS OWN COST, ALL DAMAGE RESULTING FROM HIS OPERATIONS OR NEGLIGENCE.
- E. THE IRRIGATION CONTRACTOR SHALL COORDINATE WITH THE GENERAL CONTRACTOR FOR INSTALLATION OF REQUIRED SLEEVING AS SHOWN ON THE PLANS.

1.6 INSPECTIONS

- A. THE LANDSCAPE ARCHITECT SHALL BE PERMITTED TO VISIT AND INSPECT AT ALL TIMES ANY PART OF THE WORK AND SHALL BE PROVIDED SAFE ACCESS FOR SUCH VISITS.
- B. WHERE THE SPECIFICATIONS REQUIRE WORK TO BE TESTED BY THE CONTRACTOR, IT SHALL NOT BE COVERED OVER UNTIL ACCEPTED BY THE LANDSCAPE ARCHITECT, OWNER'S AUTHORIZED REPRESENTATIVE, AND/OR GOVERNING AGENCIES. THE IRRIGATION CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR NOTIFYING THE LANDSCAPE ARCHITECT, OWNER, AND GOVERNING AGENCIES, A MINIMUM OF 48 HOURS IN ADVANCE, WHERE AND WHEN THE WORK IS READY FOR TESTING. SHOULD ANY WORK BE COVERED WITHOUT TESTING OR ACCEPTANCE, IT SHALL BE, IF SO ORDERED, UNCOVERED AT THE IRRIGATION CONTRACTOR'S EXPENSE.
- C. INSPECTIONS WILL BE REQUIRED FOR THE FOLLOWING AT A MINIMUM. LANDSCAPE ARCHITECT MAY OPT TO REVIEW PHOTOGRAPHS OF PRESSURE TEST (WITH IMAGE OF PRESSURE GAUGE AND TIME STAMPS) AND SAMPLE DRIPLINE LAYOUT.

1. PRESSURE TEST OF IRRIGATION MAIN LINE (THREE HOURS AT 150 PSI)
2. SAMPLE LAYOUT OF DRIPLINE IRRIGATION.
3. COVERAGE TEST OF IRRIGATION SPRINKLER SYSTEM.
4. FINAL INSPECTION PRIOR TO START OF MAINTENANCE PERIOD
5. FINAL ACCEPTANCE
- D. SITE OBSERVATIONS AND TESTING WILL NOT COMMENCE WITHOUT THE RECORD DRAWINGS A PREPARED BY THE IRRIGATION CONTRACTOR. RECORD DRAWINGS MUST BE COMPLETE AND UP-TO DATE FOR EACH SITE VISIT.
- E. WORK WHICH FAILS TESTING AND IS NOT ACCEPTED WILL BE RETESTED.

1.7 STORAGE AND HANDLING

- A. USE ALL MEANS NECESSARY TO PROTECT IRRIGATION SYSTEM MATERIALS BEFORE, DURING, AND AFTER INSTALLATION AND TO PROTECT THE INSTALLATION WORK AND MATERIALS OF ALL OTHER TRADES. IN

THE EVENT OF DAMAGE, IMMEDIATELY MAKE ALL REPAIRS AND REPLACEMENTS NECESSARY TO THE ACCEPTANCE OF THE LANDSCAPE ARCHITECT AND OWNER.

- B. EXERCISE CARE IN HANDLING, LOADING, UNLOADING, AND STORING PLASTIC PIPE AND FITTINGS UNDER COVER UNTIL READY TO INSTALL. TRANSPORT PLASTIC PIPE ONLY ON A VEHICLE WITH A BED LONG ENOUGH TO ALLOW THE PIPE TO LAY FLAT TO AVOID UNDUE BENDING AND CONCENTRATED EXTERNAL LOAD.

1.8 CLEANUP AND DISPOSAL

- A. DISPOSE OF WASTE, TRASH, AND DEBRIS IN ACCORDANCE WITH APPLICABLE LAWS AND ORDINANCES AND AS PRESCRIBED BY AUTHORITIES HAVING JURISDICTION. BURY NO SUCH WASTE MATERIAL AND DEBRIS ON THE SITE. BURNING OF TRASH AND DEBRIS WILL NOT BE PERMITTED. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF RUBBISH AND DEBRIS GENERATED BY HIS WORK AND WORKMEN AT FREQUENT INTERVALS OR WHEN ORDERED TO DO SO BY THE OWNER'S AUTHORIZED REPRESENTATIVE.
- B. AT THE TIME OF COMPLETION THE ENTIRE SITE WILL BE CLEARED OF TOOLS, EQUIPMENT, RUBBISH AND DEBRIS WHICH SHALL BE DISPOSED OF OFF-SITE IN A LEGAL DISPOSAL AREA.

1.9 TURNOVER ITEMS

A. RECORD DRAWINGS:

1. RECORD ACCURATELY ON ONE SET OF CONTRACT DRAWINGS ALL CHANGES IN THE WORK CONSTITUTING DEPARTURES FROM THE ORIGINAL CONTRACT DRAWINGS.
2. THE CHANGES AND DIMENSIONS SHALL BE RECORDED IN A LEGIBLE AND WORKMANLIKE MANNER TO THE SATISFACTION OF THE LANDSCAPE ARCHITECT. PRIOR TO FINAL INSPECTION OF WORK, SUBMIT RECORD DRAWINGS TO THE LANDSCAPE ARCHITECT FOR REVIEW AND APPROVAL.
3. DIMENSIONS FROM TO PERMANENT POINTS OF REFERENCE SUCH AS BUILDINGS, SIDEWALKS, CURBS, ETC. SHALL BE SHOWN. DATA ON RECORD DRAWINGS SHALL BE RECORDED ON A DAY TO DAY BASIS AS THE PROJECT IS BEING INSTALLED. ALL LETTERING ON DRAWINGS SHALL BE MINIMUM 1/8 INCH IN SIZE.
4. SHOW LOCATIONS OF THE FOLLOWING ITEMS:
- a. POINT OF CONNECTION (INCLUDING WATER METERS, BACKFLOW PREVENTORS, MASTER CONTROL VALVES, ETC.)
- b. ROUTING OF SPRINKLER PRESSURE LINES (DIMENSIONS SHOWN AT A MAXIMUM OF 100 FEET ALONG ROUTING AND AT ALL CHANGES IN DIRECTION)
- c. GATE VALVES
- d. AUTOMATIC REMOTE CONTROL VALVES
- e. QUICK COUPLING VALVES
- f. ROUTING OF CONTROL WIRES
- g. IRRIGATION CONTROLLERS
- h. RELATED EQUIPMENT (AS MAY BE DIRECTED)
5. MAINTAIN RECORD DRAWINGS ON SITE AT ALL TIMES. UPON COMPLETION OF WORK, TRANSFER ALL AS-BUILT INFORMATION AND DIMENSIONS TO A CLEAN SET OF BOND PRINTS, USING RED, WATERPROOF INK.

B. CONTROLLER CHARTS:

1. RECORD DRAWINGS MUST BE APPROVED BY LANDSCAPE ARCHITECT BEFORE CONTROLLER CHARTS ARE PREPARED.
2. PROVIDE ONE CONTROLLER CHART FOR EACH AUTOMATIC CONTROLLER. CHART SHALL SHOW THE AREA COVERED BY THE PARTICULAR CONTROLLER.
3. THE CHART IS TO BE A REDUCED COPY OF THE ACTUAL "RECORD" DRAWING. IN THE EVENT THE CONTROLLER SEQUENCE IS NOT LEGIBLE, WHEN THE DRAWING IS REDUCED, IT SHALL BE ENLARGED TO A READABLE SIZE. PRINT SHALL BE BLACK AND WHITE, WITH A DIFFERENT COLOR USED TO INDICATE THE AREA OF COVERAGE FOR EACH STATION.
4. WHEN COMPLETED AND APPROVED, THE CHART SHALL BE HERMETICALLY SEALED BETWEEN TWO PIECES OF PLASTIC, EACH PIECE BEING A MINIMUM 10 MILLIMETERS IN THICKNESS, WITH A MATTE FINISH.

C. OPERATION AND MAINTENANCE MANUALS:

1. TWO INDIVIDUALLY BOUND COPIES OF OPERATION AND MAINTENANCE MANUALS SHALL BE DELIVERED TO THE LANDSCAPE ARCHITECT OR OWNER'S AUTHORIZED REPRESENTATIVE AT LEAST 10 CALENDAR DAYS PRIOR TO FINAL INSPECTION. THE MANUALS SHALL DESCRIBE THE MATERIAL INSTALLED AND THE PROPER OPERATION OF THE SYSTEM.
2. EACH COMPLETE, BOUND MANUAL SHALL INCLUDE THE FOLLOWING INFORMATION:
- a. INDEX SHEET STATING CONTRACTOR'S ADDRESS AND TELEPHONE NUMBER, DURATION OF GUARANTEE PERIOD, LIST OF EQUIPMENT INCLUDING NAMES AND ADDRESSES OF LOCAL MANUFACTURER REPRESENTATIVES.
- b. OPERATING AND MAINTENANCE INSTRUCTIONS FOR ALL EQUIPMENT.
- c. SPARE PARTS LIST AND RELATED MANUFACTURER INFORMATION FOR ALL EQUIPMENT.
- d. GUARANTEE STATEMENT.

D. EQUIPMENT:

1. SUPPLY AS A PART OF THIS CONTRACT THE FOLLOWING ITEMS:
- a. ONE (1) TOOL FOR DISASSEMBLY AND ADJUSTMENT OF EACH TYPE OF SPRINKLER HEAD USED IN THE IRRIGATION SYSTEM
- b. PADLOCK AND TWO (2) KEYS FOR BACKFLOW ENCLOSURE (IF USED).
- c. TWO KEYS FOR EACH AUTOMATIC CONTROLLER.
- d. TWO QUICK COUPLER KEYS WITH A 3/4 INCH BRONZE HOSE BIB, BENT NOSE TYPE WITH HAND WHEEL AND TWO COUPLER LD KEYS.
- e. ONE VALVE BOX COVER KEY OR WRENCH.
- f. ONE 5-FOOT TEE WRENCH FOR OPERATING BUTTERFLY VALVES (IF USED).
- g. TWO (2) EXTRA SPRINKLER HEADS OF EACH SIZE AND TYPE.
2. THE ABOVE EQUIPMENT SHALL BE TURNED OVER TO OWNER'S AUTHORIZED REPRESENTATIVE AT THE FINAL INSPECTION.

1.10 COMPLETION

- A. AT THE TIME OF THE PRE-MAINTENANCE PERIOD INSPECTION, THE LANDSCAPE ARCHITECT, OWNER'S AUTHORIZED REPRESENTATIVE, AND GOVERNING AGENCIES WILL INSPECT THE WORK, AND IF NOT ACCEPTED, WILL PREPARE A LIST OF ITEMS TO BE COMPLETED BY THE CONTRACTOR. AT THE TIME OF THE POST-MAINTENANCE PERIOD OR FINAL INSPECTION, THE WORK WILL BE REINSPECTED AND FINAL ACCEPTANCE WILL BE IN WRITING BY THE LANDSCAPE ARCHITECT, OWNER'S AUTHORIZED REPRESENTATIVE, AND GOVERNING AGENCIES.
- B. THE OWNER'S AUTHORIZED REPRESENTATIVE SHALL HAVE FINAL AUTHORITY ON ALL PORTIONS OF THE WORK.
- C. AFTER THE SYSTEM HAS BEEN COMPLETED, THE CONTRACTOR SHALL INSTRUCT OWNER'S AUTHORIZED REPRESENTATIVE IN THE OPERATION AND MAINTENANCE OF THE IRRIGATION SYSTEM AND SHALL FURNISH A COMPLETE SET OF OPERATING AND MAINTENANCE INSTRUCTIONS.
- D. ANY SETTling OF TRENCHES WHICH MAY OCCUR DURING THE ONE-YEAR PERIOD FOLLOWING ACCEPTANCE SHALL BE REPAIRED. REPAIRS SHALL INCLUDE THE COMPLETE RESTORATION OF ALL DAMAGE TO PLANTING, PAVING OR OTHER IMPROVEMENTS OF ANY KIND AS A RESULT OF THE WORK.

1.11 GUARANTEE

- A. THE ENTIRE SPRINKLER SYSTEM, INCLUDING ALL WORK DONE UNDER THIS CONTRACT, SHALL BE UNCONDITIONALLY GUARANTEED AGAINST ALL DEFECTS AND WORKMANSHIP. THE GUARANTEE SHALL INCLUDE SETTLING OF BACKFILLED AREAS BELOW GRADE, FOR A PERIOD OF ONE (1) YEAR FOLLOWING THE FILING OF THE NOTICE OF COMPLETION.

SHOULD ANY PROBLEM WITH THE IRRIGATION SYSTEM BE DISCOVERED WITHIN THE GUARANTEE PERIOD, IT SHALL BE CORRECTED BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE TO OWNER WITHIN TEN (10) CALENDAR DAYS OF RECEIPT OF WRITTEN NOTICE FROM OWNER. WHEN THE NATURE OF THE REPAIRS, AS DETERMINED BY THE OWNER, CONSTITUTES AN EMERGENCY (I.E. BROKEN PRESSURE LINE) THE OWNER MAY PROCEED TO MAKE REPAIRS AT THE CONTRACTOR'S EXPENSE. ANY AND ALL DAMAGES TO EXISTING IMPROVEMENTS, RESULTING EITHER FROM FAULTY MATERIALS OR WORKMANSHIP, SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

- B. GUARANTEE SHALL BE SUBMITTED ON CONTRACTOR'S OWN LETTERHEAD AS FOLLOWS:

GUARANTEE FOR SPRINKLER IRRIGATION SYSTEM

WE HEREBY GUARANTEE THAT THE SPRINKLER IRRIGATION SYSTEM WE HAVE FURNISHED AND INSTALLED IS FREE FROM DEFECTS IN MATERIALS AND WORKMANSHIP, AND THE WORK HAS BEEN COMPLETED IN ACCORDANCE WITH THE DRAWINGS AND SPECIFICATIONS. ORDINARY WEAR AND TEAR AND UNUSUAL ABUSE, OR NEGLIGENCE EXCEPTED. WE AGREE TO REPAIR OR REPLACE ANY DEFECTIVE MATERIAL DURING THE PERIOD OF ONE YEAR FROM DATE OF FILING OF THE NOTICE OF COMPLETION AND ALSO TO REPAIR OR REPLACE ANY DAMAGE RESULTING FROM THE REPAIRING OR REPLACING OF SUCH DEFECTS AT NO

ADDITIONAL COST TO THE OWNER. WE SHALL MAKE SUCH REPAIRS OR REPLACEMENTS WITHIN 10 CALENDAR DAYS FOLLOWING WRITTEN NOTIFICATION BY THE OWNER. IN THE EVENT OF FAILURE TO MAKE SUCH REPAIRS OR REPLACEMENTS WITHIN THE TIME SPECIFIED AFTER RECEIPT OF WRITTEN NOTICE FROM OWNER, WE AUTHORIZE THE OWNER TO PROCEED TO HAVE SAID REPAIRS OR REPLACEMENTS MADE AT OUR EXPENSE AND WE WILL PAY THE COSTS AND CHARGES THEREFORE UPON DEMAND.

PROJECT NAME:

PROJECT LOCATION:

CONTRACTOR NAME:

ADDRESS:

TELEPHONE:

SIGNED:

DATE:

PART 2 - PRODUCTS

2.1 SUMMARY

USE ONLY NEW MATERIALS OF THE MANUFACTURER, SIZE AND TYPE SHOWN ON THE DRAWINGS AND SPECIFICATIONS. MATERIALS OR EQUIPMENT INSTALLED OR FURNISHED THAT DO NOT MEET LANDSCAPE ARCHITECT'S, OWNERS, OR GOVERNING AGENCIES STANDARDS WILL BE REJECTED AND SHALL BE REMOVED FROM THE SITE AT NO EXPENSE TO THE OWNER

2.2 PIPING

- A. PRESSURE SUPPLY LINE FROM POINT OF CONNECTION THROUGH BASKET STRAINER UNIT SHALL BE TYPE "K" COPPER OR BRASS PIPE.
- B. PRESSURE SUPPLY LINES 3 INCHES IN DIAMETER AND LARGER SHALL BE CLASS 200 PVC WITH BELL-AND-GASKET JOINTS. PIPING SHALL CONFORM TO ASTM D2241.
- C. PRESSURE SUPPLY LINES 2 INCHES TO 2-1/2 INCHES IN DIAMETER SHALL BE CLASS 315 SOLVENT WELD PVC. PIPING SHALL CONFORM TO ASTM D1784.
- D. PRESSURE SUPPLY LINES 1-1/2 INCHES AND SMALLER IN DIAMETER SHALL BE SCHEDULE 40 SOLVENT WELD PVC. PIPING SHALL CONFORM TO ASTM D1784.
- E. NON-PRESSURE LINES 3/4 INCHES IN DIAMETER AND LARGER DOWNSTREAM OF THE REMOTE CONTROL VALVE SHALL BE SCHEDULE 40 PVC OR AS STATED ON IRRIGATION MATERIALS LEGEND ON PLANS. NON-PRESSURE LINES 1 INCH AND LARGER TO CONFORM TO ASTM D1784.

2.3 METAL PIPE AND FITTINGS

- A. BRASS PIPE SHALL BE 85 PERCENT RED BRASS, ANSI, IPS STANDARD 125 POUNDS, SCHEDULE 40 SCREWED PIPE.
- B. FITTINGS SHALL BE MEDIUM BRASS, SCREWED 125-POUND CLASS.
- C. COPPER PIPE AND FITTINGS SHALL BE TYPE "K" SWEAT SOLDERED.

2.4 PLASTIC PIPE AND FITTINGS

- A. PIPE SHALL BE MARKED CONTINUOUSLY WITH MANUFACTURER'S NAME, NOMINAL PIPE SIZE, SCHEDULE OR CLASS, PVC TYPE AND GRADE, NATIONAL SANITATION FOUNDATION APPROVAL, COMMERCIAL STANDARDS DESIGNATION, AND DATE OF EXTRUSION.
- B. ALL PLASTIC PIPE SHALL BE EXTRUDED OF AN IMPROVED PVC VIRGIN PIPE COMPOUND IN ACCORDANCE WITH AS/ATM D2241 OR ASTM D1784.
- C. ALL PVC FITTINGS SHALL BE STANDARD WEIGHT SCHEDULE 80 FOR CONSTANT-PRESSURE MAINLINE FITTINGS AND SCREWED FITTINGS, AND SCHEDULE 40 FOR NON-PRESSURE LATERAL FITTINGS AND SHALL BE INJECTION MOLDED OF AN IMPROVED VIRGIN PVC FITTING COMPOUND. SLIP PVC FITTINGS SHALL BE THE "DEEP SOCKET" BRACKETED TYPE. THREADED PLASTIC FITTINGS SHALL BE INJECTION MOLDED. ALL TEES AND ELBS SHALL BE SIDE GATED. ALL FITTINGS SHALL CONFORM TO ASTM D2466 AND D2467.
- D. ALL THREADED NIPPLES SHALL BE STANDARD WEIGHT SCHEDULE 80 WITH MOLDED THREADS AND SHALL CONFORM TO ASTM D1785.
- E. ALL SOLVENT CEMENTING OF PLASTIC PIPE AND FITTINGS SHALL BE A TWO-STEP PROCESS, USING PRIMER AND SOLVENT CEMENT APPLIED PER THE MANUFACTURER'S RECOMMENDATIONS. CEMENT SHALL BE OF A FLUID CONSISTENCY, NOT GEL-LIKE OR ROPEY. SOLVENT CEMENTING SHALL BE IN CONFORMANCE WITH ASTM D2554 AND ASTM D2855.
- F. WHEN CONNECTION IS PLASTIC TO METAL, FEMALE ADAPTERS SHALL BE HAND TIGHTENED, PLUS ONE TURN WITH A STRAP WRENCH. JOINT COMPOUND SHALL BE NON-LEAD BASE TEFLON PASTE, TAPE, OR EQUAL.
- G. EXPANDING FOAM SEALANT FOR SLEEVING AND CONDUIT SHALL BE A 2-PART, 98% CLOSED CELL, URETHANE FOAM, CAPABLE OF SEALING 1/4" TO 6" DIAMETER CONDUITS WITH MULTIPLE PIPE AND CABLE CONFIGURATIONS. SEALANT SHALL HAVE GOOD ADHESION TO PVC PIPE AND CABLE JACKET SURFACES WITH 120 LB. COMPRESSIVE STRENGTH (ASTM D1621) AND SHALL BE CAPABLE OF HOLDING 9.5 PSI WATER PRESSURE CONTINUOUS AND 5 PSI GAS OR VAPOR CONTINUOUS.

2.5 VALVES

A. GATE VALVES:

1. GATE VALVES SHALL BE OF THE MANUFACTURER, SIZE, AND TYPE INDICATED ON THE DRAWINGS.
2. GATE VALVES SHALL HAVE THREADED ASTM B-62 BRONZE BODY, BONNET AND WEDGE, SILICON BRONZE STEM, AND MALLEABLE IRON HANDWHEEL.
3. ALL GATE VALVES SHALL HAVE A MINIMUM WORKING PRESSURE OF NOT LESS THAN 150 PSI AND SHALL CONFORM TO AWWA STANDARDS.

B. QUICK COUPLER VALVES:

1. QUICK COUPLER VALVES SHALL BE OF THE MANUFACTURER, SIZE, AND TYPE INDICATED ON THE DRAWINGS.
2. QUICK COUPLER VALVES SHALL BE BRASS WITH A WALL THICKNESS GUARANTEED TO WITHSTAND NORMAL WORKING PRESSURE OF 150 PSI WITHOUT LEAKAGE. VALVES SHALL HAVE 1/4" FEMALE THREADS OPENING AT BASE, WITH TWO-PIECE BODY. VALVES TO BE OPERATED ONLY WITH A COUPLER KEY, DESIGNED FOR THAT PURPOSE. COUPLER KEY IS INSERTED INTO VALVE AND A POSITIVE, WATER-TIGHT CONNECTION SHALL BE MADE BETWEEN THE COUPLER KEY AND VALVE. HINGE COVER SHALL BE THE LOCKING TYPE CONSTRUCTED OF BRASS WITH A RUBBER-LIKE VINYL COVER.

C. AUTOMATIC CONTROL VALVES:

1. AUTOMATIC CONTROL VALVES SHALL BE OF THE MANUFACTURER, SIZE, AND TYPE INDICATED ON THE DRAWINGS.
2. AUTOMATIC CONTROL VALVES SHALL BE ELECTRICALLY OPERATED.
3. AUTOMATIC CONTROL VALVES SHALL INCLUDE MANUAL FLOW ADJUSTMENT.

D. ANTI-DRAIN VALVES:

1. ANTI-DRAIN VALVES SHALL BE OF THE MANUFACTURER, SIZE AND TYPE INDICATED ON THE DRAWINGS.
2. ANTI-DRAIN VALVES SHALL HAVE 18-8 STAINLESS STEEL SPRINGS AND VALVE STEMS WITH BUNA-N SEALS.
3. ANTI-DRAIN VALVES WILL HAVE THREADED CONNECTIONS THE SIZE OF THE RISER OR PIPE THEY ARE TO BE INSTALLED ONTO, OR THE NEXT AVAILABLE SIZE. NO SLIP CONNECTION ANTI-DRAIN VALVES ARE ALLOWED.

2.6 VALVE BOXES

- A. VALVE BOXES SHALL BE FABRICATED FROM A DURABLE, WEATHER-RESISTANT PLASTIC MATERIAL RESISTANT TO SUNLIGHT AND CHEMICAL ACTION OF SOILS.
- B. THE VALVE BOX COVER SHALL BE GREEN IN COLOR AND SECURED WITH A HIDDEN LATCH MECHANISM OR BOLTS.
- C. THE COVER AND BOX SHALL BE CAPABLE OF SUSTAINING A LOAD OF 1,500 POUNDS.
- D. VALVE BOX EXTENSIONS SHALL BE BY THE SAME MANUFACTURER AS THE VALVE BOX.

- E. AUTOMATIC CONTROL VALVE BOXES SHALL BE 16 INCH X11 INCH X12 INCH RECTANGULAR SIZE. VALVE BOX COVERS SHALL BE MARKED "RCV" WITH THE VALVE IDENTIFICATION NUMBER "HEAT BRANDED" ONTO THE COVER IN 2-INCH HIGH LETTERS/NUMBERS.

- F. BALL VALVE AND QUICK COUPLER VALVE BOXES SHALL BE 10-INCH DIAMETER CIRCULAR SIZE. VALVE BOX COVERS SHALL BE MARKED WITH EITHER "BY" OR "QCV" WITH THE VALVE IDENTIFICATION "HEAT BRANDED" ONTO THE COVER IN 2-INCH HIGH LETTERS.

2.7 AUTOMATIC CONTROLLER

- A. AUTOMATIC CONTROLLER SHALL BE OF THE MANUFACTURER, SIZE, AND TYPE INDICATED ON THE DRAWINGS.
- B. AUTOMATIC CONTROLLER ENCLOSURES SHALL BE OF THE MANUFACTURER, SIZE, AND TYPE INDICATED ON THE DRAWINGS. ENCLOSURE SHALL BE VANDAL-RESISTANT, VENTILATED AND WATERPROOF.

2.8 ELECTRICAL

- A. ALL ELECTRICAL EQUIPMENT SHALL BE NEMA TYPE 3, WATERPROOFED FOR EXTERIOR INSTALLATIONS.
- B. ALL ELECTRICAL WORK SHALL CONFORM TO LOCAL CODES AND ORDINANCES.

2.9 LOW VOLTAGE CONTROL WIRING

- A. REMOTE CONTROL WIRE SHALL BE DIRECT-BURIAL AWG-WF TYPE, SIZE IN NO CASE SMALLER THAN 14 GAUGE.
- B. CONNECTIONS SHALL BE EITHER EPOXY-SEALED PACKET TYPE OR PENN-TITE CONNECTORS.

- C. GROUND WIRES SHALL BE WHITE IN COLOR. CONTROL WIRES SHALL BE RED (WHERE TWO OR MORE CONTROLLERS ARE USED). THE CONTROL WIRES SHALL BE A DIFFERENT COLOR FOR EACH CONTROLLER. THESE COLORS SHALL BE NOTED ON THE "RECORD DRAWINGS" PLANS LOCATED ON CONTROLLER DOOR).

2.10 IRRIGATION HEADS

- A. SPRINKLER HEADS SHALL BE OF THE MANUFACTURER, SIZE, TYPE, WITH RADIUS OF THROW, OPERATING PRESSURE AND DISCHARGE RATE INDICATED ON THE DRAWINGS.
- B. POP-UP HEADS AND RISER HEADS SHALL BE USED.

2.11 DRIP IRRIGATION COMPONENTS

- A. DRIPLINE TUBING SHALL BE OF THE MANUFACTURER, MODEL NUMBER AND DISTRIBUTION (EMITTER FLOW AND SPACING) INDICATED ON THE DRAWINGS.
- B. DRIP EMITTERS, BUBBLERS AND MICRO-SPRAYS SHALL BE OF THE MANUFACTURER AND MODEL NUMBER INDICATED ON THE DRAWINGS.
- C. DISTRIBUTION TUBING, CONNECTORS AND INSERT OR COMPRESSION FITTINGS SHALL BE OF THE MANUFACTURER AND TYPE INDICATED ON THE DRAWINGS.

2.12 RAIN SENSOR

RAIN SENSOR SHALL BE OF THE MANUFACTURER, SIZE AND TYPE INDICATED ON THE DRAWINGS.

PART 3 - EXECUTION

3.1 SITE CONDITIONS

A. INSPECTIONS:

1. PRIOR TO ALL WORK OF THIS SECTION, CAREFULLY INSPECT THE INSTALLED WORK OF ALL OTHER TRADES AND VERIFY THAT ALL SUCH WORK IS COMPLETE TO THE POINT WHERE THIS INSTALLATION MAY PROPERLY COMMENCE.
2. VERIFY THAT IRRIGATION SYSTEM MAY BE INSTALLED IN ACCORDANCE WITH ALL PERTINENT CODES AND REGULATIONS, THE ORIGINAL DESIGN, THE REFERENCED STANDARDS, AND THE MANUFACTURER'S RECOMMENDATIONS.

B. DISCREPANCIES:

1. IN THE EVENT OF DISCREPANCY, IMMEDIATELY NOTIFY THE LANDSCAPE ARCHITECT OR OWNER'S AUTHORIZED REPRESENTATIVE.
2. DO NOT PROCEED WITH INSTALLATION IN AREAS OF DISCREPANCY UNTIL ALL DISCREPANCIES HAVE BEEN RESOLVED.

C. GRADES:

1. BEFORE STARTING WORK, CAREFULLY CHECK ALL GRADES TO DETERMINE THAT WORK MAY SAFELY PROCEED, KEEPING WITHIN THE SPECIFIED MATERIAL DEPTHS WITH RESPECT TO FINISH GRADE.
2. FINAL GRADES SHALL BE ACCEPTED BY THE ENGINEER BEFORE WORK ON THIS SECTION WILL BE ALLOWED TO BEGIN.

D. FIELD MEASUREMENTS:

1. MAKE ALL NECESSARY MEASUREMENTS IN THE FIELD TO ENSURE PRECISE FIT OF ITEMS IN ACCORDANCE WITH THE ORIGINAL DESIGN. CONTRACTOR SHALL COORDINATE THE INSTALLATION OF ALL IRRIGATION MATERIALS WITH ALL OTHER WORK.
2. ALL SCALED DIMENSIONS ARE APPROXIMATE. THE CONTRACTOR SHALL CHECK AND VERIFY ALL SIZE DIMENSIONS PRIOR TO PROCEEDING WITH WORK UNDER THIS SECTION.
3. EXERCISE EXTREME CARE IN EXCAVATING AND WORKING NEAR EXISTING UTILITIES. CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGES TO UTILITIES WHICH ARE CAUSED BY HIS OPERATIONS OR NEGLIGENCE.

E. DIAGRAMMATIC INTENT:

THE DRAWINGS ARE ESSENTIALLY DIAGRAMMATIC. THE SIZE AND LOCATION OF EQUIPMENT AND FIXTURES ARE DRAWN TO SCALE WHERE POSSIBLE. PROVIDE OFFSETS IN PIPING AND CHANGES IN EQUIPMENT LOCATIONS AS NECESSARY TO CONFORM TO STRUCTURES AND TO AVOID OBSTRUCTIONS OR CONFLICTS WITH OTHER WORK.

F. LAYOUT:

1. PRIOR TO INSTALLATION, THE CONTRACTOR SHALL STAKE OUT ALL PRESSURE SUPPLY LINES, ROUTING AND LOCATION OF SPRINKLER HEADS, VALVES, BACKFLOW PREVENTOR, AND AUTOMATIC CONTROLLER.
2. LAYOUT IRRIGATION SYSTEM AND MAKE MINOR ADJUSTMENTS REQUIRED DUE TO DIFFERENCES ON DRAWINGS TO THE DEPTHS BELOW FINISHED GRADE AND AS NOTED. WHERE LINES OCCUR UNDER PAVED AREA, THESE DIMENSIONS SHALL BE CONSIDERED BELOW SUBGRADE.

G. WATER SUPPLY

CONNECTIONS TO, OR THE INSTALLATION OF, THE WATER SUPPLY SHALL BE AT THE LOCATIONS SHOWN ON THE DRAWINGS. MINOR CHANGES CAUSED BY ACTUAL SITE CONDITIONS SHALL BE MADE.

H. ELECTRICAL SERVICE:

1. CONNECTIONS TO THE ELECTRICAL SUPPLY SHALL BE AT THE LOCATIONS SHOWN ON THE DRAWINGS. MINOR CHANGES CAUSED BY ACTUAL SITE CONDITIONS SHALL BE MADE.
2. CONTRACTOR SHALL MAKE 120 VOLT CONNECTION TO THE IRRIGATION CONTROLLERS. ELECTRICAL POWER SOURCE TO CONTROLLER LOCATIONS SHALL BE PROVIDED BY OTHERS.

3.2 TRENCHING

- A. EXCAVATIONS SHALL BE STRAIGHT WITH VERTICAL SIDES, EVEN GRADE, AND SUPPORT PIPE CONTINUOUSLY ON BOTTOM OF TRENCH. TRENCHING EXCAVATION SHALL FOLLOW LAYOUT INDICATED ON DRAWINGS TO THE DEPTHS BELOW FINISHED GRADE AND AS NOTED. WHERE LINES OCCUR UNDER PAVED AREA, THESE DIMENSIONS SHALL BE CONSIDERED BELOW SUBGRADE.
- B. PROVIDE MINIMUM COVER OF 24 INCHES ON PRESSURE SUPPLY LINES 4 INCHES AND LARGER. PROVIDE MINIMUM COVER OF 18 INCHES ON PRESSURE SUPPLY LINES 3 INCHES AND SMALLER.
- C. PROVIDE MINIMUM COVER OF 18 INCHES FOR CONTROL WIRES.
- D. PROVIDE MINIMUM COVER OF 12 INCHES FOR NON-PRESSURE LINES.
- E. PIPES INSTALLED IN A COMMON TRENCH SHALL HAVE A 6-INCH MINIMUM SPACE BETWEEN PIPES.

3.3 BACKFILLING

- A. BACKFILL MATERIAL ON ALL LINES SHALL BE THE SAME AS ADJACENT SOIL FREE OF DEBRIS, LITTER, AND ROCKS OVER 1/2- INCH IN DIAMETER.
- B. SAND BACKFILL MATERIAL SHALL BE WASHED, CLEAN, NON-PLASTIC, FREE FROM DELETERIOUS OR FOREIGN MATTER, SYMMETRICAL SHAPED, NATURAL OR MANUFACTURED FROM CRUSHED ROCK, CONFORMING TO THE GRADING REQUIREMENTS OF ASTM C 144, WITH 100% PASSING A 4.75MM SIEVE AND A MAXIMUM SILT CONTENT OF 4%.

WARE MALCOMB

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LANDSCAPE ARCHITECT
07/31/26
09/20/25
STATE OF CALIFORNIA

ABINGTON EMERSON

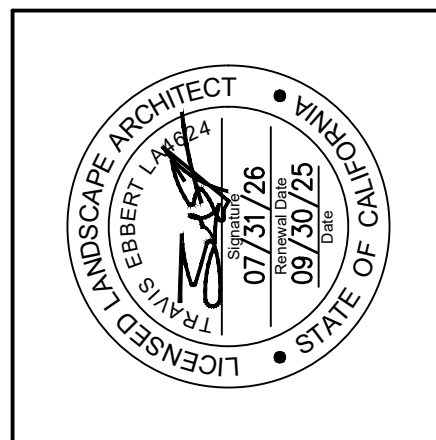
5665 OBERLIN DR.
SAN DIEGO, CALIFORNIA 92121

PROJECT DATA	
DATE	06/10/2025
REMARKS	CITY RESUBMISSION 01
DATE	08/17/2025
REMARKS	IPC SET
DATE	
REMARKS	
DATE	
REMARKS	

PA/PM:	AN
DRAWN BY:	MCJ / AN
JOB NO.:	SDG24-0061-00

SHEET
LANDSCAPE
SPECIFICATIONS

L9.3



ABINGTON EMERSON

5665 OBERLIN DR.
SAN DIEGO, CALIFORNIA 92121

PROJECT DATA

A	DATE	REMARKS
	06/16/2025	CITY RESUBMISSION 01
	09/11/2025	IPC SET

SHEET
LANDSCAPE
SPECIFICATIONS

L9.4

SHEET 22 OF 43

3.13 ADJUSTING THE SYSTEM

END OF SECTION 328400

2.2 PLANTING SOILS

A. PLANTING SOIL (IMPORT OR AMENDED TOP SOIL) ENSURE SILT PLUS CLAY CONTENT OF TOP SOIL DOES NOT EXCEED 20 PERCENT BY WEIGHT, WITH A MINIMUM 95 PERCENT PASSING THE 2.0 MM SIEVE. DO NOT ALLOW THE SODIUM ABSORPTION RATIO SAR TO EXCEED 6. THE ELECTRICAL CONDUCTIVITY (ECE) OF THE SATURATION EXTRACT CANNOT EXCEED 3.0 MILLIMOHS PER CENTIMETER AT 25 DEGREES C. ENSURE BORON CONTENT IS LESS THAN 1 PART PER MILLION AS MEASURED ON THE SATURATION EXTRACT. TO ENSURE COMPLIANCE WITH THESE REQUIREMENTS SUBMIT SAMPLES OF SOIL FOR ANALYSIS PRIOR TO A FOLLOWING BACKFILLING.



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SHEET
LANDSCAPE
SPECIFICATIONS

L9.5

SHEET 23 OF 43

- ROOT-STRUCTURE PLANT MIX (MIX "A") - (BOTTOM OF PLANTER TO 8-INCHES BELOW FINISH GRADE) - PER CUBIC YARD OF MIX:
- 80% OVER-STRUCTURE PLANTER SAND (OPTIONAL - 100% SAND IF WEIGHT IS NOT A CONSIDERATION)
 - 20% PUMICE (OPTIONAL NO PUMICE)
 - 2 LBS. NITROFORM (38-0-0, 27% WIN)
 - 2 LBS. 12-12-12 GENERAL PLANTING FERTILIZER
 - 1 LBS. IRON SULFATE
 - 2 LBS. DOLomite LIME
 - 2 LBS. CALCIUM CARBONATE LIMESTONE
- THOROUGHLY BLEND MIX BEFORE PLACING SOIL IN 12" LIGHTLY COMPACTED LIFTS.
2. ON-STRUCTURE PLANTER SOIL (MIX "B") - (8-INCH LAYER - PLACE ON TOP OF ON-STRUCTURE PLANTER SOIL (MIX "A") UP TO FINISH GRADE) - PER CUBIC YARD OF MIX:
- 70% OVER-STRUCTURE PLANTER SAND
 - 30% ORGANIC AMENDMENT
 - 2 LBS. NITROFORM (38-0-0, 27% WIN)
 - 1 LBS. IRON SULFATE
 - 2 LBS. DOLomite LIME
 - 2 LBS. CALCIUM CARBONATE LIMESTONE
- THOROUGHLY BLEND MIX BEFORE PLACING SOIL IN ONE LIGHTLY COMPACTED LIFT.
3. OVER-STRUCTURE PLANTER SAND:
- WASHED NURSERY SAND WHICH MEETS FOLLOWING U.S. STANDARD SIEVE CRITERIA:
- | SIEVE NO. (U.S. STANDARD) | WEIGHT PERCENT PASSING |
|---------------------------|------------------------|
| 10 | 100 |
| 18 | 100 |
| 30 | 92 |
| 60 | 96 |
| 100 | 100 |
| 200 | 21 |
| 400 | 1.3 |
| 600 | 0.1 |
| 270 | 0.1 |
- 2.4 MULCHES
- B. ORGANIC MULCH: PROVIDE MEDIUM GRIND BARK, CONSISTING OF ORGANIC, FIBROUS, WOODY BARK MIXTURE OF VARIOUS PARTICLE SIZE WHICH 80 TO 100 PERCENT PASSES 1 INCH SIEVE, 60 TO 100 PERCENT PASSES 1/2 INCH SIEVE, AND 20 TO 60 PERCENT PASSES 1/4 INCH SIEVE. OR APPROVED EQUAL. MULCH SHALL BE FREE OF CONTAMINANTS AND WEED SEED AND SHALL HAVE A PLEASANT MUSTY OR MILDLY SOIL-LIKE ODOR. PUTRID, AMMONIA AND SOOT-SMELLING MATERIALS WILL BE DEEMED UNACCEPTABLE. RECYCLED CONSTRUCTION MATERIALS NOT BE PERMITTED.
- 2.5 HYDROSEEDING FIBER MULCH
- A. PROVIDE HYDRO-MULCH AS MANUFACTURED BY CONVEY, OR OTHER APPROVED EQUAL, COMPOSED OF WOOD CELLULOSE FIBER AND CONTAINING NO GERMINATION OR GROWTH INHIBITING FACTORS. ENSURE A CONTINUOUS TEXTURE WHICH DISPERSES EVENLY AND REMAINS SUSPENDED IN AGITATED WATER. PROVIDE WITH A TEMPORARY GREEN DYE AND THE FOLLOWING PERFORMANCE PROPERTY ANALYSIS: MOISTURE CONTENT 9 PLUS OR MINUS 0.8, 3 O.D. BASIS. ORGANIC MATTER 99.2 PLUS OR MINUS 0.8. ASH CONTENT 0.5 PLUS OR MINUS 0.2. PH 4.8 PLUS OR MINUS 0.5. WATER HOLDING CAPACITY (GRAMS OF H2O PER 100 GRAMS OF FIBER) 1150 MINIMUM.
- 2.6 HYDROSEEDING ADJUVANT (BINDER)
- A. PROVIDE ECOLOGY CONTROL-M-BINDER ORGANIC SEEDING ADJUVANT.
- 2.7 GUING AND STAKING MATERIALS
- A. WOOD TREE STAKES: LODGE POLE PINE, FULL TREATED WITH COPPERNAPHTHANATE WOOD PRESERVATIVE IN STRICT ACCORDANCE WITH F-TT-W572 TYPE I COMPOSITION B, 2-INCH MINIMAL NORMAL SIZE DIAMETER BY 10 FEET LONG, MINIMUM, WITH NO SPLIT STAKES.
- B. TIES: PROVIDE CINCH TIES, SIZE CORRESPONDING TO TREE BOX SIZE AS MANUFACTURED BY VIT COMPANY OR OTHER APPROVED.
- 2.8 LANDSCAPE EDGINGS
- A. WOOD EDGING:
- PROVIDE 2-INCH BY 4-INCH PUNTURE TREATED DOUGLAS FIR OR REDWOOD CONSTRUCTION GRADE HEADERBOARDS WITH 1-INCH BY 3-INCH VERTICAL STAKES AT INTERVALS OF NOT MORE THAN 5 FEET. CUT STAKES LEVEL AND SET BELOW TOP OF HEADERBOARDS.
 - ON SHARP TURNS AND CURVES, FOUR 1/2 INCH BY 4-INCH LAMINATED BOARDS, OR TWO 1-INCH BY 4-INCH LAMINATED BOARDS MAY BE PERMITTED.
 - NAIL STAKES AND SPLICES WITH GALVANIZED COMMON NAILS. NAIL AS REQUIRED FOR SOLID INSTALLATION.
 - PROVIDE HEADER AS SHOWN ON DRAWINGS, LAID TRUE TO LINE AND GRADE. PROTECT IN-PLACE ADJACENT IMPROVEMENTS, SHRUBBERY AND OTHER PROPERTIES. PLACE STAKES ON GROUND COVER SIDE OF HEADINGS.
- B. STEEL EDGING: STANDARD COMMERCIAL-STEEL EDGING, ROLLED EDGE, FABRICATED IN SECTIONS OF STANDARD LENGTHS, WITH LOOPS STAMPED FROM OR WELDED TO FACE OF SECTIONS TO RECEIVE STAKES.
- C. ALUMINUM EDGING: STANDARD-PROFILE EXTRUDED-ALUMINUM EDGING, ASTM221, ALLOY 6063-T6, FABRICATED IN STANDARD LENGTHS WITH INTERLOCKING SECTIONS WITH STAKES STAMPED FROM FACE OF SECTIONS TO RECEIVE STAKES.
- D. PLASTIC EDGING: STANDARD BLACK POLYETHYLENE OR VINYL EDGING, HORIZONTALLY GROOVED, EXTRUDED IN STANDARD LENGTHS, WITH 8-INCH STEEL STAKES.
- E. CONCRETE MOVSTRIPE: 6-INCH WIDE BY 6-INCH THICK CONCRETE MOVSTRIPE WITH 1/2 INCH TOOLED EDGING AND #3 CONTINUOUS REBAR.
- 2.9 MISCELLANEOUS PRODUCTS
- A. SAND: PROVIDE WASHED SILICA SAND.
- B. WATER: PROVIDE CLEAN, POTABLE WATER.
- C. ROOT BARRIER: PROVIDE US24-2" DEEP ROOT CORPORATION, (800) 458-7688. INSTALL AT ALL TREES WITHIN 5 FEET OF CONCRETE PAVING, CURBS OR MOW STRIPS OR AS SHOWN ON PLANS. INSTALL BARRIER WITH VERTICAL RISBS FACING FORWARD THE TREE AND WIT THE TOP EDGE 12 INCH ABOVE FINISH GRADE. LENGTH OF ROOT BARRIER SHALL EXTEND 10 MINIMUM IN EACH DIRECTION FROM CENTER OF TREE TRUNK. PROVIDE LINEAR ROOT BARRIER ADJACENT TO PAVING OR CURBING; ROOT BARRIER SHALL NOT CIRCLE THE ROOTBALL.
- D. TREE TRUNK PROTECTOR: PROVIDE ARBORGARD MODEL AG 9-4 BY DEEP ROOT CORPORATION, (800) 458-7688.
- E. EROSION CONTROL FABRIC: PROVIDE ROLLMAX SC-150 ROLLED EROSION CONTROL FABRIC BY NORTH AMERICAN GREEN, (800) 772-2040.
- 2.10 QUALITY CONTROL
- A. PROVIDE STANDARD, APPROVED AND FIRST-GRADE QUALITY MATERIALS, IN PRIME CONDITION WHEN INSTALLED AND ACCEPTED. DELIVER COMMERCIALY PROCESSED AND PACKAGED MATERIALS IN MANUFACTURER'S UNOPENED CONTAINERS BEARING THE MANUFACTURER'S GUARANTEED ANALYSIS. SUPPLY A SAMPLE OF ALL SUPPLIED MATERIALS ACCOMPANIED BY ANALYTICAL DATA FROM AN APPROVED LABORATORY SOURCE ILLUSTRATING COMPLIANCE, OR BEARING THE MANUFACTURER'S GUARANTEED ANALYSIS.
- PART 3 - EXECUTION
- 3.1 EXAMINATION
- A. OBTAIN CERTIFICATION THAT FINAL GRADES TO 1/10 FOOT HAVE BEEN ESTABLISHED PRIOR TO COMMENCEMENT OF LANDSCAPING OPERATIONS. PROVIDE FOR INCLUSION OF ALL AMENDMENTS, SETTLING, ETC. BE RESPONSIBLE FOR SHAPING ALL PLANTING AREAS AS INDICATED ON DRAWINGS OR AS REQUIRED.
- B. INSPECT TREES, SHRUBS AND LINER STOCK PLANT MATERIAL FOR INJURY, INSECT INFESTATION AND TREES AND SHRUBS FOR IMPROPER PRUNING.
- C. DO NOT BEGIN PLANTING OF TREES UNTIL DEFICIENCIES ARE CORRECTED OR PLANTS REPLACED.
- 3.2 PLANTING AREA ESTABLISHMENT
- A. SOIL PREPARATION: AFTER PROPER FINISH GRADES HAVE BEEN VERIFIED OR ESTABLISHED, CROSS-RIP ALL PLANTING AREAS TO A DEPTH OF 12 INCHES, CONDITION AND FERTILIZE SOIL IN ACCORDANCE WITH RECOMMENDATIONS OF SOIL TESTING LABORATORY.
- B. AT TIME OF PLANTING, ENSURE THAT TOP 2 INCHES OF ALL AREAS TO BE PLANTED OR SEEDED ARE FREE OF STONES, STUMPS AND OTHER DELETERIOUS MATTER 1 INCH IN DIAMETER OR LARGER, AND FREE FROM WIRE, PLASTER, CONCRETE, WOOD AND SIMILAR MATERIALS WHICH WOULD CAUSE HINDRANCE TO PLANTING OR MAINTENANCE.
- 3.3 FINISH GRADING: MAKE MINOR MODIFICATIONS TO GRADE AS MAY BE NECESSARY TO ESTABLISH REQUIRED FINAL GRADE. ENSURE THAT FINISH GRADE PROVIDES PROPER DRAINAGE OF THE SITE AND SURFACE DRAINAGE IS AWAY FROM BUILDING. FINAL GRADES ARE TO BE 1-INCH BELOW ADJACENT PAVED AREAS, SIDEWALKS, VALVE BOXES, HEADERS, CLEAN-OUTS, DRAINS, MANHOLES, ETC. OR AS SHOWN ON DRAWINGS OR REQUIRED BY CITY. ELIMINATE EROSION SCARS PRIOR TO COMMENCING MAINTENANCE PERIOD.
- 3.4 PRE-PLANT WEED CONTROL:
- AFTER IRRIGATION SYSTEM IS OPERATIONAL, USE A NON-SELECTIVE SYSTEMIC CONTACT HERBICIDE AS RECOMMENDED AND APPLY BY AN APPROVED WEED CONTROL OR UTILITY LINES ARE AVAILABLE AND APPLICATOR. LEAVE SPRAYED PLANTS INTACT FOR AT LEAST 15 DAYS.
 - CLEAR AND REMOVE THESE EXISTING WEEDS BY MOWING OR GRUBBING OFF ALL PLANT PARTS AT LEAST 2 INCHES BELOW SURFACE OF SOIL OVER ENTIRE AREAS TO BE PLANTED.
 - AFTER IRRIGATION SYSTEM IS OPERATIONAL, APPLY WATER FOR 10 DAYS AS NEEDED TO ACHIEVE WEED GERMINATION. APPLY CONTACT HERBICIDES AND WAIT AS NEEDED BEFORE PLANTING. REPEAT AS REQUIRED.
 - MAINTAIN WEED FREE SITE UNTIL ACCEPTANCE BY OWNER.
- 3.5 PLANTING INSTALLATION
- A. GENERAL:
- THE IRRIGATION SYSTEM SHALL BE OPERATIONAL AND APPROVED PRIOR TO PLANTING.
 - PERFORM ACTUAL PLANTING ONLY DURING THOSE PERIODS WHEN WEATHER AND SOIL CONDITIONS ARE SUITABLE AND IN ACCORDANCE WITH LOCALLY ACCEPTED PRACTICES AS APPROVED.
 - DISTRIBUTE IN PLANTING AREAS ONLY AS MANY PLANTS AS CAN BE PLANTED AND WATERED THAT SAME DAY.
 - ENSURE THAT CONTAINERS WHICH ARE OPENED AND PLANTS REMOVED ARE HANDLED WITH CARE SUCH THAT BALL OR EARTH SURROUNDING ROOTS IS NOT BROKEN OR THAT PLANTS ARE PLANTED AND WATERED IMMEDIATELY. DO NOT OPEN CONTAINERS PRIOR TO PLACING PLANTS IN PLANTING AREAS.
 - LAYOUT: MARK LOCATIONS FOR PLANTS AND OUTLINES OF AREAS TO BE PLANTED BEFORE ANY PLANT PITS ARE DUG. IF CITY APPROVAL, IF UNDERGROUND CONSTRUCTION OR UTILITY LINES ARE ENCOUNTERED IN THE EXCAVATION OF PLANTING AREAS, OTHER LOCATIONS FOR PLANTING MAY BE SELECTED BY OWNER. ACCOMPLISH LAYOUT WITH FLAGGED GRADE STAKES INDICATING PLANT NAMES AND SPECIFIED CONTAINER SIZE ON EACH STAKE. CONFIRM LOCATION AND DEPTH OF UNDERGROUND UTILITIES AND OBSTRUCTIONS.
- 3.6 EXCAVATION FOR TREES AND SHRUBS
- A. PLANTING PITS AND TRENCHES: EXCAVATE CIRCULAR PLANTING PITS WITH SIDES SLOPING INWARD AT A 45-DEGREE ANGLE. TRIM PERIMETER OF BOTTOM LEAVING CENTER AREA OF BOTTOM RAISED SLIGHTLY TO SUPPORT ROOTBALL AND ASSIST IN DRAINAGE AWAY FROM CENTER. DO NOT FURTHER DISTURB BASE. ENSURE THAT ROOTBALL WILL SIT ON UNDISTURBED BASE SOIL TO PREVENT SETTLING. SCARIFY SIDES OF PLANTING PIT SKEARED OR SMOOTHED DURING EXCAVATION.
- EXCAVATE APPROXIMATELY TWO TIMES AS WIDE AS ROOTBALL DIAMETER.
 - DO NOT EXCAVATE DEEPER THAN DEPTH OF THE ROOTBALL, MEASURED FROM THE ROOT FLARE TO THE BOTTOM OF THE ROOTBALL.
- B. SUBSOIL AND TOPSOIL REMOVED FROM EXCAVATIONS MAY BE USED AS PLANTING SOIL BACKFILL.
- C. STRIP AND STACK APPROVED EXCAVATION FOR PLANTING WHICH IS ENCOUNTERED WITHIN AREAS FOR TRENCHES, TREE HOLES, PLANT PITS AND PLANTING BEDS.
- D. REMOVE FROM SITE EXCESS SOIL, GENERATED FROM PLANTING HOLES AND NOT USED FOR BACKFILLING.
- E. PROTECT AREAS FROM EXCESSIVE COMPACTION WHEN TRUCKING PLANTS OR OTHER MATERIALS TO PLANTING AREAS.
- 3.7 TREE, SHRUB, AND VINE PLANTING
- A. BEFORE PLANTING, VERIFY THAT ROOT FLARE IS VISIBLE AT TOP OF ROOTBALL ACCORDING TO ANSI Z60.1.
- B. REMOVE STEM GIRDLING ROOTS AND KINKED ROOTS. REMOVE INJURED ROOTS BY CUTTING CLEANLY; DO NOT BREAK.
- C. SET STOCK PLUMB AND IN CENTER OF PLANTING PIT OR TRENCH WITH ROOT FLARE 1 INCH ABOVE ADJACENT FINISH GRADES.
- USE PLANTING SOIL FOR BACKFILL.
 - CONTAINER GROWN CUT GANS ON TWO SIDES WITH ACCEPTABLE CAN CUTTER ONLY. CAREFULLY REMOVE ROOTBALL FROM CONTAINER WITHOUT DAMAGING ROOTBALL OR PLANT. SUPERFICIALLY LOOSEN EDGE ROOTS ON THREE SIDES AFTER REMOVING FORM CAN.
 - BOXED TREES: REMOVE BOTTOM OF PLANT BOXES BEFORE PLANTING. REMOVE SIDES WITHOUT DAMAGE TO ROOTBALL AFTER POSITIONING PLANT AND PARTIALLY BACKFILLING.
 - BOXED TREES: REMOVE BOTTOM OF PLANT BOXES BEFORE PLANTING. REMOVE SIDES WITHOUT DAMAGE TO ROOTBALL AFTER POSITIONING PLANT AND PARTIALLY BACKFILLING.
 - PLACE LANTS WITH FLARE WITHIN 1/2 INCH OF FINISH GRADE.
 - BACKFILL AROUND ROOTBALL IN LAYERS, TAMPING TO SETTLE SOIL AND ELIMINATE VOIDS AND AIR POCKETS. HOLD PLANT RIGIDLY AND PLUMB UNTIL SOIL HAS BEEN FIRMED AROUND BALL OR ROOTS. RAISE ALL PLANTS WHICH SETTLE DEEPER THAN THE SURROUNDING GRADE. WHEN PLANTING PIT IS APPROXIMATELY ONE-QUARTER TO THE TOP OF THE PLANTING PIT AND THOROUGHLY SATURATE ROOTBALL AND ADJACENT SOIL.
 - SET PLANT

3. INSTALL LARGE TREES AND SHRUBS (17 GALLON) AND SHRUBS (17 GALLON) IF THEY OCCUR IN HYDROSEEDED AREAS.
- B. INSTALL TREES AND SHRUBS (1 GALLON) AND GROUNDCOVERS FROM FLATS IF THEY OCCUR IN HYDROSEEDED AREAS.
- C. PROVIDE SEED MIXES AS SHOWN ON PLAN.
- D. APPLY HYDROSEED BY AN APPROVED HYDRO-MULCH COMPANY.
- E. APPLY IN A FORM OF SLURRY CONSISTING OF CELLULOSE FIBER, SEED, CHEMICAL ADDITIVES, COMMERCIAL FERTILIZER AND WATER. WHEN HYDRAULICALLY SPRAYED ON SOIL, ENSURE THAT HYDRO-MULCH FORMS A BLOTTER LIKE GROUND COVER IMPREGNATED UNIFORMLY WITH SEED AND FERTILIZER AND ALLOWS THE ABSORPTION OF MOISTURE AND RAINFALL TO PERCOLATE TO THE UNDERLYING SOIL.
- F. PREPARE THE SLURRY AT THE SITE BY FIRST ADDING WATER TO THE TANK WHEN THE ENGINE IS AT HALF THROTTLE. WHEN WATER LEVEL HAS REACHED HEIGHT OF AGITATOR SHAFT, PROVIDE FULL CIRCULATION, THEN ADD SEED, FOLLOWED BY FERTILIZER, THEN MULCH. ONLY ADD THE MULCH TO THE MIXTURE AFTER THE SEED AND THE TANK IS AT LEAST 1/3 FILLED WITH WATER. BY THE TIME THE TANK IS 2/3 TO 3/4 FULL, ALL MULCH SHALL BE IN. COMMENCE SPRAYING IMMEDIATELY WHEN TANK IS FULL.
- G. SPRAY UNIFORM VISIBLE COAT BY USING THE GREEN COLOR AS A GUIDE. APPLY THE SLURRY IN A SWEEPING MOTION, IN AN ARCHED STREAM SO AS TO FALL LIKE RAIN ALLOWING THE WOOD FIBERS TO BUILD ON EACH OTHER UNTIL A GOOD COAT IS ACHIEVED AND THE MATERIAL IS SPREAD AT THE REQUIRED RATES.
- H. REMOVE SLURRY NOT USED WITHIN TWO HOURS FROM THE SITE.
- I. FILL OUT THE DAILY WORKSHEETS BY THE NOZZLE MAN WITH THE FOLLOWING INFORMATION: SEED TYPE AND AMOUNT, MULCH TYPE AND AMOUNT, NUMBER OF LOADS AND AMOUNT OF WATER, SEEDING ADDITIVE TYPE AND AMOUNT, AREA COVERED AND EQUIPMENT USED, CAPACITY AND LICENSE NUMBER.
- J. DO NOT ALLOW ANY SLURRY TO BE SPRAYED INTO ANY RESERVOIR BASIN OR DRAINAGE DITCHES AND CHANNELS WHICH MAY IMPEDE THE FLOW OF RAIN OR IRRIGATION WATER. CLEAN UP ANY SPILLED SLURRY.
- K. AFTER APPLICATION OF HYDRO-MULCH, WASH EXCESS MATERIAL FROM PREVIOUSLY PLANTED MATERIALS AND ARCHITECTURAL FEATURES. AVOID WASHING OR ERODING MULCH MATERIALS.
- L. ENSURE THAT APPLICATION EQUIPMENT HAS A BUILT-IN AGITATION SYSTEM AND OPERATING CAPACITY SUFFICIENT TO AGITATE, SUSPEND AND MIX A SLURRY CONTAINING NOT LESS THAN 40 POUNDS OF FIBER MULCH PLUS A COMBINED TOTAL OF 7 POUNDS FERTILIZER SOLIDS FOR EACH 100 GALLONS OF WATER.
- M. SLURRY DISTRIBUTION LINES SHALL BE LARGE ENOUGH TO PREVENT STOPPAGE AND SHALL BE EQUIPPED WITH A SET OF HYDRAULIC SPRAY NOZZLES WHICH WILL PROVIDE A CONTINUOUS NON-FLUCTUATING DISCHARGE. CAPACITY REQUIREMENT IS 1,500 GALLONS, MOUNTED ON A TRAVELING UNIT, EITHER SELF-PROPELLED OR DRAWING BY A SEPARATE UNIT WHICH WILL PLACE SLURRY TANK AND NOZZLES WITHIN SUFFICIENT PROXIMITY OF AREAS TO BE SEED.
- N. HYDRAULIC EQUIPMENT USED FOR PESTICIDE APPLICATIONS SHALL CONSIST OF A CLEAN 150-GALLON CAPACITY FIBERGLASS TANK, COMPLETE WITH MECHANICAL AGITATION, PUMP VOLUME SHALL BE 10 GALLONS PER MINUTE, WHILE OPERATING AT A PRESSURE OF 100 POUNDS PER SQUARE INCH. DISTRIBUTION LINES SHALL BE LARGE ENOUGH TO CARRY THE VOLUME OF WATER NECESSARY FOR EVEN CHEMICAL DISTRIBUTION. SPRAY NOZZLE MUST COVER A 15-FOOT SWATH, WITH A MINIMUM OUPUT OF 5 GALLONS PER MINUTE AT 80 POUNDS PER SQUARE INCH.
- 3.9 PLANTING AREA MULCHING
- A. MULCH BACKFILLED SURFACES OF PLANTING AREAS WITH 3 INCH LAYER OF MULCH EXCEPT SLOPES THAT ARE 2:1 OR STEEPER, HYDROSEEDED AREAS, TURF AREAS AND BIORETENTION BASIN BOTTOMS.
- 3.10 CLEAN-UP
- A. AFTER ALL PLANTING OPERATIONS ARE COMPLETE, REMOVE ALL TRASH, EXCESS SOIL, EMPTY PLANT CONTAINERS, AND RUBBISH FROM THE PROPERTY. REPAIR SCARS, RUTS AND OTHER MARKS IN THE GROUND AND LEAVE GROUND IN A NEAT AND ORDERLY CONDITION.
- B. LEAVE THE SITE IN A BROOM-CLEAN CONDITION AND WASH DOWN ALL PAVED AREAS WITHIN THE PROJECT SITE. LEAVE WALKS IN A CLEAN AND SAFE CONDITION.
- 3.11 LANDSCAPE MAINTENANCE
- A. WEED AND CULTIVATE ALL AREAS AT INTERVALS OF NOT MORE THAN 10 DAYS.
- B. PERFORM WATERING, MOWING, ROLLING, EDGING, TRIMMING, FERTILIZATION, SPRAYING, PEST CONTROL, AND CLEANING AS MAY BE REQUIRED.
- C. STREET GUTTERS AND CURBS ARE TO BE INCLUDED.
- D. MAINTAIN ADEQUATE PROTECTION FOR PEOPLE AND PROPERTY, AND BE FINANCIALLY RESPONSIBLE FOR DAMAGES AND INJURIES. NOTIFY THE ARCHITECT IMMEDIATELY SHOULD DAMAGE OCCUR AS A RESULT OF MAINTENANCE OPERATIONS AND PROVIDE REPAIR OR REMUNERATION.
- E. BETWEEN THE 15TH AND 20TH CALENDAR DAY OF THE MAINTENANCE PERIOD, RESEED OR RESOD ALL SPOTS OR AREAS WITHIN THE LAWN WHERE NORMAL TURF GROWTH IS NOT EVIDENT.
- 3.12 TREE AND SHRUB CARE
- A. WATERING: MAINTAIN A LARGE ENOUGH WATER BASIN AROUND PLANTS SO THAT ENOUGH WATER CAN BE APPLIED TO ESTABLISH MOISTURE THROUGH THE MAJOR ROOT ZONE. WHEN HAND WATERING, USE A WATER WAND TO BREAK FORCE OF WATER.
- B. PRUNING:
1. PRIOR TO ANY PRUNING, OBTAIN WRITTEN APPROVAL FROM THE ARCHITECT TO PROCEED.
 2. TREES:
 - a. PROPOSE TREE PRUNING TO THE ARCHITECT SHOULD THERE BE HEALTH OR STRUCTURAL REASONS FOR DOING SO, INCLUDING THE NEED TO ELIMINATE STRUCTURALLY UNSOUND GROWTH, REDUCE POTENTIAL FOR WIND TOPPLING OR WIND DAMAGE, OR MAINTAIN GROWTH WITHIN LIMITED SPACE.
 - b. TREE PRUNING THAT IS REQUIRED DURING THE MAINTENANCE PERIOD FOR TREE HEALTH OR STRUCTURAL REASONS, OR AS DIRECT BY THE CITY, SHALL BE PERFORMED IN ACCORDANCE WITH ANSI A-300 ISA STANDARDS.
 - c. MAJOR PRUNING OF DECIDUOUS TREES SHALL BE DURING THEIR DORMANT SEASON.
 3. SHRUBS:
 - a. THE OBJECTIVES OF SHRUB PRUNING ARE THE SAME AS FOR TREES. DO NOT CLIP SHRUBS INTO BALLED OR BOXED FORMS UNLESS SUCH IS REQUIRED BY THE DESIGN.
 - b. MAKE PRUNING CUTS TO LATERAL BRANCHES OR BUDS OR FLUSH WITH TRUNK. STUBBING WILL NOT BE PERMITTED.
- C. STAKING AND GUYING: ENSURE THAT STAKES AND GUYS REMAIN IN PLACE THROUGHOUT ACCEPTANCE AND MONITOR TO PREVENT GIRDLING OF TRUNKS OR BRANCHES AND TO PREVENT RUBBING THAT CAUSES BARK WOUNDS. ALL NURSERY STAKES SHALL BE REMOVED.
- D. WEED CONTROL: KEEP ALL AREAS FREE OF WEEDS. USE RECOMMENDED LEGALLY APPROVED HERBICIDES. AVOID FREQUENT SOIL CULTIVATION THAT DESTROYS SHALLOW ROOTS. USE MULCHES PER SPECIFICATIONS TO HELP PREVENT WEEK SEED GERMINATION.
- E. INSECT AND DISEASE CONTROL: MAINTAIN A REASONABLE CONTROL WITH APPROVED MATERIALS.
- F. FERTILIZE AS SPECIFIED BY THE AGRONOMIC SOILS TESTING RECOMMENDATIONS AND AS FOLLOWS FOR BID PURPOSES
1. COMMENCEMENT OF MAINTENANCE PERIOD - 6 POUNDS PER 1,000 SQUARE FEET WITH TOP DRESS FERTILIZER.
 2. AT THE END OF FIRST 30 DAYS OF MAINTENANCE PERIOD - 6 POUNDS PER 1,000 SQUARE FEET WITH TOP DRESS FERTILIZER.
 3. AT END MAINTENANCE PERIOD AND AT 30 DAY INTERVALS SHOULD MAINTENANCE PERIOD BE EXTENDED FOR ANY REASON - 6 POUNDS PER 1,000 SQUARE FEET WITH FERTILIZER MIX.
 4. AVOID APPLYING FERTILIZER TO THE ROOTBALL AND BASE OF MAIN STEM; RATHER, SPREAD EVENLY UNDER PLANT TO DRIVE. RAINFALL WILL VARY FROM ABOUT A CUP OF NITRATE FERTILIZER (DEPENDING UPON NITROGEN PERCENTAGE) AROUND A NEWLY INSTALLED SMALL PLANT TO ABOUT 1/2 POUND OF ACTUAL NITROGEN PER INCH OF TRUNK DIAMETER MEASURED FOUR FEET FROM THE GROUND FOR MATURE TREES.
- G. REPLACEMENT OF PLANTS: REPLACE DEAD, DYING AND MISSING PLANTS WITH PLANTS OF A SIZE, CONDITION AND VARIETY ACCEPTABLE TO THE ARCHITECT.
- 3.13 GROUND COVER CARE
- A. WEED CONTROL: CONTROL WEEDS, PREFERABLY WITH PRE-EMERGENT HERBICIDES, BUT ALSO BY HAND OR WITH SELECTIVE SYSTEMIC HERBICIDES. HOE WEEDS AS LITTLE AS POSSIBLE SINCE THIS MAY RESULT IN PLANT DAMAGE.
- B. WATERING: WATER ENOUGH THAT MOISTURE PENETRATES THROUGHOUT ROOT ZONE AND ONLY AS FREQUENTLY AS IS NECESSARY TO MAINTAIN HEALTHY GROWTH.
- C. TRASH: REMOVE AS IT ACCUMULATES, BUT NO LESS OFTEN THAN WEEKLY.
- D. EDGING AND TRIMMING: EDGE GROUNDCOVER TO KEEP IN BOUNDS.
- E. REPLACE DEAD AND MISSING PLANTS.
- 3.14 LAWN AND TURF CARE
- A. TURFING: WATER WELL-ESTABLISHED PRIOR TO FINAL ACCEPTANCE.
- B. WATERING: WATER LAWNS AT SUCH FREQUENCY AS WEATHER CONDITIONS REQUIRED TO REPLENISH SOIL MOISTURE BELOW ROOT ZONE.
- C. WEED CONTROL: IF NEEDED, CONTROL BROAD LEAF WEEDS WITH SELECTIVE HERBICIDES.
- D. MOWING:
1. PERFORM MOWING AT SUCH TIMES OF THE DAY OR WEEK AS MAY BE REQUESTED BY THE OWNER SO AS NOT TO IMPEDE THE OWNER'S OPERATIONS. MOWING TIMES MAY BE AT TIMES OTHER THAN NORMAL WORKING HOURS OR DAYS. PERFORM WORK AT OWNER'S CONVENIENCE.
 2. CLEAN UP GRASS CLIPPINGS DURING AND AFTER MOWING, AND REMOVE LEGALLY FROM SITE. USE OF BLOWING TYPE EQUIPMENT IN LIEU OF SWEEPING OR VACUUMING IS NOT ACCEPTABLE.
- E. RENOVATING:
1. IF REQUIRED, REMOVE THATCH BY VERTICUTTING PREFERABLE IN THE FALL OF THE YEAR, BUT OTHERWISE IN THE SPRING. AT THIS TIME, FERTILIZE WITH NITRATE AND OVER-SEED IF NEEDED. OVER-SEEDING MUST PRECEDE PRE-EMERGENT HERBICIDES BY AT LEAST 4 TO 8 WEEKS. NORMALLY, THIS MEANS THAT LAWNS WHICH HAVE BEEN INVADED BY CRABGRASS WOULD BE RENOVATED AND OVER-SEED IN THE FALL AND TREATED FOR CRABGRASS CONTROL IN THE FOLLOWING LATE WINTER.
 2. CLEAN UP GRASS CLIPPINGS DURING AND AFTER MOWING, AND REMOVE LEGALLY FROM SITE. USE OF BLOWING TYPE EQUIPMENT IN LIEU OF SWEEPING OR VACUUMING IS NOT ACCEPTABLE.
- 3.15 IRRIGATION SYSTEM
- A. INSPECTION: CHECK ALL SYSTEMS FOR PROPER OPERATION. LATERAL LINES MUST BE FLUSHED OUT AFTER REMOVING THE LAST SPRINKLER HEAD OR TWO AT EACH END OF THE LATERAL. ADJUST HEADS AS NECESSARY FOR UNIMPEDED COVERAGE AND NO OVERSPRAY.
- B. CONTROLLERS: SET AND PROGRAM AUTOMATIC CONTROLLERS FOR SEASONAL WATER REQUIREMENTS. GIVE OWNER A KEY TO CONTROLLERS AND INSTRUCTION ON HOW TO TURN OFF SYSTEM IN CASE OF EMERGENCY AS SPECIFIED IN OTHER SECTIONS OF THESE SPECIFICATIONS.
- C. REPAIR ALL DAMAGES TO IRRIGATION SYSTEM. MAKE ALL REPAIRS WITHIN ONE WATERING PERIOD.
- END OF SECTION 329300

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LANDSCAPE CONSTRUCTION DOCUMENTS

5677 OBERLIN DR.
SAN DIEGO, CA

GENERAL NOTES

1. VISIT SITE PRIOR TO SUBMITTING BIDS.

2. VERIFY ALL EXISTING CONDITIONS, DIMENSIONS AND ELEVATIONS BEFORE PROCEEDING WITH THE WORK. NOTIFY LANDSCAPE ARCHITECT IMMEDIATELY SHOULD FIELD CONDITIONS VARY FROM THOSE SHOWN ON PLANS.

3. DO NOT SCALE DRAWINGS.

4. ALL WORK CONSTRUCTION AND MATERIALS SHALL COMPLY WITH ALL PROVISIONS OF THE LATEST BUILDING CODE AND WITH OTHER RULES, REGULATIONS AND ORDINANCES GOVERNING THE LOCATION OF THE WORK. BUILDING CODE REQUIREMENTS TAKE PRECEDENCE OVER THE DRAWINGS AND IT SHALL BE THE RESPONSIBILITY OF ANYONE SUPPLYING LABOR OR MATERIALS OR BOTH TO BRING TO THE ATTENTION OF THE LANDSCAPE ARCHITECT ANY DISCREPANCIES OR CONFLICT BETWEEN THE REQUIREMENTS OF THE CODE AND THE DRAWINGS.

5. REFERENCE TO ANY DETAIL OR DRAWING IS FOR CONVENIENCE ONLY AND DOES NOT LIMIT THE APPLICATION OF SUCH DETAIL OR DRAWINGS.

6. DISCREPANCIES IN THE DRAWINGS OR BETWEEN THE DRAWINGS AND ACTUAL FIELD CONDITIONS SHALL BE REPORTED TO THE LANDSCAPE ARCHITECT. CORRECTED DRAWINGS OR INSTRUCTIONS SHALL BE ISSUED PRIOR TO THE CONTINUATION OF THIS WORK. THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ALL NECESSARY CORRECTIONS DUE TO FAILURE TO REPORT KNOWN DISCREPANCIES.

7. GENERAL CONTRACTOR IS RESPONSIBLE FOR ALL WORK SHOWN ON THESE DRAWINGS AND SPECIFICATIONS UNLESS SPECIFICALLY NOTED OTHERWISE.

8. THE CONTRACT DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE UNLESS OTHERWISE SHOWN. THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE GENERAL CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND HE SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES. OBSERVATION VISITS TO THE SITE BY FIELD REPRESENTATIVES OF THE LANDSCAPE ARCHITECT SHALL NOT INCLUDE INSPECTIONS OF THE PROTECTIVE MEASURES OR THE CONSTRUCTION PROCEDURES REQUIRED FOR SAME, WHICH ARE THE SOLE RESPONSIBILITY OF THE GENERAL CONTRACTOR. ANY SUPPORT SERVICES PERFORMED BY THE LANDSCAPE ARCHITECT DURING CONSTRUCTION SHALL BE DISTINGUISHED FROM CONTINUOUS AND DETAILED INSPECTION SERVICES WHICH ARE FURNISHED BY OTHERS. THESE SUPPORT SERVICES PERFORMED BY THE LANDSCAPE ARCHITECT, WHETHER OF MATERIAL OR WORK, AND WHETHER PERFORMED BEFORE, DURING OR AFTER COMPLETION OF CONSTRUCTION ARE PERFORMED SOLELY FOR THE PURPOSE OF ASSISTING IN QUALITY CONTROL AND IN ACHIEVING CONFORMANCE WITH CONTRACT DRAWINGS AND SPECIFICATIONS, BUT THEY DO NOT GUARANTEE GENERAL CONTRACTOR'S PERFORMANCE AND SHALL NOT BE CONSTRUED AS SUPERVISION OF CONSTRUCTION.

9. A PROTECTION FENCE SHALL BE CONSTRUCTED AND MAINTAINED DURING CONSTRUCTION CONFORMING TO THE REQUIREMENTS OF THE BUILDING CODE.

10. MAINTAIN SANITARY TOILET FACILITIES DURING CONSTRUCTION AS REQUIRED BY APPLICABLE REGULATIONS.

11. THE GENERAL CONTRACTOR WARRANTS TO THE OWNER AND THE LANDSCAPE ARCHITECT THAT ALL MATERIALS AND EQUIPMENT FURNISHED WILL BE NEW UNLESS OTHERWISE SPECIFIED AND THAT ALL WORK WILL BE OF GOOD QUALITY, FREE FROM FAULTS AND DEFECTS.

12. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING HIS WORK AND/OR EQUIPMENT SUPPLIED BY THE OWNER.

13. PROVIDE FACILITIES FOR THE PHYSICALLY HANDICAPPED IN ACCORDANCE WITH C.A.C. TITLE 24 AND AS REQUIRED BY THE LATEST VERSION OF THE CALIFORNIA BUILDING CODE.

14. IT SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO LOCATE ALL EXISTING UTILITIES WHETHER SHOWN HEREON OR NOT AND TO PROTECT THEM FROM DAMAGE. THE GENERAL CONTRACTOR SHALL BEAR ALL EXPENSE OF REPAIR OR REPLACEMENT IN CONJUNCTION WITH THE EXECUTION OF THIS WORK.

15. PAVING, MASONRY AND CONCRETE SUBCONTRACTORS ARE TO COORDINATE WITH THE ELECTRICIAN, DRAINLINE SUBCONTRACTOR AND IRRIGATION SUBCONTRACTOR FOR SLEEVING, PIPING AND/OR CONDUIT INSTALLATION UNDER OR THROUGH HARDSCAPE ELEMENTS.

16. VERIFY ALL PROPERTY LINES OR OTHER LIMIT OF WORK LINES PRIOR TO COMMENCING WORK.

17. IN THE CASE OF DISCREPANCIES IN THE DRAWINGS, SPECIFICATIONS TAKE PRECEDENCE OVER DETAILS, AND DETAILS TAKE PRECEDENCE OVER PLANS.

18. SUBSTITUTIONS MUST BE APPROVED IN WRITING BY THE OWNER.

19. THE GENERAL CONTRACTOR SHALL ENSURE THAT ALL TRADES ARE PROVIDED WITH CURRENT DRAWINGS AND SPECIFICATIONS APPROVED FOR CONSTRUCTION. DO NOT ALLOW DOCUMENTS NOT APPROVED FOR CONSTRUCTION TO BE USED IF SEEN ON SITE. KEEP ONE SET OF AGENCY-APPROVED STAMPED PLANS ON SITE IN CASE CITY INSPECTORS REQUIRE PROOF OF CITY-APPROVED PLANS.

20. REPAIR OR REPLACE ANY DAMAGE TO ADJACENT PROPERTIES, CURBS, WALKS, PLANTING, WALLS, ETC. AT NO ADDITIONAL COST TO THE OWNER.

21. LOCATIONS OF N.I.C. CONSTRUCTION ELEMENTS SUCH AS LIGHTS, SIGNS, VENTS, HYDRANTS, TRANSFORMERS, ETC. ARE APPROXIMATE. NOTIFY THE LANDSCAPE ARCHITECT IMMEDIATELY SHOULD THE LOCATION OF THESE ITEMS INTERFERE WITH THE PROPER EXECUTION OF WORK.

22. PROVIDE THE OWNER WITH ALL WARRANTIES, GUARANTEES, AND INSTRUCTION MANUALS FOR EQUIPMENT, APPLIANCES, FIXTURES, ETC. AS DESCRIBED IN THE SPECIFICATIONS.

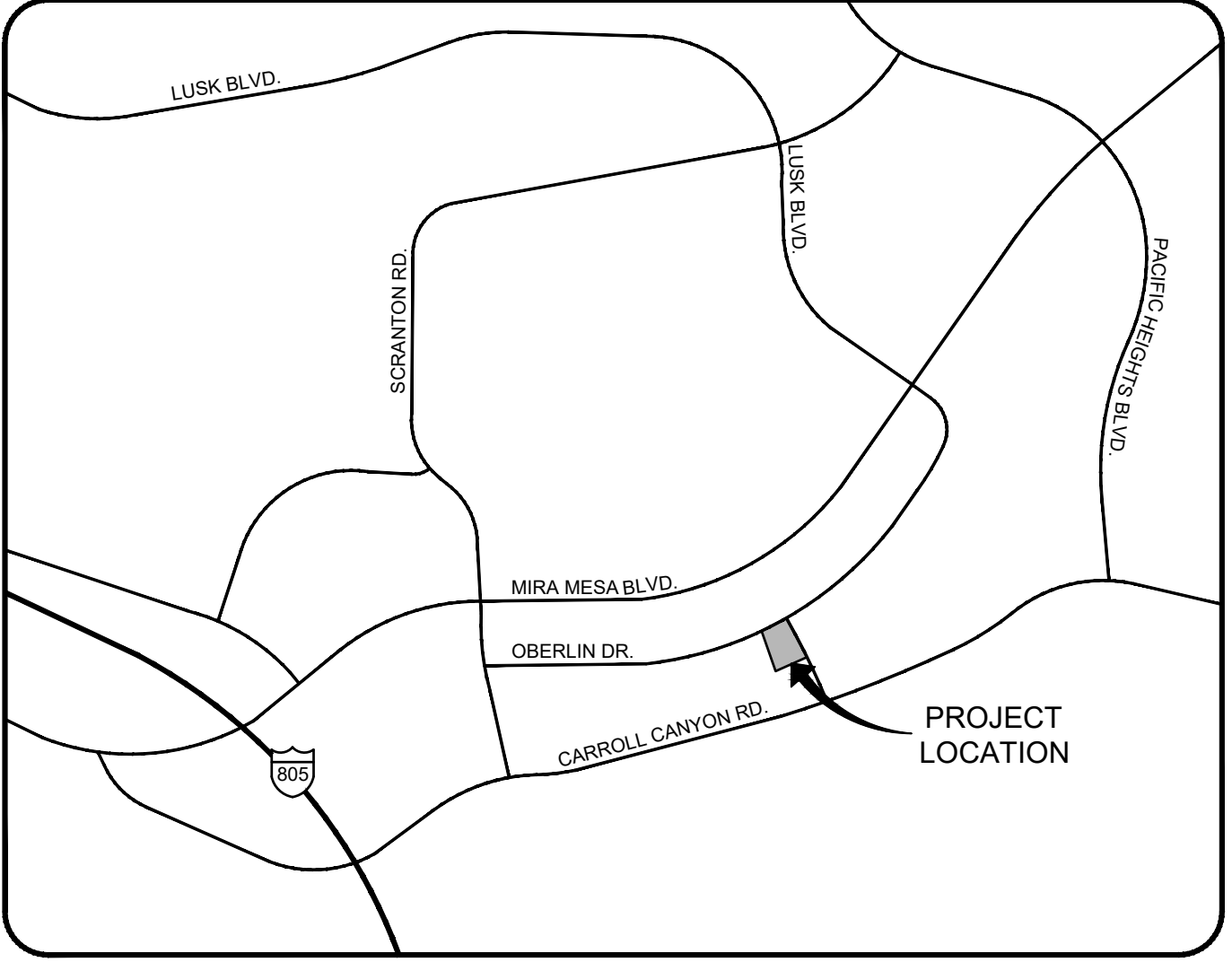
23. NOTIFY THE CITY'S AUTHORIZED REPRESENTATIVE 48 HOURS PRIOR TO COMMENCEMENT OF WORK TO COORDINATE PROJECT INSPECTION SCHEDULES.

24. CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS REQUIRED TO PERFORM THE WORK INDICATED HEREIN BEFORE BEGINNING WORK.

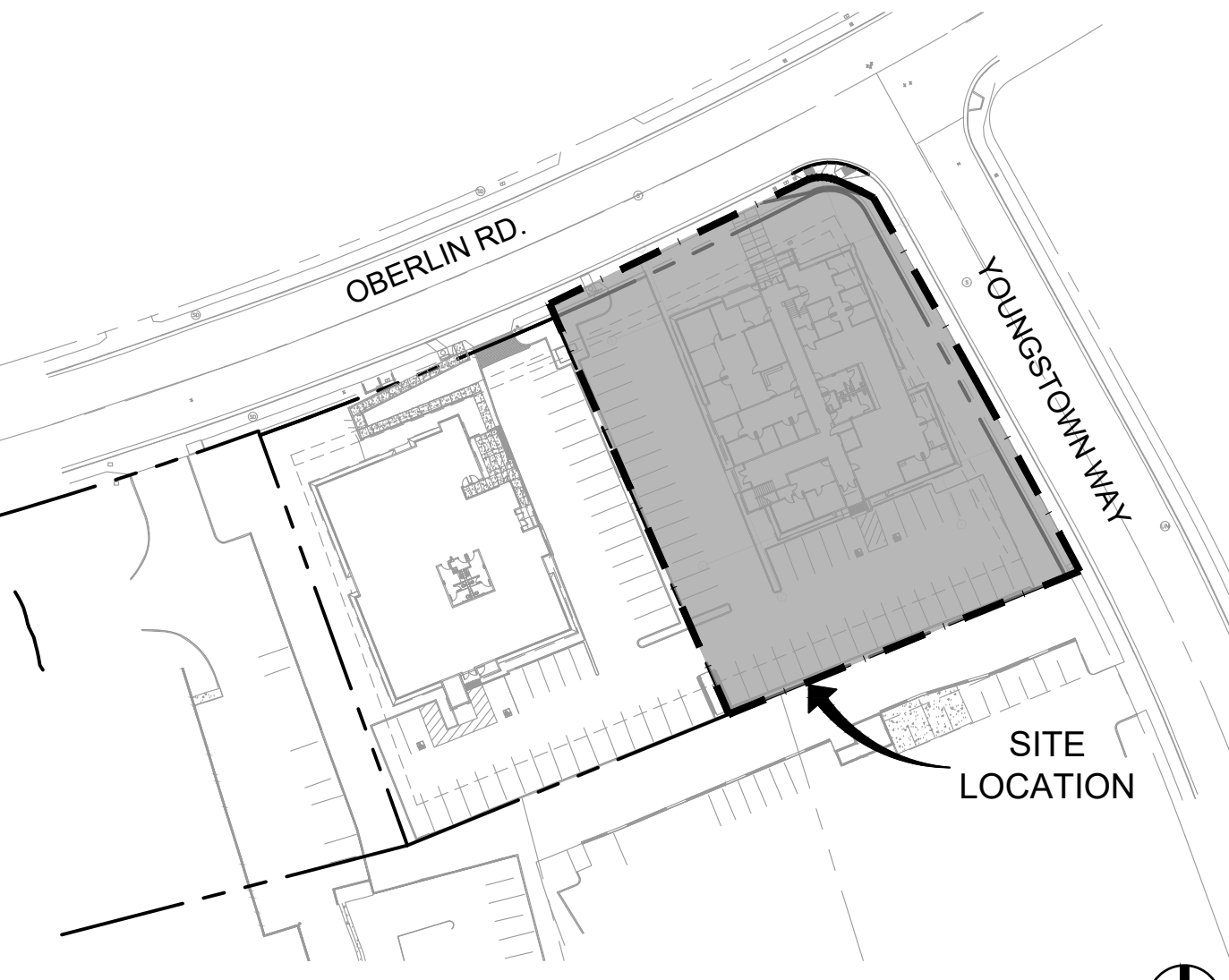
25. CONTRACTOR SHALL OBTAIN THE PERTINENT ENGINEERING AND ARCHITECTURAL PLANS BEFORE BEGINNING WORK.

26. LANDSCAPE ARCHITECT SHALL HAVE FINAL SAY ON INTERPRETATION OF ALL INFORMATION CONTAINED IN THE LANDSCAPE CONSTRUCTION DOCUMENTS, SPECIFICATIONS AND ASSOCIATED REPORTS FOR THE PROJECT.

VICINITY MAP



SITE MAP



ABBREVIATIONS

@ATMISC

¢N.A.P.

#NUMBER

NCNNO COMMON NAME

ACASPHALTIC CONCRETE

NTSNOT TO SCALE

CFCUBIC FOOT

O.CON CENTER

CLRCLEAR

O.D. OUTSIDE DIAMETER

CONC CONCRETE

PLPROPERTY LINE

CTR CENTER

P.A. PLANTER AREA

DIA DIAMETER

P.I.PPOURED IN PLACE

DIM DIMENSION

R RADIUS

EJ EXPANSION JOINT

REV REVISION

EQ EQUAL

R.O.W. RIGHT OF WAY

E.W. EACH WAY

SHT SHEET

EX EXISTING

SPEC SPECIFICATION

FG FINISH GRADE

SF SQUARE FOOT

FS FINISH SURFACE

SQ SQUARE

GA GAUGE

SS STAINLESS STEEL

GALV GALVANIZED

STD STANDARD

HORIZ HORIZONTAL

T TRANSFORMER

HT HEIGHT

T.C. TOP OF CURB

I.D. INSIDE DIAMETER

T.D. TOP OF DRAIN

INCL INCLUDING

T.R. TOP OF RAILING

INV INVERT ELEVATION

T.S. TOP OF STEP

L.O.W. LIMIT OF WORK

T.W. TOP OF WALL

M TYP

TYP TYPICAL

M METER

VERT VERTICAL

MAX MAXIMUM

W/ WITH

MFR MANUFACTURER

W.I. WROUGHT IRON

MH MANHOLE

WT WEIGHT

MIN MINIMUM

MAINTENANCE

MAINTENANCE RESPONSIBILITY

A. ALL IMPROVEMENTS TO BE MAINTAINED BY PROPERTY OWNER

MAINTENANCE PERIOD

A. ALL LANDSCAPED AREAS ARE SUBJECT TO A 90-CALENDAR DAY MINIMUM,180-CALENDAR DAY MAXIMUM, LANDSCAPE MAINTENANCE PERIOD.

B. SODDED AREAS - NORMAL MAINTENANCE AND ESTABLISHMENT PERIODS.

C. SEEDED AREAS - NORMAL MAINTENANCE AND ESTABLISHMENT PERIODS PLUS AN ADDITIONAL 90 CALENDAR DAYS.

WARRANTY PERIOD

SHRUBS, GROUNDCOVER, AND TURF: 90 CALENDAR DAYS

CANOPY TREES: 1 YEAR

PALM TREES: 2 YEARS

IRRIGATION SYSTEM, INCLUDING TRENCHING: 1 CALENDAR YEAR

PROJECT TEAM

OWNER

ABINGTON EMERSON INVESTMENTS
11100 SANTA MONICA BLVD, SUITE 260
LOS ANGELES, CA, 90025
CONTACT: DANIEL JACOBSEN
EMAIL: djacobsen@abingtonemerson.com
PH: (619) 990-3194

ARCHITECT

WARE MALCOMB
3911 SORRENTO VALLEY BLVD.
SAN DIEGO, CA, 92121
CONTACT: HOPE KIEL
EMAIL: hkiel@waremalcomb.com
PH: (619) 564-5138 x 1132

LANDSCAPE

RLA
8941 RESEARCH DR. SUITE 200
IRVINE, CA, 92618
CONTACT: ANDREW NEUBAUER
EMAIL: andrew@ridgela.com
PH: (949) 387-1323 x 23

SHEET INDEX

SHEET NO.	DESCRIPTION	SCALE
L0.0	LANDSCAPE COVER SHEET	--
L1.0	HARDSCAPE SCHEDULES & NOTES	--
L1.1	HARDSCAPE PLAN	1" = 10'-0"
L2.1	HARDSCAPE DETAILS	AS SHOWN
L3.0	IRRIGATION SCHEDULES	--
L3.1	IRRIGATION PLAN	1" = 10'-0"
L4.1 - L4.2	IRRIGATION NOTES & CALCULATIONS	--
L5.1 - L5.3	IRRIGATION DETAILS	AS SHOWN
L6.0	PLANTING SCHEDULES & NOTES	--
L6.1	PLANTING PLAN	1" = 10'-0"
L7.1	PLANTING DETAILS	AS SHOWN
L8.1	LANDSCAPE CALCULATIONS	--
L9.1 - L9.5	LANDSCAPE SPECIFICATIONS	--

STATEMENT OF COMPLIANCE

I HAVE COMPLIED WITH THE CRITERIA OF THE WATER EFFICIENT LANDSCAPE ORDINANCE AND APPLIED THEM ACCORDINGLY FOR THE EFFICIENT USE OF WATER IN THE IRRIGATION DESIGN PLAN.

09/30/25

DATE

TRAVIS EBBERT, LANDSCAPE ARCHITECT

RLA #4624

UNDERGROUND SERVICE ALERT

CALL: TOLL FREE 811

TWO WORKING DAYS BEFORE YOU DIG

SECTION 4216/4217 OF THE GOVERNMENT CODE REQUIRES A DIG ALERT IDENTIFICATION NUMBER BE ISSUED BEFORE A "PERMIT TO EXCAVATE" WILL BE VALID. FOR YOUR DIG ALERT IDENTIFICATION NUMBER CALL UNDERGROUND SERVICE ALERT.

PROJECT DATA

REMARKS

CITY RESUBMISSION 01

CITY RESUBMISSION 02

IPC SET

DATE

06/10/2025

08/04/2025

08/11/2025

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PA/PM:

AN

DRAWN BY.:

MCJ / AN

JOB NO.:

SDG24-0061-00

SHEET

LANDSCAPE COVER SHEET

L0.0

WARE MALCOMB

ARCHITECTURE
PLANNING
INTERIORS

CIVIL ENGINEERING
BRANDING
BUILDING MEASUREMENT

3911 Sorrento Valley Blvd Suite #120
San Diego, CA 92121
P 858.638.7277

LANDSCAPE ARCHITECT

TRAVIS EBBERT

07/31/26

09/30/25

STATE OF CA

ABINGTON EMERSON

5677 OBERLIN DR.
SAN DIEGO, CALIFORNIA 92121

STATE OF CALIFORNIA

OFFICE OF THE CLERK OF SUPERIOR COURT

SAN DIEGO COUNTY

RECEIVED

09/30/25

10:00 AM

WARE MALCOMB

ARCHITECTURE
PLANNING
INTERIORS

CIVIL ENGINEERING
BRANDING
BUILDING MEASUREMENT

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PROJECT DATA

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MCJ / AN

JOB NO.:

SDG24-0061-00

SHEET

LANDSCAPE COVER SHEET

L0.0

STATEMENT OF COMPLIANCE

I HAVE COMPLIED WITH THE CRITERIA OF THE WATER EFFICIENT LANDSCAPE ORDINANCE AND APPLIED THEM ACCORDINGLY FOR THE EFFICIENT USE OF WATER IN THE IRRIGATION DESIGN PLAN.

09/30/25

DATE

TRAVIS EBBERT, LANDSCAPE ARCHITECT

RLA #4624

UNDERGROUND SERVICE ALERT

CALL: TOLL FREE 811

TWO WORKING DAYS BEFORE YOU DIG

SECTION 4216/4217 OF THE GOVERNMENT CODE REQUIRES A DIG ALERT IDENTIFICATION NUMBER BE ISSUED BEFORE A "PERMIT TO EXCAVATE" WILL BE VALID. FOR YOUR DIG ALERT IDENTIFICATION NUMBER CALL UNDERGROUND SERVICE ALERT.

PLEASE REMAIN AND MAINTAIN THE PROTECTION AND CONTINGENT OF WARE MALCOMB SHALL NOT BE USED ON ANY OTHER WORK. EXCEPT BY AGREEMENT WITH WARE MALCOMB. WITHOUT WRITING, WARE MALCOMB SHALL HAVE NO LIABILITY FOR ANY DAMAGE TO THE PROPERTY OF ANY OTHER PARTY.

STATE OF CALIFORNIA

OFFICE OF THE CLERK OF SUPERIOR COURT

SAN DIEGO COUNTY

RECEIVED

09/30/25

10:00 AM

SHEET 24 OF 43

HARDSCAPE NOTES

1. VISIT THE SITE PRIOR TO SUBMITTING BIDS.
2. SUBMIT A UNIT COST FOR IMPORT SOIL IN-PLACE AND BE COMPLETELY AWARE OF THE AMOUNT OF SOIL NECESSARY TO REACH THE SATISFACTORY GROUND LEVEL.
3. VERIFY ALL PROPERTY LINES OR OTHER LIMIT OF WORK LINES PRIOR TO COMMENCING WORK.
4. CONCRETE PAVING JOINTS INCLUDE THREE BASIC JOINT TYPES: CONTRACTION, DOWELED CONSTRUCTION, AND ISOLATION. SEE HARDSCAPE DETAILS FOR ADDITIONAL INFORMATION. PROVIDE DOWELED CONSTRUCTION JOINTS BETWEEN DIFFERENT PAVING TYPES, CHANGES IN DIRECTION, 50-FEET ON-CENTER FOR LINEAR WALKS, END OF DAY POURS, OR WHERE SPECIFICALLY INDICATED ON THE PLANS.
5. PROVIDE AN ISOLATION JOINT WHERE CONCRETE PAVING ABUTS A VERTICAL SURFACE SUCH AS BUILDINGS, WALLS, STEPS, ETC. SEE HARDSCAPE DETAILS FOR ADDITIONAL INFORMATION.
6. SUBMIT A "PAVING JOINT AND POUR SEQUENCE PLAN" TO LANDSCAPE ARCHITECT FOR REVIEW AND APPROVAL PRIOR TO INSTALLING CONCRETE PAVING. THIS PLAN SHOULD CLEARLY INDICATE CONTRACTOR'S PROPOSED CONCRETE POUR SEQUENCE WITH JOINT LOCATIONS TO INCLUDE CONTRACTION, DOWELED CONSTRUCTION, AND ISOLATION JOINTS. PLAN TO ALSO CONFIRM JOINT TYPE WHETHER HAND-TOOLED OR SAW CUT.
7. USE PIERI "FACE-OFF" BY WR GRACE, OR APPROVED EQUAL, TO PREVENT PERMANENT CEMENTITIOUS STAINING ON ADJACENT HARDSCAPE ELEMENTS WHEN PLACING CONCRETE.
8. REPAIR OR REPLACE ANY DAMAGE TO ADJACENT PROPERTIES, CURBS, WALKS, PLANTING, WALLS, ETC. AT NO ADDITIONAL COST TO THE OWNER.
9. VERIFY ALL EXISTING CONDITIONS, DIMENSIONS AND ELEVATIONS BEFORE PROCEEDING WITH THE WORK. NOTIFY THE LANDSCAPE ARCHITECT IMMEDIATELY SHOULD FIELD CONDITIONS VARY FROM THOSE SHOWN ON PLAN.
10. REPORT DISCREPANCIES IN THE DRAWINGS OR BETWEEN THE DRAWINGS AND ACTUAL FIELD CONDITIONS TO THE LANDSCAPE ARCHITECT. CORRECTED DRAWINGS OR INSTRUCTIONS SHALL BE ISSUED PRIOR TO THE CONTINUATION OF THIS WORK. ASSUME FULL RESPONSIBILITY FOR ALL NECESSARY CORRECTIONS DUE TO FAILURE TO REPORT KNOWN DISCREPANCIES.
11. LOCATE ALL EXISTING UTILITIES WHETHER SHOWN HEREON OR NOT AND PROTECT THEM FROM DAMAGE. NOTIFY THE OWNER IMMEDIATELY IF DAMAGE OCCURS AND ASSUME FULL RESPONSIBILITY FOR EXPENSE OF REPAIR OR REPLACEMENT.
12. COMPLY WITH ALL PROVISIONS OF THE LATEST BUILDING CODE, CURRENT EDITION OF THE ADA STANDARDS FOR ACCESSIBLE DESIGN, AND WITH OTHER CURRENT RULES, REGULATIONS AND ORDINANCES GOVERNING THE PLACE OF THE WORK. BUILDING CODE REQUIREMENTS TAKE PRECEDENCE OVER THE DRAWINGS AND IT SHALL BE THE RESPONSIBILITY OF ANYONE SUPPLYING LABOR OR MATERIALS OR BOTH TO BRING TO THE ATTENTION OF THE LANDSCAPE ARCHITECT ANY DISCREPANCIES OR CONFLICTS BETWEEN THE REQUIREMENTS OF THE CODE AND THE DRAWINGS.
13. LOCATIONS OF N.I.C. CONSTRUCTION ELEMENTS SUCH AS LIGHTS, SIGNS, VENTS, HYDRANTS, TRANSFORMERS, ETC., ARE APPROXIMATE. NOTIFY THE LANDSCAPE ARCHITECT IMMEDIATELY SHOULD THE LOCATION OF THESE ITEMS INTERFERE WITH THE PROPER EXECUTION OF WORK.
14. VERIFY ALL PAVING AND HARDSCAPE CONSTRUCTION DRAWINGS WITH GEOTECHNICAL SOILS REPORT IN REGARD TO ITEMS SUCH AS SUB-BASE PREPARATION, PRE-SATURATION, SOIL COMPACTION, REINFORCING, SLAB THICKNESS, SLAB JOINTING/DOWELING AND FOOTING REQUIREMENTS. NOTIFY THE LANDSCAPE ARCHITECT IMMEDIATELY IF GEOTECHNICAL SOILS REPORT RECOMMENDATIONS DIFFER FROM DRAWINGS. THE GEOTECHNICAL SOILS REPORT RECOMMENDATIONS, IF MORE STRINGENT THAN THE DRAWINGS, SHALL TAKE PRECEDENCE.
15. BE RESPONSIBLE FOR COORDINATION BETWEEN SUBCONTRACTORS FOR PROPER AND TIMELY PLACEMENT OF SLEEVEING, PIPING AND / OR CONDUIT INSTALLATION UNDER OR THROUGH LANDSCAPE ELEMENTS.
16. LANDSCAPE LIGHT FIXTURE LOCATIONS AS INDICATED ON THESE PLANS ARE APPROXIMATE. FINAL LOCATION TO BE VERIFIED BY LANDSCAPE ARCHITECT ON SITE.
17. DO NOT SCALE DRAWINGS.
18. PROVIDE A REPRESENTATIVE SAMPLE OF EACH PAINTED OR STAINED ELEMENT TO THE OWNER FOR REVIEW AND APPROVAL PRIOR TO APPLYING FINISH. REFER TO DETAILS AND SPECIFICATIONS FOR SPECIFIC SUBMITTAL REQUIREMENTS.
19. PROVIDE A MOCK-UP OF EACH HARDSCAPE ELEMENT. ITEMS TO INCLUDE, BUT ARE NOT LIMITED TO PAVING AND WALL TYPES NOTED IN THE COLOR AND FINISH SCHEDULES. SAMPLES TO BE PLACED IN A LOCATION SPECIFIED BY THE OWNER'S AUTHORIZED REPRESENTATIVE FOR REVIEW AND APPROVAL BY THE OWNER AND LANDSCAPE ARCHITECT PRIOR TO INSTALLATION. REFER TO MOCK-UP REQUIREMENTS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.
20. WHERE PAVING AND FINISH GRADE MEET, DEPRESS FINISH GRADE 1" IN TURF AREAS AND 1-1/2" IN GROUND COVER / SHRUB AREAS, UNLESS OTHERWISE INDICATED.
21. PROJECT WALKS SHALL NOT EXCEED A SLOPE OF 1:20 (5% GRADIENT) UNLESS OTHERWISE INDICATED.
22. ACCESSIBLE RAMPS SHALL NOT EXCEED 1:12 OR 8.33%.
23. PLANTER AREAS SHALL NOT EXCEED 2:1 SLOPE UNLESS OTHERWISE INDICATED.
24. HOLD FINISH GRADE A MINIMUM OF 6" BELOW FINISH FLOOR, UNLESS OTHERWISE INDICATED.
25. CONSTRUCT ALL CURVE TO CURVE AND CURVE TO TANGENT LINES TO BE NEAT, TRIM, SMOOTH AND UNIFORM.
26. CONSTRUCT ALL CONCRETE WITH A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI @ 28 DAYS, UNLESS OTHERWISE INDICATED.
27. ALL CONCRETE PAVING BANDS AND CONCRETE CAPS SHALL HAVE CONTROL JOINTS AT 5'-0" ON CENTER MAXIMUM UNLESS NOTED OTHERWISE ON THE PLANS. ALL WALLS SHALL HAVE CONTROL JOINTS AT 20'-0" O.C. MAXIMUM UNLESS NOTED OTHERWISE ON THE PLANS.
28. PROVIDE THE OWNER WITH ALL WARRANTIES, GUARANTEES, AND INSTRUCTION MANUALS FOR EQUIPMENT, APPLIANCES, FIXTURES, ETC. AS DESCRIBED IN THE SPECIFICATIONS.
29. PRIOR TO INSTALLING ABOVE-GRADE DEVICES SUCH AS IRRIGATION VALVE BOXES, GATE VALVES, BASKET STRAINERS, FLOW SENSORS, BACKFLOW ASSEMBLIES, CONTROLLERS, QUICK COUPLERS, JUNCTION/ PULL BOXES, GFC'S, TRANSFORMERS, SIGNS, GAS METERS, UTILITY VAULTS, LIGHT FIXTURES, CLEAN-OUTS, DRAINS, MANHOLES, PIV'S, FDC'S, AND WATER METERS, PLACE A WOOD STAKE IN PROPOSED LOCATIONS WITH DEVICE CLEARLY LABELED ON STAKE IN BLACK INK. OBTAIN LANDSCAPE ARCHITECT'S OR IRRIGATION DESIGNER'S APPROVAL OF STAKED LOCATIONS PRIOR TO INSTALLING DEVICES.
30. DO NOT INSTALL DEVICES SUCH AS CLEAN-OUTS, VALVE BOXES, GATE VALVES, ETC. IN PAVED AREAS WHEN INSTALLING THEM IN AN ADJACENT PLANTER IS POSSIBLE. IF THIS CANNOT BE ACHIEVED, CONTACT LANDSCAPE ARCHITECT FOR RESOLUTION.
31. INSTALL INTERSECTING ELEMENT AT 90 DEGREES UNLESS NOTED OTHERWISE ON PLANS.

MOCK-UP REQUIREMENTS

1. HARDSCAPE PAVING - PROVIDE (1) 4' x 4' SQUARE MOCK-UP FOR EACH PAVING TYPE NOTED IN THE COLOR AND FINISH SCHEDULE. EACH MOCK-UP TO INCLUDING THE SPECIFIED COLOR, FINISH, AN EXAMPLE OF EACH JOINTING TYPE NOTED IN THE CONSTRUCTION KEYNOTES AND DETAILS, AND SPECIFIED SEALER. IN PLACE MOCK-UPS WILL NOT BE ACCEPTED. CONTRACTOR SHALL PROVIDE ADDITIONAL SAMPLES UNTIL THE COLOR AND FINISH IS CONSIDERED ACCEPTABLE BY THE OWNER'S REPRESENTATIVE, AT NO ADDITIONAL COST TO THE OWNER.
2. MOCK-UP LEAD TIMES - BE AWARE OF POSSIBLE LEAD TIMES FOR ITEMS SUCH AS BUT NOT LIMITED TO PRE-CAST CONCRETE PAVERS, SIMILAR COLORS AND SIZES WILL NOT BE ACCEPTED AS A MOCK-UP REVIEW.
3. HARDSCAPE ELEMENTS - PROVIDE A PHYSICAL SAMPLE OF SPECIFIED MATERIALS (COLOR, FINISH, AND SEALER) TO THE OWNER AND LANDSCAPE ARCHITECT FOR REVIEW AND APPROVAL PRIOR TO PLACING ORDER. ITEMS SUCH AS BUT NOT LIMITED TO PRE-CAST CONCRETE ELEMENTS, INDICATED WOOD SAMPLES, AND OTHER SITE FURNISHING MATERIALS.
4. WALLS - PROVIDE (1) 3' TALL BY 3' LONG BY 8" WIDE MOCK-UP FOR EACH WALL TYPE NOTED IN THE WALL SCHEDULE. EACH MOCK-UP TO INCLUDING THE SPECIFIED COLOR, FINISH, JOINTING, EDGING, CAP (AS NOTED IN CONSTRUCTION KEYNOTES AND DETAILS), AND SPECIFIED SEALER. CONTRACTOR SHALL PROVIDE ADDITIONAL SAMPLES UNTIL THE COLOR AND FINISH IS CONSIDERED ACCEPTABLE BY THE OWNER'S REPRESENTATIVE, AT NO ADDITIONAL COST TO THE OWNER.
5. MOCK-UPS TO BE PROTECTED ON-SITE THROUGHOUT THE DURATION OF THE CONSTRUCTION SCHEDULE.
6. REMOVE MOCK-UPS AT COMPLETION OF CONSTRUCTION WHEN DIRECTED BY THE OWNER OR LANDSCAPE ARCHITECT.
7. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.

KEY	DESCRIPTION	DETAIL	MFR. / SUPPLIER	COLOR	FINISH	JOINTS	COMMENTS
P1	CONCRETE PAVING		A-C, L2.1	--	NATURAL GRAY	MEDIUM BROOM PERPENDICULAR TO PATH OF TRAVEL	PED: 3000 PSI VEH: 4200 PSI VERIFY PSI WITH GEOTECH PRIOR TO START SEALER. SEE SPECS.
P2	CONCRETE PAVING		A-C, L2.1	---	NATURAL GRAY	GRACE TOP-CAST #05 MIX DESIGN: 50% SAND / 50% PEA GRAVEL	PED: 3000 PSI VEH: 4200 PSI VERIFY PSI WITH GEOTECH PRIOR TO START SEALER. SEE SPECS.
P3	PRE-CAST TRUNCATED DOME PAVERS		D, L2.1	ORCO BLOCK (714) 527-2239	12" SQ. (ACTUAL) TRUNCATED DOME PAVER	FEDERAL YELLOW / PERIMETER GROUT JNT. LATERETE COLOR TO BE SELECTED	MOCK-UP IS REQUIRED ON THIS PROJECT PAVERS SHALL BE LAID OUT IN ORTHOGONAL PATTERN. PRE-CUT PAVERS WILL NOT BE ACCEPTED

KEY	DESCRIPTION	DETAIL
1	CONSTRUCT SAWCUT CONTRACTION JOINT	B, L2.1
2	CONSTRUCT SAWCUT DOWELED CONSTRUCTION JOINT	B, L2.1
3	CONSTRUCT NEW TO EXISTING CONCRETE PAVING	C, L2.1

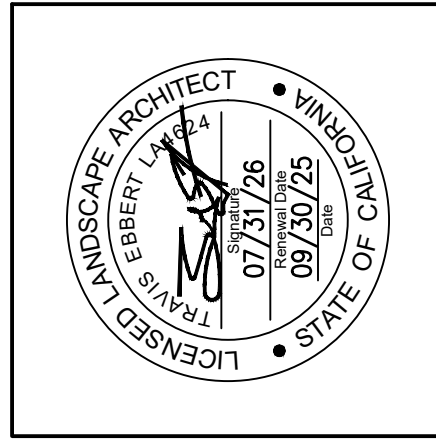
KEY	DESCRIPTION	DETAIL
A	EXISTING A.C. PAVING	EXISTING
B	EXISTING CONCRETE CURB	EXISTING
C	EXISTING CONCRETE GUTTER	EXISTING
D	EXISTING PAVEMENT STRIPING	EXISTING
E	EXISTING ADA STALL SIGNAGE	EXISTING
F	PROPOSED SIGNAGE	PER SEPARATE SUBMITTAL
G	EXISTING UTILITIES	EXISTING
H	EXISTING CONCRETE SIDEWALK	EXISTING

SYMBOL	DESCRIPTION
-----	DOWELED CONSTRUCTION JOINT
_____	CONTRACTION JOINT
PA	PLANTING AREA

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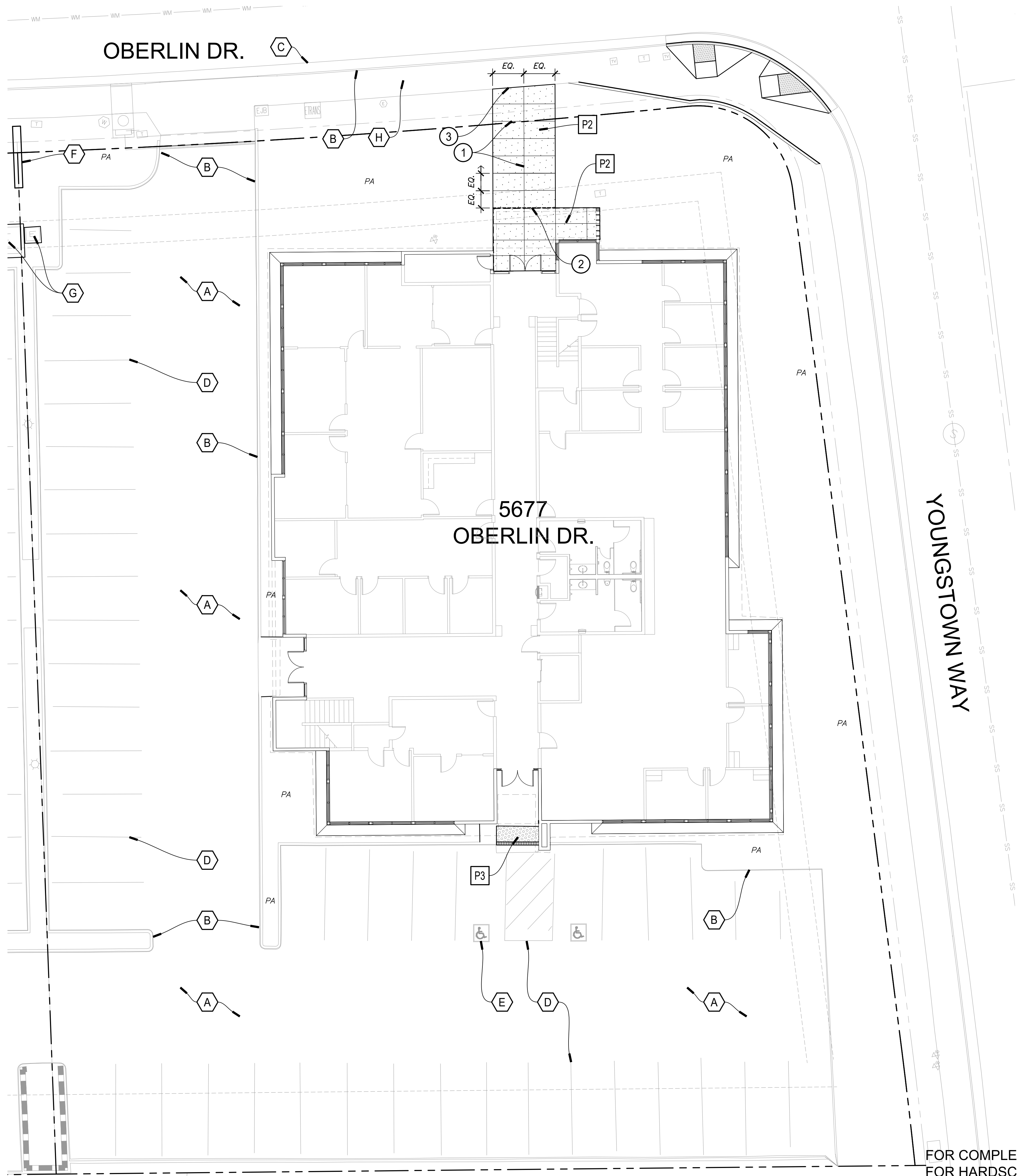
PROJECT DATA	
DATE	REMARKS
06/10/2025	CITY RESUBMISSION 01
08/04/2025	CITY RESUBMISSION 02
08/11/2025	IPC SET

PA/PM:	AN
DRAWN BY.:	MCJ / AN
JOB NO.:	SDG24-0061-00

SHEET
HARDSCAPE
SCHEDULES & NOTES

L1.0

FOR HARDSCAPE PLAN - SEE SHEET L1.1
FOR HARDSCAPE DETAILS - SEE SHEET L2.1
FOR LANDSCAPE SPECIFICATIONS - SEE SHEETS L9.1 - L9.5



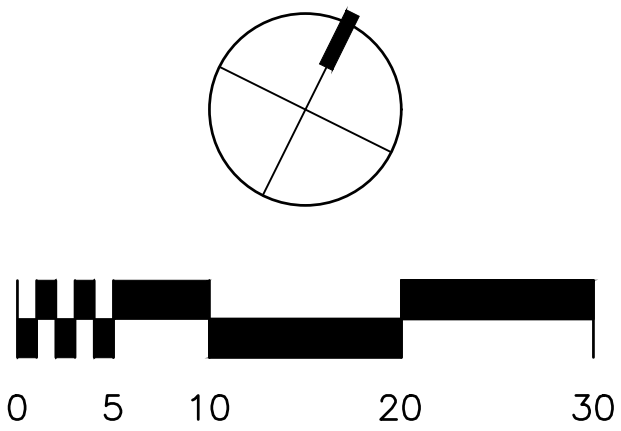
HARDSCAPE KEYNOTES		
KEY	DESCRIPTION	DETAIL
1	CONSTRUCT SAWCUT CONTRACTION JOINT	B, L2.1
2	CONSTRUCT SAWCUT DOWELED CONTRACTION JOINT	B, L2.1
3	CONSTRUCT NEW TO EXISTING CONCRETE PAVING	C, L2.1

REFERENCE KEYNOTES		
KEY	DESCRIPTION	DETAIL
A	EXISTING A.C. PAVING	EXISTING
B	EXISTING CONCRETE CURB	EXISTING
C	EXISTING CONCRETE GUTTER	EXISTING
D	EXISTING PAVEMENT STRIPING	EXISTING
E	EXISTING ADA STALL SIGNAGE	EXISTING
F	PROPOSED SIGNAGE	PER SEPARATE SUBMITTAL
G	EXISTING UTILITIES	EXISTING
H	EXISTING CONCRETE SIDEWALK	EXISTING

SYMBOL LEGEND	
SYMBOL	DESCRIPTION
---	DOWELED CONSTRUCTION JOINT
---	CONTRACTION JOINT
PA	PLANTING AREA

PAVING SCHEDULE		
KEY	DESCRIPTION	DETAIL
P1	CONCRETE PAVING	A-C, L2.1
P2	CONCRETE PAVING	A-C, L2.1
P3	PRE-CAST TRUNCATED DOME PAVERS	D, L2.1

FOR COMPLETE HARDSCAPE SCHEDULES & NOTES - SEE SHEET L1.0
FOR HARDSCAPE DETAILS - SEE SHEET L2.1
FOR LANDSCAPE SPECIFICATIONS - SEE SHEETS L9.1 - L9.5

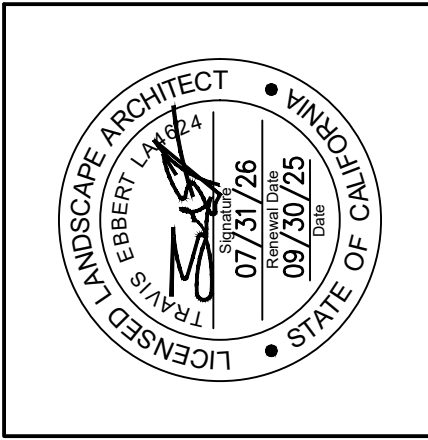


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SHEET
HARDSCAPE PLAN

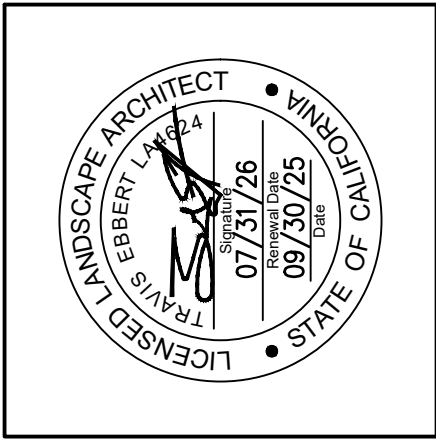
L1.1

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PROJECT DATA	
DATE	REMARKS
06/10/2025	CITY RESUBMISSION 01
08/04/2025	CITY RESUBMISSION 02
08/17/2025	IPC SET

PA/PM:	AN
DRAWN BY.:	MCJ / AN
JOB NO.:	SDG24-0061-00

SHEET
HARDSCAPE DETAILS

L2.1

SECTION

LEGEND:

- CONCRETE PAVING - SEE HARDSCAPE SHEETS FOR COLOR AND FINISH.
- COLD JOINT.
- 1/8" TOOLED RADIUS ON EDGES.
- 4x18" LONG SMOOTH STEEL DOWELS AT 30" O.C. DRILLED AND EPOXIED WITH SIMPSON "SET 22" EPOXY INTO EXISTING CONCRETE PAVING - MIN. 3" EMBED. STEEL DOWELS TO BE SAWCUT TO LENGTH, NOT SHEARED.
- 90% COMPACTED SUBGRADE - VERIFY REQUIREMENTS WITH GEOTECHNICAL SOILS REPORT.
- CONTINUOUS THICKENED EDGE AT PAVING.
- CONCRETE CURB.

C CONCRETE PAVING AT CURB CONNECTION

SCALE: 3" = 1'-0"

SECTION

LEGEND:

- CONCRETE PAVING - SEE HARDSCAPE SHEETS FOR COLOR AND FINISH.
- PAVING THICKNESS - PER CIVIL / GEOTECHNICAL ENGINEER'S RECOMMENDATIONS.
- REINFORCING AT PAVING - PER CIVIL / GEOTECHNICAL ENGINEER'S RECOMMENDATIONS.
- FINISH GRADE.
- COMPACTED SUBGRADE - PER CIVIL / GEOTECHNICAL ENGINEER'S RECOMMENDATIONS.
- 1/4" TOOLED RADIUS ON EGED TYPICAL.

A CONCRETE PAVING

SCALE: 1-1/2" = 1'-0"

SECTION

PLAN VIEW

ENLARGEMENT

LEGEND:

- ACCESSIBLE PRECAST TRUNCATED DOME PAVER - SEE HARDSCAPE PLAN FOR COLOR AND SUPPLIER.
- 1/2" THIN SET BONDING LAYER, "VBM BONDER" BY ORCO BLENDED PRODUCTS.
- CONCRETE SUB-SLAB.
- 90% COMPACTED BASE MATERIAL AND SUBGRADE - VERIFY WITH REQUIREMENTS NOTED IN THE GEOTECHNICAL SOILS REPORT.
- ADJACENT CONCRETE PAVING - SEE HARDSCAPE PLAN FOR COLOR AND FINISH.
- #3 BY 12" LONG SMOOTH DOWELS 30" O.C.
- REBAR SIZE AND SPACING TO MATCH ADJACENT PAVING.
- THICKENED EDGE AT PAVING.
- 1/8" WIDE MAX. GROUT JOINT AT EDGE - CONFIRM PAVING CUT-OUT SIZE WITH BUTT-JOINTED PAVERS BEFORE POURING CONCRETE. GROUT COLOR TO MATCH PAVERS.
- 0" CONCRETE CURB - SEE CIVIL PLANS.
- BUTT JOINT.

NOTES:

A. ENSURE THAT TRUNCATED DOME "SLIVERS" ARE EQUAL SIZE ON ALL SIDES.

B. PROVIDE BUTT JOINTS BETWEEN PAVERS WITHIN FIELD.

C. WHEN TRUNCATED DOME PAVERS ARE INSTALLED ON A RADIUS, PAVERS TO BE CUT SO THAT THERE IS A CLEAN BUTT JOINT ON ALL SIDES OF PAVERS AND THE DOME SPACING COMPLIES WITH BUILDING CODE REGULATES.

D. SEAL PAVERS AFTER JOINTS HAVE BEEN FILLED AND PAVERS HAVE BEEN CLEANED. SEALER TO BE BP PRO ENHANCING STABILIZING SEALER. CONTRACTOR TO BE RESPONSIBLE FOR COORDINATING TRUNCATED DOME PAVER BLOCK OUT TO ACCOUNT FOR BUTT JOINTS BETWEEN PAVERS AND 1/8" MAX. GROUT JOINT AROUND PERIMETER.

D PRE-CAST TRUNCATED DOME PAVERS

SCALE: 1-1/2" = 1'-0"

SECTION

LEGEND:

- CONCRETE PAVING - SEE HARDSCAPE SHEETS FOR COLOR AND FINISH.
- 3/16" WIDE (MAX.) SAWCUT JOINT - CUT TO 1/4 THE DEPTH OF SLAB. PROVIDE 1/8" WIDE (MAX.) BY 1" DEEP TOOLED PRE-SCORE JOINT AT PAVING JOINTS BEFORE SAW CUTTING.
- 9" LONG PLASTIC "SPEED DOWEL" WITH 5/8" DIAMETER BY 18" LONG SMOOTH STEEL DOWELS AT 30" O.C.
- 3/16" WIDE (MAX.) TOOLED JOINT WITH 1/8" RADIUS ON EDGES - CUT TO 1/4 DEPTH OF SLAB.
- REBAR - SEE DETAIL "B", THIS SHEET.
- 2-PART COLORED POLYURETHANE SEALANT - SEE SPECIFICATIONS. APPLY SILICA #30 GRADE SAND TO SURFACE OF SEALANT WHILE STILL TACKY.
- 1/2" THICK CLOSED CELL POLYFOAM JOINT FILLER MATERIAL WITH PRE-SCORED "ZIP-STRIP" TOP - SPRAY GLUE TO SIDE OF POUR.
- FIXED VERTICAL EDGE, I.E. WALL, COLUMN, THRESHOLD, STEPS, OR BUILDING SLAB.
- COLD JOINT.
- 1/8" TOOLED RADIUS ON EDGES.
- 4x18" LONG SMOOTH STEEL DOWELS AT 30" O.C. DRILLED AND EPOXIED WITH SIMPSON "SET 22" EPOXY INTO EXISTING CONCRETE PAVING - MIN. 3" EMBED. STEEL DOWELS TO BE SAWCUT TO LENGTH, NOT SHEARED.
- EXISTING CONCRETE PAVING.

B CONCRETE PAVING JOINTS

SCALE: 1-1/2" = 1'-0"

FOR COMPLETE HARDSCAPE SCHEDULES & NOTES - SEE SHEET L1.0
FOR HARDSCAPE PLAN - SEE SHEET L1.1
FOR LANDSCAPE SPECIFICATIONS - SEE SHEETS L9.1 - L9.5

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EXISTING EQUIPMENT LEGEND	
SYMBOL	MANUFACTURE / MODEL NO. / DESCRIPTION
	(EXISTING) BUILDING POTABLE WATER METER. VERIFY SIZE, LOCATION, AND STATIC WATER PRESSURE IN FIELD.
	(EXISTING) BACKFLOW DEVICE. PROTECT IN PLACE.
	(EXISTING) IRRIGATION CONTROLLER SHALL BE REMOVED AND REPLACED WITH NEW "ET" WEATHER BASED SMART IRRIGATION CONTROLLER. SEE ABOVE CONTROLLER LEGEND FOR SIZE AND TYPE.
	CONNECTION OF PROPOSED MAINLINE AND CONTROL WIRES TO EXISTING IRRIGATION SYSTEM. VERIFY MAINLINE SIZE, QUANTITY OF WIRES REQUIRED, INCLUDING SPARE WIRES AND EXACT CONNECTION POINT LOCATIONS IN FIELD.
	(EXISTING) IRRIGATION MAINLINE SHOWN FOR REFERENCE ONLY. PROTECT IN PLACE. REPAIR ANY DAMAGE DUE TO CONSTRUCTION. VERIFY SIZE, TYPE, AND EXACT LOCATION IN FIELD. IF CONTRACTOR IS NOT ABLE TO LOCATE EXISTING MAINLINE CONTRACTOR SHALL PROVIDE AND INSTALL NEW MAINLINE AND MAKE ALL NECESSARY CONNECTIONS FOR PROPER OPERATION OF NEW AND EXISTING IRRIGATION SYSTEM.
	(EXISTING) PVC PIPE AS LATERAL LINES SHOWN FOR REFERENCE ONLY. VERIFY EXACT LOCATION IN FIELD. PROTECT IN PLACE, REPAIR ANY DAMAGE DUE TO CONSTRUCTION.
	IRRIGATION TIE-IN CONNECTION OF NEW LATERAL LINE TO EXISTING SYSTEM LATERAL LINE. VERIFY SIZE, LOCATION AND CONNECTION POINTS IN FIELD.
	CUT AND CAP EXISTING LATERAL LINE. VERIFY EXACT LOCATION IN FIELD.
	(EXISTING) SLEEVING FOR MAINLINE AND CONTROL WIRES. VERIFY SIZE AND EXACT LOCATION IN FIELD. IF CONTRACTOR IS NOT ABLE TO LOCATE OR UTILIZE EXISTING SLEEVE CONTRACTOR SHALL SAWCUT PAVING/CONCRETE OR BORE UNDER AND INSTALL NEW PIPE AND OR CONTROL WIRES PLACED IN NEW SLEEVE FOR CONNECTION TO EXISTING IRRIGATION SYSTEM. BACKFILL AND INSTALL ASPHALT SLURRY MIX OR CONCRETE TO MATCH EXISTING CONDITIONS, AS APPROVED BY OWNER. VERIFY ALL SLEEVE LOCATIONS PRIOR TO BIDDING AND COMMENCING WORK.
	(EXISTING) IRRIGATION TO REMAIN. PROTECT IN PLACE. VERIFY AND TEST FOR PROPER OPERATION PRIOR TO CONSTRUCTION, REPAIR OR REPLACE IF DAMAGED. PROVIDE 100% COVERAGE WITH NO PONDING, RUNOFF OR OVER SPRAY. THE OWNER'S REPRESENTATIVE MUST REVIEW ANY REQUIRED MODIFICATIONS TO THESE AREAS PRIOR TO COMMENCING WORK. THE CONTRACTOR MUST NOTIFY THE OWNER'S AUTHORIZED REPRESENTATIVE OF THESE CONDITIONS OR ANY DISCREPANCIES PRIOR TO COMMENCING WORK.

IRRIGATION CONTROLLER LEGEND			
SYMBOL	MANUFACTURE / MODEL NO. / DESCRIPTION	DETAIL	SHEET
	SITEONE LANDSCAPE SUPPLY - GREEN TECH DIVISION- HUNTER "ICC2" CONTROLLER ASSEMBLY: MODEL# CA12-HU10-24 / LPP / HWSSE-P / GTHCFS-150HC: ICA12 = V.I.T. STRONG BOX STAINLESS STEEL LIGHT DUTY WALL MOUNT CONTROLLER ENCLOSURE. HU10 = HUNTER "ICC2". 24 = NUMBER OF CONTROLLER STATIONS. LPP = LINE SURGE PROTECTION. HWSSE-P = SOLAR SYNC "ET" DATA - POLE MOUNTED WITHIN V.I.T. STAINLESS STEEL ENCLOSURE. GTHCFS-150HC - 1-1/2" HYDRAWISE SERIES FLOW METER. FOR FURTHER INFORMATION CONTACT ERIC ANDERSON WITH SITEONE LANDSCAPE SUPPLY, GREEN TECH DIVISION, LAGUNA HILLS, CA. (949) 295-4048 or 800-427-0779, EAnderson@siteone.com THE INSTALLATION OF CONTROLLER ASSEMBLY AND CELLULAR SERVICE ACTIVATION MUST BE APPROVED AND CERTIFIED BY SITEONE LANDSCAPE SUPPLY. PROVIDE COPIES OF CERTIFICATION TO THE OWNER'S AUTHORIZED REPRESENTATIVE AND LANDSCAPE ARCHITECT.	P	L5.2
	HUNTER - "SOLAR-SYNC-SEN" (ET) MODULE AND RAIN SENSOR. INSTALL PER MANUFACTURES RECOMMENDATIONS. MOUNT SENSOR ON 10"x2" GALVANIZED PIPE CLEAR OF ANY OBSTRUCTIONS IN FULL SUN AND WIRE TO CONTROLLER. VERIFY EXACT LOCATION IN FIELD WITH HUNTER INDUSTRIES AND OWNERS AUTHORIZED REPRESENTATIVE PRIOR TO INSTALLATION.	P	L5.2
	120 VOLT ELECTRICAL POWER PROVIDED BY ELECTRICIAN. VERIFY ACTUAL LOCATION IN FIELD. THE COORDINATION OF POWER AND CONNECTION OF CONTROLLER SHALL BE THE RESPONSIBILITY OF THE LANDSCAPE CONTRACTOR.	N/A	N/A
NOTE: 1. INSTALL CONTROLLER, CONTROL WIRE CONNECTORS, AND CONTROLLER GROUNDING PROTECTION AND ALL RELATED EQUIPMENT PER MANUFACTURE RECOMMENDATIONS. 2. FOR MULTIPLE CONTROLLERS USE DIFFERING COLOR STRIPE FOR COMMON WIRE, PER CONTROLLER. 3. CONTRACTOR SHALL COORDINATE A PIRE CONSTRUCTION MEETING WITH SITEONE AND HUNTER INDUSTRIES REPRESENTATIVE PRIOR TO CONSTRUCTION.			

IRRIGATION PIPE & WIRE LEGEND			
SYMBOL	MANUFACTURE / MODEL NO. / DESCRIPTION	DETAIL	SHEET
	BURIED NON-PRESSURE LATERAL LINE PIPE: SCH. 40, IPS, SOLVENT WELD, PVC PIPE FOR SIZES 3/4" TO 2-1/2". MINIMUM PIPE SIZE SHALL BE 3/4" - SIZE LATERALS PER PLAN.	Q	L5.3
	BURIED PRESSURE IRRIGATION MAINLINE: SCH. 40, IPS, SOLVENT WELD, PVC PIPE FOR MAINLINE SIZES (1-1/2" AND SMALLER). CLASS 315, IPS, SOLVENT WELD, PVC PIPE FOR MAINLINE SIZES (2" -2-1/2")	Q	L5.3
	SLEEVING - SCH 40, IPS, SOLVENT WELD, PVC PIPE, EXTEND 12" BEYOND EDGE OF HARDSCAPE. SLEEVE SHALL BE MINIMUM TWICE THE DIAMETER OF THE PIPE OR WIRE BUNDLE CARRIED, MINIMUM 2" SIZE. PLACE BELOW ALL PAVING, HARDSCAPE, ETC., AND AS DIRECTED BY OWNER'S AUTHORIZED REPRESENTATIVE. SLEEVE LOCATIONS SHALL BE MARKED AT EACH END AT THE TIME OF INSTALLATION WITH A PAINTED SPOT OR OTHER SIMILAR MARKING ON THE BACK OF THE CURB. EXIST SLEEVE LOCATIONS SHALL BE RECORDED ON RECORD DRAWINGS WITH DIMENSIONING FOR IRRIGATION AS-BUILT PLANS PRIOR TO BACKFILL.	R	L5.3
	CONTROL WIRE CONDUIT - SCH. 40 PVC, GRAY, COLOR ELECTRICAL CONDUIT WITH SWEEP ELLS. INSTALL UNDER ALL PAVING / HARDSCAPE AREAS. CONDUIT SHALL BE MINIMUM TWICE THE DIAMETER OF WIRE BUNDLE CARRIED, MINIMUM 2" SIZE.	R	L5.3
NO SYMBOL	PAIGE - P7079D, DIRECT BURIAL WIRE (U.L. APPROVED). FOR LEAD WIRES - INSTALL BLACK #14UF AWG. - FOR COMMON WIRES INSTALL #12UF AWG. WHITE WITH COLORED STRIPE. (FOR MULTIPLE CONTROLLERS USE DIFFERING COLOR COMMON WIRE STRIPE PER CONTROLLER)	Q, R, S	L5.3
NO SYMBOL	3M - DBRY-6 DIRECT BURIAL WIRE CONNECTORS FOR USE ON ALL WIRE CONNECTIONS.	S	L5.3
NOTE: ALL WIRE SPLICES SHALL BE PLACED WITHIN PLASTIC VALVE BOX OR WIRE PULL BOX. WIRE SPLICES MUST BE TWISTED WITH WIRE TWISTING TOOL WITH A MAXIMUM OF TWO WIRES PER TWIST. REFER TO MANUFACTURE RECOMMENDATION FOR PROPER WIRE CONNECTIONS. SPLICING RECOMMENDATIONS: WIRE SPLICES ARE THE WEAK LINK OF ANY ELECTRICAL CIRCUIT. IT IS ESPECIALLY IMPORTANT TO MAKE PROPER JOINTS IN IRRIGATION SYSTEMS BECAUSE THE JOINTS ARE EXPOSED TO WET AND DAMP ENVIRONMENTS THAT CAN CAUSE CORROSION OF THE COPPER CONDUCTOR, AND PREMATURE FAILURE.			

EXISTING TREE DRIP RING IRRIGATION LEGEND							
SYMBOL	MANUFACTURE / MODEL NO. / DESCRIPTION	GPH	PSI	RADIUS	PREC. RATE	DETAIL	SHEET
	RAIN BIRD - XFS-CV-P-06-12, XFS SUB-SURFACE "PURPLE" DRIPLINE. PLACE IN RINGS SURROUNDING BASE OF TREE TRUNK, MINIMUM TWO RINGS PER TREE. APPROX. 30' FEET OF DRIP TUBING PER TREE. (0.3 GPM PER TREE)	0.61	30	N/A	0.65	V	L5.3
NOTE: TREE RING DRIP TUBING SHALL BE INSTALLED ON GRADE ANCHORED WITH RAIN BIRD 6" GALVANIZED WIRE STAKES, MODEL TDS-050 BEND, INSTALLED MAXIMUM THREE (3) FEET ON CENTER.							

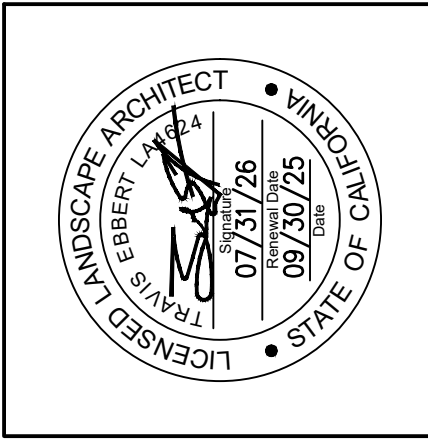
IN-LINE DRIP IRRIGATION LEGEND							
SYMBOL	MANUFACTURE / MODEL NO. / DESCRIPTION	GPH	PSI	RADIUS	PREC. RATE	DETAIL	SHEET
	RAIN BIRD - XFS-CV-06-12, XFS SUB-SURFACE "COPPER SHIELD" SERIES 17mm, 12" O.C. EMITTER DRIPLINE WITH PRESSURE COMPENSATING, ANTI SIPHON CHECK VALVE AND COPPER SHIELD ROOT INTRUSION PROTECTION EMITTER. INSTALL DRIPLINE 3" BELOW GRADE @ 18" MAXIMUM ROW SPACING.	0.61	30	N/A	0.65	A, B, C, D	L5.1
NO SYMBOL	RAIN BIRD - DRIPLINE CONNECTIONS SHALL BE MADE USING "XF SERIES" 17mm DRIPLINE INSERT FITTINGS. INSTALL STAINLESS STEEL CLAMPS ON FITTINGS FOR ANY SYSTEM THAT EXCEEDS 50 PSI.					B, C, D, E	L5.1
	AS APPROVED - SCH. 40 PVC PIPE SUPPLY HEADER AND EXHAUST FOOTER CONNECTION TO DRIPLINE TUBING WITH SCH. 40 PVC FITTINGS. SIZE ALL SUPPLY HEADER AND EXHAUST FOOTER PER INTAKE/EXHAUST HEADER PIPE SIZING CHART. IN NO INSTANCE SHALL PIPE SIZE EXCEED 5 F.P.S. OR DESIGNATED G.P.M. RANGE.					B, C, D, E	L5.1
	HUNTER - AFV-T, 1/2" THREADED AUTOMATIC FLUSH VALVE. LOCATE AT END OF DRIP ZONE IN EACH DIRECTION. INSTALL INSIDE A 10" ROUND VALVE BOX 18" FROM PAVING.					F	L5.1
	RAIN BIRD - ARV-050, 1/2" AIR/VACUUM RELIEF VALVE. LOCATE AT HIGHEST POINT OF THE DRIPLINE ZONE. INSTALL INSIDE A 6" ROUND VALVE BOX 18" FROM PAVING.					G	L5.1
	HUNTER - ECO-ID, 6" POP-UP ECO-INDICATOR WITH YELLOW STEM, DRIP SYSTEM POP-UP OPERATION INDICATOR.					H	L5.1
	RAIN BIRD - XP-600X, XERI-POP MICRO SPRAY 6" POP-UP HEAD WITH RAIN BIRD SQ-SERIES, SQ-QTR. QUARTER PATTERN NOZZLE. PLACE AT EDGE OF TREE FOOTBALL ON OPPOSITE SIDES OF TREE. EACH SYMBOL REPRESENTS (2) MICRO-SPRAYS PER TREE LOCATED WITHIN IN-LINE DRIP TUBING AREAS.	13.0 (26.0)	30	N/A	0.98	T, U	L5.3
DRIP NOTES: A. SUB-SURFACE IN-LINE DRIP TUBING SHALL BE INSTALLED @ 18" MAXIMUM ROW SPACING FOR TYPICAL SHRUB AREAS AND 12" MAXIMUM ROW SPACING FOR ANY GROUNDCOVER AREAS. INSTALL TUBING WITH TRIANGULAR SPACED EMITTER LAYOUT, 3" BELOW FINISH SOIL GRADE, ANCHORED WITH RAIN BIRD 6" GALVANIZED WIRE STAKES, MODEL #TDS-050 BEND, INSTALLED FIVE (5) FEET ON CENTER. B. INSTALL PERIMETER TUBING MAXIMUM 6" FROM PERIMETER EDGE FOR GROUNDCOVER AREAS AND 10" SHRUB AREAS. CONTRACTOR SHALL DETERMINE MINIMUM ROW SPACING IN THE FIELD AFTER REVIEW OF PLANT SPACING FOR EACH PLANTER. EACH AND EVERY SHRUB SHALL RECEIVE WATER FROM A MINIMUM OF TWO IN-LINE DRIP EMITTERS, ONE (1) ON EACH SIDE. AREAS OF TIGHTLY SPACED GROUNDCOVER OR SANDY SOILS WILL REQUIRE CLOSER, 12" ROW SPACING. FOR ANY SINGLE OR 'DOUBLE' ROW TYPE PLANTINGS, INSTALL DRIP TUBING ON BOTH SIDES OF THE SHRUB ROW TO IRRIGATE SHRUBS ON EITHER SIDE. DUE TO SOIL STRATA DIFFERENCES AND POSSIBLE COMPACTION CONTRACTOR SHALL FIELD VERIFY PRIOR TO STARTING WORK AND BEFORE BACKFILLING THAT THE FINAL LAYOUT AND ROW SPACING WILL PROVIDE ADEQUATE WATER TO ALL PLANTS.							

IRRIGATION EQUIPMENT LEGEND			
SYMBOL	MANUFACTURE / MODEL NO. / DESCRIPTION	DETAIL	SHEET
	P.O.C. / POINT OF CONNECTION - DOMESTIC WATER BUILDING SERVICE LINE, UPSTREAM FROM BUILDING BACKFLOW DEVICE. VERIFY EXACT LOCATION IN FIELD WITH OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO ANY EXCAVATION.	N/A	N/A
	FEBCO - LF825YA, 1" R/P BACKFLOW PREVENTION DEVICE INSTALLED WITH MODEL LF650A WYE STRAINER WITH PLUG AND PIPE NIPPLE STRAINER KIT OPTION. IF STATIC WATER PRESSURE IS GREATER THAN 80 P.S.I. CONTRACTOR SHALL INSTALL A WILKINS "NR3" PRESSURE REGULATOR AS PART OF BACKFLOW ASSEMBLY.	I	L5.2
NO SYMBOL	V.I.T. STRONG BOX - SBBC-30CR, SMOOTH TOUCH POWDER COATED "GREEN" BACKFLOW DEVICE ENCLOSURE. INSTALL ON A POURED IN PLACE CONCRETE BASE PER MANUFACTURE SPECIFICATIONS. PROVIDE PADLOCK AND TWO SETS OF KEYS.	I, J	L5.2
	SUPERIOR - 3200-150, SERIES 1-1/2" NORMALLY CLOSED, MASTER CONTROL VALVE. WIRE TO CONTROLLER WITH BLUE & WHITE TWISTED DIRECT BURIAL WIRES. INSTALL PER MANUFACTURERS RECOMMENDATIONS.	K	L5.2
	HUNTER - MODEL HC-150-FLOW, SERIES 1-1/2" HYDRAWISE IRRIGATION FLOW METER WITH IRRIGATION SUB-METER. INSTALL PER MANUFACTURERS RECOMMENDATIONS. WIRE TO CONTROLLER WITH PAIGE, #P7162D, FLOW SENSOR COMMUNICATION CABLE, 2 CONDUCTOR, SHIELDED 16 AWG SOLID COPPER INSTALLED WITHIN 1" PVC CONDUIT. NO WIRE SPLICES ALLOWED. FLOW METER IS SUPPLIED AS PART OF CONTROLLER ASSEMBLY.	L	L5.2
	NIBCO - T-580-70-66, BRONZE BALL VALVE WITH STAINLESS STEEL STEM AND HANDLE NUT, LINE SIZE PER MAINLINE.	M	L5.2
	HUNTER - ICZ-40, (1" OR 1-1/2") SERIES DRIP REMOTE CONTROL VALVE ASSEMBLY. SIZE AS SHOWN. DRIP ASSEMBLY KIT IS FACTORY INSTALLED WITH HUNTER STAINLESS STEEL SCREEN Y-FILTER AND 40 PSI. IN-LINE PRESSURE REGULATOR - SEE BELOW FOR VALVE GPM/FLOW SIZES.	N	L5.2
	FOR DEMANDS (0.5 - 1.0) GPM, INSTALL ICZ-101-40-LF, 1" (LOW FLOW) DRIP VALVE ASSEMBLY. FOR DEMANDS (2 - 19) GPM, INSTALL ICZ-101-40, 1" DRIP VALVE ASSEMBLY. FOR DEMANDS (20 - 50) GPM, INSTALL ICZ-151-40-XL, 1-1/2" DRIP VALVE ASSEMBLY.		
	RAIN BIRD - 33DLRC, 3/4" QUICK COUPLER VALVE WITH LOCKING COVER.	O	L5.2

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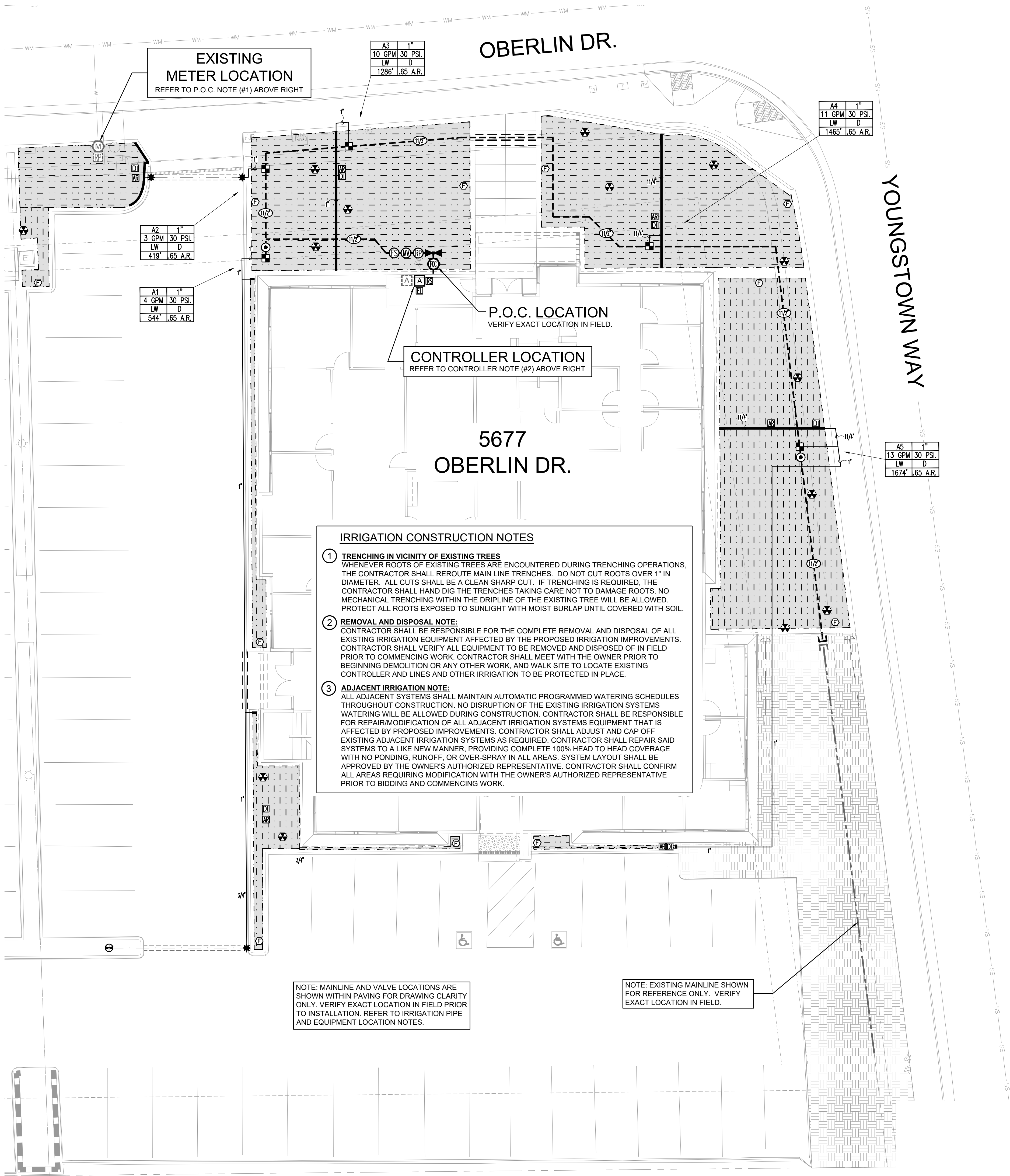
PROJECT DATA		REMARKS	
DATE	06/10/2025	CITY RESUBMISSION 01	
A		CITY RESUBMISSION 02	
B		IPC SET	

PA/PM:	AN
DRAWN BY.:	MCJ / AN
JOB NO.:	SDG24-0061-00

SHEET
IRRIGATION
SCHEDULES

L3.0

FOR IRRIGATION PLAN - SEE SHEET L3.1
FOR IRRIGATION NOTES & CALCULATIONS - SEE SHEETS L4.1 - L4.2
FOR IRRIGATION DETAILS - SEE SHEETS L5.1 - L5.2
FOR LANDSCAPE SPECIFICATIONS - SEE SHEETS L9.1 - L9.5



EXISTING WATER METER / P.O.C. NOTES

1 P.O.C. NOTE #1:
POINT OF CONNECTION SHALL BE DOWNSTREAM OF EXISTING DOMESTIC WATER METER. VERIFY THE ACTUAL LOCATION, SIZE AND WATER PRESSURE IN THE FIELD PRIOR TO STARTING WORK. IF ANY OF THE POC INFORMATION SHOWN ON THESE DRAWING IS FOUND TO BE DIFFERENT THAN THE ACTUAL POC INFORMATION GATHERED IN THE FIELD, IMMEDIATELY NOTIFY THE LANDSCAPE ARCHITECT. SHOULD THE CONTRACTOR FAIL TO VERIFY THE POC INFORMATION ANY CHANGES REQUIRED BY LOW PRESSURE OR VOLUME SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

(EXISTING) DOMESTIC WATER METER INFORMATION

ADDRESS:	
5677 OBERLIN DR.	
SAN DIEGO, CA	
(EXISTING) METER SIZE	1"
MINIMUM STATIC PRESSURE REQ.	70 PSI.
SYSTEM DESIGN PRESSURE	62 PSI.
MAXIMUM SYSTEM DEMAND	13 GPM
REVISED LANDSCAPE AREA	5,331 SQ. FT.

EXISTING CONTROLLER NOTES

2 CONTROLLER NOTE #2:
EXISTING CONTROLLER LOCATED AT THIS APPROXIMATE LOCATION SHALL BE REPLACED WITH A NEW "ET" SMART WEATHER BASED CONTROLLER, INSTALLED WITHIN STAINLESS STEEL ENCLOSURE WITH RELATED EQUIPMENT. SEE LEGEND FOR SIZE AND TYPE. ALL EXISTING AND NEW PROPOSED CONTROL VALVES SHALL BE CONNECTED TO THE NEW CONTROLLER AND VERIFY PROPER OPERATION. VALVE NUMBERS SHOWN SHALL BE ADJUSTED AS REQUIRED TO UTILIZE THE AVAILABLE OPEN CONTROLLER STATIONS. CONTRACTOR SHALL BE RESPONSIBLE FOR ROUTING OF IRRIGATION CONTROL WIRES TO NEW CONTROLLER AND MAKING ALL NECESSARY CONNECTIONS. CONTRACTOR SHALL PROVIDE SLEEVING BELOW ALL PAVING BETWEEN EXISTING PLANTER AREAS AND BELOW EXISTING WALKS. AS REQUIRED TO ROUTE CONTROL WIRES TO CONTROLLER. VERIFY ALL SITE CONDITIONS AND LAYOUT IN FIELD PRIOR TO BIDDING AND COMMENCING WORK.

IRRIGATION PIPE AND EQUIPMENT LOCATION NOTES

- ALL IRRIGATION EQUIPMENT, SPRINKLERS AND PIPE THAT ARE SHOWN IN PAVING IS FOR DRAWING CLARITY ONLY. ALL EQUIPMENT SHALL BE INSTALLED WITHIN LANDSCAPED AREA. NO IRRIGATION EQUIPMENT SHALL BE LOCATED IN HARDSCAPE.
- LOCATION OF IRRIGATION LINES AND SYMBOLS ARE DIAGRAMMATIC. ALL IRRIGATION SHALL BE PLACED IN PLANTING AREAS EXCEPT WHEN CROSSING PAVEMENT. THE LANDSCAPE CONTRACTOR SHALL STAKE ALL IRRIGATION PIPE AND EQUIPMENT LOCATIONS FOR REVIEW AND APPROVAL BY THE OWNER'S AUTHORIZED REPRESENTATIVE. FINAL LOCATION AND EXACT POSITIONING OF ALL IRRIGATION SHALL BE DETERMINED BY THE OWNER'S AUTHORIZED REPRESENTATIVE. MINOR MODIFICATIONS OF THE IRRIGATION PIPING AND EQUIPMENT SHALL BE ADJUSTED AND OR RELOCATED AS REQUESTED BY THE OWNER AND SHALL BE PROVIDED BY THE CONTRACTOR AT NO ADDITIONAL COST. FAILURE TO OBTAIN OWNER'S APPROVAL PRIOR TO THE INSTALLATION SHALL CAUSE THE CONTRACTOR TO MAKE OWNER DIRECTED REVISION AT NO CHARGE. ALL PIPING AND WIRES SHALL BE SLEEVED UNDER PAVING, HARDSCAPE, ETC. AND AS DIRECTED BY OWNER'S AUTHORIZED REPRESENTATIVE.

IRRIGATION VALVE CALLOUT

CONTROLLER LETTER / VALVE NUMBER	A2	1"	VALVE SIZE
GALLONS PER MINUTE G.P.M.	16 GPM	30 PSI	OPERATING PRESSURE (P.S.I.)
HYDROZONE PLANT FACTOR	LW	D	HYDROZONE / IRRIGATION TYPE - SEE LANDSCAPE HYDROZONE AREA
SQUARE FOOTAGE	2000	65 A.R.	HYDROZONE LEGEND (BELOW)
			APPLICATION RATE IN INCHES PER HOUR

HYDROZONE LEGEND

Hydrozone Number	Plant Factor (Water Use) - from WUCOLS Selected based on type of plants in hydrozones:	IE - Irrigation Efficiency
(1) Drip - Low Water / Plants	VLW = 0.1 - Very Low Water Use Plants	D = Drip .81
(2) Drip - Low Water / Trees	LW = 0.1 - 0.3 - Low Water Use Plants	B = Bubbler .77
	MW = 0.4 - 0.6 - Moderate Water Use Plants	
	HW = 0.7 - 0.9 - High Water Use Plants	

EXISTING LANDSCAPE IRRIGATION RENOVATION NOTES:

THE INTENT OF THESE IRRIGATION DRAWINGS IS TO REPLACE THE EXISTING SPRAY IRRIGATION SYSTEM WITH LOW VOLUME DRIP IRRIGATION.

- REMOVE EXISTING SPRAY IRRIGATION SYSTEM WITHIN LIMIT-OF WORK AREAS. VERIFY WITH OWNER ALL EQUIPMENT TO BE REMOVED PRIOR TO COMMENCING WORK.
- INSTALL NEW INLINE SUB-SURFACE DRIP IRRIGATION SYSTEM WITH DRIP REMOTE CONTROL VALVE ASSEMBLIES FOR SHRUB LANDSCAPE AREAS.
- INSTALL MICRO-SPRAY BUBBLERS FOR EXISTING TREES WITHIN RENOVATED AREAS FOR ADDITIONAL ADJUSTABLE DEEP WATERING.
- NO DISRUPTION OF THE EXISTING IRRIGATION SYSTEMS WATERING WILL BE ALLOWED DURING CONSTRUCTION. ALL ADJACENT SYSTEM SHALL MAINTAIN AUTOMATIC PROGRAMMED WATERING SCHEDULES THROUGHOUT CONSTRUCTION. MODIFY/REPAIR ADJACENT IRRIGATION SYSTEM EQUIPMENT THAT IS AFFECTED BY PROPOSED IMPROVEMENTS.

DIAPHRAGM INTAKE/EXHAUST HEADER PIPE SIZING CHART

INTAKE/EXHAUST HEADER MINIMUM SIZE OF 3/4 INCH.

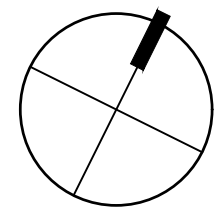
FLOW RANGE	MINIMUM SIZE OF EXHAUST HEADER
0 THROUGH 5 GPM	MINIMUM SIZE SHALL BE 3/4 INCH
6 THROUGH 10 GPM	MINIMUM SIZE SHALL BE 1 INCH
11 THROUGH 15 GPM	MINIMUM SIZE SHALL BE 1-1/4 INCH
16 THROUGH 25 GPM	MINIMUM SIZE SHALL BE 1-1/2 INCH
26 THROUGH 50 GPM	MINIMUM SIZE SHALL BE 2 INCH

NOTE: CONTRACTOR SHALL SIZE ALL DIAPHRAGM INTAKE/EXHAUST HEADERS PER PIPE SIZING CHART. IN NO INSTANCE SHALL PIPE SIZE EXCEED DESIGNATED GPM RANGE.

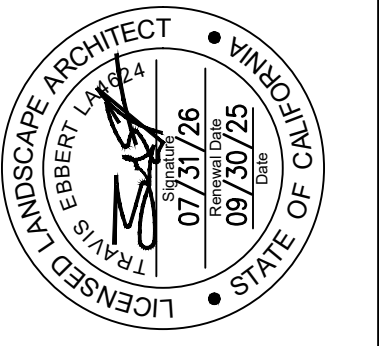
NOTE: MAINLINE AND VALVE LOCATIONS ARE SHOWN WITHIN PAVING FOR DRAWING CLARITY ONLY. VERIFY EXACT LOCATION IN FIELD PRIOR TO INSTALLATION. REFER TO IRRIGATION PIPE AND EQUIPMENT LOCATION NOTES.

NOTE: EXISTING MAINLINE SHOWN FOR REFERENCE ONLY. VERIFY EXACT LOCATION IN FIELD.

FOR IRRIGATION SCHEDULES - SEE SHEET L3.0
FOR IRRIGATION NOTES & CALCULATIONS - SEE SHEETS L4.1 - L4.2
FOR IRRIGATION DETAILS - SEE SHEETS L5.1 - L5.2
FOR LANDSCAPE SPECIFICATIONS - SEE SHEETS L9.1 - L9.5



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PROJECT DATA

DATE	REMARKS
06/10/2025	CITY RESUBMISSION 01
08/04/2025	CITY RESUBMISSION 02
08/11/2025	IPC SET
A	
B	

PA/PM:	AN
DRAWN BY.:	MCJ / AN
JOB NO.:	SDG24-0061-00

SHEET
IRRIGATION PLAN

L3.1

Existing Irrigation Notes
1. THE CONTRACTOR MUST FAMILIARIZE HIMSELF WITH THE EXISTING IRRIGATION AND PLANTING ON PROPERTY. ANY DAMAGE OR ADJUSTMENTS INCLUDING REPLACING OR RELOCATING IRRIGATION LINES, HEADS, VALVES, WIRES OR ANY UTILITY THAT OCCURS ON THE PARCEL DUE TO THE CONSTRUCTION OF THIS PROJECT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE PERFORMED AT NO ADDITIONAL COST TO THE OWNER. THE OWNER'S REPRESENTATIVE MUST REVIEW ANY REQUIRED MODIFICATIONS TO THESE AREAS PRIOR TO COMMENCING WORK. THE CONTRACTOR MUST NOTIFY THE OWNER'S AUTHORIZED REPRESENTATIVE OF THESE CONDITIONS OR ANY DISCREPANCIES PRIOR TO COMMENCING WORK. 2. CONTRACTOR SHALL VERIFY ALL SITE CONDITIONS, PROPERTY LINES, DIMENSIONS, ETC. PRIOR TO COMMENCING WORK. ALL EXISTING IRRIGATION SYSTEMS SHALL BE VERIFIED IN THE FIELD AT START OF CONSTRUCTIONS. ALL EXISTING MAINLINES, RCVS, BACKFLOW DEVICES, CONTROLLERS, METERS, SERVICE LINES, ETC. SHALL BE VERIFIED IN FIELD. ALL EXISTING IRRIGATION EQUIPMENT SHALL BE CLEARLY INDICATED INCLUDING SIZES AND MODEL NUMBERS TO SCALE ON AN ACCURATE BASE DRAWING AND SUBMITTED AS A SHOP DRAWING. SAID SHOP DRAWING SHALL BE SUBMITTED TO THE LANDSCAPE ARCHITECT, AND OWNER'S AUTHORIZED REPRESENTATIVE FOR REVIEW AND APPROVAL. NOTIFY THE OWNER'S AUTHORIZED REPRESENTATIVE IMMEDIATELY IF ANY DISCREPANCIES ARE FOUND. NO WORK SHALL PROCEED WITHOUT APPROVAL OF SAID SHOP DRAWINGS. 3. ALL EQUIPMENT LOCATIONS AND PIPE ROUTING SHALL BE STAKED IN FIELD FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION. ALL LAYOUT SHALL BE AS APPROVED BY LANDSCAPE ARCHITECT. AND OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO INSTALLATION. NO EQUIPMENT SHALL BE INSTALLED WITHOUT APPROVAL OF LAYOUT. 4. CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLETE INSTALLATION OF PROPOSED IRRIGATION EQUIPMENT AND RELATED EQUIPMENT, INCLUDING BUT NOT LIMITED TO R.C.V. CONTROL WIRES, ELECTRICAL WIRES, CONDUIT, REMOTE CONTROL VALVES, ETC. ALL LAYOUT AND LOCATIONS SHALL BE CONFIRMED WITH OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO COMMENCING WORK. 5. CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMPLETE REMOVAL AND DISPOSAL OF ALL EXISTING IRRIGATION EQUIPMENT AFFECTED BY THE PROPOSED IRRIGATION IMPROVEMENTS. CONTRACTOR SHALL VERIFY ALL EQUIPMENT TO BE REMOVED AND DISPOSED OF IN FIELD PRIOR TO COMMENCING WORK. 6. CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIR/MODIFICATION OF ALL ADJACENT IRRIGATION SYSTEM EQUIPMENT THAT IS AFFECTED BY PROPOSED IRRIGATION IMPROVEMENTS. CONTRACTOR SHALL REPAIR SAID SYSTEMS TO A LIKE NEW MANNER, PROVIDING COMPLETE 100% HEAD TO HEAD COVERAGE IN ALL AREAS WITH SYSTEM LAYOUT AS APPROVED BY THE OWNER'S AUTHORIZED REPRESENTATIVE. CONTRACTOR SHALL CONFIRM ALL AREAS REQUIRING MODIFICATION WITH THE OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO BIDDING WORK AND PRIOR TO COMMENCING WORK. 7. CONTRACTOR SHALL ADJUST AND CAP OFF EXISTING ADJACENT IRRIGATION SYSTEM AS REQUIRED. SYSTEM SHALL PROVIDE COMPLETE 100% HEAD TO HEAD COVERAGE IN ALL AREAS AS APPROVED BY OWNER'S AUTHORIZED REPRESENTATIVE. ALL LAYOUT SHALL BE CONFIRMED WITH OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO COMMENCING WORK. 8. CONTRACTOR SHALL REFER TO CORRESPONDING ON-SITE WATER AND SEWER PLAN FOR UNDERLYING WATERLINES, EASMENTS, AND OTHER RELATED EQUIPMENT. CONTRACTOR SHALL VERIFY ALL EXISTING SITE CONDITIONS IN FIELD WITH OWNERS AUTHORIZED REPRESENTATIVE PRIOR TO COMMENCING WORK. 9. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL REPAIRS TO EXISTING IRRIGATION, LANDSCAPE AND HARDSCAPE DAMAGED BY NEW CONSTRUCTION AT NO ADDITIONAL COST TO THE OWNER. 10. CONTRACTOR SHALL MEET WITH THE OWNER PRIOR TO BEGINNING DEMOLITION OR ANY OTHER WORK, AND WALK SITE TO LOCATE EXISTING CONTROLLER AND LINES AND OTHER IRRIGATION TO BE PROTECTED IN PLACE. 11. CONTRACTOR SHALL PROVIDE FOR THE IRRIGATION OF EXISTING PLANT MATERIAL THROUGHOUT THE CONSTRUCTION PROCESS. ANY DAMAGE DUE TO CONSTRUCTION SHALL BE REPAIRED IMMEDIATELY TO PREVENT ANY LARSE IN IRRIGATION OF THE EXISTING PLANT MATERIAL. ANY PLANT MATERIAL AND/OR IRRIGATION DAMAGED AS PART OF CONSTRUCTION SHALL BE REPAIRED TO A LIKE NEW CONDITION AS PART OF CONTRACT. 12. ANY EXISTING IRRIGATION CONTROL VALVES CONNECTED TO THE EXISTING CONTROLLER SHALL BE RECONNECTED TO THE NEW CONTROLLER. CONFIRM PROPER CONTROLLER OPERATION AND INSTALLATION WITH OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO COMMENCING WORK AND UPON COMPLETION OF WORK. 13. CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMPLETE ADJUSTMENT/MODIFICATION OF EXISTING IRRIGATION SYSTEM WITHIN THIS AND OTHER AREAS AFFECTED BY THE PROPOSED IMPROVEMENTS. ALL LAYOUT SHALL BE CONFIRMED WITH OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO COMMENCING WORK. 14. NO DISRUPTION OF THE EXISTING IRRIGATION SYSTEMS WATERING WILL BE ALLOWED DURING CONSTRUCTION. ALL ADJACENT SYSTEM SHALL MAINTAIN AUTOMATIC PROGRAMMED WATERING SCHEDULES THROUGHOUT CONSTRUCTION. 15. CONTRACTOR SHALL OBTAIN EXISTING IRRIGATION AS-BUILT RECORD DRAWINGS FOR ADJACENT IRRIGATED AREAS PRIOR TO STARTING WORK. ALL EXISTING IRRIGATION EQUIPMENT LOCATION, SIZES, AND CONDITIONS SHALL BE VERIFIED IN FIELD WITH OWNER'S AUTHORIZED REPRESENTATIVE AT START OF WORK. 16. WHENEVER ROOTS OF EXISTING TREES ARE ENCOUNTERED DURING TRENCHING OPERATIONS, THE CONTRACTOR SHALL REROUTE MAIN LINE TRENCHES. DO NOT CUT ROOTS OVER 1" IN DIAMETER. ALL CUTS SHALL BE A CLEAN SHARP CUT. IF TRENCHING IS REQUIRED, THE CONTRACTOR SHALL HAND DIG THE TRENCHES TAKING CARE NOT TO DAMAGE ROOTS. NO MECHANICAL TRENCHING WITHIN THE DRIPLINE OF THE EXISTING TREE WILL BE ALLOWED. PROTECT ALL ROOTS EXPOSED TO SUNLIGHT WITH MOIST BURLAP UNTIL COVERED WITH SOIL.

AS-BUILT NOTE:
AS-BUILT RECORD DRAWINGS WERE NOT AVAILABLE AT TIME OF SYSTEM DESIGN. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING EXISTING IRRIGATION SYSTEM AS-BUILTS FROM OWNER PRIOR TO COMMENCING WORK. CONTRACTOR SHALL CONFIRM ALL CONNECTION POINTS AND EXISTING IRRIGATION SYSTEMS AFFECTED IN FIELD WITH OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO COMMENCING WORK. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF PROPOSED IRRIGATION SYSTEM CONNECTION POINT AND CONTROLLER LOCATION FOR APPROVAL BY OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO COMMENCING WORK. ALL LABOR AND MATERIALS REQUIRED TO IRRIGATE AREAS WITHIN THE LIMITS OF WORK AND TO ADJUST AREAS ADJACENT TO THE LIMITS OF WORK SHALL BE INCLUDED AS PART OF THIS CONTRACT. NO ADDITIONAL COSTS WILL BE ALLOWED FOR THE PROPOSED IRRIGATION IMPROVEMENTS OR ADJUSTMENT OF THE EXISTING ADJACENT IRRIGATION SYSTEMS.

Irrigation Installation Notes
1. THE CONTRACTOR SHALL OBTAIN, COORDINATE AND PAY FOR ANY AND ALL PERMITS AND ALL INSPECTIONS AS REQUIRED. 2. THE CONTRACTOR SHALL BE RESPONSIBLE AND LIABLE FOR ANY AND ALL DAMAGES TO OPERATIONS OR WORK OF OTHER CONTRACTORS. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF ACTIVITIES WITH ALL AGENCIES AND OTHER TRADES. 3. THE CONTRACTOR SHALL BE RESPONSIBLE AND LIABLE FOR ANY ENCRoACHMENT INTO ADJACENT PROPERTY, R.O.W.'S, EASEMENTS, SETBACKS OR ANY OTHER LEGAL PROPERTY RESTRICTIONS EITHER MARKED OR UNMARKED. 4. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO FAMILIARIZE HIMSELF WITH ALL UNDERGROUND UTILITIES. CONTRACTOR SHALL REPAIR OR REPLACE, AT NO ADDITIONAL COST TO THE OWNER, ANY DAMAGE TO UNDERGROUND UTILITIES THAT MAY OCCUR. 5. THE CONTRACTOR SHALL OBTAIN THE PERTINENT ENGINEERING PLANS BEFORE BEGINNING WORK. 6. THE CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS SHOWN ON PLANS AT THE SITE PRIOR TO COMMENCEMENT OF ANY WORK. ALL DISCREPANCIES SHALL BE IMMEDIATELY REPORTED TO PROJECT LANDSCAPE ARCHITECT FOR DIRECTION. ANY CONTINUATION OF WORK IS AT THE CONTRACTOR'S RISK AND EXPENSE. 7. THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL EXISTING UTILITIES, STRUCTURES AND SERVICES BEFORE COMMENCING WORK. THE LOCATIONS OF 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 LANDSCAPE ARCHITECT FOR DIRECTION. 8. BEFORE ANY WORK COMMENCES, A CONFERENCE SHALL BE HELD WITH THE CITY'S PUBLIC WORKS INSPECTOR, LANDSCAPE ARCHITECT AND THE CONTRACTOR, REGARDING GENERAL REQUIREMENTS OF THIS WORK. 9. INSTALL ALL IRRIGATION COMPONENTS ACCORDING TO LOCAL CODES AND ORDINANCES. 10. THE IRRIGATION WATER METER IS TO BE PROVIDED BY THE OWNER UNLESS SHOWN OTHERWISE ON THE PLANS. CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF ALL IRRIGATION EQUIPMENT DOWNSTREAM OF THE POINT OF CONNECTION (P.O.C.) AT THE IRRIGATION WATER METER. 11. ALL IRRIGATION EQUIPMENT NOT OTHERWISE DETAILED OR SPECIFIED SHALL BE INSTALLED AS PER MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATIONS. 12. THE CONTRACTOR SHALL NOT WILLFULLY INSTALL THE IRRIGATION SYSTEM AS SHOWN ON THE DRAWINGS WHEN IT IS OBVIOUS IN THE FIELD THAT OBSTRUCTIONS (INCLUDING EXISTING AND/OR NEW PLANT MATERIAL), GRADE DIFFERENCES OR DIFFERENCES IN THE AREA'S DIMENSIONS EXIST THAT MIGHT NOT HAVE BEEN CONSIDERED IN THE DESIGN. SUCH OBSTRUCTIONS OR DIFFERENCES SHALL BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT. IN THE EVENT THIS NOTIFICATION IS NOT PERFORMED, THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ANY REVISIONS NECESSARY. 13. THE WORK SHOWN ON THESE PLANS IS DIAGRAMMATIC; ALL ITEMS, I.E. CONTROLLERS, VALVES, MAINLINES, SLEEVES, WIRES, IRRIGATION HEADS, ETC. ARE SHOWN IN THEIR APPROXIMATE LOCATIONS ONLY. DO NOT SCALE DIMENSIONS. DETAIL DRAWINGS MAY CLARIFY LOCATIONS OF SOME ITEMS. THE CONTRACTOR SHALL NOT LOCATE ANY ITEMS WHERE IT IS OBVIOUS THAT THEY ARE IN CONFLICT WITH UNDERGROUND UTILITIES, STRUCTURES, OTHER IMPROVEMENTS, OR VEHICULAR OR PEDESTRIAN SAFETY CONSIDERATIONS. 14. CONTROLLER LOCATIONS ARE APPROXIMATE. FINAL LOCATION OF THE AUTOMATIC CONTROLLER AND THE BACKFLOW DEVICE SHALL BE APPROVED BY THE OWNER AND THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION. 15. ALL CONSTANT PRESSURE LINES SHALL BE TESTED FOR 3 HOURS UNDER A HYDROSTATIC PRESSURE OF 150 POUNDS PER SQUARE INCH AND BE PROVEN WATERTIGHT. CONTRACTOR SHALL PROVIDE ALL EQUIPMENT FOR HYDROSTATIC TESTS. HYDROSTATIC TESTS SHALL BE PERFORMED IN THE PRESENCE OF THE LANDSCAPE ARCHITECT, CITY PUBLIC WORKS INSPECTOR OR, IF APPROVED BY LANDSCAPE ARCHITECT, CONTRACTOR MAY E-MAIL DIGITAL PHOTOGRAPHS OF THE PRESSURE GAUGE TO THE LANDSCAPE ARCHITECT AT BEGINNING AND END OF TEST PERIOD. 16. 20-VOLT ELECTRICAL POWER OUTLET AT THE AUTOMATIC CONTROLLER LOCATION SHALL BE PROVIDED PER THE ELECTRICAL ENGINEER'S PLANS AND SPECIFICATIONS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE ELECTRICAL SERVICE WITH THE GENERAL CONTRACTOR AND TO MAKE THE FINAL HOOK-UP FROM THE ELECTRICAL OUTLET TO THE AUTOMATIC CONTROLLER. 17. ALL LOCAL MUNICIPAL AND STATE LAWS, RULES AND REGULATIONS GOVERNING OR RELATING TO ANY PORTION OF THIS WORK ARE HEREBY INCORPORATED INTO AND MADE A PART OF THESE SPECIFICATIONS AND THEIR PROVISIONS SHALL BE CARRIED OUT BY THE CONTRACTOR. 18. BACKFLOW DEVICE SHALL BE INSTALLED IN GROUND COVER AREA WHEREVER POSSIBLE. FINAL LOCATION SHALL BE DETERMINED BY THE OWNER'S AUTHORIZED REPRESENTATIVE AND MAY VARY FROM THAT INDICATED ON THE DRAWINGS. 19. QUICK COUPLER VALVES, CONTROL VALVES, AND SHUT-OFF VALVES SHALL BE INSTALLED IN GROUND COVER AREAS WHEREVER POSSIBLE. 20. PIPES AND WIRE CONDUIT PENETRATIONS THROUGH WALLS AND INSTALLATION EQUIPMENT UNDER PAVING SHALL BE INSTALLED IN SCH 40 PVC SLEEVES, AS CALLED OUT ON PLANS, OR AS PER LOCAL CODES AND MUST BE COORDINATED WITH THE GENERAL CONTRACTOR AND CONTRACTORS OF ALL VARIOUS TRADES THAT MAY BE INVOLVED TO ELIMINATE PROBLEMS THAT MAY ARISE FROM INACCESSIBILITY OR DAMAGE TO ANOTHER TRADE'S WORK. PIPING AND WIRE CONDUIT PENETRATIONS THROUGH EXISTING WALLS SHALL BE CORE DRILLED AND SLEEVED PER ABOVE, UNLESS AN EXISTING SLEEVE IS AVAILABLE FOR RE-USE WHICH WILL NOT SIGNIFICANTLY AFFECT THE SYSTEM DESIGN. 21. USE CHECK VALVES AS REQUIRED TO ELIMINATE LOW HEAD DRAINAGE. 22. THE CONTRACTOR SHALL INSTALL KBI SERIES ANTI-DRAIN VALVES ON ALL LATERALS IN AREAS WHERE SLOPE OF GRADE EXCEEDS 4:1, WHERE POST VALVE SHUT-OFF DRAINING OF THE IRRIGATION OCCURS, OR AS DIRECTED BY THE OWNER'S AUTHORIZED REPRESENTATIVE. 23. THE CONTRACTOR SHALL ONLY APPLY SUFFICIENT WATER TO PROMOTE HEALTHY GROWTH OF PLANT MATERIAL. AT NO TIME SHALL THE CONTRACTOR APPLY WATER AT A RATE OF FREQUENCY WHICH CAUSES RUNOFF OR OVER-SATURATION OF THE SOIL. 24. THE CONTRACTOR SHALL FLUSH AND ADJUST ALL IRRIGATION, DRIP AND SPRAY, FOR OPTIMUM PERFORMANCE AND TO PREVENT OVERSPRAY ONTO ADJACENT PAVING, WALLS OR OTHER HARDSCAPE ELEMENTS TO THE EXTENT POSSIBLE. THIS SHALL INCLUDE SELECTING THE BEST DEGREE OF ARC TO FIT THE EXISTING SITE CONDITIONS AND ADJUSTING THE FLOW CONTROL AT EACH VALVE TO OBTAIN THE OPTIMUM OPERATING FLOW FOR EACH SYSTEM. 25. WHEN RADIUS OF SPRINKLER HEADS AS REQUIRED FOR PROPER COVERAGE IS LESS THAN RADIUS SHOWN ON LEGEND, THE CONTRACTOR SHALL EQUIP SPRINKLER HEAD WITH A PRESSURE COMPENSATING SCREEN (PCS) FOR LOW FLOW AND RADIUS CONTROL. 26. USE ADJUSTABLE ARC NOZZLES FOR ALL HEADS LOCATED IN AREAS WHERE A STANDARD ARC PATTERN SPRAYS OVER ONTO ADJACENT PAVING, WALLS OR OTHER HARDSCAPE ELEMENTS. ADJUSTABLE ARC NOZZLE SHOULD HAVE THE SAME RADIUS OF THROW AS THE NOZZLE BEING REPLACED. 27. NO OVERSPRAY OR LOW HEAD DRAINAGE SHALL BE ALLOWED. 28. WHEN VERTICAL OBSTRUCTIONS (LIGHT POLES, FIRE HYDRANTS, TREES, ETC.) INTERFERE WITH THE SPRAY PATTERN OF THE SPRINKLER HEADS SO AS TO PREVENT PROPER COVERAGE, THE CONTRACTOR SHALL FIELD ADJUST THE SPRINKLER SYSTEM BY INSTALLING A QUARTER CIRCLE OR HALF CIRCLE SPRINKLER HEAD ON EACH SIDE OF THE OBSTRUCTION SO AS TO PROVIDE PROPER COVERAGE. ALL ADJUSTMENTS SHALL BE MADE AT NO ADDITIONAL COST TO THE OWNER. 29. PIPE SIZES SHALL CONFORM TO THOSE SHOWN ON THE DRAWING. NO SUBSTITUTIONS OF SMALLER PIPE SIZES SHALL BE PERMITTED, BUT SUBSTITUTIONS OF LARGER SIZES MAY BE APPROVED. ALL DAMAGED AND REJECTED PIPE SHALL BE REMOVED FROM THE SITE IMMEDIATELY UPON REJECTION. 30. ALL ELECTRICAL CONTROL WIRE SHALL BE DIRECT BURIAL, LEAD WIRES #14, COMMON WIRES #12, UL APPROVED, IN AN 18" DEEP TRENCH, INSTALLED UNDERNEATH AND ATTACHED WITH PLASTIC TIE 10' O.C. TO THE MAINLINE PIPE WHEN RUN IN THE SAME TRENCH. WIRE CONNECTORS SHALL BE PENTITE OR DRI-SPLICE ONLY. 31. ALL AUTOMATIC CONTROLLER PROGRAMS MUST BE SET TO OPERATE BETWEEN THE HOURS OF 10 P.M. AND 6 A.M. 32. THE ENTIRE SPRINKLER SYSTEM SHALL BE GUARANTEED BY THE CONTRACTOR AS TO MATERIAL AND WORKMANSHIP, INCLUDING THE SETTLING OF BACKFILLED AREAS AND TRENCHES FOR A PERIOD OF ONE YEAR FOLLOWING THE DATE OF FINAL ACCEPTANCE OF THE WORK. SHOULD ANY OPERATION DIFFICULTIES IN CONNECTION WITH THE SPRINKLER SYSTEM DEVELOP WITHIN THE SPECIFIED GUARANTEE PERIOD, WHICH IN THE OPINION OF THE OWNER MAY BE DUE TO INFERIOR MATERIAL AND/OR WORKMANSHIP, SAID DIFFICULTIES SHALL BE IMMEDIATELY CORRECTED BY THE CONTRACTOR TO THE SATISFACTION OF THE OWNER AT NO ADDITIONAL COST. 33. THE CONTRACTOR SHALL AT ALL TIMES PROTECT HIS WORK FROM DAMAGE AND THEFT AND REPLACE ALL DAMAGED OR STOLEN PARTS AT HIS EXPENSE UNTIL THE WORK IS ACCEPTED IN WRITING BY THE OWNER. 34. THE IRRIGATION SYSTEM DESIGN IS BASED ON THE MINIMUM OPERATING PRESSURE AND THE MAXIMUM FLOW DEMAND SHOWN ON THE IRRIGATION DRAWINGS AT EACH POINT OF CONNECTION. THE CONTRACTOR SHALL VERIFY WATER PRESSURE IN THE FIELD PRIOR TO CONSTRUCTION TO DETERMINE IF IT IS SUFFICIENT TO OPERATE SYSTEMS AS DESIGNED. REPORT ANY DIFFERENCE BETWEEN THE WATER PRESSURE INDICATED ON THE DRAWINGS AND THE ACTUAL PRESSURE READING AT THE IRRIGATION POINT OF CONNECTION TO THE PROJECT LANDSCAPE ARCHITECT. IN THE EVENT PRESSURE DIFFERENCES ARE NOT REPORTED PRIOR TO START OF CONSTRUCTION, THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ANY REVISIONS NECESSARY AT NO ADDITIONAL COST TO THE OWNER. 35. AFTER INSTALLATION OF THE IRRIGATION SYSTEM IS COMPLETED, THE CONTRACTOR SHALL PERFORM A COVERAGE AND PRESSURE TEST IN THE PRESENCE OF THE LANDSCAPE ARCHITECT AND CITY PUBLIC WORKS INSPECTOR TO DETERMINE IF THE IRRIGATION PRESSURE AND COVERAGE FOR PLANTING AREAS IS ADEQUATE AND COMPLETE. FURNISH ALL MATERIALS AND PERFORM ALL WORK REQUIRED TO CORRECT ANY INADEQUACIES OF PRESSURE AND COVERAGE DUE TO DEVIATIONS FROM THE PLANS OR BECAUSE DISCREPANCIES BETWEEN THE PLANS AND ACTUAL FIELD CONDITIONS WERE NOT BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.

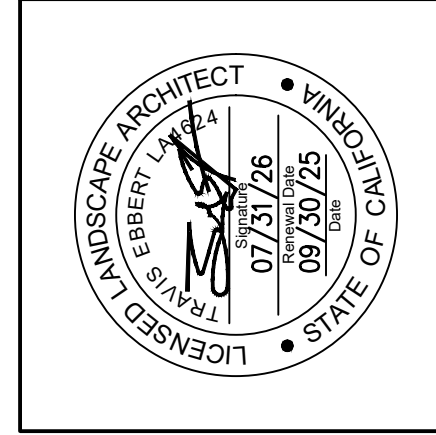
Irrigation General Notes
1. IRRIGATION PLANS ARE DESIGNED AS DIAGRAMMATIC AND APPROXIMATE. ALL IRRIGATION EQUIPMENT, SPRINKLERS AND PIPE ARE TO BE INSTALLED IN LANDSCAPE AREA. NO IRRIGATION EQUIPMENT SHALL BE LOCATED IN HARDSCAPE. THE IRRIGATION CONTRACTOR SHALL ENSURE NO OVERSPRAY ONTO HARDSCAPE, STREETS, WALLS OR ANY OTHER HARDSCAPE / STRUCTURE. 2. MAINLINE SHOWN WITHIN PAVING FOR DRAWING CLARITY ONLY. ACTUAL MAINLINE LOCATION TO BE A MINIMUM OF 18" OFF ADJACENT HARDSCAPE AND OTHER OBSTACLES TYP. 3. OVERHEAD IRRIGATION SHALL NOT BE PERMITTED WITHIN 24 INCHES OF ANY NON-PERMEABLE SURFACE. (PER STATE ORDINANCE AB 1881.) ABSOLUTELY NO OVERSPRAY OR LOW HEAD DRAINAGE IS ALLOWED. 4. IRRIGATION SLEEVES SHOWN FOR MAJOR STREET AND DRIVEWAY CROSSINGS FOR CLARITY ONLY. CONTRACTOR SHALL INSTALL SLEEVING BELOW ALL PAVING, HARDSCAPE, ETC. AND AS DIRECTED BY OWNER'S AUTHORIZED REPRESENTATIVE. 5. ALL PIPING AND WIRE SHALL BE SLEEVED UNDER PAVING / HARDSCAPE. ALL SLEEVES TO BE MINIMUM 2X DIAMETER OF PIPE SLEEVES. ALL MAINLINE SHALL BE ACCOMPANIED WITH A MINIMUM 2-INCH DIAMETER WIRE SLEEVE. SLEEVING TO EXTEND MINIMUM 12 INCHES BEYOND PAVING. 6. ALL LEAD WIRES TO BE #14 GAUGE, AND BLACK IN COLOR. ALL COMMON WIRE TO BE #12 GAUGE AND WHITE WITH COLORED STRIPE. FOR MULTIPLE CONTROLLERS USE DIFFERING COLOR STRIPE PER CONTROLLER. 7. PROVIDE A MINIMUM OF TWO (2) SPARE LEAD WIRES FOR EACH LEG OF MAINLINE END RUN. PROVIDE MINIMUM ONE (1) SPARE COMMON WIRE TO EACH MAINLINE END RUN. LOOP SPARE WIRES IN A NEARBY VALVE BOX WITH MINIMUM 2' OF COILED WIRE. SPARE LEAD WIRES SHALL BE A DIFFERENT COLOR THAN CONTROL VALVE WIRES. LABEL ALL SPARE WIRES "SPARE" AT BOTH ENDS. 8. ALL IRRIGATION ADJACENT TO BUILDING SHALL BE INSTALLED A MINIMUM DISTANCE OF 12" INCHES FROM BUILDING TO AVOID WATER/OVERSPRAY ONTO BUILDING OR WINDOWS. ALL LAYOUT SHALL BE CONFIRMED IN FIELD WITH OWNER'S REPRESENTATIVE PRIOR TO COMMENCING WORK. 9. CONTROLLER LOCATION SHOWN ON THIS DRAWING IS APPROXIMATE. THE LANDSCAPE CONTRACTOR SHALL STAKE OUT THE CONTROLLER LOCATION FOR REVIEW AND APPROVAL BY THE OWNER PRIOR TO INSTALLATION OF THIS EQUIPMENT. THE LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR ELECTRICAL CONNECTION FROM 120 VOLT POWER SOURCE TO THE CONTROLLER AND ALL WIRE CONNECTIONS FROM ALL VALVES AND APPURTENANCE VALVES TO TERMINAL STRIP. REFER TO ELECTRICAL ENGINEER'S DRAWINGS FOR POWER SOURCE. ALL ELECTRICAL WORK SHALL CONFORM TO LOCAL STATE AND NATIONAL ELECTRICAL CODES AND REGULATIONS. FINAL LOCATION AND EXACT POSITIONING OF THE CONTROLLER SHALL BE DETERMINED BY THE OWNER. MINOR MODIFICATIONS OF CONTROLLER REQUESTED BY THE OWNER SHALL BE PROVIDED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER. FAILURE TO OBTAIN OWNER'S APPROVAL PRIOR TO THE INSTALLATION SHALL CAUSE THE CONTRACTOR TO MAKE OWNER DIRECTED REVISIONS AT NO ADDITIONAL COST TO THE OWNER. 10. ELECTRIC CONTROL VALVES AND ISOLATION VALVE LOCATIONS ON THIS DRAWING ARE APPROXIMATE. THE LANDSCAPE CONTRACTOR SHALL STAKE OUT EACH ELECTOLICAL CONTROL VALVE AND ISOLATION VALVE LOCATION FOR REVIEW AND APPROVAL BY OWNER PRIOR TO INSTALLATION OF ALL VALVES. FINAL LOCATION AND EXACT POSITIONING FOR ELECTRIC CONTROL VALVES AND ISOLATION VALVES SHALL BE DETERMINED BY THE OWNER. MINOR MODIFICATIONS OF ELECTRIC CONTROL VALVES AND ISOLATION VALVE LOCATIONS AS REQUESTED BY THE OWNER SHALL BE PROVIDED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER. FAILURE TO OBTAIN OWNER'S APPROVAL PRIOR TO THE INSTALLATION SHALL CAUSE THE CONTRACTOR TO MAKE OWNER DIRECTED REVISIONS AT NO ADDITIONAL COST TO THE OWNER. IN GENERAL, UNLESS OTHERWISE DIRECTED BY OWNER, ALL VALVES SHALL BE INSTALLED THREE FEET FROM EDGE OF HARDSCAPE, WALK OR CURB IN SHRUB PLANTING AREAS.

CONTROLLER CERTIFICATION NOTE:
1. UPON COMPLETION OF INSTALLATION, THE ENTIRE IRRIGATION CONTROLLER ASSEMBLY SHALL BE INSPECTED AND TESTED FOR PROPER CONNECTIONS AND COMPLETE AND FULL OPERATION BY THE MANUFACTURE'S AND/OR DISTRIBUTOR'S REPRESENTATIVE, INCLUDING FULL AND PROPER INTERFACE WITH CELLULAR SERVICE, FLOW SENSOR DATA INTERFACE, MASTER CONTROL VALVE, AND ANY OTHER SENSOR / CONTROL COMPONENTS. WRITTEN CERTIFICATION FROM THE MANUFACTURE'S REPRESENTATIVE, VERIFYING INSTALLATION AND OPERATION IN ACCORDANCE WITH THE MANUFACTURE'S SPECIFICATIONS, SHALL BE PROVIDED TO THE LANDSCAPE ARCHITECT, CITY, AND OWNER'S REPRESENTATIVE PRIOR TO FINAL INSPECTION. 2. CONTROLLER CERTIFICATION SHALL INCLUDE VERIFICATION FROM MANUFACTURE'S / DISTRIBUTOR'S REPRESENTATIVE THAT CONTROLLER IS FUNCTIONING PROPERLY IN "ET" COMMUNICATION MODE. THE FOLLOWING PARAMETERS SHALL BE PROGRAMMED INTO THE CONTROLLER PRIOR TO START OF 90 DAY MAINTENANCE PERIOD. (FOR EACH CONTROLLER VALVE STATION / CIRCUIT): 3. CONTROLLER SETUP SHALL INCLUDE: A. CELLULAR SERVICE COMMUNICATION SET UP IN OWNER NAME. B. FLOW RATES ACQUIRED FOR ALL STATIONS. C. STATION DESCRIPTION. D. STATION GROUP'S NAMES BY GROUP AND ASSIGNED TO CORRECT PROGRAM. E. STATION PRIORITIES. F. ALERT ACTIONS SET TO HIGH FLOW ALERT/SHUT OFF AND LOW FLOW ALERT/NO ACTION. G. ALL WEATHER SETTINGS AND CENTRAL CONTROL COMMUNICATION FOR "ET" AND RAIN USE. H. BUDGETS SETUP IN PROGRAMMING. I. CONTRACTOR SHALL PROVIDE CONTROLLER ASSEMBLY INSTALLATION CERTIFICATION PRIOR TO START OF 90 DAY MAINTENANCE PERIOD. J. ALL PROGRAMS SHALL BE WATERING IN THE WATER BUDGET ALLOCATED BY THE WATER DISTRICT PRIOR TO COMMENCEMENT OF MAINTENANCE.

WARE MALCOMB

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ABINGTON EMERSON

5677 OBERLIN DR.
SAN DIEGO, CALIFORNIA 92121

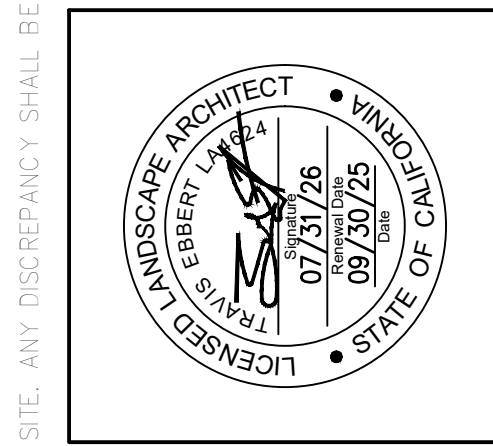
PROJECT DATA	
DATE	REMARKS
06/10/2025	CITY RESUBMISSION 01
08/04/2025	CITY RESUBMISSION 02
08/11/2025	IPC SET
A	
B	

PA/PM:	AN
DRAWN BY.:	MCJ / AN
JOB NO.:	SDG24-0061-00

SHEET
IRRIGATION NOTES

L4.1

FOR IRRIGATION SCHEDULES - SEE SHEET L3.0
FOR IRRIGATION PLAN - SEE SHEET L3.1
FOR IRRIGATION NOTES & CALCULATIONS - SEE SHEETS L4.1 - L4.2
FOR IRRIGATION DETAILS - SEE SHEETS L5.1 - L5.2
FOR LANDSCAPE SPECIFICATIONS - SEE SHEETS L9.1 - L9.5



BY AGREEMENT WITH WASE MALCOLM, WRITTEN DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALED DIMENSIONS.

ABINGTON EMERSON

**5677 OBERLIN DR.
SAN DIEGO, CALIFORNIA 92121**

	DATE	REMARKS
A	06/16/2025	CITY RESUBMISSION 01
B	09/04/2025	CITY RESUBMISSION 02
	09/17/2025	IRC 381

PA/PM:	AN
DRAWN BY.:	MCJ / AN
JOB NO.:	SDG24-0061-00

THESE DRAWINGS AND SPECS
SHEET
IRRIGATION NOTES & CALCULATIONS
L4.2

ESTABLISHED LANDSCAPE IRRIGATION SCHEDULE

Project Name: 5677 Oberlin Drive

Meter #1Controller Letter "A"

Evapotranspiration Rates:

Eto Historical:

WinterSpringSummerFall

Eto Per Day0.070.140.180.11

Eto Per Season2.24.45.53.4

Run Times (Minutes per Day) = 60 x (Eto x PF) / [PR x IE] x RD / C

Eto = Daily Evapotranspiration Rate

IE = Irrigation Efficiency

PR = Precipitation Rate (Inches per Hour)

RD = Run Days (Program run days per week)

C = Cycles per Day

PF = Plant Factor (Kc)

60 = Conversion to minutes

7 = Days in a week

Irrigation Days Per Week:

12223343221

JanFebMarAprMayJunJulAugSepOctNovDec

3%42%60%81%89%93%100%98%75%63%42%36%

11791299710119610

Min. Per Day

Total Run Time / Minutes Per Day

Total Run Time / Hours Per Day

543444614447374857463251

0.90.60.71.00.70.80.60.81.00.80.50.9

Min. Per DayHours Per Day

Total Valves5

CONTROLLER SCHEDULING NOTE:

THESE SUGGESTED RUN TIMES ARE FOR REFERENCE ONLY. ACTUAL RUN TIMES MAY DIFFER DUE TO VARYING SITE CONDITIONS. CONTRACTOR SHALL ADJUST RUN TIMES AS REQUIRED TO PROVIDE APPROPRIATE WATER FOR EACH VALVE CIRCUIT. MULTIPLE CYCLES MAY BE REQUIRED TO MINIMIZE PONDING AND RUNOFF INTO NON-IRRIGATED AREAS.

Cycles Per Day:1

Days Per Week:1 to 4

Irrigation Efficiency (%):

Rotors:0.75

Spray Heads:0.71

Bubbler Heads:0.77

Drip Line:0.81

Drip Emitters:0.81

Stream Rotary:0.75

Micro Spray:0.75

Precipitation Rate (in/hr):

Rotors:0.45

Spray Heads:1.60

Bubbler Heads:1.80

Drip Line:0.65

Drip Emitters:0.20

Stream Rotary:0.62

Micro Spray:0.61

Irrigation Pressure Calculation	
Minuter No:	1
Maximum Pressure Required PSI:	70 psi
Valve No:	
Valve Demand:	13 GPM
Maximum System Demand:	13 GPM
Elevation Change F.O.C. to Highest Head:	5 FT
Losses:	
1" Water Meter	0.6 psi
1" Service line	1.5 psi
1" RP Backflow Device	12.0 psi
1" Wye Strainer	1.0 psi
1 1/2" Master Valve	1.5 psi
1 1/2" Flow Sensor	1.0 psi
1 1/2" Tee	0.5 psi
1" R.C.V.	5.7 psi
150 feet of 1 1/2" Mainline Sch. 40	1.0 psi
Fitting Loss 10%	2.5 psi
Lateral Line Loss 10%	3.0 psi
Loss to Highest Head	7.7 psi
Total Losses:	32 psi
Head Operating Pressure:	30 psi
Total Pressure Required:	62 psi
Minimum Pressure Required:	70 psi
Residual Pressure:	8 psi

Water Efficient Landscape Worksheet						
Reference Evapotranspiration (ET _E)	46.5	Project Type		Non-Residential		Estimated
Hydrozone # / Planting Description *	Plant Factor (PF)	Irrigation Method ¹	Irrigation Efficiency (IE) ²	ETAF (PF)(IE)	Landscape Area (Sq Ft)	ETAF x Area Total Water Use (ETWU) ⁴
Regular Landscape Areas						
1- Shrub Drip (LOW)	0.2	Drip	0.81	0.25	5331	1316
				Totals	5331	1316
Special Landscape Areas						
SLA-1 N/A				1	0	0
				Totals	0	0
					ETWU Total Gallons	37,949
Maximum Allowed Water Allowance (MAWA) Gallons						69,162
*Hydrozone# / Planting Description e.g. 1) Drip Low water use planting 2) Spray Moderate water use planting 3) Tree Bubbler Moderate water use						
		*Irrigation Method	*Irrigation Efficiency	* ETAF (Annual Gallons Required) =	* ETWU (Annual Gallons Required) =	
		1) Overhead Spray	1) 0.73 For Spray Head	Eto x 0.62 x ETAF x Area		
		2) Drip	2) 0.81 For Drip	Where 0.62 is a conversion factor to change acre-inches per acre per year to gallons per square foot per year		
		3) Rotary	3) 0.73 Rotary			
		4) Rotor	4) 0.73 Rotor			
		5) Bubbler	5) 0.77 Bubbler			
* MAWA (Annual Gallons Allowed) = (Eto) (0.62) (ETAF x LA) + (1-ETAF) x SLA Where 0.62 is a conversion factor to change acre-inches per acre per year to gallons per square foot per year; LA is the total regular landscape area in square feet, SLA is the total special landscape area in square feet, and ETAF is 0.55 for residential areas and 0.45 for non-residential areas.						
ETAF Calculations						
Regular Landscape Areas						
Total ETAF x Area	1316	Average ETAF for Regular Landscape Areas must be 0.55 or below for residential areas, and 0.45 or below for non-residential areas.				
Total Area	5331					
Average ETAF	0.25					
All Landscape Areas						
Total ETAF x Area	1316	(B÷D)				
Total Area	5331	(A÷C)				
Average ETAF	0.25	(B+D) ÷ (A+C)				

IRRIGATION SYSTEM MAINTENANCE SCHEDULE

MAINTENANCE OF THE IRRIGATION SYSTEM IS A NECESSARY AND CONTINUING PROCESS INVOLVING MONITORING, ADJUSTMENT AND REPAIR. REPAIRS CAN BE MINIMIZED BY INSTITUTING A MAINTENANCE PROGRAM. SOME IRRIGATION SYSTEM MAINTENANCE ACTIVITIES NEED TO BE DONE AT REGULAR PERIODIC INTERVALS. OTHERS PERFORMED ON A NORMAL BASIS.

WEEKLY

- * TRIM FOLIAGE FROM AROUND SPRINKLER HEADS AS NECESSARY TO AVOID SPRAY BLOCKAGE.
- * BRIEFLY ACTIVATE EACH CONTROL VALVE AND OBSERVE SPRINKLERS FOR PROPER COVERAGE AND OPERATION AND MISALIGNED BY MOVING OPERATIONS.
- * CHECK FOR IRRIGATION OVER SPRAY OR RUNOFF AND CORRECT AS NEEDED.
- *CHECK ALL DRIP LINES FOR CLOGGED EMITTERS AND CLEAN OR REPLACE AS NEEDED.

MONTHLY

- **ADJUST PROGRAMMING OF THE AUTOMATIC IRRIGATION CONTROLLER(S) BASED ON OBSERVED FIELD CONDITIONS.**
- **CHECK FOR LEAKS AND MOISTURE WITH AN AUGER AND EVALUATE WITH REGARD TO DURATION AND FREQUENCY OF THE IRRIGATION CYCLES. FINE TUNE SYSTEMS WEEKLY OR BIWEEKLY AND MAKE CORRECTIONS AS NECESSARY. KEEP RECORDS OF ALL INFORMATION. MAINTAIN PET COCKS OF VALVE IN GOOD OPERATIONAL CONDITION. PET COCKS SHALL BE ONLY "FINGER TIGHT" TO PREVENT LEAKS.**
- **CONTROLLER OPERATION: CHECK FIELD VALVES FOR SEQUENCING, TIMING, ACCURACY, AND GENERAL FUNCTION AT THE ON GRADING OF EACH WATERING SEASON.**
- **WALK AND CHECK ALL ON GRADE PIPE, CHECK FOR BREAKS OR LEAKS, CHECK STAKING AND POSITION OF ALL PIPE AND SPRINKLER HEADS.**
- **FLUSH ALL DRIP SYSTEM LATERAL LINES AT EACH END OF DRIP ZONES.**
- **CHECK AND CLEAN ALL DRIP REMOTE CONTROL BASKET FILTERS.**

CONTINUALLY

- * CLEAN SOIL AND DEBRIS FROM SPRINKLER BODIES, NOZZLES AND DRIP SYSTEMS TO ENSURE PROPER WATER DISCHARGE.
- * STRAIGHTEN SPRINKLERS AND ADJUST NOZZLES TO INSURE PROPER WATER DISCHARGE.
 - * MAINTAIN ALL SPRINKLERS IN GOOD OPERATING ORDER, INCLUDING PROPER COVERAGE ADJUSTMENTS. REPAIR OR REPLACE SPRINKLERS AS NEEDED.
 - * MAINTAIN ELECTRIC CONTROL VALVE BOXES FREE OF DIRT AND DEBRIS.
 - * ADJUST WATER APPLICATIONS ACCORDING TO CHANGES IN THE WEATHER. CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE RESULTING FROM EITHER OVER OR UNDER-WATERING.

AS NEEDED

- * EXTEND THE HEIGHT OF SPRINKLERS AS NECESSARY IN SHRUB AREAS TO AVOID INTERFERENCE FROM ADJACENT FOLIAGE.
- * THE STAFF SHALL REPAIR OR REPLACE ANY DAMAGED OR MALFUNCTIONING EQUIPMENT WITHIN ONE WEEK OF DETECTION.
- * TURN OFF CONTROLLERS TEMPORARILY DURING PERIODS OF RAINFALL.

EQUIPMENT REPLACEMENT

- * REPLACE ANY IRRIGATION VALVES, SPRINKLERS, DRIP LINE OR OTHER COMPONENTS WITH REPLACEMENT OF THE EXACT TYPE, GPM AND MANUFACTURE AS CALLED FOR IN THE ORIGINAL IRRIGATION PLANS.

MAJOR REPAIRS

- "WHERE CONDITIONS DEVELOP WHICH CAN NOT BE HANDLED BY ROUTINE MAINTENANCE, THEY SHOULD BE BROUGHT TO THE ATTENTION OF THE OWNER.
- "ALL DAMAGE NOT RESULTING FROM CONTRACTOR'S ACTIVITIES OR NEGLIGENCE SHOULD BE BROUGHT TO THE OWNER'S ATTENTION.
- "DURING TIMES WHEN THE WATER SUPPLY IS CUT OFF OR THE IRRIGATION SYSTEM IS OTHERWISE INOPERABLE, THE LANDSCAPE SHOULD BE CAREFULLY MONITORED FOR SIGNS OF WATER STRESS. START A HAND WATERING PROGRAM IMMEDIATELY FOR ALL STRESSED LANDSCAPES. NOTIFY OWNER IN WRITING IF THIS OCCURS.

LANDSCAPE IRRIGATION AUDIT SCHEDULE

- * LANDSCAPE IRRIGATION AUDITS SHALL BE PERFORMED IN ACCORDANCE WITH THE STATE OF CALIFORNIA WATER MANAGEMENT PROGRAM AS DESCRIBED IN THE "LANDSCAPE IRRIGATION AUDITOR HANDBOOK".
- * AUDITS SHALL BE CONDUCTED BY CERTIFIED LANDSCAPE IRRIGATION AUDITOR.
- * THE FIRST LANDSCAPE IRRIGATION AUDIT SHALL BE PERFORMED PRIOR TO ACCEPTANCE AND SHALL BE REPEATED EVERY FIVE YEARS THEREAFTER.

KEEPING OF RECORDS

- * THE CONTRACTOR SHALL KEEP PERMANENT RECORDS OF ALL PERFORMED MAINTENANCE TASKS.
- * RECORD ALL WATER USAGE AND CHANGES IN THE CONTROLLER TIMING, INCLUDING OFF TIMES DURING RAINFALL.
- * RECORD ALL ACTIVITIES PERFORMED DURING THE QUARTERLY REVIEW.
- * RECORD ALL PROPOSED AND EXECUTED REPAIRS.
- * RECORD ALL TIMES WHEN THE IRRIGATION SYSTEMS ARE NOT OPERABLE.
- * RECORD ALL PERFORMED IRRIGATION AUDITS.

COLOR CHART NOTE:

AS A REQUIREMENT THE AUTOMATIC CONTROLLER SHALL CONSIST OF A NEATLY DRAWN 11"x17" LAMINATED IRRIGATION PLAN AND COLORED ZONE MAP LAYOUT CHART. LAYOUT CHART SHALL BE COLOR CODED INDICATING LOCATION OF ALL CONTROLS, PIPING, SLEEVES, HEADS (INCLUDING TYPE), VALVES AND CONNECTION TO WATER SERVICE.

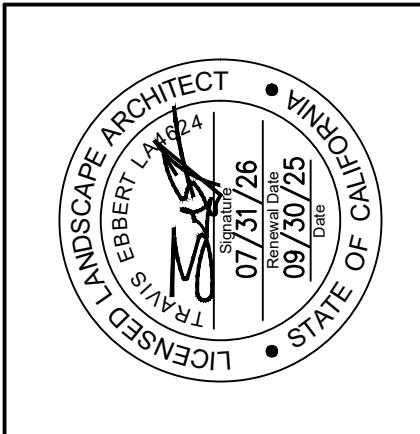
IRRIGATION WATER AUDIT NOTE:

LANDSCAPE CONTRACTOR TO PROVIDE AN IRRIGATION AUDIT, IN COMPLIANCE WITH THE STATE OF CALIFORNIA LANDSCAPE WATER MANAGEMENT PROGRAM, SHALL BE PERFORMED BY A CERTIFIED IRRIGATION AUDITOR, OTHER THAN THE DESIGNER OR INSTALLER, PRIOR TO TURNOVER OF PROJECT AND EVERY 5 YEARS THEREAFTER. A SCHEDULE SHALL BE ESTABLISHED AND SUBMITTED TO THE CITY OF AT LEAST ONCE EVERY FIVE YEARS AS REQUIRED BY THE CITY. THE REGULAR MAINTENANCE SCHEDULE COUPLED WITH THE AUDITS SHOULD HELP TO MAINTAIN THE IRRIGATION EFFICIENCY AS INTENDED IN THE DESIGN. IRRIGATION SYSTEM SHALL BE TESTED AND MAINTAINED ON A MONTHLY BASIS BY THE MAINTENANCE STAFF.

AT A MINIMUM, AUDITS SHALL BE IN ACCORDANCE WITH THE LATEST STATE OF CALIFORNIA LANDSCAPE WATER MANAGEMENT PROGRAM AS DESCRIBED IN THE LATEST LANDSCAPE IRRIGATION AUDITOR HANDBOOK, PREPARED FOR THE CALIFORNIA DEPARTMENT OF WATER RESOURCES, WATER CONSERVATION OFFICE, THE ENTIRE DOCUMENT, WHICH IS HEREBY INCORPORATED BY REFERENCE.

THE SCHEDULE SHALL PROVIDE FOR LANDSCAPE IRRIGATION AUDITS TO BE CONDUCTED BY A QUALIFIED INDIVIDUAL, OTHER THAN THE DESIGNER OR INSTALLER, AS DETERMINED BY THE DIRECTOR AT LEAST ONCE EVERY FIVE YEARS IN ACCORDANCE WITH THE REQUIREMENTS OF THE COUNTY.

FOR IRRIGATION SCHEDULES - SEE SHEET L3.0
FOR IRRIGATION PLAN - SEE SHEET L3.1
FOR IRRIGATION NOTES & CALCULATIONS - SEE SHEETS L4.1 - L4.2
FOR IRRIGATION DETAILS - SEE SHEETS L5.1 - L5.2
FOR LANDSCAPE SPECIFICATIONS - SEE SHEETS L9.1 - L9.5



PROJECT DATA	
DATE	06/10/2025
PA/PM:	AN
DRAWN BY.:	MCJ / AN
JOB NO.:	SDG24-0061-00
REMARKS	
CITY RESUBMISSION 01	
CITY RESUBMISSION 02	
IPC SET	
A	
B	
C	
D	
E	
F	
G	
H	

DATE	06/10/2025
PA/PM:	AN
DRAWN BY.:	MCJ / AN
JOB NO.:	SDG24-0061-00

LEGEND:

- Drip system air release valve - see legend for type. Installed on sch 40 PVC threaded coupling with a 3/4" sch. 80 nipple, length as required to locate valve 2" from top of valve box.
- 6" plastic round valve box, heat brand "ARV" onto lid.
- Finished grade.
- PVC pipe from discharge header, length as required.
- Nominal size solid brick supports (3 required - equally spaced).
- Landscape fabric.
- 1/2" round washed pea gravel - minimum 4" depth.
- PVC sch 40 elbow (8xT) or tee, 3/4" size.

NOTES:

A. LOCATE AT HIGHEST POINT OF THE DRIPLINE ZONE. INSTALL THE VALVE IN AN EXHAUST HEADER OR A LINE THAT RUNS PERPENDICULAR TO THE LATERAL ROWS TO ENSURE ALL ROWS OF THE DRIP LINE CAN TAKE ADVANTAGE OR THE AIR/VACUUM RELIEF VALVE.

B. USE SCH 40 PVC 45 DEGREE ELLS TO TRANSITION TO DRIPLINE HEADER DEPTH.

C. SET TOP OF VALVE BOX 1-1/2" ABOVE FINISHED GRADE IN GROUND COVER / SHRUB AREAS.

D. USE TEFLON TAPE ON ALL THREADED FITTINGS, TYPICAL.

E. INSTALL AIR RELIEF VALVE 18" FROM PAVING.

F. AIR VALVES FOR TURF AREAS SHALL BE PLACED IN ADJACENT SHRUB PLANTER, NO VALVES ARE TO BE PLACED IN TURF AREAS. VERIFY EXACT LOCATION IN FIELD.

G DRIP AIR RELIEF VALVE NOT TO SCALE

LEGEND:

- POP-UP DRIP INDICATOR - see legend for type.
- FINISH GRADE. INSTALL POP-UP DRIP INDICATOR 1/2" ABOVE GRADE IN TURF DRIPLINE AREAS AND 1" ABOVE GRADE IN SHRUB DRIPLINE AREAS.
- APPROVED AMENDED BACKFILL.
- POP-UP HEAD - see legend for type.
- MANUFACTURED SWING JOINT - HUNTER MODEL RSJ-512 OR RAIN BIRD MODEL #SA-125050 1/2" SWING JOINT ASSEMBLY.
- SCH 40 PVC PIPE END FLUSH EXHAUST FOOTER FROM DRIPLINE SYSTEM. SIZE INTAKE/EXHAUST HEADERS PER TABLE SHOWN ON PLANS. IN NO INSTANCE SHALL PIPE SIZE EXCEED 5 FPS OR DESIGNATED GPM RANGE.
- DRIPLINE ASSEMBLY CONNECTION.
- SUB-SURFACE IN-LINE DRIPLINE TUBING - see legend for type.
- HARDSCAPE / CURB / PAVING

NOTES:

A. AFTER COMPLETE SYSTEM FLUSH, INSTALL DRIPLINE INDICATOR CAP.

B. INSTALL POP-UP INDICATOR HEAD 10" FROM PERIMETER OF PLANTER / HARDSCAPE.

C. DISCHARGE EXHAUST HEADER SHALL BE INSTALLED 12" BELOW FINISHED SOIL GRADE, TYPICAL.

D. INSTALL MINIMUM ONE(1) DRIPLINE INDICATOR PER DRIPLINE ZONE.

E. USE TEFLON TAPE ON THREADED FITTINGS, TYPICAL. (NO LIQUID TEFLON)

H DRIP SYSTEM POP-UP INDICATOR NOT TO SCALE

LEGEND:

- BARK MULCH FOR SHRUB AREA PLANTING. SEE PLANTING PLAN FOR DEPTH AND TYPE.
- FINISHED GRADE.
- AMENDED SOIL.
- DRIPLINE TUBING - see legend for type.
- SCH 40 PVC ELL FOR END FEED, TEE FOR CENTER FEED.
- PVC PIPE RISER - SIZE AND LENGTH AS REQUIRED - see legend for type.
- DRIPLINE TUBING MPT MALE ADAPTER FITTING.
- PVC PIPE SUPPLY HEADER, SIZE PER PLAN - see legend for type.
- 6" WIRE STAKES MAXIMUM FIVE (5) FEET ON CENTER - see legend for type.

NOTES:

A. USE 45 DEGREE ELLS TO TRANSITION TO DRIPLINE HEADER DEPTH.

B. SET TOP OF VALVE BOX 1-1/2" ABOVE FINISHED GRADE IN GROUND COVER / SHRUB AREAS. IF REQUIRED TO BE PLACED IN TURF AREAS INSTALL 1/2" ABOVE FINISHED GRADE.

C. USE TEFLON TAPE ON ALL THREADED FITTINGS, TYPICAL.

D. FLUSH VALVES FOR TURF AREAS SHALL BE PLACED IN ADJACENT SHRUB PLANTER WHEN POSSIBLE. AVOID PLACING VALVES IN TURF AREAS. VERIFY EXACT LOCATION IN FIELD PRIOR TO INSTALLATION.

E DRIPLINE CONNECTION NOT TO SCALE

LEGEND:

- 1" ROUND PLASTIC VALVE BOX - HEAT BRAND "FV" ONTO LID.
- FINISHED GRADE.
- PVC PIPE DISCHARGE HEADER INSTALLED 12" BELOW FINISHED SOIL GRADE, TYPICAL - see legend for type.
- PVC EXHAUST HEADER LATERAL.
- 1/2" ROUND WASHED PEA GRAVEL - 2.5 CUBIC FEET MINIMUM.
- NOMINAL SIZE SOLID BRICK SUPPORTS (3 REQUIRED - EQUALLY SPACED).
- LANDSCAPE FABRIC.
- SCH 40 PVC 90 DEGREE ELL (SIZE AS REQUIRED).
- AUTOMATIC DRIPLINE FLUSH VALVE - see legend for type.

NOTES:

A. USE 45 DEGREE ELLS TO TRANSITION TO DRIPLINE HEADER DEPTH.

B. SET TOP OF VALVE BOX 1-1/2" ABOVE FINISHED GRADE IN GROUND COVER / SHRUB AREAS. IF REQUIRED TO BE PLACED IN TURF AREAS INSTALL 1/2" ABOVE FINISHED GRADE.

C. USE TEFLON TAPE ON ALL THREADED FITTINGS, TYPICAL.

D. FLUSH VALVES FOR TURF AREAS SHALL BE PLACED IN ADJACENT SHRUB PLANTER WHEN POSSIBLE. AVOID PLACING VALVES IN TURF AREAS. VERIFY EXACT LOCATION IN FIELD PRIOR TO INSTALLATION.

F AUTOMATIC DRIPLINE FLUSH VALVE NOT TO SCALE

LEGEND:

- PVC PIPE LATERAL LINE FROM DRIPLINE ZONE KIT.
- PVC PIPE SUPPLY HEADER.
- SCH 40 PVC TEE 8x8xT OR ELL, LINE SIZE BY 1/2".
- DRIPLINE FITTING MALE ADAPTER TRANSITION TO DRIPLINE TUBING.
- AIR/VACUUM RELIEF VALVE (PLUMBED AT EACH HIGH POINT OF EACH LATERAL LEG CENTERED ON MOUND OR BERM) (TYP)
- IN-LINE DRIPLINE TUBING WITH TRIANGULAR SPACING EMITTERS 12 INCH ON CENTER, ROW SPACING 18 INCHES FOR SHRUB AREAS AND 12 INCHES MAXIMUM FOR TIGHTLY SPACED GROUND COVER AND TURF AREAS - see legend for type.
- PVC PIPE FLUSH EXHAUST MANIFOLD.
- MANUAL DRIPLINE FLUSH VALVE, PLUMBED TO PVC PIPE AT LOW/END OF DRIPLINE ZONE (TYP) - see legend for type.
- 1/2" POLYETHYLENE BLANK TUBING.
- BARB X BARB INSERT TEE OR CROSS, TYP
- DRIPLINE OPERATIONAL INDICATOR - see legend for type.
- PLANTER AREA PERIMETER.
- PERIMETER DRIPLINE PIPE TO BE INSTALLED 6" FROM PERIMETER OF PLANTER AREA, MINIMUM 12" DISTANCE FROM BUILDING.
- PVC PIPE SCH 40 RISER, LENGTH AS REQUIRED.

NOTES:

A. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS.

B. DRIPLINE EMITTER LAYOUT SHALL BE TRIANGULAR SPACED.

C DRIPLINE LAYOUT (TYP) NOT TO SCALE

LEGEND:

- PVC PIPE LATERAL LINE FROM DRIPLINE ZONE KIT.
- PVC PIPE SUPPLY HEADER.
- SCH 40 PVC TEE 8x8xT OR ELL, LINE SIZE BY 1/2".
- DRIPLINE FITTING MALE ADAPTER TRANSITION TO DRIPLINE TUBING.
- AIR/VACUUM RELIEF VALVE (PLUMBED AT EACH HIGH POINT OF EACH LATERAL LEG CENTERED ON MOUND OR BERM) (TYP)
- IN-LINE DRIPLINE TUBING WITH TRIANGULAR SPACING EMITTERS 12 INCH ON CENTER, ROW SPACING 18 INCHES FOR SHRUB AREAS AND 12 INCHES MAXIMUM FOR TIGHTLY SPACED GROUND COVER AND TURF AREAS - see legend for type.
- PVC PIPE FLUSH EXHAUST MANIFOLD.
- MANUAL DRIPLINE FLUSH VALVE, PLUMBED TO PVC PIPE AT LOW/END OF DRIPLINE ZONE (TYP) - see legend for type.
- 1/2" POLYETHYLENE BLANK TUBING.
- BARB X BARB INSERT TEE OR CROSS, TYP
- DRIPLINE OPERATIONAL INDICATOR - see legend for type.
- PLANTER AREA PERIMETER.
- PERIMETER DRIPLINE PIPE TO BE INSTALLED 6" FROM PERIMETER OF PLANTER AREA, MINIMUM 12" DISTANCE FROM BUILDING.
- PVC PIPE SCH 40 RISER, LENGTH AS REQUIRED.

NOTES:

A. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS.

B. DRIPLINE EMITTER LAYOUT SHALL BE TRIANGULAR SPACED.

D DRIPLINE LAYOUT (TYP) NOT TO SCALE

LEGEND:

- PVC PIPE LATERAL LINE FROM DRIPLINE ZONE KIT.
- PVC PIPE SUPPLY HEADER.
- SCH 40 PVC TEE 8x8xT OR ELL, LINE SIZE BY 1/2".
- DRIPLINE FITTING MALE ADAPTER TRANSITION TO DRIPLINE TUBING.
- AIR/VACUUM RELIEF VALVE (PLUMBED AT EACH HIGH POINT OF EACH LATERAL LEG CENTERED ON MOUND OR BERM) (TYP)
- IN-LINE DRIPLINE TUBING WITH TRIANGULAR SPACING EMITTERS 12 INCH ON CENTER, ROW SPACING 18 INCHES FOR SHRUB AREAS AND 12 INCHES MAXIMUM FOR TIGHTLY SPACED GROUND COVER AND TURF AREAS - see legend for type.
- PVC PIPE FLUSH EXHAUST MANIFOLD.
- MANUAL DRIPLINE FLUSH VALVE, PLUMBED TO PVC PIPE AT LOW/END OF DRIPLINE ZONE (TYP) - see legend for type.
- 1/2" POLYETHYLENE BLANK TUBING.
- BARB X BARB INSERT TEE OR CROSS, TYP
- DRIPLINE OPERATIONAL INDICATOR - see legend for type.
- PLANTER AREA PERIMETER.
- PERIMETER DRIPLINE PIPE TO BE INSTALLED 6" FROM PERIMETER OF PLANTER AREA, MINIMUM 12" DISTANCE FROM BUILDING.
- PVC PIPE SCH 40 RISER, LENGTH AS REQUIRED.

NOTES:

A. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS.

B. DRIPLINE EMITTER LAYOUT SHALL BE TRIANGULAR SPACED.

B DRIPLINE LAYOUT (TYP) NOT TO SCALE

LEGEND:

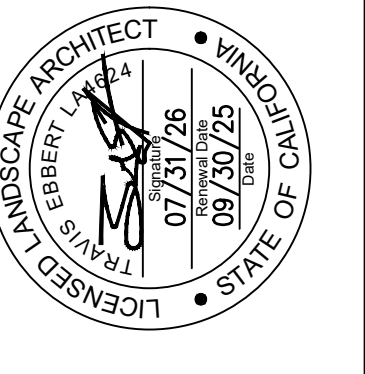
- PVC PIPE LATERAL LINE FROM DRIPLINE ZONE KIT.
- PVC PIPE SUPPLY HEADER.
- SCH 40 PVC TEE 8x8xT OR ELL, LINE SIZE BY 1/2".
- DRIPLINE FITTING MALE ADAPTER TRANSITION TO DRIPLINE TUBING.
- AIR/VACUUM RELIEF VALVE (PLUMBED AT EACH HIGH POINT OF EACH LATERAL LEG CENTERED ON MOUND OR BERM) (TYP)
- IN-LINE DRIPLINE TUBING WITH TRIANGULAR SPACING EMITTERS 12 INCH ON CENTER, ROW SPACING 18 INCHES FOR SHRUB AREAS AND 12 INCHES MAXIMUM FOR TIGHTLY SPACED GROUND COVER AND TURF AREAS - see legend for type.
- PVC PIPE FLUSH EXHAUST MANIFOLD.
- MANUAL DRIPLINE FLUSH VALVE, PLUMBED TO PVC PIPE AT LOW/END OF DRIPLINE ZONE (TYP) - see legend for type.
- 1/2" POLYETHYLENE BLANK TUBING.
- BARB X BARB INSERT TEE OR CROSS, TYP
- DRIPLINE OPERATIONAL INDICATOR - see legend for type.
- PLANTER AREA PERIMETER.
- PERIMETER DRIPLINE PIPE TO BE INSTALLED 6" FROM PERIMETER OF PLANTER AREA, MINIMUM 12" DISTANCE FROM BUILDING.
- PVC PIPE SCH 40 RISER, LENGTH AS REQUIRED.

NOTES:

A. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS.

B. DRIPLINE EMITTER LAYOUT SHALL BE TRIANGULAR SPACED.

A DRIPLINE LAYOUT (TYP) NOT TO SCALE



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PROJECT DATA

DATE	REMARKS
06/10/2025	CITY RESUBMISSION 01
08/02/2025	CITY RESUBMISSION 02
08/17/2025	IPC SET

PA/PM:	AN
DRAWN BY.:	MCJ / AN
JOB NO.:	SDG24-0061-00

SHEET
IRRIGATION DETAILS

LEGEND:

- REMOVABLE QUICK COUPLER KEY ASSEMBLY CONNECTION. KEY MUST CLEAR VALVE BOX, AS SHOWN.
- 10" ROUND PLASTIC VALVE BOX WITH LOCKING COVER. USE STAINLESS BOLT, NUT, AND WASHER. HEAT BRAND "QCV" ONTO LID.
- FINISHED GRADE.
- STAINLESS STEEL CLAMP - 2 REQUIRED.
- 1/2" ROUND WASHED PEA GRAVEL - MINIMUM 4" DEPTH.
- LANDSCAPE FABRIC.
- #4 REBAR - 36" MINIMUM LENGTH.
- PVC MAINLINE - SEE LEGEND FOR TYPE.
- PVC SCH 80 TEE OR ELL.
- BRASS NIPPLE, 6" MINIMUM LENGTH.
- NOMINAL SIZE SOLID BRICK SUPPORTS (3 MINIMUM REQUIRED - SPACED EQUALLY).
- BRASS ELL - 2 REQUIRED.
- BRASS NIPPLE, LENGTH AS REQUIRED.
- QUICK COUPLING VALVE WITH LOCKING COVER - SEE LEGEND FOR TYPE.

NOTES:

- USE SCH. 80 PVC 45 DEGREE ELLS TO TRANSITION TO MAINLINE DEPTH.
- SET TOP OF VALVE BOX 1-1/2" ABOVE FINISHED GRADE IN MULCH OR GROUND COVER / SHRUB AREAS. SET 3/4" ABOVE FINISHED GRADE IN TURF AREAS.
- USE TEFLON TAPE ON ALL THREADED FITTINGS, TYPICAL.

QUICK COUPLER VALVE NOT TO SCALE

LEGEND:

- FINISHED GRADE.
- SCH 80 PVC NIPPLE - LENGTH AS REQUIRED.
- SCH 80 PVC UNION.
- SCH 80 PVC REDUCER BUSHING, SxT, SIZE AS REQUIRED (QTY. 2 REQUIRED).
- PVC MAINLINE - DEPTH PER SPECS.
- 45 DEGREE ELBOW, SCH 80 FITTINGS SHALL BE USED TO RAISE MAINLINE FOR BALL VALVE WITHIN 12" OF FINISHED GRADE. (QTY. 4 REQUIRED)
- NOMINAL SIZE SOLID BRICK (QTY. 4 REQUIRED - ONE AT EACH CORNER OF VALVE BOX).
- LANDSCAPE FABRIC.
- 1/2" ROUND WASHED PEA GRAVEL - MINIMUM 4" DEPTH.
- BALL VALVE - SEE LEGEND FOR TYPE. INSTALL SHUTOFF HANDLE PERPENDICULAR TO BOX LID.
- PLASTIC RECTANGULAR VALVE BOX WITH LOCKING COVER WITH STAINLESS STEEL BOLT AND WASHER. HEAT BRAND "BV" ONTO LID.

NOTES:

- SCH 80, 45 DEGREE ELBOW FITTINGS, SHALL BE USED TO RAISE MAINLINE WITHIN 12" OF FINISHED GRADE. (FOUR REQUIRED)
- PLACE VALVE BOX IN GROUND COVER AND SHRUB AREAS WHENEVER POSSIBLE.
- USE TEFLON TAPE ON ALL THREADED FITTINGS, TYPICAL.
- VALVE BOX TO BE INSTALLED AS TO ALLOW FOR PROPER OPERATION OF BALL VALVE. INSTALL AT RIGHT ANGLE TO HARDSCAPE EDGE - INSTALL VALVE CENTERED IN BOX.
- BOLT/DOWN VALVE BOX COVER WITH STAINLESS STEEL BOLT AND WASHER.
- ALL MAINLINE AND VALVE FITTINGS SHALL BE SCHEDULE 80 FITTINGS.

BALL VALVE NOT TO SCALE

LEGEND:

- PVC MAINLINE FROM BACKFLOW DEVICE. SEE LEGEND FOR TYPE, DEPTH PER SPECIFICATIONS.
- PVC SCH 80, 45 DEGREE ELL - TYP. (4 REQ.).
- 1/2" ROUND WASHED PEA GRAVEL - MINIMUM 4" DEPTH.
- NOMINAL SIZE SOLID BRICK (4 REQUIRED - ONE AT EACH CORNER OF VALVE BOX).
- LANDSCAPE FABRIC.
- PVC MAINLINE TO FLOW SENSOR. SEE SPECIFICATIONS AND TRENCHING DETAIL FOR MAINLINE DEPTH.
- SCH 80 PVC NIPPLE - LENGTH AS REQUIRED (3 REQ.).
- PVC SCH 80 UNION (VALVE SIZE) WITH REDUCING BUSH IF REQUIRED.
- FINISHED GRADE. SET TOP OF VALVE BOX 3/4" ABOVE FINISHED GRADE IN TURF AREAS, AND 1-1/2" IN SHRUB / GROUND COVER AREAS.
- CHRISTY'S VALVE STATION # I.D. TAG ATTACHED TO VALVE BONNET BOLT.
- PLASTIC RECTANGULAR VALVE BOX WITH LOCKING COVER, USE STAINLESS BOLT, NUT, AND WASHER. HEAT BRAND "MV" ONTO LID.
- WATERPROOF CONTROL WIRE CONNECTIONS. SEE LEGEND FOR TYPE. PROVIDE MINIMUM 24" WIRE EXPANSION COILS AT VALVE.
- SCH 80 PVC FEMALE ADAPTER (2 REQ.)
- MASTER CONTROL VALVE. SEE LEGEND FOR TYPE.

NOTES:

- USE SCH 80 PVC FITTINGS.
- SET TOP OF VALVE BOX 3/4" ABOVE FINISHED GRADE IN TURF AREAS AND 1-1/2" ABOVE FINISHED GRADE IN GROUND COVER AND SHRUB AREAS.
- SET VALVE BOX AND VALVE ASSEMBLY IN GROUND COVER / SHRUB AREAS WHERE POSSIBLE. INSTALL IN TURF ONLY IF THERE IS NO ADJACENT GROUND COVER.
- USE TEFLON TAPE ON ALL THREADED FITTINGS, TYPICAL.
- INSTALL 45 DEGREE ELLS AS REQUIRED TO ACHIEVE PROPER VALVE INSTALLATION ABOVE MAINLINE DEPTH.

LEGEND:

- R/P DEVICE - SEE LEGEND FOR SIZE AND TYPE.
- PRESSURE REGULATOR - IF SPECIFIED SEE LEGEND FOR SIZE AND TYPE.
- BRASS UNION - LINE SIZE, 2 REQ.
- BRASS ELL (TYP.)
- SCH. "K" HARD COPPER NIPPLE - 12" MINIMUM LENGTH.
- PVC MAINLINE TO MASTER VALVE - SIZE AND TYPE PER PLAN.
- SCH 80 FEMALE ADAPTER.
- SCH. "K" HARD COPPER MAINLINE FROM METER. WRAP SUBSURFACE BRASS PIPING WITH 10 MILL UPC PIPE WRAP.
- 12"x12"x12" POURED CONCRETE THRUST BLOCKS - TWO REQUIRED.
- POURED CONCRETE BASE - SEE NOTE (A) BELOW.
- 3/8" (L) ANCHOR BOLTS SUBMERGED IN CONCRETE MINIMUM TWO INCHES - PER MANUFACTURE SPECIFICATIONS.
- BRASS FULL-PORT BALL VALVE, LINE SIZE.
- WYE STRAINER - SEE LEGEND FOR TYPE.
- BRASS RISER - LENGTH AS REQUIRED, 4 REQ.
- BRASS BALL VALVE AS PART OF ASSEMBLY.
- BACKFLOW DEVICE ENCLOSURE - SEE LEGEND FOR SIZE, TYPE, AND COLOR. MAXIMUM SIZE (17.75"W x 27"H x 46.5"L) MAXIMUM WT. 50 LBS.
- SUP-ON INSULATING / FREEZE BLANKET BACKFLOW COVER - IF SPECIFIED SEE LEGEND FOR SIZE AND TYPE.

NOTES:

- POURED CONCRETE BASE - 6" MINIMUM THICKNESS - EXTEND 4" BEYOND OUTSIDE DIMENSIONS OF ENCLOSURE. INSTALL PER MANUFACTURE SPECIFICATIONS.
- IF BACKFLOW ENCLOSURE IS SPECIFIED IN THE LEGEND, THE CONCRETE SLAB SHALL BE THE SIZE REQUIRED BY THE MANUFACTURER.
- BACKFLOW PREVENTION DEVICE ASSEMBLY SHALL BE INSTALLED IN ACCORDANCE TO GOVERNING CODES AND ORDINANCE.
- WRAP SUBSURFACE BRASS PIPING WITH 10 MILL UPC PIPE WRAP.
- PROVIDE 6" CLEARANCE ALL AROUND ENCLOSURE. SLOPE TO DRAIN AWAY AND FINISH WITH 14" ROUND OVER.
- INSTALL ENCLOSURE ACCORDING TO MANUFACTURER'S INSTRUCTIONS. PROVIDE ADEQUATE CLEARANCE FOR MAINTENANCE.

LEGEND:

- BUILDING WALL. VERIFY EXACT LOCATION IN FIELD.
- WALL-MOUNT CONTROLLER - SEE LEGEND FOR SPECIFICATIONS.
- 1" RIGID METAL ELECTRICAL CONDUIT WITH SWEEP ELL FOR MASTER CONTROL VALVE WIRES.
- 3" RIGID METAL ELECTRICAL CONDUIT WITH SWEEP ELL FOR DIRECT BURIAL CONTROL WIRES.
- 1" RIGID METAL ELECTRICAL CONDUIT WITH SWEEP ELL FOR FLOW SENSOR CABLE.
- 1" RIGID METAL ELECTRICAL CONDUIT WITH SWEEP ELL FOR GROUND ROD CABLE. (1) 3/4" X 8" COPPER GROUND ROD MINIMUM W/ #10 GROUND WIRE AND CLAMP. INSTALL INSIDE A 10" ROUND VALVE BOX - GROUND ROD TO BE LOCATED WITHIN 15" OF CONTROLLER. CONTRACTOR SHALL INSTALL ACTUAL GROUNDING EQUIPMENT PER MANUFACTURER'S SPECIFICATIONS.
- 1" RIGID METAL ELECTRICAL CONDUIT.
- 120 VOLT POWER SUPPLY IN J-BOX.
- "ET" SOLAR-SYNC MODULE.
- 12"x2" GALVANIZED MOUNTING PIPE.
- "ET" SOLAR-SYNC / RAIN SENSOR, POLE MOUNTED. INSTALL PER MANUFACTURES RECOMMENDATIONS. MOUNT SENSOR CLEAR OF ANY OVERHEAD OBSTRUCTIONS IN FULL SUN. VERIFY EXACT SENSOR LOCATION IN FIELD WITH OWNER.
- GALVANIZED PIPE CAP.
- ELECTRICAL CONDUIT FROM ET SYSTEM SENSOR TO "ET" SYSTEM MODULE.

LEGEND:

- CONTROL WIRES WITH WATER PROOF WIRE CONNECTORS. SEE LEGEND FOR TYPE. PROVIDE MINIMUM 24" COIL OF WIRE AT VALVE.
- CHRISTY'S VALVE STATION # I.D. TAG ATTACHED TO VALVE BONNET BOLT.
- REMOTE CONTROL VALVE - SEE LEGEND FOR TYPE. SEE PLAN FOR SIZE.
- WYE FILTER - SEE LEGEND FOR TYPE. SEE PLAN FOR SIZE.
- PRESSURE REGULATOR - SEE LEGEND FOR TYPE.
- PVC SCH 80 SxT MALE ADAPTER.
- PLASTIC RECTANGULAR "JUMBO" VALVE BOX WITH LOCKING COVER, USE STAINLESS BOLT, NUT, AND WASHER. HEAT BRAND "RCV" & CONTROLLER STATION NUMBER ONTO LID.
- FINISHED GRADE. SET TOP OF VALVE BOX 3/4" ABOVE GRADE IN TURF AREAS AND 2" ABOVE GRADE IN SHRUB / GROUND COVER AREAS.
- PVC LATERAL LINE TO DRIP SYSTEM - SEE LEGEND FOR TYPE.
- NOMINAL SIZE SOLID BRICK - 4 REQUIRED, ONE AT EACH CORNER OF VALVE BOX.
- PEA GRAVEL - MINIMUM 4" DEPTH WITH 2" VALVE CLEARANCE.
- LANDSCAPE FABRIC.
- PVC SCH 80 NIPPLE (2" LENGTH, HIDDEN) AND PVC SCH 40 ELL.
- PVC MAINLINE. SEE LEGEND FOR TYPE - DEPTH PER SPECIFICATIONS.
- PVC SCH 80 NIPPLE - LENGTH AS REQUIRED.
- PVC SCH 80 ELL.

NOTES:

- WIRES MUST COILED AND EXTEND MINIMUM 24" ABOVE VALVE BOX FOR SERVICE.
- SET TOP OF VALVE BOX 1-1/2" ABOVE FINISHED GRADE IN GROUND COVER AND SHRUB AREAS AND 1/2" ABOVE FINISHED GRADE IN TURF AREAS.
- USE TEFLON TAPE ON ALL THREADED FITTINGS TYPICAL.
- USE SCH 80 PVC FITTINGS.

DETAIL LEGEND:

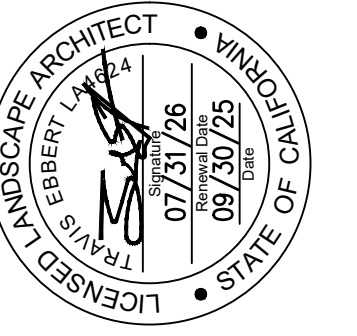
- HUNTER HC FLOW METER HC-150 WITH UNION CONNECTIONS
- SCH 80 PVC FEMALE ADAPTER (S X T)
- RECTANGULAR VALVE BOX PER SPECIFICATIONS
- SCH 80 PVC 45 DEGREE ELBOW (S X S) TO LOWER MAIN LINE TO PROPER DEPTH (NEEDED)
- SCH 80 PVC 45 DEGREE ELBOW (S X S) TO LOWER MAIN LINE TO PROPER DEPTH
- 2" DIA. MAIN LINE AT INLET & OUTLET
- MAIN LINE TO SYSTEM (SEE LEGEND AND PLANS FOR TYPE AND SIZE)
- 2-CONDUCTOR SHIELDED TWO WIRES TO FLOW SENSOR TERMINALS AT CONTROLLER - SEE LEGEND FOR TYPE. INSTALLED WITHIN 1" SCH 40 PVC WIRE CONDUIT WITH SWEEP ELBOWS TO CONTROLLER LOCATION. SEAL CONDUIT END WITH EXPANDING SPRAY FOAM SEALANT TO HELP PREVENT WATER INTRUSION.
- WATERPROOF WIRE CONNECTORS - SEE LEGEND FOR TYPE.
- FINISH GRADE
- SPECIFIED SOIL COVER (SEE LEGEND)
- COMMON BRICK
- GRAVEL BASE, MINIMUM 6" DEEP

NOTE: INLET PIPE ENTERING METER: LENGTH MUST BE A MIN. OF 10 X PIPE DIA. OUTLET PIPE LEAVING METER: LENGTH MUST BE MIN. OF 5 X PIPE DIA. INLET AND OUTLET PIPE MUST BE STRAIGHT PIPE WITH NO FITTINGS OR TURNS UNTIL AFTER THESE SPECIFIED LENGTHS. PIPE AND FITTINGS MAY BE SCH 80 PVC SOLVENT WELD, THREADED SCH 80 PVC OR BRASS, AS REQUIRED FOR PROJECT.

LEGEND:

- STRONGBOX SMOOTH TOUCH BACKFLOW CAGE - SEE LEGEND FOR SIZE, TYPE, AND COLOR.
- ENCLOSURE LOCKING SWING DOOR (DOOR MOUNTED TO ANCHOR BASE)
- PADLOCK PROTECTIVE COVER.
- BACKFLOW PREVENTER.
- PADLOCK.
- ENCLOSURE SWIVEL POINT ATTACHED TO MOUNTING BASE. ENCLOSURE SECURED TO BASE (6 PLACES)
- ANCHOR BASE MOUNT.
- POURED CONCRETE BASE, 6" MINIMUM THICKNESS. EXTEND 4" BEYOND OUTSIDE DIMENSIONS OF ENCLOSURE.
- ENCLOSURE MOUNTING BASE STUDS 3/8" X 3/4".
- 3/8" (L) ANCHOR BOLTS SUBMERGED IN CONCRETE A MINIMUM TWO INCHES.

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**5677 OBERLIN DR.
SAN DIEGO, CALIFORNIA 92121**

PROJECT DATA

DATE	REMARKS
06/10/2025	CITY RESUBMISSION 01
08/04/2025	CITY RESUBMISSION 02
08/17/2025	IPC SET

PA/PM:	AN
DRAWN BY.:	MCJ / AN
JOB NO.:	SDG24-0061-00

SHEET
IRRIGATION DETAILS

L5.3

LEGEND:

1. FINISH GRADE.
2. TREE.
3. 4" POP-UP SPRAY HEAD. SEE LEGEND FOR MODEL AND NOZZLE TYPE. TWO REQUIRED PER TREE.
4. IN-LINE DRIP TUBING. SEE LEGEND FOR TYPE.
5. SPIRAL BARB FITTING: RAIN BIRD SB-TTEE SERIES FITTING.
6. 1/2" FLEXIBLE POLY PIPE TUBING: RAIN BIRD SPX SERIES SWING PIPE TUBING(LENGTH AS REQUIRED)
7. TREE ROOT BALL
8. SPIRAL BARB FITTING: RAIN BIRD SBE-050 SERIES 3/4" MPT x 1/2" BARBED ELBOW FITTING.

NOTES:

- A. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
- B. INSTALL SPRINKLER HEADS PLUMB.
- C. ADJUST SPRAY OR NOZZLE STREAM TO COVER LANDSCAPE AREA WITHOUT OVERSPRAY ONTO PAVING, FENCES, WALLS OR BUILDINGS.
- D. USE TEFLON TAPE ON THREADED FITTINGS, TYPICAL. (NO LIQUID TEFLON)
- E. INSTALL (2) MICRO SPRAY PER TREE AT EDGE OF ROOTBALL ON OPPOSITE SIDES OF TREE TYPICAL.
- F. INSTALL STAINLESS STEEL CLAMPS ON FITTINGS FOR ANY SYSTEM THAT EXCEEDS 50 PSI.

NOT TO SCALE

EXISTING TREE POP-UP MICRO-SPRAY

LEGEND:

STRIP BOTH WIRES, TWIST STRAND AROUND RIGID STRAND CLOCKWISE DIRECTION OVER HALF THE LENGTH OF STRIPPED WIRES.

FOLD THE OTHER HALF OF THE RIGID STRAND OVER TWISTED STRAND AS SHOWN.

INSERT THE TWISTED SPLICE INTO THE "Y" ELECTRICAL SPRING CONNECTION AND TWIST OVER WIRE STRANDS IN A CLOCKWISE DIRECTION.

INSERT THE CONNECTOR INTO THE GEL-FILLED DIRECT BURY SPLICE KIT. PUSH PAST THE LOCKING FINGERS TO SECURE CONNECTOR INSIDE TUBE.

POSITION ALL THE WIRES THROUGH THE DEDICATED INSULATOR CHANNELS AND SNAP INSULATOR TUBE COVER CLOSED.

3M "DBY-6/DBR-6" WIRE CONNECTOR

NOTES:

- A. JOIN WIRES AND TWIST TOGETHER. WIRE SPLICES MUST BE TWISTED WITH WIRE TWISTING TOOL WITH A MAXIMUM OF TWO WIRES PER TWIST. PRIOR TO INSTALLING CONNECTOR. TWIST CONNECTOR ONTO WIRES TO SEAT FIRMLY. CORRECT WIRE CONNECTIONS ARE EXTREMELY IMPORTANT! REFER TO MANUFACTURE RECOMMENDATION FOR PROPER WIRE CONNECTIONS.
- B. ALL WIRE CONNECTIONS SHALL INCLUDE A WIRE NUT CONNECTOR AND A POLY TUBE PRE-FILLED WITH WATERPROOF SEALING GEL.
- C. DIRECT BURY SPLICE KIT MODEL # SA 101 SHALL BE USED TO ELECTRICALLY CONNECT 2 - #14 AND/OR 1 - #18 PRE-STRIPPED COPPER WIRES. LARGER WIRES OR GREATER QUANTITIES OF WIRES SHALL REQUIRE MODEL # SA102, A LARGER WIRE CONNECTOR.
- D. ALL WIRE SPLICES SHALL BE PLACED WITHIN PLASTIC VALVE BOX OR WIRE PULL BOX.

WIRE CONNECTION

LEGEND:

12" MIN

12" MINIMUM DISTANCE FROM HARDSCAPE

FINISH GRADE

CLEAN BACKFILL - APPROVED NATIVE SOIL. STONES AND CLODS NOT TO EXCEED 1" IN DIAMETER.

UNDISTURBED NATIVE SOIL.

PRESSURE MAINLINE, SEE SPECS.

CONTROL WIRES. TAPE AND BUNDLE WIRES. ATTACH TO MAINLINE WITH NYLON ZIP CABLE TIES @ 10' O.C.

SAND BACKFILL COMPACTED TO THE DENSITY OF EXISTING SOIL.

DIAMETER	A	B	C
1/2" - 2 1/2"	18"	12"	6"
3" - 4"	24"	6"	6"
6"	36"	6"	6"

TIE A 36" LOOP IN ALL WIRING AT CHANGES OF DIRECTION GREATER THAN 30 DEGREES, UNTIE AFTER ALL CONNECTIONS HAVE BEEN MADE.

PLAN VIEW - N.T.S.

NOTES:

- A. LINES MUST HAVE MINIMUM CLEARANCE OF 6" FROM EACH OTHER AND 24" FROM OTHER TRADES.
- B. TIE A 36" LOOP IN ALL WIRING AT CHANGES IN DIRECTION.
- C. CONTRACTOR MUST ADJUST MAINLINE AROUND ALL STREET LIGHT LOCATIONS.
- D. PIPE SHALL BE SNAKED FROM SIDE-TO-SIDE ON TRENCH BOTTOM TO ALLOW FOR EXPANSION AND CONTRACTIONS.
- E. REMAINING BACKFILL CAN BE APPROVED ON-SITE SOIL WITH STONES AND CLODS NOT TO EXCEED 1" IN DIAMETER.
- F. PIPE AND WIRE TO BE INSTALLED IN SLEEVES UNDER ALL PAVING AND EXTEND 12" PAST EDGE OF PAVING.

PIPE INSTALLATION

LEGEND:

1. PVC PIPE LATERAL LINE - SEE PLANS FOR SIZE. SEE LEGEND FOR TYPE.
2. DRIP REMOTE CONTROL VALVE ASSEMBLY - SEE PLANS FOR SIZE. SEE LEGEND FOR TYPE.
3. LANDSCAPE DRIPLINE TUBING - SEE LEGEND FOR TYPE.
4. 6" WIRE STAKES - 2 FEET ON CENTER MAXIMUM. SEE LEGEND FOR TYPE.
5. PVC SCH 40 SxSxT TEE / ELL WITH 1/2" MPT DRIPLINE ADAPTER.
6. DRIPLINE INSERT CROSS FITTING, TYP.
7. TREE ROOTBALL.
8. DRIPLINE INSERT TEE FITTING, TYP.
9. PVC LATERAL LINE CONTINUING TO NEXT TREE OR END FLUSH VALVE EQUIPMENT.
10. AIR RELIEF VALVE AND DRIP FLUSH VALVE / DRIP INDICATOR, INSTALLED AT END OF RUN IN EACH DIRECTION. SEE LEGEND FOR TYPE.
11. BLANK POLYETHYLENE DRIP TUBING.

NOTE:

- A. DRIPLINE TUBING TO BE INSTALLED ON-GRADE ABOVE ROOTBALL OF TREE WITH 2" - 3" MULCH COVER.
- B. DRIP RINGS FOR ADDITIONAL DEEP WATER TO TREES PLANTED IN SHRUB AND GROUND COVER AREAS.
- C. MINIMUM 35' FEET OF DRIP TUBING PER TREE.

NOT TO SCALE

EXISTING TREE DRIP RING LAYOUT

LEGEND:

1. SUPPLY HEADER, 3/4" PVC SCH 40.
2. DRIP REMOTE CONTROL VALVE ASSEMBLY. SEE LEGEND FOR TYPE.
3. LANDSCAPE DRIPLINE TUBING. DRIPLINE SPACING: 12".
4. 9" WIRE STAKES - 5 FEET ON CENTER.
5. PVC SCH 40 SxSxT TEE / ELL WITH DRIPLINE INSERT FITTING.
6. DRIPLINE INSERT CROSS FITTINGS TYP.
7. TREE ROOTBALL.
8. DRIPLINE INSERT TEE FITTINGS TYP.
9. DRIPLINE TUBING CONTINUING TO FLUSH MANIFOLD.
10. 4" POP-UP SPRAY HEAD, (2 REQ. PER TREE) SEE LEGEND FOR TYPE.

NOTE:

DRIPLINE TUBING TO BE INSTALLED 3" BELOW GRADE. DRIP RINGS FOR ADDITIONAL DEEP WATER TO EXISTING TREES LOCATED WITHIN PROPOSED DRIPLINE AREAS - RINGS TO BE CONNECTED TO SHRUB AND GROUND COVER DRIPLINE. MICRO-SPRAY HEADS TO BE PLACED AT TREE ROOTBALL.

NOT TO SCALE

EXISTING TREE DRIP-RING LAYOUT

LEGEND:

PAVING OR HARDSCAPE

CLEAN BACKFILL - APPROVED NATIVE SOIL

120 VOLT ELECTRICAL IN SCH. 40 SLEEVE

LATERAL LINES IN SCH. 40 SLEEVE

3" WIDE METALLIC BACKED LOCATING TAPE INSTALLED ENTIRE LENGTH OF MAINLINE SLEEVE.

SAND BACKFILL COMPACTED TO THE DENSITY OF EXISTING SOIL

CONTROL WIRES IN SCH. 40 SLEEVE

PRESSURE MAINLINE IN SCH. 40 SLEEVE

UNDISTURBED SOIL

DIMENSION	A	B	C	D	E	F
	24"	36"	36"	36"	6"	12"

NOTES:

- A. ALL PVC MAINLINE, PVC LATERAL LINES, AND CONTROL WIRES SHALL BE SLEEVED BELOW ALL HARDSCAPE ELEMENTS WITH SCH. 40 PVC, 2 TIMES THE DIAMETER OF THE PIPE OR WIRE BUNDLE WITHIN.
- B. SLEEVE LOCATIONS SHALL BE MARKED AT EACH END AT THE TIME OF INSTALLATION WITH A PAINTED SPOT ON THE BACK FACE OF THE CURB OR A "SCORE" MARK TO DESIGNATE SLEEVE LOCATION.
- C. EXACT SLEEVE LOCATION AND SIZE SHALL BE MARKED ON RECORD DRAWINGS WITH DIMENSIONING FOR IRRIGATION AS-BUILT PLANS PRIOR TO BACKFILL.
- D. SLEEVE DETAIL SHALL ALSO BE USED FOR INSTALLATION OF PIPE IN ROCK SOIL.
- E. LINES MUST HAVE MINIMUM CLEARANCE OF 6" FROM EACH OTHER & 24" FROM OTHER TRADES.
- F. TIE A 36" LOOP IN ALL WIRING AT CHANGES IN DIRECTION.
- G. INSTALL EXPANDING FOAM SEALANT INSIDE PIPE ENDS.
- H. ALL SLEEVES MUST EXTEND MINIMUM 12" DISTANCE PAST CURB OR SIDEWALK.

SLEEVE TRENCHING

PLANTING NOTES

1.

REFER TO PLANTING SPECIFICATIONS AND DETAILS FOR SOIL PREPARATION, FERTILIZATION, MULCHING AND OTHER PLANTING INFORMATION.
2.

NOTIFY THE OWNER'S AUTHORIZED REPRESENTATIVE AND THE CITY INSPECTOR 48 HOURS PRIOR TO COMMENCEMENT OF WORK TO COORDINATE PROJECT INSPECTION SCHEDULES.
3.

VERIFY ALL EXISTING CONDITIONS, DIMENSIONS AND ELEVATIONS BEFORE PROCEEDING WITH THE WORK. NOTIFY LANDSCAPE ARCHITECT IMMEDIATELY SHOULD FIELD CONDITIONS VARY FROM THOSE SHOWN ON PLAN.
4.

REPORT DISCREPANCIES IN THE DRAWINGS OR BETWEEN THE DRAWINGS AND ACTUAL FIELD CONDITIONS TO THE LANDSCAPE ARCHITECT. CORRECTED DRAWINGS OR INSTRUCTION SHALL BE ISSUED PRIOR TO THE CONTINUATION OF THIS WORK. ASSUME FULL RESPONSIBILITY FOR ALL NECESSARY CORRECTIONS DUE TO FAILURE TO REPORT KNOWN DISCREPANCIES.
5.

LOCATE ALL EXISTING UTILITIES WHETHER SHOWN HEREON OR NOT AND PROTECT THEM FROM DAMAGE. NOTIFY THE OWNER'S REPRESENTATIVE IMMEDIATELY AND ASSUME FULL RESPONSIBILITY FOR EXPENSE OF REPAIR OR REPLACEMENT IN CONJUNCTION WITH DAMAGED UTILITIES.
6.

LOCATION OF N.I.C. CONSTRUCTION ELEMENTS SUCH AS LIGHTS, SIGNS, VENTS, HYDRANTS, TRANSFORMERS, ETC. ARE APPROXIMATE. NOTIFY THE LANDSCAPE ARCHITECT IMMEDIATELY SHOULD THE LOCATION OF THESE ITEMS INTERFERE WITH THE PROPER EXECUTION OF WORK.
7.

PROVIDE PRE-PLANT WEED CONTROL IN ALL PROPOSED PLANTER AREAS, PER SPECIFICATIONS, PRIOR TO START OF PLANTING. WEED CONTROL INCLUDES ERADICATION OF ALL EXISTING WEED PLANTS, AS WELL AS VIABLE SEEDS AND ROOTS. USE A NON-SELECTIVE SYSTEMIC CONTACT HERBICIDE, APPLIED PER MANUFACTURER'S RECOMMENDATIONS AND LEAVE SPRAYED PLANTS INTACT FOR AT LEAST 14 DAYS BEFORE REMOVING BY MOWING OR GRUBBING. APPLY WATER BY IRRIGATION OR BY HAND FOR 10 DAYS AS REQUIRED TO ACHIEVE WEED GERMINATION, AND THEN RE-APPLY CONTACT HERBICIDES PER ABOVE. REPEAT AS REQUIRED TO ELIMINATE ALL WEEDS PRIOR TO PROCEEDING WITH PLANTING OPERATIONS.
8.

OBTAIN ALL SOIL FOR LANDSCAPE PLANTING AREAS OR BERMS FROM ON-SITE EXCAVATIONS. SHOULD IMPORT SOIL BE NECESSARY, SUBMIT IMPORT SOIL TESTING RESULTS FOR APPROVAL PRIOR TO IMPORTATION. SOIL SHALL BE SANDY LOAM CONTAINING NO TOXIC CHEMICALS OR ELEMENTS WHICH MAY INHIBIT OR RETARD NORMAL PLANT GROWTH.
9.

AFTER ROUGH GRADES HAVE BEEN ESTABLISHED IN PLANTING AREAS, HAVE SOIL SAMPLES TAKEN AT THE LOCATIONS INDICATED ON PLANTING PLAN. HAVE SAMPLES TESTED BY SUMMIT TURF & HORT CONSULTANTS, (714) 340-5216, FOR SOIL FERTILITY. TAKE TWO SAMPLES AT EACH LOCATION: (1) GROUND LEVEL TO 10" DEEP, (2) 24" TO 36" DEEP. EACH SAMPLE SHALL CONTAIN APPROXIMATELY 1 QUART OF SOIL TO BE LABELED PER LOCATION AND DEPTH. INSTALL SOIL PREPARATION AND BACK FILL MIX TO CONFORM TO THESE RECOMMENDATIONS ONLY UPON RECEIPT OF WRITTEN CHANGE ORDER FROM THE OWNER. SUBMIT SOIL REPORT TO LANDSCAPE ARCHITECT PRIOR TO PLANTING.
10.

ENSURE THAT ROUGH GRADING HAS BEEN CERTIFIED BY CIVIL ENGINEER AND THAT CIVIL ENGINEER OR OWNER'S AUTHORIZED REPRESENTATIVE HAS APPROVED FINE GRADING TO 1/4" OF A FOOT PRIOR TO BEGINNING SOIL PREPARATION OPERATIONS. PROVIDE FOR INCLUSION OF ALL AMENDMENTS, SETTLING, ETC. IN DETERMINATION OF FINAL GRADES.
11.

ASSURE POSITIVE DRAINAGE IN ALL PLANTING AREAS, 2% MINIMUM.
12.

LOCATE AND TAG ALL PLANT MATERIAL. MATERIAL SHALL BE IN CONFORMANCE WITH PLANTING PLAN DESCRIPTIONS AND SPECIFICATIONS. ALL PLANT MATERIAL IS SUBJECT TO REVIEW AND APPROVAL PRIOR TO INSTALLATION. PROVIDE PHOTOS OF REPRESENTATIVE EXAMPLES OF EACH TAGGED BLOCK TO LANDSCAPE ARCHITECT MINIMUM 21 DAYS BEFORE ANTICIPATED DELIVERY. PHOTOS SHALL INCLUDE A PERSON FOR SCALE PURPOSES. LANDSCAPE ARCHITECT MAY OPT TO REVIEW MATERIAL AT GROWING NURSERY. MATERIAL DELIVERED TO THE SITE MAY BE REJECTED BASED ON UNHEALTHY APPEARANCE OR NON-COMFORMANCE WITH SPECIFICATIONS EVEN IF PREVIOUSLY REVIEWED BY THE LANDSCAPE ARCHITECT OR THE OWNER.
13.

FINAL LOCATION OF ALL PLANT MATERIALS SHALL BE SUBJECT TO THE APPROVAL OF THE OWNER'S AUTHORIZED REPRESENTATIVE.
14.

PLANTING QUANTITIES ARE GIVEN FOR CONVENIENCE ONLY. PLANT SYMBOLS AND SPECIFIED SPACING SHALL TAKE PRECEDENCE.
15.

AT EDGES OF PLANTING AREAS, THE CENTER LINE OF THE LAST ROW OF SHRUBS AND/OR GROUND COVER SHALL BE LOCATED AT ONE-HALF THE SPECIFIED ON CENTER SPACING FROM THE EDGE.
16.

INSTALL GROUND COVER AND/OR SHRUB MASSES WITH TRIANGULAR SPACING UNLESS OTHERWISE INDICATED.
17.

ALL CURVE TO CURVE AND CURVE TO TANGENT LINES SHALL BE NEAT, TRIM, SMOOTH AND UNIFORM.
18.

REMOVE ALL NURSERY STAKES AND ESPALIER RACKS IMMEDIATELY AFTER INSTALLATION UPON PROVIDING SUPPORT PER PLAN.
19.

DURING THE LENGTH OF THE GUARANTEE PERIOD, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER STAKING AND/OR GUYING OF TREES TO ENSURE STABILITY.
20.

MULCH ALL LANDSCAPE AREAS (EXCLUDING TURF AND BIO-RETENTION BASIN BOTTOMS) WITH A 3" DEEP LAYER OF 5"-1.5" FOREST FLOOR BARK MULCH BY AGUINAGA GREEN OR APPROVED EQUAL, AT THE CONCLUSION OF PLANTING OPERATIONS. SUBMIT SAMPLE TO LANDSCAPE ARCHITECT FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION.
21.

KEEP BARK MULCH 4-INCHES CLEAR FROM BASE OF TREES, SHRUBS, GRASSES, AND SUCCULENTS.
22.

CONTRACTOR SHALL REPLACE ANY EXISTING PLANT MATERIAL WHICH IS DAMAGED BY CONSTRUCTION OPERATIONS. REPLACEMENT PLANT MATERIAL MUST BE OF MATCHING SPECIES, INSTALLED FROM THE FOLLOWING MINIMUM SIZE: 15-GALLON TREE, 1-GALLON SHRUB, FLATTED GROUNDCOVER AND SODDED TURF.
23.

INSTALLATIONS THAT ARE ADJACENT OPEN SPACE, NATURALIZED SLOPES OR UNDEVELOPED LAND ARE SUBJECT TO DAMAGE BY RODENTS OR DEER AND SHALL BE TREATED WITH AN APPROPRIATE REPELLENT IN A SPRAY AND/OR TABLET FORM. REPELLEX BY GROWPOWER OR APPROVED EQUAL, THAT PROVIDES IMMEDIATE AND LONG TERM PROTECTION, SHALL BE USED.
24.

INSTALL TEMPORARY EROSION CONTROL MATTING (SC-150 BY NORTH AMERICAN GREEN OR APPROVED EQUAL) ON ALL SLOPES 3:1 AND STEEPER AND 3' AND GREATER IN HEIGHT. SECURE NETTING IN PLACE WITH 9" LONG GALVANIZED SOIL STAPLES AT 12" O.C. ALONG THE TOP OF THE SLOPE AND 5' O.C. DOWN THE SLOPE IN BOTH DIRECTIONS. PROVIDE MINIMUM 24" OVERLAP AT TOP AND BOTTOM AND 36" OVERLAP ALONG THE SIDES.
25.

ROOT BARRIERS SHALL BE INSTALLED AT ALL TREES WITHIN 5 FEET OF ANY HARDSCAPE, PAVEMENT OR CURB. ROOT BARRIERS ARE TO BE 'UB24-2' BY DEEP ROOT CORPORATION, (800) 458-7668, INSTALLED PER MANUFACTURER'S SPECIFICATIONS. NOTE: ROOT BARRIERS SHALL NOT BE WRAPPED AROUND THE ROOTBALL. ROOT BARRIERS INSTALLED ADJACENT TO A BIOSWALE SHALL NOT INTERFERE WITH DRAINAGE TO OR FROM THE BIOSWALE SYSTEM.
26.

ANNUAL COLOR TO BE SELECTED BY LANDSCAPE ARCHITECT AT TIME OF INSTALLATION. REQUEST RECOMMENDATION A MINIMUM OF 48 HOURS IN ADVANCE OF NEED FOR DELIVERY.

TREE PROTECTION NOTES

- A.

THE LIMITS OF ALL TREE PROTECTION ZONES SHALL BE STAKED IN THE FIELD. A 6'-0" HIGH CHAIN LINK FENCE WITH POSTS SUNK INTO THE GROUND SHALL BE ERRECTED TO ENCLOSE THE TREE PROTECTION ZONE.
- B.

THE TREE PROTECTION ZONE (TPZ) IS DEFINED AS THE LARGER OF THE DRIP LINE OF THE TREE OR THE DISTANCE FROM THE TRUNK EQUAL TO ONE (1) FOOT FOR EACH INCH OF TRUNK DIAMETER MEASURED AT FOUR AND A HALF (4.5) FEET ABOVE EXISTING GRADE (AKA DBH; DIAMETER AT BREAST HEIGHT).
- C.

FENCES ARE TO REMAIN UNTIL ALL SITE WORK HAS BEEN COMPLETED. FENCES MAY NOT BE RELOCATED OR MOVED WITHOUT THE WRITTEN PERMISSION OF THE LANDSCAPE ARCHITECT.
- D.

STRUCTURES AND UNDERGROUND FEATURES TO BE REMOVED WITHIN THE TREE PROTECTION ZONE SHALL USE THE SMALLEST EQUIPMENT POSSIBLE, AND OPERATE FROM OUTSIDE THE TREE PROTECTION ZONE.
- E.

IF TEMPORARY HAUL OR ACCESS ROADS MUST PASS OVER THE ROOT AREA OF TREES TO BE RETAINED, A ROAD BED OF 6" OF MULCH OR GRAVEL SHALL BE CREATED TO PROTECT THE SOIL. THE ROAD BED MATERIAL SHALL BE REPLENISHED AS NECESSARY TO MAINTAIN A 6" DEPTH.
- F.

CONSTRUCTION TRAILERS AND TRAFFIC AND STORAGE AREAS MUST REMAIN OUTSIDE FENCED AREAS AT ALL TIMES.
- G.

NO MATERIALS, EQUIPMENT, WASTE OR WASHOUT WATER MAY BE DEPOSITED, STORED, OR PARKED WITHIN THE TREE PROTECTION ZONE. NO DEBRIS OR GARBAGE MAY BE DUMPED OR BURIED WITHIN THE TREE PROTECTION ZONE.
- K.

ANY GRADING, CONSTRUCTION, DEMOLITION OR OTHER WORK THAT IS EXPECTED TO ENCOUNTER TREE ROOTS, MUST BE MONITORED BY THE LANDSCAPE ARCHITECT.
- L.

ALL UNDERGROUND UTILITIES AND DRAIN OR IRRIGATION LINES SHALL BE ROUTED OUTSIDE THE TREE PROTECTION ZONE. IF REROUTING IS NOT POSSIBLE, TRENCHING WITHIN THE TPZ IS TO BE PERFORMED BY AIRSPADE UNDER THE SUPERVISION AND DIRECTION OF A LICENSED ARBORIST. IF AT ANY TIME, TWENTY-FIVE (25) PERCENT OF THE AREA WITHIN THE ROOT PROTECTION ZONE WOULD BE SEPARATED FROM THE TREE BY A TRENCH, THE LINE SHALL BE LOCATED BY BORING.
- M.

NO ROOTS LARGER THAN ONE INCH (1.5") DIAMETER SHALL BE CUT UNLESS REVIEWED AND APPROVED BY LICENSED ARBORIST. ALL SMALLER ROOTS THAT REQUIRE CUTTING SHALL BE CUT WITH PRUNING SAWS (NO TRENCHES OR BACKHOES). CUTS SHALL BE MADE FLUSH WITH THE SIDE OF THE EXCAVATION.
- O.

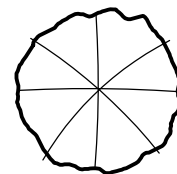
MINOR ROOT DAMAGE DURING GRADING OR CONSTRUCTION SHALL BE PRUNED TO SOUND TISSUE AND CUT CLEANLY WITH A SAW. CONTRACTOR SHALL CONTACT LANDSCAPE ARCHITECT IMMEDIATELY IN THE EVENT OF EXTENSIVE ROOT DAMAGE.
- M.

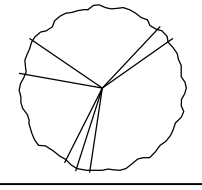
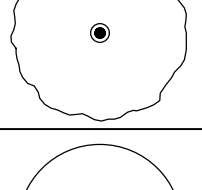
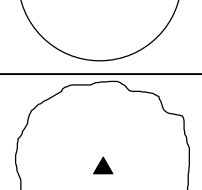
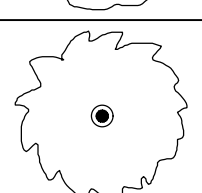
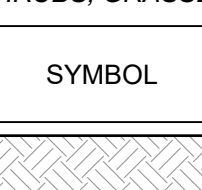
ADDITIONAL TREE PRUNING REQUIRED FOR CLEARANCE DURING CONSTRUCTION MUST BE PERFORMED BY A QUALIFIED ARBORIST OR AT THE DIRECTION OF THE LANDSCAPE ARCHITECT AND NOT BY CONSTRUCTION PERSONNEL.
- N.

EROSION CONTROL DEVICES SUCH AS SILT FENCING, DEBRIS BASINS, AND WATER DIVERSION STRUCTURES SHALL BE INSTALLED TO PREVENT SILTATION AND/OR EROSION WITHIN THE TREE PROTECTION ZONE.
- O.

SPOIL FROM TRENCHES OR OTHER EXCAVATIONS SHALL NOT BE PLACED WITHIN THE TREE PROTECTION ZONE, EITHER TEMPORARILY OR PERMANENTLY.
- P.

IF INJURY SHOULD OCCUR TO ANY TREE DURING CONSTRUCTION, THE LANDSCAPE ARCHITECT SHALL BE NOTIFIED IMMEDIATELY IN ORDER TO RECOMMEND EVALUATION BY A LICENSED ARBORIST. PROCUREMENT OF A LICENSED ARBORIST SHALL BE AT NO ADDITIONAL COST TO THE OWNER.

PLANT SCHEDULE									
TREES									
SYMBOL	BOTANICAL NAME		COMMON NAME	SIZE / FORM	HT. X SPRD. X CAL. (MIN)	WATER USE	DESCRIPTION	DETAIL	QTY.
	CUPANIOPSIS ANACARDIOIDES		CARROTWOOD	24" BOX STD.	8' H X 5' W X 1-1/2" CAL.	M	STREET TREE	D & E, L7.1	5
SHRUBS, GRASSES, & GROUNDCOVERS									
SYMBOL	KEY	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	WATER USE	DESCRIPTION	DETAIL	QTY.
	AGA BF	AGAVE 'BLUE FLAME'	BLUE FLAME AGAVE	5 GAL.	36" O.C.	LOW	SUCCULENT ACCENT	A-C, L7.1	83
	ALO BE	ALOE 'BLUE ELF'	BLUE ELF ALOE	1 GAL.	18" O.C.	LOW	SUCCULENT GROUNDCOVER	A-C, L7.1	128
	ALO VER	ALOE VERA	MEDICINAL ALOE	5 GAL.	30" O.C.	LOW	SUCCULENT ACCENT	A-C, L7.1	82
	CAL SPE	CALANDRINIA SPECTABILIS	ROCK PURSLANE	5 GAL.	24" O.C.	LOW	SUCCULENT ACCENT	A-C, L7.1	137
	CAR DIV	CAREX DIVULSA	BERKELEY SEDGE	1 GAL.	24" O.C.	LOW	ORNAMENTAL GRASS	A-C, L7.1	83
	CHO ELE	CHONDROPETALUM ELEPHANTINUM	LARGE CAPE RUSH	5 GAL.	36" O.C.	LOW	ORNAMENTAL GRASS	A-C, L7.1	40
	CRA CAP	CRASSULA CAPITELLA 'CAMPFIRE'	CAMPFIRE CRASSULA	1 GAL.	12" O.C.	LOW	SUCCULENT GROUNDCOVER	A-C, L7.1	35
	CYC REV	CYCAS REVOLUTA	SAGO PALM	EXISTING TO BE RELOCATED		LOW	PALM ACCENT	A-C, L7.1	3
	DIA VAR	DIANELLA TASMANICA 'VARIEGATA'	VARIEGATED FLAX LILY	5 GAL.	36" O.C.	LOW	UPRIGHT ACCENT	A-C, L7.1	78
	LOM BRE	LOMANDRA LONGIFOLIA 'BREEZE'	BREEZE DWARF MAT RUSH	5 GAL.	36" O.C.	LOW	ORNAMENTAL GRASS	A-C, L7.1	85
	MYO PAR	MYOPORUM PARVIFOLIUM 'PINK'	PROSTRATE MYOPORUM	5 GAL.	36" O.C.	LOW	UPRIGHT ACCENT	A-C, L7.1	60
	PHI XAN	PHILODENDRON 'XANADU'	XANADU SPLIT LEAF PHILODENDRON	5 GAL.	36" O.C.	LOW	EVERGREEN SHRUB	A-C, L7.1	35
WATER USE KEY: VL = VERY LOW WATER USE, L = LOW WATER USE, M = MODERATE WATER USE, H = HIGH WATER USE. WATER USE STATED IS PER 'WATER USE CLASSIFICATION OF LANDSCAPE SPECIES' (ALSO REFERRED TO AS WUCOLS IV) FOR THE CITY OF SAN DIEGO									
	DENOTES SOIL SAMPLE LOCATION - REFER TO PLANTING NOTE '9' FOR ADDITIONAL INFORMATION.								

EXISTING PLANT SCHEDULE			
TREES			
SYMBOL	BOTANICAL NAME	COMMON NAME	COMMENTS
	ARBUTUS UNEDO	STRAWBERRY TREE	TO BE REMOVED
	CUPANIOPSIS ANACARDIOIDES	CARROTWOOD	--
	ERIOBOTRYA DEFLEXA	BRONZE LOQUAT	--
	LAGERSTROEMIA INDICA	CRAPE MYRTLE	--
	PINUS SP.	PINE TREE	--
SHRUBS, GRASSES, & GROUNDCOVERS			
SYMBOL	DESCRIPTION		COMMENTS
	EXISTING SHRUBS AND GROUNDCOVER		PROTECT IN PLACE
NOTE: THE LETTER (E) NEXT TO A TREE SYMBOL INDICATES AN EXISTING TREE TO BE PROTECTED IN PLACE. THE LETTER (R) INDICATES AN EXISTING TREE TO BE REMOVED FROM SITE.			

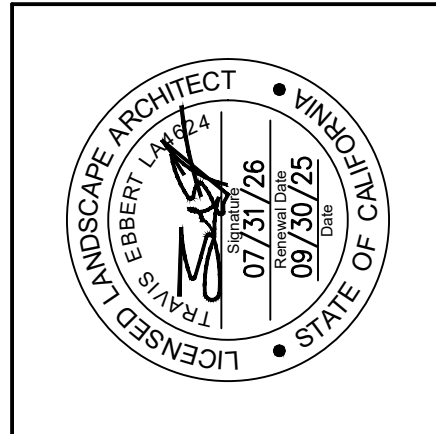
STREET TREE CALCULATIONS	
OBERLIN DR. STREET FRONTAGE: 126 L.F.	REQUIRED STREET TREES: 4 TREES (1:30 L.F.)
PROVIDED STREET TREES: 4 PROVIDED (3 EXISTING + 1 NEW)	
YOUNGSTON WAY STREET FRONTAGE: 186 L.F.	REQUIRED STREET TREES: 6 TREES (1:30 L.F.)
PROVIDED STREET TREES: 6 PROVIDED (2 EXISTING + 4 NEW)	

FOR PLANTING PLAN - SEE SHEET L6.1
FOR PLANTING DETAILS - SEE SHEET L7.1
FOR LANDSCAPE SPECIFICATIONS - SEE L9.1 - L9.5

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5677 OBERLIN DR.
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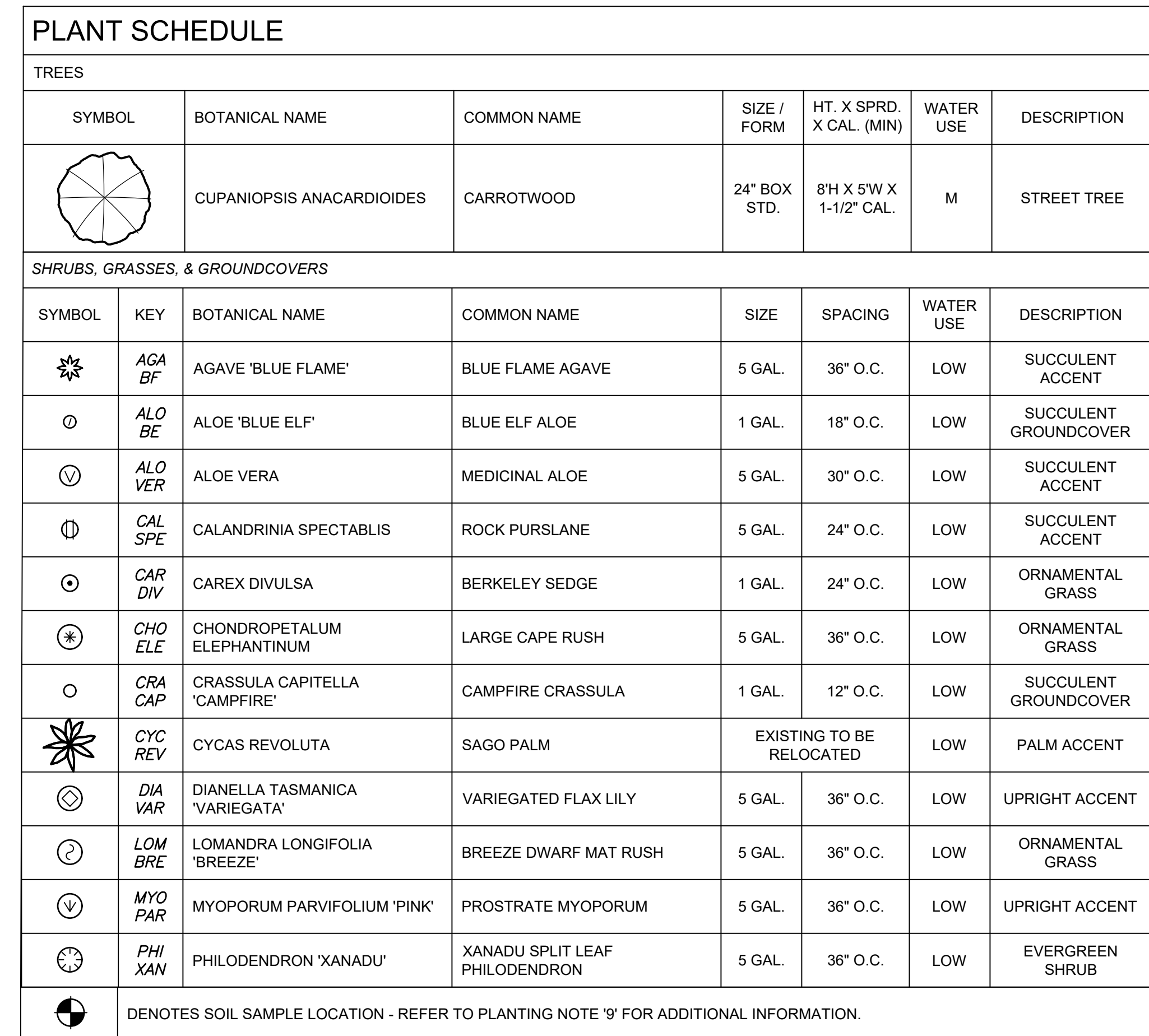
PROJECT DATA		REMARKS	
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	08/04/2025	CITY RESUBMISSION 02	
	08/11/2025	IFC SET	
A			
B			

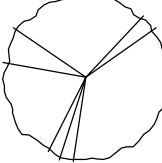
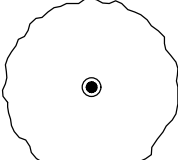
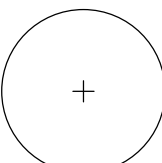
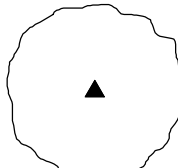
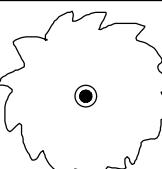
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DRAWN BY.:	MCJ / AN
JOB NO.:	SDG24-0061-00

SHEET
PLANTING SCHEDULES
& NOTES

L6.0

SHEET 35 OF 43



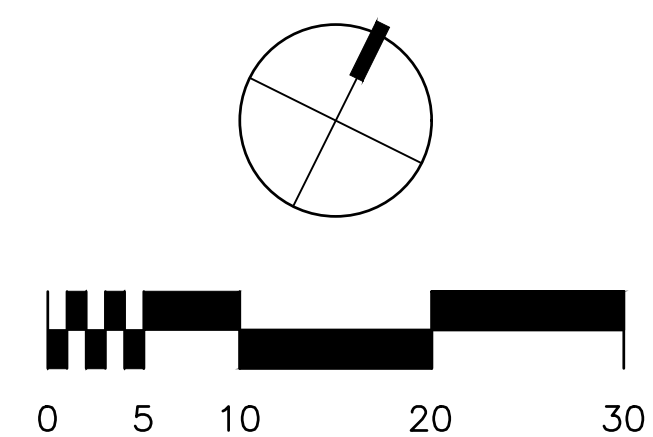
EXISTING PLANT SCHEDULE			
TREES			
SYMBOL	BOTANICAL NAME	COMMON NAME	COMMENTS
	ARBUTUS UNEDO	STRAWBERRY TREE	TO BE REMOVED
	CUPANIOPSIS ANACARDIOIDES	CARROTWOOD	--
	ERIOBOTRYA DEFLEXA	BRONZE LOQUAT	--
	LAGERSTROEMIA INDICA	GRAPE MYRTLE	--
	PINUS SP.	PINE TREE	--
SHRUBS, GRASSES, & GROUNDCOVERS			
SYMBOL	DESCRIPTION	COMMENTS	
	EXISTING SHRUBS AND GROUNDCOVER	PROTECT IN PLACE	

NOTE: THE LETTER (E) NEXT TO A TREE SYMBOL INDICATES AN EXISTING TREE TO BE PROTECTED IN PLACE.
THE LETTER (R) INDICATES AN EXISTING TREE TO BE REMOVED FROM SITE.

STREET TREE CALCULATIONS

OBERLIN DR. STREET FRONTAGE: 126 L.F.
REQUIRED STREET TREES: 4 TREES (1/30 L.F.)
PROVIDED STREET TREES: 4 PROVIDED
(3 EXISTING + 1 NEW)

YOUNGSTON WAY STREET FRONTAGE: 186 L.F.
REQUIRED STREET TREES: 6 TREES (1/30 L.F.)
PROVIDED STREET TREES: 6 PROVIDED
(2 EXISTING + 4 NEW)

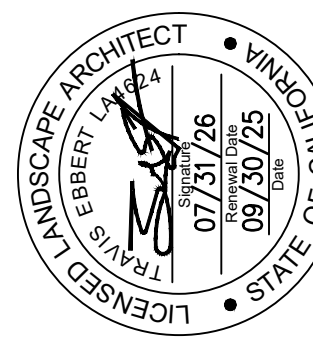


FOR PLANTING SCHEDULES & NOTES - SEE SHEET L6.0
FOR PLANTING DETAILS - SEE SHEET L7.1
FOR LANDSCAPE SPECIFICATIONS - SEE L9.1 - L9.5

WARE MALCOMB

ARCHITECTURE CIVIL ENGINEERING
PLANNING BRANDING
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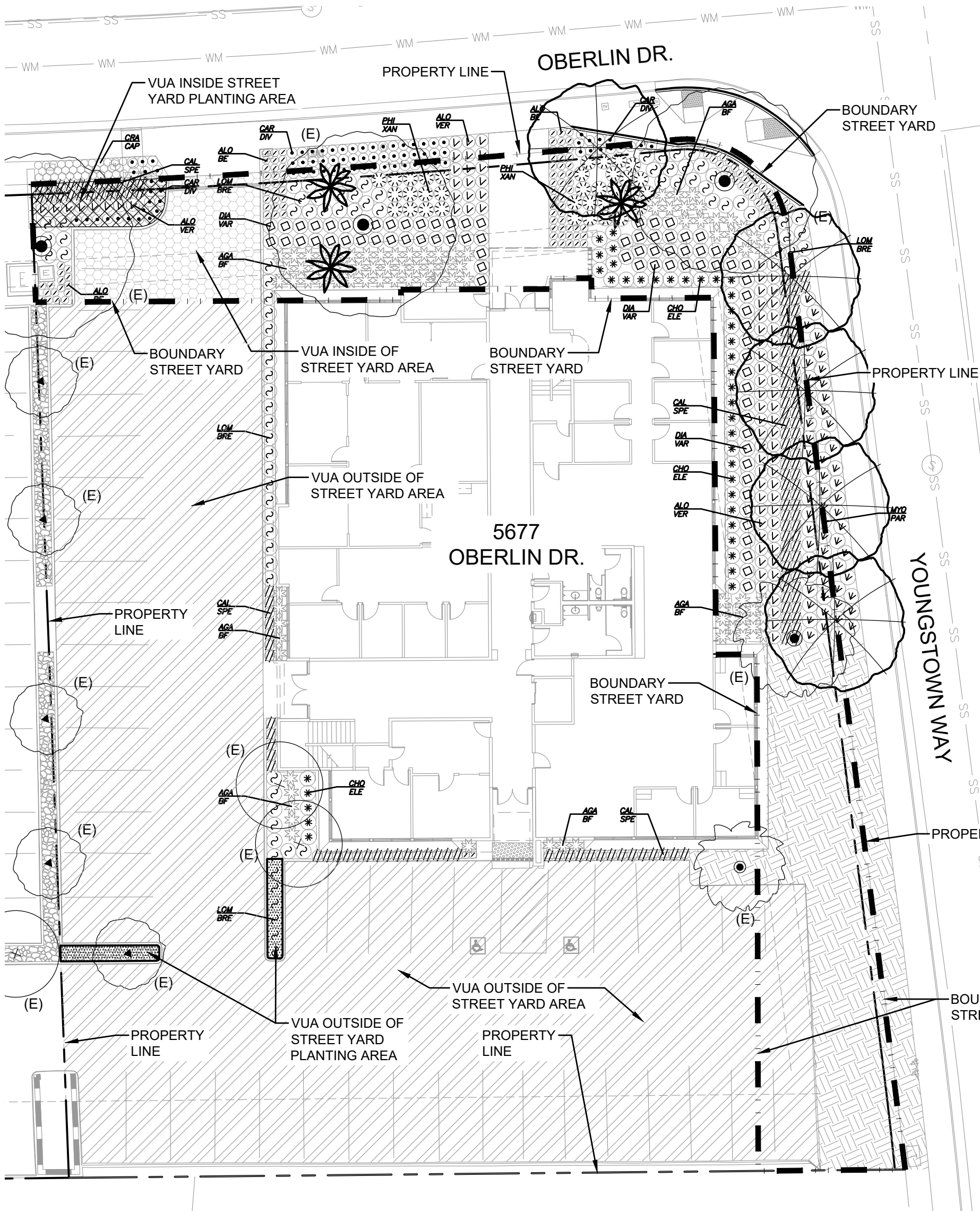
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JOB NO.:	SDG24-0061-00

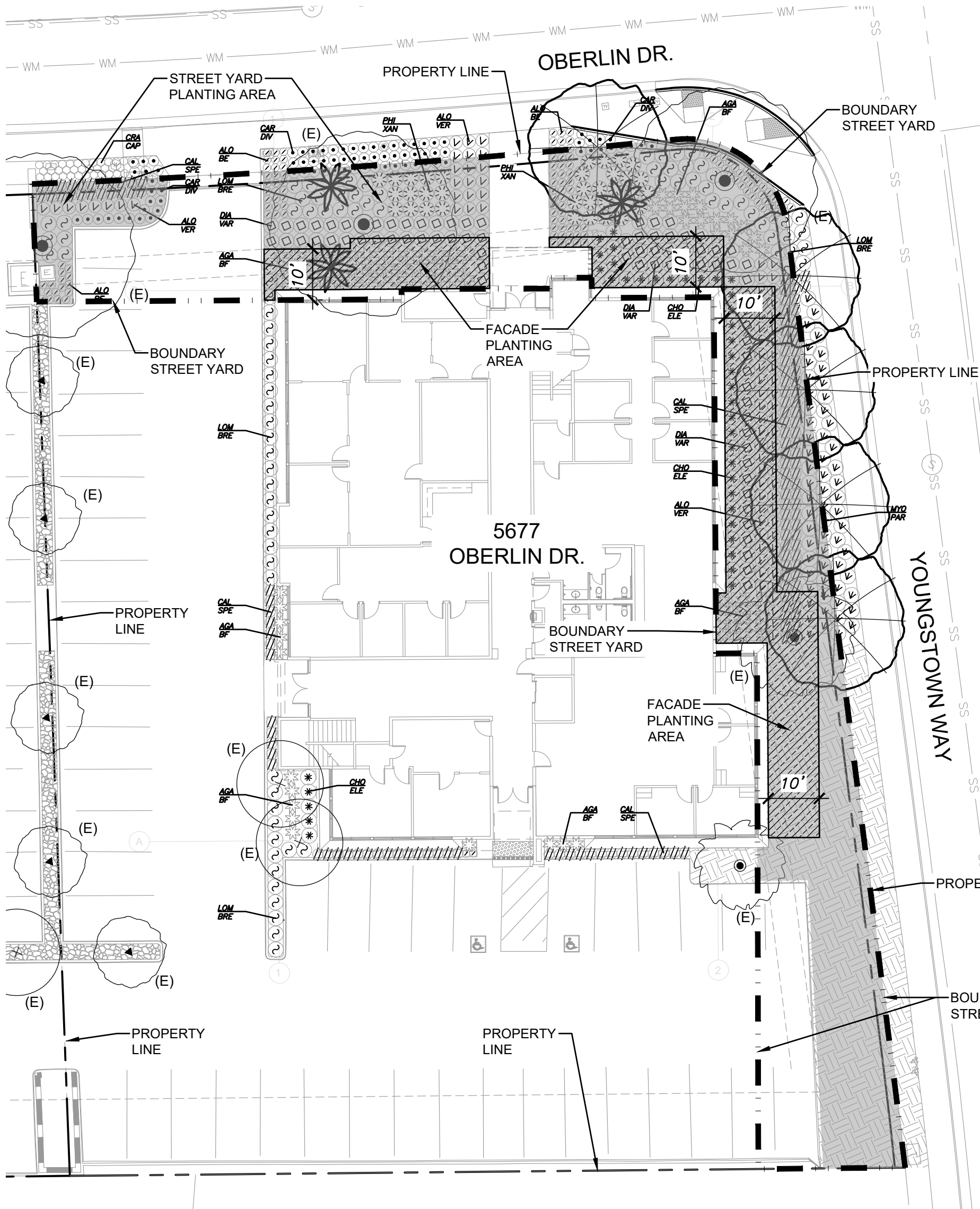
SHEET
PLANTING PLAN

L6.1

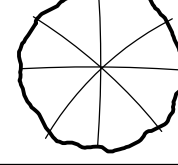




A DS-5 LANDSCAPE CALCULATIONS
SCALE: 1" = 20'-0"



B DS-7 LANDSCAPE CALCULATIONS
SCALE: 1" = 20'-0"

TREES					
SYMBOL	BOTANICAL NAME		COMMON NAME	SIZE / FORM	HT. X SPRD. X CAL. (MIN)
	CUPANIOPSIS ANACARDIOIDES		CARROTWOOD	24" BOX STD.	8'H X 5'W X 1-1/2" CAL.
SHRUBS, GRASSES, & GROUNDCOVERS					
SYMBOL	KEY	BOTANICAL NAME	COMMON NAME	SIZE	SPACING
	AGA BF	AGAVE 'BLUE FLAME'	BLUE FLAME AGAVE	5 GAL.	36" O.C.
	ALO BE	ALOE 'BLUE ELF'	BLUE ELF ALOE	1 GAL.	18" O.C.
	ALO VER	ALOE VERA	MEDICINAL ALOE	5 GAL.	30" O.C.
	CAL SPE	CALANDRINIA SPECTABILIS	ROCK PURSLANE	5 GAL.	24" O.C.
	CAR DIV	CAREX DIVULSA	BERKELEY SEDGE	1 GAL.	24" O.C.
	CHO ELE	CHONDRPETALUM ELEPHANTINUM	LARGE CAPE RUSH	5 GAL.	36" O.C.
	CRA CAP	CRASSULA CAPITELLA 'CAMPFIRE'	CAMPFIRE CRASSULA	1 GAL.	12" O.C.
	CYC REV	CYCAS REVOLUTA	SAGO PALM	EXISTING TO BE RELOCATED	
	DIA VAR	DIANELLA TASMANICA 'VARIEGATA'	VARIEGATED FLAX LILY	5 GAL.	36" O.C.
	LOM BRE	LOMANDRA LONGIFOLIA 'BREEZE'	BREEZE DWARF MAT RUSH	5 GAL.	36" O.C.
	MYO PAR	MYOPORUM PARVIFOLIUM 'PINK'	PROSTRATE MYOPORUM	5 GAL.	36" O.C.
	PHI XAN	PHILODENDRON 'XANADU'	XANADU SPLIT LEAF PHILODENDRON	5 GAL.	36" O.C.

EXISTING PLANT SCHEDULE

TREES			
SYMBOL	BOTANICAL NAME	COMMON NAME	COMMENTS
	ARBUTUS UNEDO	STRAWBERRY TREE	TO BE REMOVED
	CUPANIOPSIS ANACARDIOIDES	CARROTWOOD	--
	ERIOBOTRYA DEFLEXA	BRONZE LOQUAT	--
	LAGERSTROEMIA INDICA	CRAPE MYRTLE	--
	PINUS SP.	PINE TREE	--

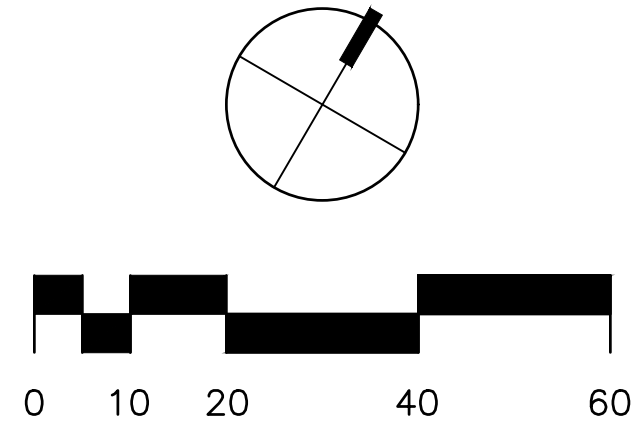
SHRUBS, GRASSES, & GROUNDCOVERS

SYMBOL	DESCRIPTION	COMMENTS
	EXISTING SHRUBS AND GROUNDCOVER	PROTECT IN PLACE

NOTE: THE LETTER (E) NEXT TO A TREE SYMBOL INDICATES AN EXISTING TREE TO BE PROTECTED IN PLACE. THE LETTER (R) INDICATES AN EXISTING TREE TO BE REMOVED FROM SITE.

LEGEND:

- VUA INSIDE OF STREET YARD AREA
- VUA OUTSIDE OF STREET YARD AREA
- BOUNDARY STREET YARD
- FACADE PLANTING AREA
- STREET YARD PLANTING AREA
- VUA INSIDE OF STREET YARD PLANTING AREA
- VUA OUTSIDE OF STREET YARD PLANTING AREA



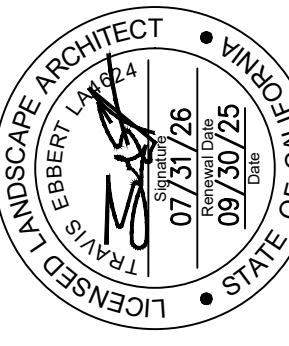
	City of San Diego Development Services 1222 First Ave., MS-501 San Diego, CA 92101	Landscape Calculations Worksheet Vehicular Use Area (VUA)	FORM DS-5 August 2020
Provide the following information on the Landscape Plans. The Landscape Calculations determine the planting area and plant points required by the Landscape Regulations, Chapter 14, Article 2, Division 4 of the Land Development Code. Refer to §142.0403 Table 142-04B for proposed and existing plant point schedule.			
- At least one-half of the required planting points shall be achieved with trees. - If any of the requirements of Landscape Regulations, Section 142.0405(a) 1, 2, and 3 apply to your project, provide a written summary explaining how requirements are being met.			
VEHICULAR USE AREA (<6,000 sf) [§142.0406 - §142.0407]			
Planting Area Required			
40 sq. ft. per tree.			
Plant Points Required	Plant Points Provided	Excess Points Provided	
Total Area _____ sq. ft. x 0.05 = _____ points	_____ points	_____ points	
		Plant Points Achieved with Trees (50%) _____ points	
VEHICULAR USE AREA (≥6,000 sf) [§142.0406 - §142.0407]			
Planting Area Required		Planting Area Provided	Excess Area Provided
VUA inside Street Yard	712 sq. ft. x 0.05 = 36 sq. ft.	227 sq. ft.	191 sq. ft.
VUA outside Street Yard	12,798 sq. ft. x 0.03 = 384 sq. ft.	118 sq. ft.	0 sq. ft.
Plant Points Required	Plant Points Provided	Excess Points Provided	
VUA inside Street Yard	712 sq. ft. x 0.05 = 36 points	484 points	448 points
		Plant Points Achieved with Trees (50%) 400 points	
VUA outside Street Yard	12,798 sq. ft. x 0.03 = 384 sq. ft.	262 points	0 points
		Plant Points Achieved with Trees (50%) 250 points	
TEMPORARY VEHICULAR USE AREA [§142.0408] (a specified time limit of less than 5 years from the date of construction permit issuance.)			
Planting Area Required	Planting Area Provided	Excess Area Provided	
_____ ft. x 3 ft. = _____ sq. ft.	_____ sq. ft.	_____ sq. ft.	

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DS-5 (08-20)

	City of San Diego Development Services 1222 First Ave., MS-501 San Diego, CA 92101	Landscape Calculations Worksheet Industrial Development in All Zones Except RM & C	FORM DS-7 August 2020
Provide the following information on the Landscape Plans. The Landscape Calculations determine the planting area and plant points required by the Landscape Regulations, Chapter 14, Article 2, Division 4 of the Land Development Code. Refer to §142.0403 Table 142-04B for proposed and existing plant point schedule.			
- At least one-half of the required planting points shall be achieved with trees. - If any of the requirements of Landscape Regulations, Section 142.0405(a) 1, 2, and 3 apply to your project, provide a written summary explaining how requirements are being met.			
STREET YARD [§142.0404 - §142.0405]			
Planting Area Required		Planting Area Provided	Excess Area Provided
Total Area (adj. _____ sq. ft. x 25% = (adj. _____ sq. ft.	(adj. _____ sq. ft.	(adj. _____ sq. ft.	(adj. _____ sq. ft.
Plant Points Required	Plant Points Provided	Excess Points Provided	
Total Area (adj. _____ sq. ft. x 0.05* = (adj. _____ points	(adj. _____ points	(adj. _____ points	
*Increase point rate to 0.10 when loading docks are located along more than 25% of the street wall length. [§142.0405(d)(2)]		Plant Points Achieved with Trees (50%) 975 points	
FACADE PLANTING AREA [§142.0404 - §142.0405]			
Planting Area Required		Planting Area Provided	Excess Area Provided
Length of Street Wall _____ ft. x 50% x 10' = _____ sq. ft.	1070 sq. ft.	1871 sq. ft.	801 sq. ft.
*Planting area must have a minimum width of 10 ft. [§142.0405(d)(1)]			
Plant Points Required	Plant Points Provided	Excess Points Provided	
Planting Area Required _____ sq. ft. x 0.50 = _____ points*	600 points	65 points	
*The facade planting area shall be planted with a combination of trees and shrubs. [§142.0405(d)(3)]			
REMAINING YARD [§142.0404 - §142.0405]			
Planting Area Required		Planting Area Provided	Excess Area Provided
Length of Property Lines Adjacent to Remaining Yard _____ ft. x 5' = _____ sq. ft.	_____ sq. ft.	_____ sq. ft.	_____ sq. ft.
*Planting area must have a minimum width of 5 ft. [§142.0405(d)(3)]			
Plant Points Required	Plant Points Provided	Excess Points Provided	
Planting Area Required _____ sq. ft. x 0.50 = _____ points	_____ points	_____ points	

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DS-7 (08-20)

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ABINGTON EMERSON
5677 OBERLIN DR.
SAN DIEGO, CALIFORNIA 92121

PROJECT DATA

DATE	REMARKS
06/10/2025	CITY RESUBMISSION 01
08/04/2025	CITY RESUBMISSION 02
08/11/2025	IPC SET
A	
B	

PA/PM:	AN
DRAWN BY.:	MCJ / AN
JOB NO.:	SDG24-0061-00

SHEET
LANDSCAPE
CALCULATIONS

SECTION 321313 - CONCRETE PAVING

PART 1 - GENERAL

1.1 SUMMARY

A. SECTION INCLUDES:

- 1. CONCRETE PAVING, BANDS, CURBS, MOW STRIPS, STEPS AND WALLS.
- 2. REINFORCEMENT.
- 3. SURFACE FINISH.
- 4. SPECIAL CURING.

B. RELATED SECTIONS:

- 1. SECTION 312000 - EARTH MOVING, FOR BACKFILLING AND COMPACTED FILL, FOR PAVING.
- 2. SECTION 321373 - JOINT SEALANTS, FOR PAVING CONTRACTION JOINT SEALING.

1.2 ACTION SUBMITTALS

- A. PRODUCT DATA: FOR EACH TYPE OF PRODUCT INDICATED.

B. LEED SUBMITTALS:

- 1. PRODUCT DATA FOR CREDIT MR 4: FOR PRODUCTS HAVING RECYCLED CONTENT, DOCUMENTATION INDICATING PERCENTAGES BY WEIGHT OF POSTCONSUMER AND PRE-CONSUMER RECYCLED CONTENT. INCLUDE STATEMENT INDICATING COST FOR EACH PRODUCT HAVING RECYCLED CONTENT.

- C. SAMPLES: PROVIDE A 4 X 4 FOOT JOB SITE SAMPLE OF EACH PAVING FINISH SPECIFIED, FOR REVIEW AND APPROVAL BY OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION. SAMPLE SHALL REPRESENT FINAL APPEARANCE OF PAVING, INCLUDING ANY STAIN, SEALER OR OTHER SURFACE APPLICATIONS. PROVIDE ADDITIONAL SAMPLES UNTIL FINISH IS CONSIDERED ACCEPTABLE BY THE OWNER'S REPRESENTATIVE, AT NO ADDITIONAL COST TO THE OWNER. THE APPROVED SAMPLE SHALL SERVE AS A STANDARD OF APPEARANCE FOR THE FINAL WORK TO BE PRODUCED AND SHALL REMAIN ON SITE UNTIL ALL SITE CONCRETE HAS BEEN REVIEWED AND APPROVED BY THE OWNER'S REPRESENTATIVE.

D. OTHER ACTION SUBMITTALS:

- 1. DESIGN MIXTURES: FOR EACH CONCRETE PAVING MIXTURE. INCLUDE ALTERNATE DESIGN MIXTURES WHEN CHARACTERISTICS OF MATERIALS, PROJECT CONDITIONS, WEATHER, TEST RESULTS, OR OTHER CIRCUMSTANCES WARRANT ADJUSTMENTS.

1.3 QUALITY ASSURANCE

- A. READY-MIX-CONCRETE MANUFACTURER QUALIFICATIONS: A FIRM EXPERIENCED IN MANUFACTURING READY-MIXED CONCRETE PRODUCTS AND THAT COMPLIES WITH ASTM C 94/C 94M REQUIREMENTS FOR PRODUCTION FACILITIES AND EQUIPMENT.

- B. ACI PUBLICATIONS: COMPLY WITH ACI 301 UNLESS OTHERWISE INDICATED.

1.4 TESTS

- A. TESTING AND ANALYSIS WILL BE PERFORMED UNDER PROVISIONS OF SECTION 014000 - QUALITY REQUIREMENTS.
- B. MAKE AVAILABLE PROPOSED MIX DESIGN OF EACH CLASS OF CONCRETE TO APPOINTED FIRM FOR REVIEW PRIOR TO COMMENCEMENT OF WORK.
- C. TESTING FIRM WILL TAKE CYLINDERS AND PERFORM SLUMP AND AIR ENTRAINMENT TESTS IN ACCORDANCE WITH ACI 301.
- D. TESTS OF CEMENT AND AGGREGATES WILL BE PERFORMED TO ENSURE CONFORMANCE WITH SPECIFIED REQUIREMENTS.
- E. THREE CONCRETE TEST CYLINDERS WILL BE TAKEN FOR EVERY 75 OR LESS CUBIC YARDS OF EACH CLASS OF CONCRETE PLACED EACH DAY.
- F. ONE ADDITIONAL TEST CYLINDER WILL BE TAKEN AND BE CURED ON SITE UNDER SAME CONDITIONS AS CONCRETE IT REPRESENTS.
- G. ONE SLUMP TEST WILL BE TAKEN FOR EACH SET OF TEST CYLINDERS TAKEN.

PART 2 - PRODUCTS

2.1 CONCRETE MATERIALS

- A. CEMENTITIOUS MATERIAL: USE THE FOLLOWING CEMENTITIOUS MATERIALS, OF SAME TYPE, BRAND, AND SOURCE THROUGHOUT PROJECT:
 - 1. CEMENT: ASTM C 150 NORMAL-TYPE I, GRAY PORTLAND CEMENT.
 - 2. BLENDED HYDRAULIC CEMENT: ASTM C 595, CEMENT.
- B. NORMAL-WEIGHT AGGREGATES: ASTM C 33, CLASS 45, UNIFORMLY GRADED. PROVIDE AGGREGATES FROM A SINGLE SOURCE.
- C. WATER: CLEAN, POTABLE AND COMPLYING WITH ASTM C 94/C 94M.
- D. AIR-ENTRAINING ADMIXTURE: ASTM C 260.
- E. CHEMICAL ADMIXTURES: ADMIXTURES CERTIFIED BY MANUFACTURER TO BE COMPATIBLE WITH OTHER ADMIXTURES AND TO CONTAIN NO MORE THAN 0.1 PERCENT WATER-SOLUBLE CHLORIDE IONS BY MASS OF CEMENTITIOUS MATERIAL.
- F. COLOR PIGMENT: ASTM C 979, SYNTHETIC MINERAL-OXIDE PIGMENTS OR COLORED WATER-REDUCING ADMIXTURES; COLOR STABLE, NONFADING, AND RESISTANT TO LIME AND OTHER ALKALIS.
 - 1. COLOR: AS INDICATED.

2.2 FORM MATERIALS

- A. CONFORM TO ACI 301.
- B. WOOD OR STEEL FORM MATERIAL, PROFILED TO SUIT CONDITIONS.

2.3 STEEL REINFORCEMENT

- A. RECYCLED CONTENT: POSTCONSUMER RECYCLED CONTENT PLUS ONE-HALF OF PRE-CONSUMER RECYCLED CONTENT NOT LESS THAN 25 PERCENT.
- B. PLAIN-STEEL WELDED WIRE REINFORCEMENT: ASTM A 185/A 185M, UNCOATED FINISH, FABRICATED FROM AS-DRAWN STEEL WIRE INTO FLAT SHEETS.
- C. REINFORCING BARS: ASTM A 615/A 615M, DEFORMED, UNCOATED FINISH.
- D. PLAIN-STEEL WIRE: ASTM A 82/A 82M, AS DRAWN.
- E. TIE WIRE: ANNEALED STEEL, MINIMUM 16 GAGE SIZE.
- F. DOWEL BARS: ASTM A 615/A 615M, PLAIN-STEEL BARS. CUT BARS TRUE TO LENGTH WITH ENDS SQUARE AND FREE OF BURRS, UNCOATED FINISH.
- G. BAR SUPPORTS: BOLSTERS, CHAIRS, SPACERS, AND OTHER DEVICES FOR SPACING, SUPPORTING, AND FASTENING REINFORCING BARS, WELDED WIRE REINFORCEMENT, AND DOWELS IN PLACE. MANUFACTURE BAR SUPPORTS ACCORDING TO CRSI'S MANUAL OF STANDARD PRACTICE FROM STEEL WIRE, PLASTIC, OR PRECAST CONCRETE OF GREATER COMPRESSIVE STRENGTH THAN CONCRETE SPECIFIED.

2.4 FIBER REINFORCEMENT

- A. SYNTHETIC FIBER: FIBRILLATED POLYPROPYLENE FIBERS ENGINEERED AND DESIGNED FOR USE IN CONCRETE PAVING, COMPLYING WITH ASTM C 1116/C 1116M, TYPE III, 1/2 INCH LONG.

2.5 ACCESSORIES

- A. PRE-EMERGENT HERBICIDE: SURFLAN.
- B. CURING COMPOUND: FS TT-C-800, TYPE I, 30 PERCENT SOLIDS; ASTM C309, ASHFORD FORMULA.
- C. INTEGRAL COLOR (NON-IMMERSION CONDITIONS): DAVIS COLORS, OR APPROVED EQUAL.
- D. CHEMICAL SURFACE RETARDER: TOP-CAST BY GRACE CONSTRUCTION PRODUCTS.
- E. LIQUID SURFACE SEALER: HLQ-125' BY SINAK CORPORATION.
- F. PATCH BOND: WELD-CRETE.

2.6 RELATED MATERIALS

- A. JOINT FILLERS: ASTM D 4819, LIGHT WEIGHT POLYETHYLENE CLOSED CELL EXPANSION JOINT FILLER.

2.7 PAVEMENT MARKINGS

- A. PAVEMENT-MARKING PAINT: LATEX, WATERBORNE EMULSION, LEAD AND CHROMATE FREE, READY MIXED, COMPLYING WITH FS TT-P-1952, TYPE II, WITH DRYING TIME OF LESS THAN 45 MINUTES.
 - 1. COLOR: AS INDICATED.
- B. PAVEMENT-MARKING PAINT: MPI #97 LATEX TRAFFIC MARKING PAINT.
 - 1. COLOR: AS INDICATED.

2.8 WHEEL STOPS

- A. WHEEL STOPS: PRECAST, AIR-ENTRAINED CONCRETE.
 - 1. COLOR: GRAY.
 - 2. DOWELS: GALVANIZED STEEL, 3/4 INCH IN DIAMETER, 10-INCH MINIMUM LENGTH.
 - 3. ADHESIVE: AS RECOMMENDED BY WHEEL STOP MANUFACTURER FOR APPLICATION TO CONCRETE PAVEMENT.

2.9 CONCRETE MIXTURES

- A. MIX CONCRETE IN ACCORDANCE WITH ASTM C94.
- B. PREPARE DESIGN MIXTURES, PROPORTIONED ACCORDING TO ACI 301, WITH THE FOLLOWING PROPERTIES:
 - 1. COMPRESSIVE STRENGTH (28 DAYS): 3000 PSI.
 - 2. MAXIMUM WATER-CEMENTITIOUS MATERIALS RATIO AT POINT OF PLACEMENT: 0.50.
 - 3. SLUMP LIMIT: 4 INCHES, PLUS OR MINUS 1 INCH.
 - 4. AIR CONTENT: 6 PERCENT PLUS OR MINUS 1.5 PERCENT.
- C. CHEMICAL ADMIXTURES:
 - 1. USE ACCELERATING ADMIXTURES IN COLD WEATHER ONLY WHEN APPROVED BY OWNER'S REPRESENTATIVE. USE OF ADMIXTURES WILL NOT RELAX COLD WEATHER PLACEMENT REQUIREMENTS.
 - 2. USE SET-RETARDING ADMIXTURES DURING HOT WEATHER ONLY WHEN APPROVED BY OWNER'S REPRESENTATIVE.
- D. SYNTHETIC FIBER: UNIFORMLY DISPERSE IN CONCRETE MIXTURE AT MANUFACTURER'S RECOMMENDED RATE, BUT NOT LESS THAN 1.0 POUNDCU. YD.
- E. COLOR PIGMENT: ADD COLOR PIGMENT TO CONCRETE MIXTURE ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS.
- F. ADD AIR ENTRAINING AGENT TO CONCRETE MIX FOR CONCRETE WORK AS NECESSARY.

2.10 CONCRETE MIXING

- A. READY-MIXED CONCRETE: MEASURE, BATCH, AND MIX CONCRETE MATERIALS AND CONCRETE ACCORDING TO ASTM C 94/C 94M. FURNISH BATCH CERTIFICATES FOR EACH BATCH DISCHARGED AND USED IN THE WORK.

PART 3 - EXECUTION

3.1 EXAMINATION AND PREPARATION

- A. VERIFY COMPACTED SUBGRADE AND/OR BASE IS READY TO SUPPORT PAVING AND IMPOSED LOADS.
- B. VERIFY GRADIENTS AND ELEVATIONS OF BASE ARE CORRECT.
- C. BEGINNING OF INSTALLATION MEANS ACCEPTANCE OF EXISTING CONDITIONS.
- D. MOISTEN BASE TO MINIMIZE ABSORPTION OF WATER FROM FRESH CONCRETE.
- E. NOTIFY OWNER'S REPRESENTATIVE MINIMUM 24 HOURS PRIOR TO COMMENCEMENT OF CONCRETING OPERATIONS.
- F. PROOF-ROLL PREPARED SUB-BASE SURFACE BELOW CONCRETE PAVING TO IDENTIFY SOFT POCKETS AND AREAS OF EXCESS YIELDING.
- G. REMOVE LOOSE MATERIAL FROM COMPACTED SUB-BASE SURFACE IMMEDIATELY BEFORE PLACING CONCRETE.

3.2 EDGE FORMS AND SCREED CONSTRUCTION

- A. SET, GRADE, AND SECURE EDGE FORMS, BULKHEADS, AND INTERMEDIATE SCREED GUIDES TO REQUIRED LINES, GRADIENTS, AND ELEVATIONS. INSTALL FORMS TO ALLOW CONTINUOUS PROGRESS OF WORK AND SO FORMS CAN REMAIN IN PLACE AT LEAST 24 HOURS AFTER CONCRETE PLACEMENT. OBTAIN LAYOUT APPROVAL PRIOR TO POUR.
- B. ASSEMBLE FORMWORK TO PERMIT EASY STRIPPING AND DISMANTLING WITHOUT DAMAGING CONCRETE. USE OF PERMANENT CONCRETE SCREED IS PERMISSIBLE. CLEAN FORMS AFTER EACH USE AND COAT WITH FORM-RELEASE AGENT TO ENSURE SEPARATION FROM CONCRETE WITHOUT DAMAGE.
- C. PLACE JOINT FILLERS VERTICAL IN POSITION, IN STRAIGHT LINES. SECURE TO FORMWORK DURING CONCRETE PLACEMENT.

3.3 REINFORCEMENT

- A. PLACE REINFORCEMENT. COMPLY WITH CRSI'S MANUAL OF STANDARD PRACTICE FOR FABRICATING, PLACING, AND SUPPORTING REINFORCEMENT.
- B. INTERRUPT REINFORCEMENT AT CONSTRUCTION JOINTS.
- C. PLACE REINFORCEMENT TO ACHIEVE SLAB AND CURB ALIGNMENT AS DETAILED.
- D. PROVIDE DOWELED JOINTS AT INTERRUPTIONS OF CONCRETE WITH ONE END OF DOWEL SET IN CAPPED SLEEVE TO ALLOW LONGITUDINAL MOVEMENT.

3.4 JOINTS

- A. GENERAL: FORM CONTRACTION, ISOLATION, AND DOWELED CONSTRUCTION JOINTS AND TOOL EDGES TRUE TO LINE, WITH FACES PERPENDICULAR TO SURFACE PLANE OF CONCRETE. CONSTRUCT CONTRACTION JOINTS AT MAXIMUM 5 FOOT INTERVALS OF PAVING AND AT RIGHT ANGLES TO CENTERLINE UNLESS OTHERWISE INDICATED. ALIGN CURB, GUTTER AND SIDEWALK JOINTS WHEN POSSIBLE.
- B. DOWELED CONSTRUCTION JOINTS: SET CONSTRUCTION JOINTS AT SIDE, END, TERMINATIONS OF PAVING, BETWEEN PAVING AREAS WITH DIFFERING COLOR/FINISHES, AND AT LOCATIONS WHERE PAVING OPERATIONS ARE STOPPED FOR MORE THAN ONE-HALF HOUR UNLESS PAVING TERMINATES AT ISOLATION JOINTS. IN LINEAR PAVING CONDITIONS, PROVIDE DOWELED CONSTRUCTION JOINTS AT 20-FOOT INTERVALS UNLESS OTHERWISE SHOWN.
- C. ISOLATION JOINTS: FORM ISOLATION JOINTS OF PREFORMED JOINT-FILLER STRIPS ABUTTING CONCRETE CURBS, CATCH BASINS, MANHOLES, INLETS, STRUCTURES, OTHER FIXED VERTICAL OBJECTS, AND WHERE INDICATED.
- D. EDGING: AFTER INITIAL FLOATING, TOOL EDGES OF PAVING, GUTTERS, CURBS, AND JOINTS IN CONCRETE WITH AN EDGING TOOL TO A 1/8-INCH RADIUS. REPEAT TOOLING OF EDGES AFTER APPLYING SURFACE FINISHES. ELIMINATE EDGING-TOOL MARKS ON CONCRETE SURFACES.

3.5 CONCRETE PLACEMENT

- A. COMPLY WITH ACI 301 REQUIREMENTS FOR MEASURING, MIXING, TRANSPORTING, PLACING, AND CONSOLIDATING CONCRETE.
- B. ENSURE REINFORCEMENT, INSERTS, EMBEDDED PARTS AND FORMED JOINTS ARE NOT DISTURBED DURING CONCRETE PLACEMENT.
- C. DEPOSIT AND SPREAD CONCRETE IN A CONTINUOUS OPERATION BETWEEN PREDETERMINED CONSTRUCTION JOINTS. DO NOT PUSH OR DRAG CONCRETE INTO PLACE OR USE VIBRATORS TO MOVE CONCRETE INTO PLACE. DO NOT BREAK OR INTERRUPT SUCCESSIVE POURS SUCH THAT COLD JOINTS OCCUR.
- D. PLACE CONCRETE TO PATTERN INDICATED.
- E. COORDINATE POURS OF INTEGRAL COLOR CONCRETE TO ENSURE CONSISTENCY OF COLOR THROUGHOUT. COLOR INCONSISTENCY WILL NOT BE ACCEPTED.
- F. FOR STEPS, WALLS OR OTHER CAST-IN-PLACE ELEMENTS, SETTLE CONCRETE BY VIBRATION TO ELIMINATE HONEYCOMBS. CONCRETE WITH VISIBLE HONEYCOMBS WILL BE REJECTED.
- G. SCREED PAVING SURFACE WITH A STRAIGHTEDGE AND STRIKE OFF.
- H. COMMENCE INITIAL FLOATING USING BULL FLOATS OR DARBIES TO IMPART AN OPEN, TEXTURED AND UNIFORM SURFACE PLANE BEFORE EXCESS MOISTURE OR BLEED WATER APPEARS ON THE SURFACE. DO NOT FURTHER DISTURB CONCRETE SURFACES BEFORE BEGINNING FINISHING OPERATIONS OR SPREADING SURFACE TREATMENTS.
- I. TOLERANCES IN HORIZONTAL ALIGNMENT OF HARDSCAPE ELEMENTS SUCH AS PAVING EDGES, JOINTS, WALLS AND STEPS SHALL NOT EXCEED 1/4 INCH IN 10 FEET, OR 1/2 INCH IN 50 FEET.

3.6 FINISHING

- A. SEE PLAN FOR FINISHES AND FINISH LOCATIONS.
- B. CURBS, MOW STRIPS AND GUTTERS: LIGHT BROOM, UNLESS OTHERWISE SPECIFIED.
- C. FINISHES:
 - 1. GENERAL: DO NOT ADD WATER TO CONCRETE SURFACES DURING FINISHING OPERATIONS. COMPACT AND TAMP CONCRETE (UNLESS RETARDANT FINISH IS SPECIFIED), TO BRING 3/8 INCH OF MORTAR TO SURFACE, FLOAT WITH WOOD SCREEDS AND FLOATS ONLY, AND APPLY FOLLOWING FINISHES AFTER SURFACE FLOATING. DO NOT USE STEEL OR ANY PLASTIC SCREEDS, FLOATS OR "FRESNO" FOR INITIAL FLOATING AND SCREEDING OPERATIONS. FOR RETARDANT FINISH, THE CONCRETE SHALL BE PLACED AND CONSOLIDATED SO AS TO COMPLETELY FILL ALL SPACES IN THE FORMS; HOWEVER, TAMPING WILL NOT BE PERMITTED BECAUSE THE AGGREGATE MUST REMAIN NEAR THE SURFACE FOR LATER EXPOSURE.

EXPOSURE.

- 2. ALL CONCRETE FINISHES SHALL BE AS LISTED ON THE DRAWINGS. FINISHES ARE AS FOLLOWS:
 - a. FINE-TO-MEDIUM TEXTURED BROOM FINISH: DRAW A SOFT-BRISTLE BROOM ACROSS FLOAT-FINISHED CONCRETE SURFACE PERPENDICULAR TO LINE OF TRAFFIC TO PROVIDE A UNIFORM, FINE-LINE TEXTURE.
 - b. MEDIUM-TO-COARSE TEXTURED BROOM FINISH: PROVIDE A COARSE FINISH BY STRIATING FLOAT-FINISHED CONCRETE SURFACE 1/16 TO 1/8 INCH DEEP WITH A STIFF-BRISTLED BROOM, PERPENDICULAR TO LINE OF TRAFFIC.
 - c. ROUGH TROWEL SWIRL FINISH: PROVIDE ROUGH TROWEL FINISH TO SLAB SURFACES. AFTER PLACING SLABS, CONSOLIDATE SURFACE BY FLOATING TO A UNIFORM, SMOOTH, GRANULAR TEXTURE.
 - d. SCRATCH FINISH: PROVIDE SCRATCH FINISH TO SLAB SURFACES THAT ARE TO RECEIVE MORTAR SETTING BEDS FOR PRECAST TILE PAVERS AS NOTED ON DRAWINGS.
 - e. STEEL TROWEL FINISH: AFTER SURFACE WATER DISAPPEARS AND FLOATED SURFACE IS SUFFICIENTLY HARDENED, STEEL TROWEL AND RE-TROWEL TO SMOOTH, DENSE, HARD FINISH. AFTER CONCRETE HAS SET SUFFICIENTLY, RE-TROWEL TO A SMOOTH, UNIFORM FINISH FREE OF TROWEL MARKS OR OTHER BLEMISHES. AVOID EXCESSIVE TROWELING THAT PRODUCES BURNED AREAS.
 - f. SANDBLAST FINISH (DRY SAND METHOD):
 - 1. CONTRACTOR SHALL SCHEDULE THIS WORK TO BE EXECUTED WITH AS LITTLE CONFLICT WITH OTHER TRADES AS POSSIBLE. CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OR MASKING OF ADJACENT SURFACES, IF NECESSARY.
 - 2. TEST AREAS FOR SAMPLE OF BLASTING WILL BE ESTABLISHED WHERE SURFACES WILL NOT BE LEFT EXPOSED. OWNER'S REPRESENTATIVE SHALL BE PRESENT AT TIME OF SAMPLE BLASTING AND APPROVE THE DESIRED FINISH.
 - 3. CARE SHALL BE TAKEN TO PROTECT ALL ADJACENT SURFACES FROM DAMAGE WHICH ARE NOT RECEIVING SANDBLASTING.
 - 4. SANDBLASTING SHALL BE ACCOMPLISHED USING QUALIFIED WORKMEN FAMILIAR WITH THE PROPER TECHNIQUE.
 - 5. SANDBLASTING WORK SHALL BE BY THE DRY SANE METHOD, UTILIZING APPROPRIATE EQUIPMENT AND ADEQUATE AIR PRESSURE. ABRASIVES SHALL BE WASHED SILICA SAND FREE FROM SALT, CLAY OR OTHER FOREIGN MATERIALS. NOZZLE POSITION DURING THE OPERATION SHALL BE AS DETERMINED IN THE MAKING OF THE APPROVED SAMPLES.
 - 6. ALL CONCRETE AREAS REQUIRING PATCHING SHALL BE PATCHED, WITH ALL ROUGH SPOTS AND UNEVENNESS IN THE CONCRETE SURFACE GROUND SMOOTH BEFORE THE SANDBLASTING OPERATION IS BEGIN.
 - 9. ETCHED OR RETARDANT FINISH (WITH SURFACE RETARDER):
 - 1. ALL WORK SHALL CONFORM TO APPLICABLE OSHA AND EPA STANDARDS.
 - 2. CONTRACTOR SHALL SCHEDULE THIS WORK TO BE EXECUTED WITH AS LITTLE CONFLICT WITH OTHER TRADES AS POSSIBLE. IF NECESSARY, CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ADJACENT MASONRY AND CONCRETE SURFACES WITH A FILM-FORMING PROTECTIVE COATING, FACE-OFF BY GRACE CONSTRUCTION PRODUCTS, OR APPROVED EQUAL, ALLOWING TIME FOR COATING TO DRY PRIOR TO POURING CONCRETE.
 - 3. PREPARATORY WORK: THE CONCRETE SHOULD BE PLACED AND CONSOLIDATED SO AS TO COMPLETELY FILL ALL SPACES IN THE FORMS. TAMPING WILL NOT BE PERMITTED FOR TOP-CAST FINISH #25 OR HIGHER BECAUSE THE AGGREGATE MUST REMAIN NEAR THE SURFACE FOR LATER EXPOSURE.
 - 4. APPLICATION OF RETARDER: SURFACE RETARDER SHALL BE APPLIED BY QUALIFIED WORKMEN FAMILIAR WITH THE PROPER TECHNIQUE. AFTER CONCRETE HAS BEEN FLOATED OR TROWEL FINISHED AND INITIAL BLEED WATER HAS RISEN TO THE SURFACE, APPLY FILM-FORMING TOP SURFACE RETARDER, TOP-CAST BY GRACE CONSTRUCTION PRODUCTS OR APPROVED EQUAL, AT SPECIFIED GRADIENT, USING A LOW-PRESSURE SPRAYER WITH A 0.5 GPM TIP AT A RATE OF 200-350 SQUARE FEET PER GALLON UNTIL SURFACE HAS A COMPLETE HIDING COAT. ONCE SURFACE RETARDER HAS CURED ADEQUATELY, DEPENDENT ON WEATHER AND SITE CONDITIONS, REMOVE BY PRESSURE WASHING. REMOVE RINSE WATER AND CEMENT MATRIX FROM SITE IN ACCORDANCE WITH LOCAL CODES.
- 3.7 CONCRETE PROTECTION, CURING AND SEALING
 - A. GENERAL: PROTECT FRESHLY PLACED CONCRETE FROM PREMATURE DRYING AND EXCESSIVE COLD OR HOT TEMPERATURES.
 - B. COMPLY WITH ACI 308.1 FOR COLD-WEATHER PROTECTION.
 - C. EVAPORATION RETARDER: APPLY EVAPORATION RETARDER TO CONCRETE SURFACES IF HOT, DRY, OR WINDY CONDITIONS CAUSE MOISTURE LOSS APPROACHING 0.2 POUNDCU/SQARE FEET X H BEFORE AND DURING FINISHING OPERATIONS. APPLY ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS AFTER PLACING, SCREEDING, AND BULL FLOATING OR DARBING CONCRETE BUT BEFORE FLOAT FINISHING.
 - D. BEGIN CURING AFTER FINISHING CONCRETE BUT NOT BEFORE FREE WATER HAS DISAPPEARED FROM CONCRETE SURFACE.
 - E. CURING METHODS: CURE CONCRETE BY MOISTURE-RETAINING-COVER CURING, CURING COMPOUND OR A COMBINATION OF THESE.
 - F. CONCRETE SURFACE SEALER: ALL CONCRETE PAVING SHALL BE SEALED WITH A CLEAR, PENETRATING CONCRETE SEALER. IF EFFLORESCENCE OR ALKALI-STAINING IS EVIDENT AFTER THE CONCRETE HAS CURED, LIGHTLY WASH THE SURFACE WITH A MILD MURIATIC ACID SOLUTION (USUALLY A 10:1 DILUTION) THAT HAS BEEN THOROUGHLY RINSED WITH WATER AND CLEANED WITH DILUTED LITHOCHROME FLOOR CLEANER BY L.M. SCOFIELD, OR APPROVED EQUAL. RINSE AGAIN AND DRY THOROUGHLY. AFTER CONCRETE MIX HAS CURED FOR AT LEAST ONE MONTH, THE CONCRETE SURFACE SHALL BE THOROUGHLY WASHED WITH FRESH, CLEAN WATER. AFTER SURFACE IS THOROUGHLY DRIED, APPLY "HLQ-125" AS MANUFACTURED BY SINAK CORPORATION, PER MANUFACTURER'S SPECIFICATIONS.

3.8 PAVING TOLERANCES

- A. COMPLY WITH TOLERANCES IN ACI 117 AND AS FOLLOWS:
 - 1. ELEVATION: 3/4 INCH.
 - 2. THICKNESS: PLUS 3/8 INCH, MINUS 1/4 INCH.
 - 3. SURFACE: GAP BELOW 10-FOOT- LONG, UNLEVELLED STRAIGHTEDGE NOT TO EXCEED 1/2 INCH.
 - 4. JOINT SPACING: 3 INCHES.
 - 5. CONTRACTION JOINT DEPTH: PLUS 1/4 INCH, NO MINUS.
 - 6. JOINT WIDTH: PLUS 1/16 INCH, NO MINUS.
- 3.9 PAVEMENT MARKING
 - A. ALLOW CONCRETE PAVING TO CURE FOR A MINIMUM OF 28 DAYS AND BE DRY BEFORE STARTING PAVEMENT MARKING.
 - B. SWEEP AND CLEAN SURFACE TO ELIMINATE LOOSE MATERIAL AND DUST.
 - C. APPLY PAINT WITH MECHANICAL EQUIPMENT TO PRODUCE MARKINGS OF DIMENSIONS INDICATED WITH UNIFORM, STRAIGHT EDGES. APPLY AT MANUFACTURER'S RECOMMENDED RATES TO PROVIDE A MINIMUM WET FILM THICKNESS OF 15 MILLIMETERS.
- 3.10 WHEEL STOPS
 - A. INSTALL WHEEL STOPS IN BED OF ADHESIVE APPLIED AS RECOMMENDED BY MANUFACTURER.
 - B. SECURELY ATTACH WHEEL STOPS TO PAVING WITH NOT LESS THAN TWO STEEL DOWELS LOCATED AT ONE-QUARTER TO ONE-THIRD POINTS. INSTALL DOWELS IN DRILLED HOLES IN THE PAVING AND BOND DOWELS TO WHEEL STOP. RECESS HEAD OF DOWEL BENEATH TOP OF WHEEL STOP.
- 3.11 REPAIRS AND PROTECTION
 - A. REMOVE AND REPLACE CONCRETE PAVING THAT IS BROKEN, DAMAGED, OR DEFECTIVE OR THAT DOES NOT COMPLY WITH REQUIREMENTS IN THIS SECTION. REMOVE WORK IN COMPLETE SECTIONS FROM JOINT TO JOINT UNLESS OTHERWISE APPROVED BY OWNER'S REPRESENTATIVE.
 - B. PROTECT CONCRETE PAVING FROM DAMAGE. EXCLUDE TRAFFIC FROM PAVING FOR AT LEAST 14 DAYS AFTER PLACEMENT. WHEN CONSTRUCTION TRAFFIC IS PERMITTED, MAINTAIN PAVING AS CLEAN AS POSSIBLE BY REMOVING SURFACE STAINS AND SPILLAGE OF MATERIALS AS THEY OCCUR.
 - C. MAINTAIN CONCRETE PAVING FREE OF STAINS, DISCOLORATION, DIRT, AND OTHER FOREIGN MATERIAL. SWEEP PAVING NOT MORE THAN TWO DAYS BEFORE DATE SCHEDULED FOR SUBSTANTIAL COMPLETION INSPECTIONS.

END OF SECTION 321313

SECTION 321373 - CONCRETE PAVING JOINT SEALANTS

PART 1 - GENERAL

1.1 SUMMARY

- A. SECTION INCLUDES:
 - 1. COLD-APPLIED JOINT SEALANTS.
 - 2. HOT-APPLIED JOINT SEALANTS.

1.2 PRE-CONSTRUCTION TESTING

- A. PRE-CONSTRUCTION COMPATIBILITY AND ADHESION TESTING: SUBMIT TO JOINT-SEALANT MANUFACTURERS, EIGHT SAMPLES OF MATERIALS THAT WILL CONTACT OR AFFECT JOINT SEALANTS. USE MANUFACTURER'S STANDARD TEST METHOD TO DETERMINE WHETHER PRIMING AND OTHER SPECIFIC JOINT-PREPARATION TECHNIQUES ARE REQUIRED TO OBTAIN RAPID, OPTIMUM ADHESION OF JOINT SEALANTS TO JOINT SUBSTRATES.
- 1.3 ACTION SUBMITTALS
 - A. PRODUCT DATA: FOR EACH JOINT-SEALANT PRODUCT INDICATED.
 - B. SAMPLES: FOR EACH KIND AND COLOR OF JOINT SEALANT REQUIRED.
 - C. PAVEMENT-JOINT-SEALANT SCHEDULE: INCLUDE THE FOLLOWING INFORMATION:
 - 1. JOINT-SEALANT APPLICATION, JOINT LOCATION, AND DESIGNATION.
 - 2. JOINT-SEALANT MANUFACTURER AND PRODUCT NAME.
 - 3. JOINT-SEALANT FORMULATION.
- 1.4 INFORMATIONAL SUBMITTALS
 - A. PRODUCT CERTIFICATES.
 - B. PRODUCT TEST REPORTS.
 - C. PRE-CONSTRUCTION COMPATIBILITY AND ADHESION TEST REPORTS.
- 1.5 QUALITY ASSURANCE
 - A. TESTING AGENCY QUALIFICATIONS: AN INDEPENDENT TESTING AGENCY QUALIFIED ACCORDING TO ASTM C 1021.
 - B. PRE-INSTALLATION CONFERENCE: CONDUCT CONFERENCE AT PROJECT SITE.

PART 2 - PRODUCTS

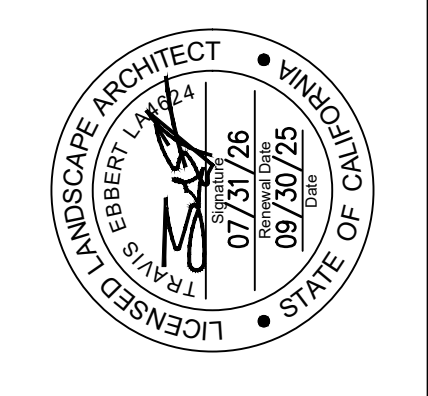
- 2.1 MATERIALS
 - A. COMPATIBILITY: PROVIDE JOINT SEALANTS, BACKING MATERIALS, AND OTHER RELATED MATERIALS THAT ARE COMPATIBLE WITH ONE ANOTHER AND WITH JOINT SUBSTRATES UNDER CONDITIONS OF SERVICE AND APPLICATION, AS DEMONSTRATED BY JOINT-SEALANT MANUFACTURER BASED ON TESTING AND FIELD EXPERIENCE.
- 2.2 COLD-APPLIED JOINT SEALANTS
 - A. SINGLE-COMPONENT, NONSAG, SILICONE JOINT SEALANT FOR CONCRETE: ASTM D 5893, TYPE NS. SEE EDITING INSTRUCTION NO. 1 IN THE EVALUATIONS FOR CAUTIONS ABOUT NAMING MANUFACTURERS AND PRODUCTS. SEE SECTION 016000 "PRODUCT REQUIREMENTS."
 - 1. PRODUCTS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, AVAILABLE PRODUCTS THAT MAY BE INCORPORATED INTO THE WORK INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:
 - a. CRAFTCO INC., AN ERGON COMPANY, ROADSAVER SILICONE.
 - b. DOW CORNING CORPORATION, 888.
 - c. PECORA CORPORATION, 301 NS.
 - B. SINGLE-COMPONENT, SELF-LEVELLING, SILICONE JOINT SEALANT FOR CONCRETE: ASTM D 5893, TYPE SL. SEE EDITING INSTRUCTION NO. 1 IN THE EVALUATIONS FOR CAUTIONS ABOUT NAMING MANUFACTURERS AND PRODUCTS. SEE SECTION 016000 "PRODUCT REQUIREMENTS."
 - 1. PRODUCTS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, AVAILABLE PRODUCTS THAT MAY BE INCORPORATED INTO THE WORK INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:
 - a. CRAFTCO INC., AN ERGON COMPANY, ROADSAVER SILICONE SL.
 - b. DOW CORNING CORPORATION, 890-SL.
 - c. PECORA CORPORATION, 300 SL.
 - C. MULTICOMPONENT, POURABLE, TRAFFIC-GRADE, URETHANE JOINT SEALANT FOR CONCRETE: ASTM C 920, TYPE M, GRADE P, CLASS 25, FOR USE 1. SEE EDITING INSTRUCTION NO. 1 IN THE EVALUATIONS FOR CAUTIONS ABOUT NAMING MANUFACTURERS AND PRODUCTS. SEE SECTION 016000 "PRODUCT REQUIREMENTS."
 - 1. PRODUCTS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, AVAILABLE PRODUCTS THAT MAY BE INCORPORATED INTO THE WORK INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:
 - a. PECORA CORPORATION, UREXPAN NR-200.
- 2.3 HOT-APPLIED JOINT SEALANTS
 - A. HOT-APPLIED, SINGLE-COMPONENT JOINT SEALANT FOR CONCRETE: ASTM D 3408. SEE EDITING INSTRUCTION NO. 1 IN THE EVALUATIONS FOR CAUTIONS ABOUT NAMING MANUFACTURERS AND PRODUCTS. SEE SECTION 016000 "PRODUCT REQUIREMENTS."
 - 1. PRODUCTS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, AVAILABLE PRODUCTS THAT MAY BE INCORPORATED INTO THE WORK INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:
 - a. CRAFTCO INC., AN ERGON COMPANY, SUPERSEAL 444-777.
 - B. HOT-APPLIED, SINGLE-COMPONENT JOINT SEALANT FOR CONCRETE AND ASPHALT: ASTM D 6690, TYPES I, II, AND III. SEE EDITING INSTRUCTION NO. 1 IN THE EVALUATIONS FOR CAUTIONS ABOUT NAMING MANUFACTURERS AND PRODUCTS. SEE SECTION 016000 "PRODUCT REQUIREMENTS."
 - 1. PRODUCTS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, AVAILABLE PRODUCTS THAT MAY BE INCORPORATED INTO THE WORK INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:
 - a. MEADOWS, W. R., INC.; SEALTIGHT H-SP-EC.
 - b. RIGHT POINTE, D-3405 HOT APPLIED SEALANT.
- 2.4 JOINT-SEALANT BACKER MATERIALS
 - A. ROUND BACKER RODS FOR COLD- AND HOT-APPLIED JOINT SEALANTS: ASTM D 5249, TYPE 1, OF DIAMETER AND DENSITY REQUIRED TO CONTROL JOINT-SEALANT DEPTH AND PREVENT BOTTOM-SIDE ADHESION OF SEALANT.
 - B. ROUND BACKER RODS FOR COLD-APPLIED JOINT SEALANTS: ASTM D 5249, TYPE 3, OF DIAMETER AND DENSITY REQUIRED TO CONTROL JOINT-SEALANT DEPTH AND PREVENT BOTTOM-SIDE ADHESION OF SEALANT.
 - C. BACKER STRIPS FOR COLD- AND HOT-APPLIED JOINT SEALANTS: ASTM D 5249, TYPE 2, OF THICKNESS AND WIDTH REQUIRED TO CONTROL JOINT-SEALANT DEPTH, PREVENT BOTTOM-SIDE ADHESION OF SEALANT, AND FILL REMAINDER OF JOINT OPENING UNDER SEALANT.
- 2.5 PRIMERS
 - A. PRIMERS: PRODUCT RECOMMENDED BY JOINT-SEALANT MANUFACTURER WHERE REQUIRED FOR ADHESION OF SEALANT TO JOINT SUBSTRATES INDICATED, AS DETERMINED FROM PRECONSTRUCTION JOINT-SEALANT-SUBSTRATE TESTS AND FIELD TESTS.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. GENERAL: COMPLY WITH JOINT-SEALANT MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS FOR PRODUCTS AND APPLICATIONS INDICATED UNLESS MORE STRINGENT REQUIREMENTS APPLY.
- B. CLEANING OF JOINTS: CLEAN OUT JOINTS IMMEDIATELY BEFORE INSTALLING JOINT SEALANTS.
- C. JOINT-SEALANT INSTALLATION STANDARD: COMPLY WITH RECOMMENDATIONS IN ASTM C 1193 FOR USE OF JOINT SEALANTS AS APPLICABLE TO MATERIALS, APPLICATIONS, AND CONDITIONS INDICATED.
- D. INSTALL JOINT-SEALANT BACKINGS OF KIND INDICATED TO SUPPORT JOINT SEALANTS DURING APPLICATION AND AT POSITION REQUIRED TO PRODUCE CROSS-SECTIONAL SHAPES AND DEPTHS OF INSTALLED SEALANTS RELATIVE TO JOINT WIDTHS THAT ALLOW OPTIMUM SEALANT MOVEMENT CAPABILITY.
 - 1. DO NOT LEAVE GAPS BETWEEN ENDS OF JOINT-SEALANT BACKINGS.
 - 2. DO NOT STRETCH, TWIST, PUNCTURE, OR TEAR JOINT-SEALANT BACKINGS.
 - 3. REMOVE ABSORBENT JOINT-SEALANT BACKINGS THAT HAVE BECOME WET BEFORE SEALANT APPLICATION AND REPLACE THEM WITH DRY MATERIALS.
- E. INSTALL JOINT SEALANTS USING PROVEN TECHNIQUES THAT COMPLY WITH THE FOLLOWING AND AT THE SAME TIME BACKINGS ARE INSTALLED:
 - 1. PLACE JOINT SEALANTS SO THEY DIRECTLY CONTACT AND FULLY WET JOINT SUBSTRATES.
 - 2. COMPLETELY FILL RECESSES IN EACH JOINT CONFIGURATION.
 - 3. PRODUCE UNIFORM, CROSS-SECTIONAL SHAPES AND DEPTHS RELATIVE TO JOINT WIDTHS THAT ALLOW OPTIMUM SEALANT MOVEMENT CAPABILITY.
- F. TOOLING OF NONSAG JOINT SEALANTS: IMMEDIATELY AFTER JOINT-SEALANT APPLICATION AND BEFORE SKINNING OR CURING BEGINS, TOOL SEALANTS ACCORDING TO THE FOLLOWING REQUIREMENTS TO FORM SMOOTH, UNIFORM BEADS OF CONFIGURATION INDICATED: TO ELIMINATE AIR POCKETS, AND TO ENSURE CONTACT AND ADHESION OF SEALANT WITH SIDES OF JOINT.
 - 1. REMOVE EXCESS JOINT SEALANT FROM SURFACES ADJACENT TO JOINTS.
 - 2. USE TOOLING AGENTS THAT ARE APPROVED IN WRITING BY JOINT-SEALANT MANUFACTURER AND THAT DO NOT DISCOLOR SEALANTS OR ADJACENT SURFACES.
- G. PROVIDE JOINT CONFIGURATION TO COMPLY WITH JOINT-SEALANT MANUFACTURER'S WRITTEN INSTRUCTIONS UNLESS OTHERWISE INDICATED.
- H. CLEAN OFF EXCESS JOINT SEALANT OR SEALANT SMEARS ADJACENT TO JOINTS AS THE WORK PROGRESSES, BY METHODS AND WITH CLEANING MATERIALS APPROVED IN WRITING BY MANUFACTURERS OF JOINT SEALANTS AND OF PRODUCTS IN WHICH JOINTS OCCUR.

END OF SECTION 321373



ABINGTON EMERSON
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PROJECT DATA		REMARKS
DATE	06/10/2025	CITY RESUBMISSION 01
DATE	08/04/2025	CITY RESUBMISSION 02
DATE	08/12/2025	IPC SET
A		
B		

PA/PM:	AN
DRAWN BY.:	MCJ / AN
JOB NO.:	SDG24-0061-00

SHEET
LANDSCAPE
SPECIFICATIONS

SECTION 321726 - TACTILE WARNING SURFACING

PART 1 - GENERAL

1. RELATED DOCUMENTS

- A. DRAWINGS AND GENERAL PROVISIONS OF THE CONTRACT, INCLUDING GENERAL AND SUPPLEMENTARY CONDITIONS AND DIVISION 01 SPECIFICATION SECTIONS, APPLY TO THIS SECTION.

1.2 SUMMARY

A. SECTION INCLUDES:

- CAST-IN-PLACE DETECTABLE WARNING TILES.
- SURFACE-APPLIED DETECTABLE WARNING TILES.
- DETECTABLE WARNING MATS.
- DETECTABLE WARNING UNIT PAVERS.

B. RELATED REQUIREMENTS:

- SECTION 321313 "CONCRETE PAVING" FOR CONCRETE WALKWAYS SERVING AS SUBSTRATES FOR TACTILE WARNING SURFACING.
- SECTION 321400 "UNIT PAVING" FOR UNIT PAVING INSTALLATIONS INCORPORATING DETECTABLE WARNING UNIT PAVERS SPECIFIED IN THIS SECTION.

1.3 ACTION SUBMITTALS

- A. PRODUCT DATA FOR EACH TYPE OF PRODUCT.
- B. SAMPLES FOR INITIAL SELECTION, FOR EACH TYPE OF EXPOSED FINISH REQUIRING COLOR SELECTION.
- C. SAMPLES FOR VERIFICATION, FOR EACH TYPE OF TACTILE WARNING SURFACE, IN MANUFACTURER'S STANDARD SIZES UNLESS OTHERWISE INDICATED, SHOWING EDGE CONDITION, TRUNCATED-DOME PATTERN, TEXTURE, COLOR, AND CROSS SECTION, WITH FASTENERS AND ANCHORS.

1.4 CLOSEOUT SUBMITTALS

- A. MAINTENANCE DATA: FOR TACTILE WARNING SURFACING, TO INCLUDE IN MAINTENANCE MANUALS.

1.5 QUALITY ASSURANCE

- A. MOCKUPS: BUILD MOCKUPS TO VERIFY SELECTIONS MADE UNDER SAMPLE SUBMITTALS, TO DEMONSTRATE AESTHETIC EFFECTS, AND TO SET QUALITY STANDARDS FOR MATERIALS AND EXECUTION.
- SUBJECT TO COMPLIANCE WITH REQUIREMENTS, APPROVED MOCKUPS MAY BECOME PART OF THE COMPLETED WORK IF UNDISTURBED AT TIME OF SUBSTANTIAL COMPLETION.

1.6 PROJECT CONDITIONS

- A. COLD-WEATHER PROTECTION: DO NOT USE FROZEN MATERIALS OR MATERIALS MIXED OR COATED WITH ICE OR FROST. DO NOT BUILD ON FROZEN SUBGRADE OR SETTING BEDS. REMOVE AND REPLACE UNIT PAVER WORK DAMAGED BY FROST OR FREEZING.
- B. WEATHER LIMITATIONS FOR ADHESIVE APPLICATION:
- APPLY ADHESIVE ONLY WHEN AMBIENT TEMPERATURE IS ABOVE 50 DEG F (10 DEG C) AND WHEN TEMPERATURE HAS NOT BEEN BELOW 35 DEG F (2 DEG C) FOR 12 HOURS IMMEDIATELY BEFORE APPLICATION. DO NOT APPLY WHEN SUBSTRATE IS WET OR CONTAINS EXCESS MOISTURE.
- C. WEATHER LIMITATIONS FOR MORTAR AND GROUT:
- COLD-WEATHER REQUIREMENTS: COMPLY WITH COLD-WEATHER CONSTRUCTION REQUIREMENTS CONTAINED IN ACI 508.1/ASCE 6/TMS 602.
 - HOT-WEATHER REQUIREMENTS: COMPLY WITH HOT-WEATHER CONSTRUCTION REQUIREMENTS CONTAINED IN ACI 508.1/ASCE 6/TMS 602. PROVIDE ARTIFICIAL SHADE AND WINDBREAKS, AND USE COOLED MATERIALS AS REQUIRED. DO NOT APPLY MORTAR TO SUBSTRATES WITH TEMPERATURES OF 100 DEG F (38 DEG C) AND HIGHER.
 - WHEN AMBIENT TEMPERATURE EXCEEDS 100 DEG F (38 DEG C), OR WHEN WIND VELOCITY EXCEEDS 8 MPH (13 KM/H) AND AMBIENT TEMPERATURE EXCEEDS 90 DEG F (32 DEG C), SET UNIT PAVERS WITHIN 1 MINUTE OF SPREADING SETTING-BED MORTAR.

1.7 WARRANTY

- A. SPECIAL WARRANTY: MANUFACTURER AGREES TO REPAIR OR REPLACE COMPONENTS OF TACTILE WARNING SURFACES THAT FAIL IN MATERIALS OR WORKMANSHIP WITHIN SPECIFIED WARRANTY PERIOD.
- FAILURES INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:
 - DETERIORATION OF FINISHES BEYOND NORMAL WEATHERING AND WEAR.
 - SEPARATION OR DELAMINATION OF MATERIALS AND COMPONENTS.
 - WARRANTY PERIOD: ONE YEAR FROM DATE OF SUBSTANTIAL COMPLETION.

PART 2 - PRODUCTS

2.1 TACTILE WARNING SURFACING, GENERAL

- A. ACCESSIBILITY REQUIREMENTS: COMPLY WITH APPLICABLE PROVISIONS IN THE U.S. ARCHITECTURAL & TRANSPORTATION BARRIERS COMPLIANCE BOARD'S ADA-ABA ACCESSIBILITY GUIDELINES FOR BUILDINGS AND FACILITIES AND CALIFORNIA BUILDING CODE CHAPTER FOR TACTILE WARNING SURFACES.
- FOR TACTILE WARNING SURFACES COMPOSED OF MULTIPLE UNITS, PROVIDE UNITS THAT WHEN INSTALLED PROVIDE CONSISTENT SIDE-TO-SIDE AND END-TO-END DOME SPACING THAT COMPLIES WITH REQUIREMENTS.

2.2 DETECTABLE WARNING TILES

- C. CAST-IN-PLACE DETECTABLE WARNING TILES: ACCESSIBLE TRUNCATED-DOME DETECTABLE WARNING TILES CONFIGURED FOR SETTING FLUSH IN NEW CONCRETE WALKWAY SURFACES, WITH SLIP-RESISTANT SURFACE TREATMENT ON DOMES AND FIELD OF TILE.
- MATERIAL: MOLDED GLASS- AND CARBON-FIBER-REINFORCED POLYESTER.
 - COLOR: FEDERAL YELLOW AS SELECTED BY ARCHITECT FROM MANUFACTURER'S FULL LINE.
 - SHAPES AND SIZES:
 - RECTANGULAR PANEL, 36 BY 48 INCHES (914 BY 1219 MM).
 - DOME SPACING AND CONFIGURATION: 2.3"-2.4" SQUARE.
 - MOUNTING:
 - PERMANENTLY EMBEDDED DETECTABLE WARNING TILE WET-SET INTO FRESHLY POURED CONCRETE.
 - DETECTABLE WARNING TILE SET INTO FORMED RECESS IN CONCRETE AND ADHERED WITH MORTAR.
 - REPLACEABLE DETECTABLE WARNING TILE WET-SET INTO FRESHLY POURED CONCRETE AND SURFACE-FASTENED TO PERMANENTLY EMBEDDED ANCHORS.
- D. SURFACE-APPLIED DETECTABLE WARNING TILES: ACCESSIBLE TRUNCATED-DOME DETECTABLE WARNING CONCRETE TILES CONFIGURED FOR SURFACE APPLICATION ON EXISTING CONCRETE WALKWAY SURFACES, WITH SLIP-RESISTANT SURFACE TREATMENT ON DOMES, FIELD OF TILE, AND BEVELED OUTSIDE EDGES.
- MATERIAL: MOLDED GLASS- AND CARBON-FIBER-REINFORCED POLYESTER.
 - COLOR: FEDERAL YELLOW AS SELECTED BY ARCHITECT FROM MANUFACTURER'S FULL LINE.
 - SHAPES AND SIZES:
 - RECTANGULAR PANEL, 36 BY 48 INCHES (914 BY 1219 MM).
 - DOME SPACING AND CONFIGURATION: 2.3"-2.4" SQUARE.
 - MOUNTING: ADHERED AND FASTENED TO EXISTING CONCRETE WALKWAY.

2.3 DETECTABLE WARNING MATS

- A. SURFACE-APPLIED DETECTABLE WARNING MATS: ACCESSIBLE TRUNCATED-DOME DETECTABLE WARNING RESILIENT MATS, UV RESISTANT, MANUFACTURED FOR ADHERING TO EXISTING CONCRETE WALKWAY SURFACES, WITH SLIP-RESISTANT SURFACE TREATMENT ON DOMES, FIELD OF MAT, AND BEVELED OUTSIDE EDGES.
- MATERIAL: MODIFIED RUBBER COMPOUND, UV RESISTANT.
 - COLOR: AS SELECTED BY ARCHITECT FROM MANUFACTURER'S FULL RANGE FEDERAL YELLOW.
 - SHAPES AND SIZES:
 - RECTANGULAR PANEL, 36" BY 48".
 - DOME SPACING AND CONFIGURATION: 2.3"-2.4" SQUARE.
 - MOUNTING: ADHERED TO PAVEMENT SURFACE WITH ADHESIVE.

2.4 DETECTABLE WARNING UNIT PAVERS

- A. DETECTABLE WARNING CONCRETE UNIT PAVERS: SOLID PAVING UNITS, MADE FROM NORMAL-WEIGHT CONCRETE WITH A COMPRESSIVE STRENGTH OF NOT LESS THAN 5000 PSI (34 MPa), WATER ABSORPTION OF NOT MORE THAN 5 PERCENT ACCORDING TO ASTM C 140, AND NO BREAKAGE AND NOT MORE THAN 1 PERCENT MASS LOSS WHEN TESTED FOR FREEZE-THAW RESISTANCE ACCORDING TO ASTM C 67, WITH ACCESSIBLE DETECTABLE WARNING TRUNCATED DOMES ON EXPOSED SURFACE OF UNITS.
- SHAPES AND SIZES:
 - THICKNESS: 2-1/2 INCHES (63 MM) AT FIELD OF TILE.
 - FACE SIZE: ACTUAL, 12 BY 12 INCHES ACTUAL (305 BY 305 MM).
 - DOME SPACING AND CONFIGURATION: 2.3"-2.4" SQUARE.
 - COLOR: AS SELECTED BY ARCHITECT FROM MANUFACTURER'S FULL RANGE - FEDERAL YELLOW.
- B. MORTAR SETTING BED:

- PORTLAND CEMENT: ASTM C 150/C 150M, TYPE II.
- SAND: ASTM C 33/C 33M.
- LATEX ADDITIVE: MANUFACTURER'S STANDARD WATER EMULSION, SERVING AS REPLACEMENT FOR PART OR ALL OF GAGING WATER, OF TYPE SPECIFICALLY RECOMMENDED BY LATEX-ADDITIVE MANUFACTURER FOR USE WITH FIELDS MIXED PORTLAND CEMENT AND AGGREGATE MORTAR BED, AND NOT CONTAINING A RETARDER.
- THINSET MORTAR: LATEX-MODIFIED PORTLAND CEMENT MORTAR COMPLYING WITH ANSI A118.4.
- WATER: POTABLE.

2.5 ACCESSORIES

- A. FASTENERS AND ANCHORS: MANUFACTURER'S STANDARD AS REQUIRED FOR SECURE ANCHORAGE OF TACTILE WARNING SURFACES, NONCORROSIVE AND COMPATIBLE WITH EACH MATERIAL JOINED, AND COMPLYING WITH THE FOLLOWING:
- FURNISH TYPE 304 STAINLESS-STEEL FASTENERS FOR EXTERIOR USE.
 - FASTENER HEADS: FOR NONSTRUCTURAL CONNECTIONS, USE FLATHEAD OR OVAL COUNTERSUNK SCREWS AND BOLTS WITH TAMPER-RESISTANT HEADS, COLORED TO MATCH TILE.
- B. ADHESIVE: AS RECOMMENDED BY MANUFACTURER FOR ADHERING TACTILE WARNING SURFACING UNIT TO PAVEMENT.
- C. SEALANT: AS RECOMMENDED BY MANUFACTURER FOR SEALING PERIMETER OF TACTILE WARNING SURFACING UNIT.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. VERIFY THAT PAVEMENT IS IN SUITABLE CONDITION TO BEGIN INSTALLATION ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS, VERIFY THAT INSTALLATION OF TACTILE WARNING SURFACING WILL COMPLY WITH ACCESSIBILITY REQUIREMENTS UPON COMPLETION.
- B. PROCEED WITH INSTALLATION ONLY AFTER UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED.

3.2 INSTALLATION OF TACTILE WARNING SURFACING

- A. GENERAL: PREPARE SUBSTRATE AND INSTALL TACTILE WARNING SURFACING ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS UNLESS OTHERWISE INDICATED.
- B. PLACE TACTILE WARNING SURFACING UNITS IN DIMENSIONS AND ORIENTATION INDICATED, COMPLY WITH LOCATION REQUIREMENTS OF ASHOTO MP 12.

3.3 INSTALLATION OF DETECTABLE WARNING TILES

- A. CAST-IN-PLACE DETECTABLE WARNING TILES:
- CONCRETE PAVING INSTALLATION: COMPLY WITH INSTALLATION REQUIREMENTS IN SECTION 321313 "CONCRETE PAVING"; MIX, PLACE, AND FINISH CONCRETE TO CONDITIONS COMPLYING WITH DETECTABLE WARNING TILE MANUFACTURER'S WRITTEN REQUIREMENTS FOR SATISFACTORY EMBEDMENT OF TILE.
 - SET EACH DETECTABLE WARNING TILE ACCURATELY AND FIRMLY IN PLACE AND COMPLETELY SEAT TILE BACK AND EMBEDMENTS IN WET CONCRETE BY TAMPING OR VIBRATING; IF NECESSARY, TEMPORARILY APPLY WEIGHT TO TILES TO ENSURE FULL CONTACT WITH CONCRETE.
 - SET SURFACE OF TILE FLUSH WITH SURROUNDING CONCRETE AND ADJACENT TILES, WITH VARIATIONS BETWEEN TILES AND BETWEEN CONCRETE AND TILES NOT EXCEEDING PLUS OR MINUS 1/8 INCH (3 MM) FROM FLUSH.
 - PROTECT EXPOSED SURFACES OF INSTALLED TILES FROM CONTACT WITH WET CONCRETE. COMPLETE FINISHING OF CONCRETE PAVING SURROUNDING TILES. REMOVE CONCRETE FROM TILE SURFACES.
 - CLEAN TILES USING METHODS RECOMMENDED IN WRITING BY MANUFACTURER.
- B. SURFACE-APPLIED DETECTABLE WARNING TILES:
- LAY OUT DETECTABLE WARNING TILES AS INDICATED AND MARK CONCRETE PAVEMENT.
 - PREPARE EXISTING PAVING SURFACE BY GRINDING AND CLEANING AS RECOMMENDED BY MANUFACTURER.
 - APPLY ADHESIVE TO BACK OF TILES IN AMOUNTS AND PATTERN RECOMMENDED BY MANUFACTURER, AND SET TILES IN PLACE, FIRMLY SEAT TILES IN ADHESIVE BED, ELIMINATING AIR POCKETS AND ESTABLISHING FULL ADHESION TO PAVEMENT; IF NECESSARY, TEMPORARILY APPLY WEIGHT TO TILES TO ENSURE FULL CONTACT WITH CONCRETE.
 - INSTALL ANCHOR DEVICES THROUGH FACE OF TILES AND INTO PAVEMENT USING ANCHORS LOCATED AS RECOMMENDED BY MANUFACTURER. SET HEADS OF ANCHORS FLUSH WITH TOP SURFACE OF MAT.
 - MASK PERIMETER OF TILES AND ADJACENT CONCRETE, AND APPLY SEALANT IN CONTINUOUS BEAD AROUND PERIMETER OF TILE INSTALLATION.
 - REMOVE MASKING, ADHESIVE, EXCESS SEALANT, AND SOIL FROM EXPOSED SURFACES OF DETECTABLE WARNING TILES AND SURROUNDING CONCRETE PAVEMENT USING CLEANING AGENTS RECOMMENDED IN WRITING BY MANUFACTURER.
 - PROTECT INSTALLED TILES FROM TRAFFIC UNTIL ADHESIVE HAS SET.

3.4 INSTALLATION OF DETECTABLE WARNING MATS

- A. LAY OUT DETECTABLE WARNING MATS AS INDICATED AND MARK CONCRETE PAVEMENT AT EDGES OF MATS.
- B. PREPARE EXISTING PAVING SURFACE BY GRINDING AND CLEANING AS RECOMMENDED BY MANUFACTURER.
- C. APPLY ADHESIVE TO BACK OF MAT IN AMOUNTS AND PATTERN RECOMMENDED BY MANUFACTURER, AND SET MAT IN PLACE, FIRMLY SEAT MAT IN ADHESIVE BED, ELIMINATING AIR POCKETS AND ESTABLISHING FULL ADHESION TO PAVEMENT. IF NECESSARY, TEMPORARILY APPLY WEIGHT TO MAT TO ENSURE FULL CONTACT WITH CONCRETE.
- D. INSTALL ANCHOR DEVICES THROUGH FACE OF MAT AND INTO PAVEMENT USING ANCHORS LOCATED AS RECOMMENDED BY MANUFACTURER. SET HEADS OF ANCHORS FLUSH WITH MAT SURFACE.
- E. MASK MAT PERIMETER AND ADJACENT CONCRETE, AND APPLY SEALANT IN CONTINUOUS BEAD AROUND PERIMETER OF MAT.
- F. REMOVE MASKING, ADHESIVE, EXCESS SEALANT, AND SOIL FROM EXPOSED SURFACES OF DETECTABLE WARNING MAT AND SURROUNDING CONCRETE PAVEMENT USING CLEANING AGENTS RECOMMENDED IN WRITING BY MANUFACTURER.
- G. PROTECT INSTALLED MAT FROM TRAFFIC UNTIL ADHESIVE HAS SET.

3.5 INSTALLATION OF DETECTABLE WARNING UNIT PAVERS

- A. UNIT PAVER INSTALLATION, GENERAL:
- SETTING-BED AND UNIT PAVER INSTALLATION: COMPLY WITH INSTALLATION REQUIREMENTS IN SECTION 321400 "UNIT PAVING MORTAR SET."
 - MIX UNIT PAVERS FROM SEVERAL PALLETS OR CUBES, AS THEY ARE PLACED, TO PRODUCE UNIFORM BLEND OF COLORS AND TEXTURES.
 - CUT UNIT PAVERS WITH MOTOR-DRIVEN MASONRY SAW EQUIPMENT TO PROVIDE PATTERN INDICATED AND TO FIT ADJOINING WORK NEATLY. USE FULL UNITS WITHOUT CUTTING WHERE POSSIBLE.
 - TOLERANCES: DO NOT EXCEED 1/4 INCH IN 10 FEET (6 MM IN 3 M) FROM LEVEL, OR INDICATED SLOPE, FOR FINISHED SURFACE OF PAVING.
- B. MORTAR SETTING-BED APPLICATIONS:
- SATURATE CONCRETE SUBBASE WITH CLEAN WATER SEVERAL HOURS BEFORE PLACING SETTING BED. REMOVE SURFACE WATER ABOUT ONE HOUR BEFORE PLACING SETTING BED.
 - APPLY MORTAR-BED BOND COAT OVER SURFACE OF CONCRETE SUBBASE ABOUT 15 MINUTES BEFORE PLACING MORTAR BED. LIMIT AREA OF BOND COAT TO AVOID ITS DRYING OUT BEFORE PLACING SETTING BED. DO NOT EXCEED 1/16-INCH (1.6-MM) THICKNESS FOR BOND COAT.
 - APPLY MORTAR-BED OVER BOND COAT; SPREAD AND SCREED MORTAR BED TO UNIFORM THICKNESS AT SUBGRADE ELEVATIONS REQUIRED FOR ACCURATE SETTING OF PAVERS TO FINISHED GRADES INDICATED.
 - MIX AND PLACE ONLY THAT AMOUNT OF MORTAR BED THAT CAN BE COVERED WITH PAVERS BEFORE INITIAL SET. BEFORE PLACING PAVERS, CUT BACK, BEVEL EDGE, AND REMOVE AND DISCARD SETTING-BED MATERIAL THAT HAS REACHED INITIAL SET.
 - PLACE PAVERS BEFORE INITIAL SET OF CEMENT OCCURS, IMMEDIATELY BEFORE PLACING PAVERS ON MORTAR BED. APPLY UNIFORM 1/16-INCH- (1.5-MM) THICK BOND COAT TO MORTAR BED OR TO BACK OF EACH PAVER WITH A FLAT TROWEL.
 - TAMP OR BEAT PAVERS WITH A WOODEN BLOCK OR RUBBER Mallet TO OBTAIN FULL CONTACT WITH SETTING BED AND TO BRING FINISHED SURFACES WITHIN INDICATED TOLERANCES. SET EACH PAVER IN A SINGLE OPERATION BEFORE INITIAL SET OF MORTAR; DO NOT RETURN TO AREAS ALREADY SET OR DISTURB PAVERS FOR PURPOSES OF REALIGNING FINISHED SURFACES OR ADJUSTING JOINTS.
 - SPACED JOINT WIDTHS: PROVIDE JOINT WIDTH WITH VARIATIONS NOT EXCEEDING PLUS OR MINUS 1/16 INCH (1.5 MM).

3.6 CLEANING AND PROTECTION

- A. REMOVE AND REPLACE TACTILE WARNING SURFACING THAT IS BROKEN OR DAMAGED OR DOES NOT COMPLY WITH REQUIREMENTS IN THIS SECTION. REMOVE IN COMPLETE SECTIONS FROM JOINT TO JOINT UNLESS OTHERWISE APPROVED BY ARCHITECT. REPLACE USING TACTILE WARNING SURFACING INSTALLATION METHODS ACCEPTABLE TO ARCHITECT.
- B. PROTECT TACTILE WARNING SURFACING FROM DAMAGE AND MAINTAIN FREE OF STAINS, DISCOLORATION, DIRT, AND OTHER FOREIGN MATERIAL.

END OF SECTION 321726

SECTION 329113 - SOIL PREPARATION

PART 1 - GENERAL

1. SUMMARY

- A. SECTION INCLUDES PLANTING SOILS SPECIFIED BY COMPOSITION OF THE MIXES.

B. RELATED REQUIREMENTS:

- SECTION 311000 SITE CLEARING FOR TOPSOIL STRIPPING AND STOCKPILING.

1.2 DEFINITIONS

- A. DUFF LAYER: A SURFACE LAYER OF SOIL, TYPICAL OF FORESTED AREAS, THAT IS COMPOSED OF MOSTLY DECAYED LEAVES, TWIGGS, AND DETRITUS.
- B. IMPORTED SOIL: SOIL THAT IS TRANSPORTED TO PROJECT SITE FOR USE.
- C. MANUFACTURED SOIL: SOIL PRODUCED BY BLENDING SOILS, SAND, STABILIZED ORGANIC SOIL AMENDMENTS, AND OTHER MATERIALS TO PRODUCE PLANTING SOIL.
- D. PLANTING SOIL: EXISTING, ON-SITE SOIL; IMPORTED SOIL; OR MANUFACTURED SOIL THAT HAS BEEN MODIFIED AS SPECIFIED WITH SOIL AMENDMENTS AND PERHAPS FERTILIZERS TO PRODUCE A SOIL MIXTURE BEST FOR PLANT GROWTH.
- E. SUBGRADE: SURFACE OR ELEVATION OF SUBSOIL REMAINING AFTER EXCAVATION IS COMPLETE, OR THE TOP SURFACE OF A FILL OR BACKFILL BEFORE PLANTING SOIL IS PLACED.
- F. SUBSOIL: SOIL BENEATH THE LEVEL OF SUBGRADE; SOIL BENEATH THE TOPSOIL LAYERS OF A NATURALLY OCCURRING SOIL PROFILE, TYPIFIED BY LESS THAN 1 PERCENT ORGANIC MATTER AND FEW SOIL ORGANISMS.
- G. SURFACE SOIL: SOIL THAT IS PRESENT AT THE TOP LAYER OF THE EXISTING SOIL PROFILE. IN UNDISTURBED AREAS, SURFACE SOIL IS TYPICALLY CALLED "TOPSOIL"; BUT IN DISTURBED AREAS SUCH AS URBAN ENVIRONMENTS, THE SURFACE SOIL CAN BE SUBSOIL.
- H. USCC: U.S. COMPOSTING COUNCIL.

1.3 PREINSTALLATION MEETINGS

- A. PREINSTALLATION CONFERENCE: CONDUCT CONFERENCE AT PROJECT SITE.

1.4 ACTION SUBMITTALS

- A. PRODUCT DATA: FOR EACH TYPE OF PRODUCT.

B. LEED SUBMITTALS:

- PRODUCT CERTIFICATES FOR CREDIT MR 5: FOR PRODUCTS AND MATERIALS REQUIRED TO COMPLY WITH REQUIREMENTS FOR REGIONAL MATERIALS, CERTIFICATES INDICATING LOCATION OF MATERIAL, MANUFACTURER AND POINT OF EXTRACTION, HARVEST, OR RECOVERY FOR EACH RAW MATERIAL. INCLUDE STATEMENT INDICATING DISTANCE TO PROJECT, COST FOR EACH REGIONAL MATERIAL, AND FRACTION BY WEIGHT THAT IS CONSIDERED REGIONAL.
- SAMPLES: FOR EACH BULK-SUPPLIED MATERIAL IN SEALED CONTAINERS LABELED WITH CONTENT, SOURCE, AND DATE OBTAINED; PROVIDING AN ACCURATE REPRESENTATION OF COMPOSITION, COLOR, AND TEXTURE.

1.5 INFORMATIONAL SUBMITTALS

- A. FIELD QUALITY-CONTROL REPORTS.

1.6 QUALITY ASSURANCE

- A. TESTING AGENCY QUALIFICATIONS: AN INDEPENDENT, STATE-OPERATED, OR UNIVERSITY-OPERATED LABORATORY, EXPERIENCED IN SOIL SCIENCE, SOIL TESTING, AND PLANT NUTRITION, WITH THE EXPERIENCE AND CAPABILITY TO CONDUCT THE TESTING INDICATED, AND THAT SPECIALIZES IN TYPES OF TESTS TO BE PERFORMED.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. REGIONAL MATERIALS: IMPORTED SOIL, MANUFACTURED PLANTING SOIL, AND SOIL AMENDMENTS AND FERTILIZERS SHALL BE MANUFACTURED WITHIN 500 MILES OF PROJECT SITE FROM MATERIALS THAT HAVE BEEN EXTRACTED, HARVESTED, OR RECOVERED, AS WELL AS MANUFACTURED, WITHIN 500 MILES OF PROJECT SITE.

2.2 PLANTING SOILS SPECIFIED BY COMPOSITION

- A. PLANTING SOIL TYPE: EXISTING, ON-SITE SURFACE SOIL, WITH THE DUFF LAYER, IF ANY, RETAINED; MODIFIED TO PRODUCE Viable PLANTING SOIL. BLEND EXISTING, ON-SITE SURFACE SOIL, WITH THE FOLLOWING SOIL AMENDMENTS AND FERTILIZERS IN THE FOLLOWING QUANTITIES TO PRODUCE PLANTING SOIL.
- B. PLANTING-SOIL TYPE: IMPORTED, NATURALLY FORMED SOIL FROM OFF-SITE SOURCES AND CONSISTING OF SANDY LOAM SOIL ACCORDING TO USDA TEXTURES, AND MODIFIED TO PRODUCE Viable PLANTING SOIL.
- SOURCES: TAKE IMPORTED, UNAMENDED SOIL FROM SOURCES THAT ARE NATURALLY WELL-DRAINED SITES WHERE TOPSOIL OCCURS AT LEAST 4 INCHES DEEP, NOT FROM AGRICULTURAL LAND, BODIES OF WATER, OR MARSHES; AND THAT DO NOT CONTAIN UNDESIRABLE ORGANISMS, DISEASE-CAUSING PLANT PATHOGENS, OR OBNOXIOUS WEEDS AND INVASIVE PLANTS INCLUDING, BUT NOT LIMITED TO, QUACKGRASS, BERBERIS GRASS, POISON OAK, NUTSEED, CANADA THISTLE, BINDWEED, BENTGRASS, GROUND IVY, PERENNIAL, SCORREL, AND BROODGRASS.
 - ADDITIONAL PROPERTIES OF IMPORTED SOIL, BEFORE AMENDING: SOIL REACTION OF PH 6 TO 7 AND MINIMUM OF 4 PERCENT ORGANIC-MATTER CONTENT, FRIABLE, AND WITH SUFFICIENT STRUCTURE TO GIVE GOOD TILTH AND AERATION.
 - UNACCEPTABLE PROPERTIES: CLEAN SOIL OF THE FOLLOWING:
 - UNACCEPTABLE MATERIALS: CONCRETE SLURRY, CONCRETE LAYERS OR CHUNKS, CEMENT, PLASTER, BUILDING DEBRIS, OILS, GASOLINE, DIESEL FUEL, PAINT THINNER, TURPENTINE, TAR, ROOFING COMPOUND, ACID, AND OTHER EXTRANEEOUS MATERIALS THAT ARE HARMFUL TO PLANT GROWTH.
 - UNUSABLE MATERIALS: STONES, ROOTS, PLANTS, SOD, CLAY LUMPS, AND POCKETS OF COARSE SAND THAT EXCEED A COMBINED MAXIMUM OF 8 PERCENT BY DRY WEIGHT OF THE IMPORTED SOIL.
 - LARGE MATERIALS: STONES, CLODS, ROOTS, CLAY LUMPS, AND POCKETS OF COARSE SAND EXCEEDING 2 INCHES IN ANY DIMENSION.
 - AMENDED SOIL COMPOSITION: BLEND IMPORTED, UNAMENDED SOIL WITH THE SOIL AMENDMENTS AND FERTILIZERS IN THE QUANTITIES AS RECOMMENDED IN THE SOILS REPORT TO PRODUCE PLANTING SOIL.
- C. PLANTING-SOIL TYPE: MANUFACTURED SOIL, CONSISTING OF MANUFACTURER'S BASIC TOPSOIL BLENDED IN A MANUFACTURING FACILITY WITH SAND, STABILIZED ORGANIC SOIL AMENDMENTS, AND OTHER MATERIALS TO PRODUCE Viable PLANTING SOIL.
- ADDITIONAL PROPERTIES OF MANUFACTURER'S BASIC SOIL BEFORE AMENDING: SOIL REACTION OF PH 6 TO 7 AND MINIMUM OF 4 PERCENT ORGANIC-MATTER CONTENT, FRIABLE, AND WITH SUFFICIENT STRUCTURE TO GIVE GOOD TILTH AND AERATION.
 - UNACCEPTABLE PROPERTIES: MANUFACTURED SOIL SHALL NOT CONTAIN THE FOLLOWING:
 - UNACCEPTABLE MATERIALS: CONCRETE SLURRY, CONCRETE LAYERS OR CHUNKS, CEMENT, PLASTER, BUILDING DEBRIS, OILS, GASOLINE, DIESEL FUEL, PAINT THINNER, TURPENTINE, TAR, ROOFING COMPOUND, ACID, AND OTHER EXTRANEEOUS MATERIALS THAT ARE HARMFUL TO PLANT GROWTH.
 - UNUSABLE MATERIALS: STONES, ROOTS, PLANTS, SOD, CLAY LUMPS, AND POCKETS OF COARSE SAND THAT EXCEED A COMBINED MAXIMUM OF 5 PERCENT BY DRY WEIGHT OF THE MANUFACTURED SOIL.
 - LARGE MATERIALS: STONES, CLODS, ROOTS, CLAY LUMPS, AND POCKETS OF COARSE SAND EXCEEDING 2 INCHES IN ANY DIMENSION.
 - BLEND MANUFACTURER'S BASIC SOIL WITH SOIL AMENDMENTS AND FERTILIZERS IN THE QUANTITIES AS RECOMMENDED BY THE SOILS REPORT TO PRODUCE PLANTING SOIL.

2.3 INORGANIC SOIL AMENDMENTS

- A. LIME: ASTM C 602, AGRICULTURAL LIMING MATERIAL CONTAINING A MINIMUM OF 80 PERCENT CALCIUM CARBONATE EQUIVALENT AND AS FOLLOWS:
- CLASS: T, WITH A MINIMUM OF 99 PERCENT PASSING THROUGH A NO. 8 SIEVE AND A MINIMUM OF 75 PERCENT PASSING THROUGH A NO. 60 SIEVE.
 - CLASS: O, WITH A MINIMUM OF 95 PERCENT PASSING THROUGH A NO. 8 SIEVE AND A MINIMUM OF 55 PERCENT PASSING THROUGH A NO. 60 SIEVE.
 - FORM: PROVIDE LIME IN FORM OF GROUND MOLLUSK SHELLS.
- B. SULFUR: GRANULAR, BIODEGRADABLE, AND CONTAINING A MINIMUM OF 99 PERCENT ELEMENTAL SULFUR, WITH A MINIMUM OF 99 PERCENT PASSING THROUGH A NO. 6 SIEVE AND A MAXIMUM OF 10 PERCENT PASSING THROUGH A NO. 40 SIEVE.
- C. IRON SULFATE: GRANULATED FERROUS SULFATE CONTAINING A MINIMUM OF 20 PERCENT IRON AND 10 PERCENT SULFUR.

- D. PERLITE: HORTICULTURAL PERLITE, SOIL AMENDMENT GRADE.
- E. AGRICULTURAL GYPSUM: MINIMUM 98 PERCENT CALCIUM SULFATE, FINELY GROUND WITH 90 PERCENT PASSING THROUGH A NO. 50 SIEVE.
- F. SAND: CLEAN, WASHED, NATURAL OR MANUFACTURED, FREE OF TOXIC MATERIALS, AND ACCORDING TO ASTM C 33/C 33M.

2.4 ORGANIC SOIL AMENDMENTS

- A. COMPOST: WELL-COMPOSTED, STABLE, AND WEED-FREE ORGANIC MATTER PRODUCED BY COMPOSTING FEEDSTOCK, AND BEARING USCC'S "SEAL OF TESTING ASSURANCE," AND AS FOLLOWS:
- FEEDSTOCK: LIMITED TO LEAVES.
 - REACTION: PH OF 6.0 TO 7.5.
 - SALINITY: ENSURE THAT SATURATION EXTRACT CONDUCTIVITY DOES NOT EXCEED 3.5 MILLIMOHS PER CENTIMETER AT 25 DEGREES C. AS DETERMINED BY SATURATION EXTRACT METHOD.
 - MOISTURE CONTENT: 35 TO 55 PERCENT BY WEIGHT.
 - ORGANIC-MATTER CONTENT: 30 TO 40 PERCENT OF DRY WEIGHT.
 - PARTICLE SIZE: 95 TO 100 PERCENT PASSING THROUGH A 6.33 MM STANDARD SIEVE; 80 TO 100 PERCENT PASSING THROUGH A 2.33 MM SIEVE.
 - IRON CONTENT: MINIMUM 0.08 PERCENT DILUTE ACID SOLUBLE FE ON DRY WEIGHT BASIS.
 - ASH: 0 TO 6 PERCENT DRY WEIGHT.
- B. SPHAGNUM PEAT: PARTIALLY DECOMPOSED SPHAGNUM PEAT MOSS, FINELY DIVIDED OR OF GRANULAR TEXTURE WITH 100 PERCENT PASSING THROUGH A 12-INCH SIEVE; A PH OF 3.4 TO 4.8, AND A SOLUBLE-SALT CONTENT MEASURED BY ELECTRICAL CONDUCTIVITY OF DSM.
- C. WOOD DERIVATIVES: SHREDDED AND COMPOSTED, NITROGEN-TREATED SAWDUST, GROUND BARK, OR WOOD WASTE; OF UNIFORM TEXTURE AND FREE OF CHIPS, STONES, STICKS, SOIL, OR TOXIC MATERIALS.
- D. MANURE: WELL-ROTTED, UNLEACHED, STABLE OR CATTLE MANURE CONTAINING NOT MORE THAN 25 PERCENT BY VOLUME OF STRAW, SAWDUST, OR OTHER BEDDING MATERIALS; FREE OF TOXIC SUBSTANCES, STONES, STICKS, SOIL, WEED SEED, DEBRIS, AND MATERIAL HARMFUL TO PLANT GROWTH.

2.5 FERTILIZER

- A. PLANTING FERTILIZER: PELLETTED OR GRANULAR FORM CONSISTING OF THE FOLLOWING PERCENTS BY WEIGHT AND MIXED BY COMMERCIAL FERTILIZER SUPPLIER: 6-NITROGEN, 20-PHOSPHORIC ACID, 20-POTASH.
- B. PLANTING TABLETS: PROVIDE SLOW-RELEASE TYPE WITH POTENTIAL ACIDITY OF NOT MORE THAN 5 PERCENT BY WEIGHT CONTAINING THE FOLLOWING PERCENTS BY WEIGHT OF NUTRIENTS LISTED: 20-NITROGEN, 10-PHOSPHORIC ACID, 5-POTASH, 2-6 COMBINED CALCIUM, 1-60 COMBINED SULPHUR, 0.35-IRON ELEMENTAL FROM FERROUS SULFATE. PROVIDE IN 21 GRAM TABLETS/MANUFACTURED BY AGRIFORM OR OTHER APPROVED.
- C. HYDROSEEDING FERTILIZER: PROVIDE AMMONIUM PHOSPHATE WHICH CONSISTS OF THE FOLLOWING PERCENT BY WEIGHT AND MIXED BY A COMMERCIAL FERTILIZER SUPPLIER: 16-NITROGEN, 20-PHOSPHORIC ACID, 0-POTASH.
- D. SULFATE OF POTASH: 0-0-50.
- E. SINGLE SUPER-PHOSPHATE: COMMERCIAL PRODUCT CONTAINING 18 TO 20 PERCENT AVAILABLE PHOSPHORIC PENTOXIDE, OR OTHER APPROVED.
- F. UREA FORMALDEHYDE: 38-0-0.

PART 3 - EXECUTION

3.1 GENERAL

- A. PLACE PLANTING SOIL AND FERTILIZERS ACCORDING TO REQUIREMENTS OF THE AGRONOMIC SOILS REPORT RECOMMENDATIONS.
- B. VERIFY THAT NO FOREIGN OR DELETERIOUS MATERIAL OR LIQUID SUCH AS PAINT, PAINT WASHOUT, CONCRETE SLURRY, CONCRETE LAYERS OR CHUNKS, CEMENT, PLASTER, OILS, GASOLINE, DIESEL FUEL, PAINT THINNER, TURPENTINE, TAR, ROOFING COMPOUND, OR ACID HAS BEEN DEPOSITED IN PLANTING SOIL.
- 3.2 BLENDING PLANTING SOIL IN PLACE
- A. GENERAL: MIX AMENDMENTS WITH IN-PLACE, UNAMENDED SOIL TO PRODUCE REQUIRED PLANTING SOIL. DO NOT APPLY MATERIALS OR TILL IF EXISTING SOIL OR SUBGRADE IS FROZEN, MUDDY, OR EXCESSIVELY WET.
- B. PREPARATION: TILL UNAMENDED, EXISTING SOIL, IN PLANTING AREAS TO A MINIMUM DEPTH OF 12 INCHES. REMOVE STONES LARGER THAN 1 INCH IN ANY DIMENSION AND STICKS, ROOTS, RUBBISH, AND OTHER EXTRANEEOUS MATTER AND LEGALLY DISPOSE OF THEM OFF OWNER'S PROPERTY.
- C. MIXING: APPLY SOIL AMENDMENTS AND FERTILIZER, IF REQUIRED, EVENLY ON SURFACE, AND THOROUGHLY BLEND THEM INTO FULL DEPTH OF UNAMENDED, IN-PLACE SOIL TO PRODUCE PLANTING SOIL.
- MIX SULFUR WITH DRY SOIL, BEFORE MIXING FERTILIZER.
 - MIX FERTILIZER WITH PLANTING SOIL, NO MORE THAN SEVEN DAYS BEFORE PLANTING.
- D. COMPACTION: COMPACT BLENDED PLANTING SOIL TO 75 TO 82 PERCENT OF MAXIMUM STANDARD PROCTOR DENSITY ACCORDING TO ASTM D 698.
- E. FINISH GRADING: GRADE PLANTING SOIL TO A SMOOTH, UNIFORM SURFACE PLANE WITH LOOSE, UNFORMALLY FINE TEXTURE. ROLL AND RAKE, REMOVE RIDGES, AND FILL DEPRESSIONS TO MEET FINISH GRADES.

3.3 PROTECTION AND CLEANING

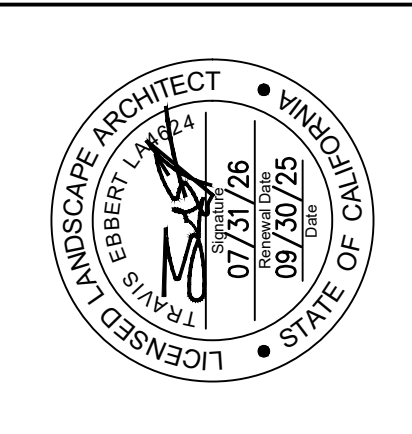
- A. PROTECTION ZONE: IDENTIFY PROTECTION ZONES ACCORDING TO SECTION 015639 "TEMPORARY TREE AND PLANT PROTECTION."
- B. PROTECT AREAS OF IN-PLACE SOIL FROM ADDITIONAL COMPACTION, DISTURBANCE, AND CONTAMINATION: PROHIBIT THE FOLLOWING PRACTICES WITHIN THESE AREAS EXCEPT AS REQUIRED TO PERFORM PLANTING OPERATIONS:
- STORAGE OF CONSTRUCTION MATERIALS, DEBRIS, OR EXCAVATED MATERIAL.
 - PARKING VEHICLES OR EQUIPMENT.
 - VEHICLE TRAFFIC.
 - FOOT TRAFFIC.
 - ERECTION OF SHEDS OR STRUCTURES.
 - IMPOUNDMENT OF WATER.
 - EXCAVATION OR OTHER DIGGING UNLESS OTHERWISE INDICATED.
- C. REMOVE SURPLUS SOIL AND WASTE MATERIAL INCLUDING EXCESS SUBSOIL, UNSUITABLE MATERIALS, TRASH, AND DEBRIS AND LEGALLY DISPOSE OF THEM OFF OWNER'S PROPERTY UNLESS OTHERWISE INDICATED.
- DISPOSE OF EXCESS SUBSOIL AND UNSUITABLE MATERIALS ON-SITE WHERE DIRECTED BY OWNER.

END OF SECTION 329113

WARE MALCOMB

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PROJECT DATA	
DATE	REMARKS
06/10/2025	CITY RESUBMISSION 01
08/04/2025	CITY RESUBMISSION 02
08/12/2025	IFC SET
A	
B	

PA/PM:	AN
DRAWN BY.:	MCJ / AN
JOB NO.:	SDG24-0061-00

B. ROOF DECK SOIL MIX

1. ON-STRUCTURE PLANTER SOIL (MIX "A") - (BOTTOM OF PLANTER TO 8-INCHES BELOW FINISH GRADE) - PER CUBIC YARD OF MIX.
- a. 80% OVER-STRUCTURE PLANTER SAND (OPTIONAL - 100% SAND IF WEIGHT IS NOT A CONSIDERATION).
- b. 20% PUMICE (OPTIONAL NO PUMICE).
- c. 2 LBS. NITROFORM (38-0-0, 27% WIN).
- d. 2 LBS. 12-12-12 GENERAL PLANTING FERTILIZER.
- e. 1 LB. IRON SULFATE.
- f. 2 LBS. DOLOMITE LIME.
- g. 2 LBS. CALCIUM CARBONATE LESTONE.
- h. THOROUGHLY BLEND MIX BEFORE PLACING SOIL IN 12" LIGHTLY COMPACTED LIFTS.
2. ON-STRUCTURE PLANTER SOIL (MIX "B") - (8-INCH LAYER - PLACE ON TOP OF ON-STRUCTURE PLANTER SOIL (MIX "A") UP TO FINISH GRADE) - PER CUBIC YARD OF MIX.
- a. 70% OVER-STRUCTURE PLANTER SAND.
- b. 30% ORGANIC AMENDMENT.
- c. 2 LBS. NITROFORM (38-0-0, 27% WIN).
- d. 1 LB. IRON SULFATE.
- e. 2 LBS. DOLOMITE LIME.
- f. 2 LBS. CALCIUM CARBONATE LESTONE.
- g. THOROUGHLY BLEND MIX BEFORE PLACING SOIL IN ONE LIGHTLY COMPACTED LIFT.
3. OVER-STRUCTURE PLANTER-SAND:
- a. WASHED NURSERY SAND WHICH MEETS FOLLOWING U.S. STANDARD SIEVE CRITERIA:

SIEVE NO. (U.S. STANDARD)	WEIGHT PERCENT PASSING
10	100
18	100
35	92
60	16
100	2.1
140	1.3
270	0.1

2.4 MULCHES

- B. ORGANIC MULCH: PROVIDE MEDIUM GRIND BARK, CONSISTING OF ORGANIC, FIBROUS, WOODY BARK MIXTURE OF VARIOUS PARTICLE SIZE SUCH THAT 90 TO 100 PERCENT PASSES 1 INCH SIEVE, 80 TO 100 PERCENT PASSES 1/2 INCH SIEVE, AND 20 TO 50 PERCENT PASSES 1/4 INCH SIEVE, OR APPROVED EQUAL. MULCH SHALL BE FREE OF CONTAMINANTS AND WEED SEED AND SHALL HAVE A PLEASANT MUSTY OR MILDLY SOIL-LIKE ODOR. PUTRID, AMMONIA AND SOUR-SMELLING MATERIALS WILL BE DEEMED UNACCEPTABLE. RECYCLED CONSTRUCTION MATERIALS NOT BE PERMITTED.

2.5 HYDROSEEDING FIBER MULCH

- A. PROVIDE HYDRO-MULCH AS MANUFACTURED BY CONWED, OR OTHER APPROVED EQUAL, COMPOSED OF WOOD CELLULOSE FIBER AND CONTAINING NO GERMINATION OR GROWTH INHIBITING FACTORS. ENSURE A CONSISTENT TEXTURE WHICH DISPERSES EVENLY AND REMAINS SUSPENDED IN AGITATED WATER. PROVIDE WITH A TEMPORARY GREEN DYE AND THE FOLLOWING PERCENTAGE PROPERTY ANALYSIS: MOISTURE CONTENT 2 PLUS OR MINUS 0.8; 3 D.D. BASIS. ORGANIC MATERIAL 99.2 PLUS OR MINUS 0.8; ASH CONTENT 0.8 PLUS OR MINUS 0.2; PH 4.8 PLUS OR MINUS 0.5; WATER HOLDING CAPACITY (GRAMS OF H2O PER 100 GRAMS OF FIBER) 1150 MINIMUM.

2.6 HYDROSEEDING ADDITIVE (BINDER)

- A. PROVIDE ECOLOGY CONTROL-M-BINDER ORGANIC SEEDING ADDITIVE.

2.7 GUYING AND STAKING MATERIALS

- A. WOOD TREE STAKES: LODGE POLE PINE, FULL TREATED WITH COPPERNAPHTHANATE WOOD PRESERVATIVE IN STRICT ACCORDANCE WITH FS TT-W-572 TYPE I, COMPOSITION B, 2-INCH MINIMAL NORMAL SIZE DIAMETER BY 10 FEET LONG, MINIMUM, WITH NO SPLIT STAKES.
- B. TIES: PROVIDE CINCH TIES, SIZE CORRESPONDING TO TREE BOX SIZE AS MANUFACTURED BY VIT COMPANY OR OTHER APPROVED.

2.8 LANDSCAPE EDGINGS

- A. WOOD EDGING:
1. PROVIDE 2-INCH BY 4-INCH PRESSURE TREATED DOUGLAS FIR OR REDWOOD CONSTRUCTION GRADE HEADERBOARDS. MAKE SPICES WITH 1-INCH BY 3-INCH BY 18-INCH STAKES AT INTERVALS OF NOT MORE THAN 5 FEET. CUT STAKES LEVEL AND SET BELOW TOP OF HEADERBOARDS.
2. ON SHARP TURNS AND CURVES, FOUR 1/2 INCH BY 4-INCH LAMINATED BOARDS, OR TWO 1-INCH BY 4-INCH LAMINATED BOARDS MAY BE PERMITTED.
3. NAIL STAKES AND SPICES WITH GALVANIZED COMMON NAILS. NAIL AS REQUIRED FOR SOLID INSTALLATION.
4. PROVIDE HEADER AS SHOWN ON DRAWINGS, LAID TRUE TO LINE AND GRADE. PROTECT IN-PLACE ADJACENT IMPROVEMENTS, SHRUBBERY AND OTHER PROPERTIES. PLACE STAKES ON GROUND COVER SIDE OF HEADER.
- B. STEEL EDGING: STANDARD COMMERCIAL-STEEL EDGING, ROLLED EDGE, FABRICATED IN SECTIONS OF STANDARD LENGTHS, WITH LOOPS STAMPED FROM OR WELDED TO FACE OF SECTIONS TO RECEIVE STAKES.
- C. ALUMINUM EDGINGS: STANDARD-PROFILE EXTRUDED-ALUMINUM EDGING, ASTM821, ALLOY 6063-T6, FABRICATED IN STANDARD LENGTHS WITH INTERLOCKING SECTIONS WITH LOOPS STAMPED FROM FACE OF SECTIONS TO RECEIVE STAKES.
- D. PLASTIC EDGING: STANDARD BLACK POLYETHYLENE OR VINYL EDGING, HORIZONTALLY GROOVED, EXTRUDED IN STANDARD LENGTHS, WITH 9-INCH STEEL STAKES.
- E. CONCRETE MOWSTRIP: 6-INCH WIDE BY 6-INCH THICK CONCRETE MOWSTRIP WITH 1/2 INCH TOOLED EDGING AND #3 CONTINUOUS REBAR.

2.9 MISCELLANEOUS PRODUCTS

- A. SAND: PROVIDE WASHED SILICA SAND.
- B. WATER: PROVIDE CLEAN, POTABLE WATER.
- C. ROOT BARRIER: PROVIDE UB24-2 BY DEEP ROOT CORPORATION, (800) 458-7668. INSTALL AT ALL TREES WITHIN 5 FEET OF CONCRETE PAVING, CURBS OR MOW STRIPS OR AS SHOWN ON PLANS. INSTALL BARRIER WITH VERTICAL RIBS FACING FORWARD THE TREE AND WITH THE TOP EDGE 1/2 INCH ABOVE FINISH GRADE. LENGTH OF ROOT BARRIER SHALL EXTEND 10' MINIMUM IN EACH DIRECTION FROM CENTER OF TREE TRUNK. PROVIDE LINEAR ROOT BARRIER ADJACENT TO PAVING OR CURBING; ROOT BARRIER SHALL NOT CIRCLE THE ROOTBALL.
- D. TREE TRUNK PROTECTOR: PROVIDE ARBORGARD MODEL AG 9-4 BY DEEP ROOT CORPORATION, (800) 458-7668.
- E. EROSION CONTROL FABRIC: PROVIDE ROLLMAX SC-150 ROLLED EROSION CONTROL FABRIC BY NORTH AMERICAN GREEN, (800) 772-2040.

2.10 QUALITY CONTROL

- A. PROVIDE STANDARD, APPROVED AND FIRST-GRADE QUALITY MATERIALS, IN PRIME CONDITION WHEN INSTALLED AND ACCEPTED. DELIVER COMMERCIALY PROCESSED AND PACKAGED MATERIALS IN MANUFACTURER'S UNOPENED CONTAINERS BEARING THE MANUFACTURER'S GUARANTEED ANALYSIS. SUPPLY A SAMPLE OF ALL APPLIED MATERIALS ACCOMPANIED BY ANALYTICAL DATA FROM AN APPROVED LABORATORY SOURCE ILLUSTRATING COMPLIANCE, OR BEARING THE MANUFACTURER'S GUARANTEED ANALYSIS.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. OBTAIN CERTIFICATION THAT FINAL GRADES TO 1/10 FOOT HAVE BEEN ESTABLISHED PRIOR TO COMMENCING LANDSCAPING OPERATIONS. PROVIDE FOR INCLUSION OF ALL AMENDMENTS, SETTLING, ETC. BE RESPONSIBLE FOR SHAPING ALL PLANTING AREAS AS INDICATED ON DRAWINGS OR AS REQUIRED.
- B. INSPECT TREES, SHRUBS AND LINER STOCK PLANT MATERIAL FOR INJURY, INSECT INFESTATION AND TREES AND SHRUBS FOR IMPROPER PRUNING.
- C. DO NOT BEGIN PLANTING OF TREES UNTIL DEFICIENCIES ARE CORRECTED OR PLANTS REPLACED.

3.2 PLANTING AREA ESTABLISHMENT

- A. SOIL PREPARATION: AFTER PROPER FINISH GRADES HAVE BEEN VERIFIED OR ESTABLISHED, CROSS-RIP ALL PLANTING AREAS TO A DEPTH OF 12 INCHES. CONDITION AND FERTILIZE SOIL IN ACCORDANCE WITH RECOMMENDATIONS OF SOIL TESTING LABORATORY.
- B. AT TIME OF PLANTING, ENSURE THAT TOP 2 INCHES OF ALL AREAS TO BE PLANTED OR SEEDED ARE FREE OF STONES, STUMPS AND OTHER DELETERIOUS MATTER 1 INCH IN DIAMETER OR LARGER, AND FREE FROM WIRE, PLASTER, CONCRETE, WOOD AND SIMILAR MATERIALS WHICH WOULD CAUSE HINDRANCE TO PLANTING OR MAINTENANCE.

- C. FINISH GRADING: MAKE MINOR MODIFICATIONS TO GRADE AS MAY BE NECESSARY TO ESTABLISH REQUIRED FINAL GRADE. ENSURE THAT FINISH GRADE PROVIDES PROPER DRAINAGE OF THE SITE AND SURFACE DRAINAGE IS AWAY FROM BUILDING. FINAL GRADES ARE TO BE 1-INCH BELOW ADJACENT PAVED AREAS, SIDEWALKS, VALVE BOXES, HEADERS, CLEAN-OUTS, DRAINS, MANHOLES, ETC., OR AS SHOWN ON DRAWINGS OR REQUIRED BY CITY. ELIMINATE EROSION SCARS PRIOR TO COMMENCING MAINTENANCE PERIOD.

D. PRE-PLANT WEED CONTROL:

1. AFTER IRRIGATION SYSTEM IS OPERATIONAL, USE A NON-SELECTIVE SYSTEMIC CONTACT HERBICIDE AS RECOMMENDED AND APPLIED BY AN APPROVED LICENSED LANDSCAPE PEST CONTROL ADVISOR AND APPLICATOR. LEAVE SPRAYED PLANTS INTACT FOR AT LEAST 15 DAYS.
2. CLEAR AND REMOVE THESE EXISTING WEEDS BY MOWING OR GRUBBING OFF ALL PLANT PARTS AT LEAST 2 INCHES BELOW SURFACE OF SOIL OVER ENTIRE AREAS TO BE PLANTED.
3. AFTER IRRIGATION SYSTEM IS OPERATIONAL, APPLY WATER FOR 10 DAYS AS NEEDED TO ACHIEVE WEED GERMINATION. APPLY CONTACT HERBICIDES AND WAIT AS NEEDED BEFORE PLANTING. REPEAT AS REQUIRED.
4. MAINTAIN WEED FREE SITE UNTIL ACCEPTANCE BY OWNER.

3.3 PLANTING INSTALLATION

A. GENERAL:

1. THE IRRIGATION SYSTEM SHALL BE OPERATIONAL AND APPROVED PRIOR TO PLANTING.
2. PERFORM ACTUAL PLANTING ONLY DURING THOSE PERIODS WHEN WEATHER AND SOIL CONDITIONS ARE SUITABLE AND IN ACCORDANCE WITH LOCALLY ACCEPTED PRACTICE, AS APPROVED.
3. DISTRIBUTE IN PLANTING AREAS ONLY AS MANY PLANTS AS CAN BE PLANTED AND WATERED THAT SAME DAY.
4. ENSURE THAT CONTAINERS WHICH ARE OPENED AND PLANTS REMOVED ARE HANDLED WITH CARE SUCH THAT BALL OF EARTH SURROUNDING ROOTS IS NOT BROKEN AND THAT PLANTS ARE PLANTED AND WATERED IMMEDIATELY. DO NOT OPEN CONTAINERS PRIOR TO PLACING PLANTS IN PLANTING AREAS.

- B. LAYOUT: MARK LOCATIONS FOR PLANTS AND OUTLINES OF AREAS TO BE PLANTED BEFORE ANY PLANT PITS ARE DUG. GAIN CITY APPROVAL. IF UNDERGROUND CONSTRUCTION OR UTILITY LINES ARE ENCOUNTERED IN THE EXCAVATION OF PLANTING AREAS, OTHER LOCATIONS FOR PLANTING MAY BE SELECTED BY OWNER. ACCOMPLISH LAYOUT WITH FLAGGED GRADE STAKES INDICATING PLANT NAMES AND SPECIFIED CONTAINER SIZE ON EACH STAKE. CONFIRM LOCATION AND DEPTH OF UNDERGROUND UTILITIES AND OBSTRUCTIONS.

3.4 EXCAVATION FOR TREES AND SHRUBS

- A. PLANTING PITS AND TRENCHES: EXCAVATE CIRCULAR PLANTING PITS WITH SIDES SLOPING INWARD AT A 45-DEGREE ANGLE. TRIM PERIMETER OF BOTTOM LEAVING CENTER AREA OF BOTTOM RAISED SLIGHTLY TO SUPPORT ROOTBALL AND ASSIST IN DRAINAGE AWAY FROM CENTER. DO NOT FURTHER DISTURB BASE. ENSURE THAT ROOTBALL WILL SIT ON UNDISTURBED BASE SOIL, TO PREVENT SETTLING. SCARIFY SIDES OF PLANTING PIT SMOOTHED OR SMOOTHED DURING EXCAVATION.
1. EXCAVATE APPROXIMATELY TWO TIMES AS WIDE AS ROOTBALL DIAMETER.
2. DO NOT EXCAVATE DEEPER THAN DEPTH OF THE ROOTBALL, MEASURED FORM THE ROOT FLARE TO THE BOTTOM OF THE ROOTBALL.
- B. SUBSOIL AND TOPSOIL REMOVED FROM EXCAVATIONS MAY BE USED AS PLANTING SOIL BACKFILL.
- C. STRIP AND STACK APPROVED EXCAVATION FOR PLANTING WHICH IS ENCOUNTERED WITHIN AREAS FOR TRENCHES, TREE HOLES, PLANT PITS AND PLANTING BEDS.
- D. REMOVE FROM SITE EXCESS SOIL GENERATED FROM PLANTING HOLES AND NOT USED FOR BACKFILLING.
- E. PROTECT AREAS FROM EXCESSIVE COMPACTION WHEN TRUCKING PLANTS OR OTHER MATERIALS TO PLANTING AREAS.

3.5 TREE, SHRUB, AND VINE PLANTING

- A. BEFORE PLANTING, VERIFY THAT ROOT FLARE IS VISIBLE AT TOP OF ROOTBALL ACCORDING TO ANSI Z60.1.
- B. REMOVE STEM GIRDLING ROOTS AND KINKED ROOTS. REMOVE INJURED ROOTS BY CUTTING CLEANLY; DO NOT BREAK.
- C. SET STOCK PLUMB AND IN CENTER OF PLANTING PIT OR TRENCH WITH ROOT FLARE 1 INCH ABOVE ADJACENT FINISH GRADES.
1. USE PLANTING SOIL FOR BACKFILL.
2. CONTAINER GROWN: CUT CANS ON TWO SIDES WITH ACCEPTABLE CAN CUTTER ONLY. CAREFULLY REMOVE ROOTBALL FROM CONTAINER WITHOUT DAMAGING ROOTBALL OR PLANT. SUPERFICIALLY LOOSEN EDGE ROOTS ON THREE SIDES AFTER REMOVING FORM CAN.
3. BOXED TREES: REMOVE BOTTOM OF PLANT BOXES BEFORE PLANTING. REMOVE SIDES WITHOUT DAMAGE TO ROOTBALL AFTER POSITIONING PLANT AND PARTIALLY BACKFILLING.
4. BOXED TREES: REMOVE BOTTOM OF PLANT BOXES BEFORE PLANTING. REMOVE SIDES WITHOUT DAMAGE TO ROOTBALL AFTER POSITIONING PLANT AND PARTIALLY BACKFILLING.
5. FACE LANTS WITH FULLEST GROWTH INTO PREVAILING WIND.
6. BACKFILL AROUND ROOTBALL IN LAYERS, TAMPING TO SETTLE SOIL AND ELIMINATE VOIDS AND AIR POCKETS. HOLD PLANT RIGIDLY AND PLUMB UNTIL SOIL HAS BEEN FIRMED AROUND BALL OR ROOTS. RAISE ALL PLANTS WHICH SETTLE DEEPER THAN THE SURROUNDING GRADE. WHEN PLANTING PIT IS APPROXIMATELY ONE-HALF FILLED, ADD WATER TO THE TOP OF THE PLANTING PIT AND THOROUGHLY SATURATE ROOTBALL AND ADJACENT SOIL.
7. SET PLANTING TABLETS WITH EACH PLANT ON TOP OF ROOTBALL WHILE PLANTS ARE STILL IN THEIR CONTAINERS SO THE REQUIRED NUMBER OF TABLETS CAN BE VERIFIED. AFTER WATER HAS COMPLETELY DRAINED, PLACE PLANTING TABLETS AS FOLLOWS OR IN AMOUNTS RECOMMENDED IN SOIL REPORTS FROM SOIL-TESTING LABORATORY.
- 1 TABLET PER 1-GALLON CONTAINER
- 2 TABLETS PER 5-GALLON CONTAINER
- 3 TABLETS PER 15-GALLON CONTAINER
- 4 TABLETS PER 24-INCH BOX
- 6 TABLETS PER 36-INCH BOX
- 8 TABLETS PER 48-INCH BOX
- PLACE TABLETS BESIDE THE ROOTBALL ABOUT 1 INCH FORM ROOT TIPS; DO NOT PLACE TABLETS IN BOTTOM OF THE HOLE.
8. CONTINUE BACKFILLING PROCESS. CONSTRUCT AN EARTHEN BASIN AROUND EACH PLANT AFTER BACKFILLING. PROVIDE BASIN OF DEPTH SUFFICIENT TO HOLD AT LEAST 2 INCHES OF WATER. CONSTRUCT BASINS WITH AMENDED BACKFILL. REMOVE BASIN IN ALL TURF AREAS AFTER INITIAL WATERING. WATER AGAIN AFTER PLACING AND TAMPING FINAL LAYER OF SOIL.
9. LIMIT PRUNING TO MINIMUM NECESSARY. REMOVE INJURED TWIGS AND BRANCHES. PRUNING MAY NOT BE DONE PRIOR TO DELIVERY OF PLANTS. PAINT CUTS OVER 3/4 INCH IN DIAMETER WITH TREE PAINT.
10. STAKE OR GUY TREES IMMEDIATELY AFTER PLANTING. INSTALL STAKES PLUMB. LOCATE STAKES SO THAT A STRAIGHT LINE DRAWN BETWEEN THE STAKES IS PERPENDICULAR TO THE PREVAILING WIND DIRECTION.
11. DO NOT BRING IRON SULFATE INTO CONTACT WITH CONCRETE SURFACES DUE TO POTENTIAL STAINING. CONTRACTOR IS RESPONSIBLE FOR CLEANING AND REPLACING STAINED SURFACES.
- D. WHEN PLANTING ON SLOPES, SET THE PLANT SO THE ROOT FLARE ON THE UPHILL SIDE IS FLUSH WITH THE SURROUNDING SOIL ON THE SLOPE; THE EDGE OF THE ROOTBALL ON THE DOWNHILL SIDE WILL BE ABOVE THE SURROUNDING SOIL. APPLY ENOUGH SOIL TO COVER THE DOWNHILL SIDE OF THE ROOTBALL.

3.6 TREE, SHRUB, AND VINE PRUNING

- A. REMOVE ONLY DEAD, DYING, OR BROKEN TWIGS OR BRANCHES. DO NOT PRUNE FOR SHAPE. PRUNING MAY NOT BE DONE PRIOR TO DELIVERY OF PLANTS.
- B. PRUNE, THIN, AND SHAPE TREES, SHRUBS, AND VINES ACCORDING TO STANDARD PROFESSIONAL HORTICULTURAL AND ARBORCULTURAL PRACTICES, UNLESS OTHERWISE INDICATED BY ARCHITECT. DO NOT CUT TREE LEADERS; REMOVE ONLY INJURED, DYING, OR DEAD BRANCHES FROM TREES AND SHRUBS; AND PRUNE TO RETAIN NATURAL CHARACTER.

3.7 GROUND COVER AND OTHER SMALL CONTAINER PLANTING

- A. SET OUT AND SPACE GROUND COVER AND PLANTS FROM FLATS OR CONTAINERS SMALLER THAN 1-GALLON AS INDICATED ON PLANTING PLAN IN EVEN ROWS WITH TRIANGULAR SPACING.
- B. ENSURE THAT GROUND COVER REMAINS IN THE FLATS UNTIL TRANSPLANTING. FLATS SOIL MUST CONTAIN SUFFICIENT MOISTURE SO IT WILL NOT FALL APART WHEN LIFTING PLANTS.
- C. USE PLANTING SOIL FOR BACKFILL. PLANT EACH ROOTED PLANT WITH ITS PROPORTIONATE AMOUNT OF FLAT SOIL.
- D. DIG HOLES LARGE ENOUGH TO ALLOW SPREADING OF ROOTS.
- E. WORK SOIL AROUND ROOTS TO ELIMINATE AIR POCKETS AND LEAVE A SLIGHT SAUCER INDENTATION AROUND PLANTS TO HOLD WATER.
- F. WATER THOROUGHLY AFTER PLANTING, TAKING CARE NOT TO COVER PLANT CROWNS WITH WET SOIL.
- G. PROTECT PLANTS FOR DAMAGE AND TRAMPLING.

3.8 HYDROSEEDING

- A. INSTALL LARGE TREES AND SHRUBS (1 GALLON AND LARGER) IF THEY OCCUR IN HYDROSEEDED AREAS.
- B. INSTALL TREES AND SHRUBS (1 GALLON) AND GROUNDCOVERS FROM FLATS IF THEY OCCUR IN HYDROSEEDED AREAS.
- C. PROVIDE SEED MIXES AS SHOWN ON PLAN.
- D. APPLY HYDROSEED BY AN APPROVED HYDRO-MULCH COMPANY.
- E. APPLY IN A FORM OF SLURRY CONSISTING OF CELLULOSE FIBER, SEED, CHEMICAL ADDITIVES, COMMERCIAL FERTILIZER AND WATER. WHEN HYDRAULICALLY SPRAYED ON SOIL, ENSURE THAT HYDRO-MULCH FORMS A BLOTTER LIKE GROUND COVER IMPREGNATED UNIFORMLY WITH SEED AND FERTILIZER AND ALLOWS THE ABSORPTION OF MOISTURE AND RAINFALL TO PERCOLATE TO THE UNDERLYING SOIL.
- F. PREPARE THE SLURRY AT THE SITE BY FIRST ADDING WATER TO THE TANK WHEN THE ENGINE IS AT HALF THROTTLE. WHEN WATER LEVEL HAS REACHED HEIGHT OF AGITATOR SHAFT, PROVIDE FULL CIRCULATION, THEN ADD SEED, FOLLOWED BY FERTILIZER, THEN MULCH. ONLY ADD THE MULCH TO THE MIXTURE AFTER THE SEED AND THE TANK IS AT LEAST 1/3 FILLED WITH WATER. BY THE TIME THE TANK IS 2/3 TO 3/4 FULL, ALL MULCH SHALL BE IN. COMMENCE SPRAYING IMMEDIATELY WHEN TANK IS FULL.
- G. SPRAY UNIFORM VISIBLE COAT BY USING THE GREEN COLOR AS A GUIDE. APPLY THE SLURRY IN A SWEEPING MOTION, IN AN ARCHED STREAM SO AS TO FALL LIKE RAIN ALLOWING THE WOOD FIBERS TO BUILD ON EACH OTHER UNTIL A GOOD COAT IS ACHIEVED AND THE MATERIAL IS SPREAD AT THE REQUIRED RATES.
- H. REMOVE SLURRY NOT USED WITHIN TWO HOURS FROM THE SITE.

- I. FILL OUT THE DAILY WORKSHEETS BY THE NOZZLE MAIN WITH THE FOLLOWING INFORMATION: SEED TYPE AND AMOUNT, MULCH TYPE AND AMOUNT, NUMBER OF LOADS AND AMOUNT OF WATER, SEEDING ADDITIVE TYPE AND AMOUNT, AREA COVERED AND EQUIPMENT USED, CAPACITY AND LICENSE NUMBER.
- J. DO NOT ALLOW ANY SLURRY TO BE SPRAYED INTO ANY RESERVOIR BASIN OR DRAINAGE DITCHES AND CHANNELS WHICH MAY IMPEDE THE FLOW OF RAIN OR IRRIGATION WATER. CLEAN UP ANY SPILLED SLURRY.
- K. AFTER APPLICATION OF HYDRO-MULCH, WASH EXCESS MATERIAL FROM PREVIOUSLY PLANTED MATERIALS AND ARCHITECTURAL FEATURES. AVOID WASHING OR ERODING MULCH MATERIALS.
- L. ENSURE THAT APPLICATION EQUIPMENT HAS A BUILT-IN AGITATION SYSTEM AND OPERATING CAPACITY SUFFICIENT TO MIX AND TATE, SUSPEND AND MIX A SLURRY CONTAINING NOT LESS THAN 40 POUNDS OF FIBER MULCH PLUS A COMBINED TOTAL OF 7 POUNDS FERTILIZER SOLIDS FOR EACH 100 GALLONS OF WATER.
- M. SLURRY DISTRIBUTION LINES SHALL BE LARGE ENOUGH TO PREVENT STOPPAGE AND SHALL BE EQUIPPED WITH A SET OF HYDRAULIC SPRAY NOZZLES WHICH WILL PROVIDE A CONTINUOUS NON-FLUCTUATING DISCHARGE. CAPACITY REQUIREMENT IS 1,500 GALLONS, MOUNTED ON A TRAVELING UNIT, EITHER SELF-PROPELLED OR DRAWING BY A SEPARATE UNIT WHICH WILL PLACE SLURRY TANK AND NOZZLES WITHIN SUFFICIENT PROXIMITY OF AREAS TO BE SEEDED.
- N. HYDRAULIC EQUIPMENT USED FOR PESTICIDE APPLICATIONS SHALL CONSIST OF A CLEAN 150-GALLON CAPACITY FIBERGLASS TANK, COMPLETE WITH MECHANICAL AGITATION. PUMP VOLUME SHALL BE 10 GALLONS PER MINUTE, WHILE OPERATING AT A PRESSURE OF 100 POUNDS PER SQUARE INCH. DISTRIBUTION LINES SHALL BE LARGE ENOUGH TO CARRY THE VOLUME OF WATER NECESSARY FOR EVEN CHEMICAL DISTRIBUTION. SPRAY NOZZLE MUST COVER A 15-FOOT SWATCH, WITH A MINIMUM OUPUT OF 5 GALLONS PER MINUTE AT 80 POUNDS PER SQUARE INCH.

3.9 PLANTING AREA MULCHING

- A. MULCH BACKFILLED SURFACES OF PLANTING AREAS WITH 3 INCH LAYER OF MULCH EXCEPT SLOPES THAT ARE 2:1 OR STEEPER, HYDROSEEDED AREAS, TURF AREAS AND BIORETENTION BASIN BOTTOMS.

3.10 CLEAN-UP

- A. AFTER ALL PLANTING OPERATIONS ARE COMPLETE, REMOVE ALL TRASH, EXCESS SOIL, EMPTY PLANT CONTAINERS AND RUBBISH FROM THE PROPERTY. REPAIR SCARS, RUTS AND OTHER MARKS IN THE GROUND AND LEAVE GROUND IN A NEAT AND ORDERLY CONDITION.
- B. LEAVE THE SITE IN A BROOM-CLEAN CONDITION AND WASH DOWN ALL PAVED AREAS WITHIN THE PROJECT SITE. LEAVE WALKS IN A CLEAN AND SAFE CONDITION.

3.11 LANDSCAPE MAINTENANCE

- A. WEED AND CULTIVATE ALL AREAS AT INTERVALS OF NOT MORE THAN 10 DAYS.
- B. PERFORM WATERING, MOWING, ROLLING, EDGING, TRIMMING, FERTILIZATION, SPRAYING, PEST CONTROL, AND STREET CLEANS AS MAY BE REQUIRED.
- C. CLEAN GUTTERS AND CURBS ARE TO BE INCLUDED.
- D. MAINTAIN ADEQUATE PROTECTION FOR PEOPLE AND PROPERTY, AND BE FINANCIALLY RESPONSIBLE FOR DAMAGES AND INJURIES. NOTIFY THE ARCHITECT IMMEDIATELY SHOULD DAMAGE OCCUR AS A RESULT OF MAINTENANCE OPERATIONS AND PROVIDE REPAIR OR REMUNERATION.
- E. BETWEEN THE 15TH AND 20TH CALENDAR DAY OF THE MAINTENANCE PERIOD, RESEED OR RESOD ALL SPOTS OR AREAS WITHIN THE LAWN WHERE NORMAL TURF GROWTH IS NOT EVIDENT.

3.12 TREE AND SHRUB CARE

- A. WATERING: MAINTAIN A LARGE ENOUGH WATER BASIN AROUND PLANTS SO THAT ENOUGH WATER CAN BE APPLIED TO ESTABLISH MOISTURE THROUGH THE MAJOR ROOT ZONE. WHEN HAND WATERING, USE A WATER WAND TO BREAK FORCE OF WATER.
- B. PRUNING:
1. PRIOR TO ANY PRUNING, OBTAIN WRITTEN APPROVAL FROM THE ARCHITECT TO PROCEED.
2. TREES:
- a. PROPOSE TREE PRUNING TO THE ARCHITECT SHOULD THERE BE HEALTH OR STRUCTURAL REASONS FOR DOING SO, INCLUDING THE NEED TO ELIMINATE STRUCTURALLY UNSOUND GROWTH, REDUCE POTENTIAL FOR WIND TOPPLING OR WIND DAMAGE, OR MAINTAIN GROWTH WITHIN LIMITED SPACE.
- b. TREE PRUNING THAT IS REQUIRED DURING THE MAINTENANCE PERIOD FOR TREE HEALTH OR STRUCTURAL REASONS, OR AS DIRECT BY THE CITY, SHALL BE PERFORMED IN ACCORDANCE WITH ANSI A-300 ISA STANDARDS.
- c. MAJOR PRUNING OF DECIDUOUS TREES SHALL BE DURING THEIR DORMANT SEASON.
3. SHRUBS:
- a. THE OBJECTIVES OF SHRUB PRUNING ARE THE SAME AS FOR TREES. DO NOT CLIP SHRUBS INTO BALLED OR BOXED FORMS UNLESS SUCH IS REQUIRED BY THE DESIGN.
- b. MAKE PRUNING CUTS TO LATERAL BRANCHES OR BUDS OR FLUSH WITH TRUNK. STUBBING WILL NOT BE PERMITTED.
- C. STAKING AND GUYING: ENSURE THAT STAKES AND GUYS REMAIN IN PLACE THROUGH ACCEPTANCE AND MONITOR TO PREVENT GIRDLING OF TRUNKS OR BRANCHES AND TO PREVENT RUBBING THAT CAUSES BARK WOUNDS. ALL NURSERY STAKES SHALL BE REMOVED.
- D. WEED CONTROL: KEEP ALL AREAS FREE OF WEEDS. USE RECOMMENDED LEGALLY APPROVED HERBICIDES. AVOID FREQUENT SOIL CULTIVATION THAT DESTROYS SHALLOW ROOTS. USE MULCHES PER SPECIFICATIONS TO HELP PREVENT WEEK SEED GERMINATION.
- E. INSECT AND DISEASE CONTROL: MAINTAIN A REASONABLE CONTROL WITH APPROVED MATERIALS.
- F. FERTILIZE AS SPECIFIED BY THE AGRONOMIC SOILS TESTING RECOMMENDATIONS AND AS FOLLOWS FOR BID PURPOSES

1. COMMENCEMENT OF MAINTENANCE PERIOD - 6 POUNDS PER 1,000 SQUARE FEET WITH TOP DRESS FERTILIZER.
2. AT THE END OF FIRST 30 DAYS OF MAINTENANCE PERIOD - 6 POUNDS PER 1,000 SQUARE FEET WITH TOP DRESS FERTILIZER.
3. AT END OF MAINTENANCE PERIOD AND AT 30 DAY INTERVALS SHOULD MAINTENANCE PERIOD BE EXTENDED FOR ANY REASON - 6 POUNDS PER 1,000 SQUARE FEET WITH FERTILIZER MIX.
4. AVOID APPLYING FERTILIZER TO THE ROOTBALL AND BASE OF MAIN STEM; RATHER, SPREAD EVENLY UNDER PLANT TO DRIPLINE. RATES WILL VARY FROM ABOUT A CUP OF NITRATE FERTILIZER (DEPENDING UPON NITROGEN PERCENTAGE) AROUND A NEWLY INSTALLED SMALL PLANT TO ABOUT 1/2 POUND OF ACTUAL NITROGEN PER INCH OF TRUNK DIAMETER MEASURED FOUR FEET FROM THE GROUND FOR MATURE TREES.
- G. REPLACEMENT OF PLANTS: REPLACE DEAD, DYING AND MISSING PLANTS WITH PLANTS OF A SIZE, CONDITION AND VARIETY ACCEPTABLE TO THE ARCHITECT.

3.13 GROUND COVER CARE

- A. WEED CONTROL: CONTROL WEEDS, PREFERABLY WITH PRE-EMERGENT HERBICIDES, BUT ALSO BY HAND OR WITH SELECTIVE SYSTEMIC HERBICIDES. HOE WEEDS AS LITTLE AS POSSIBLE SINCE THIS MAY RESULT IN PLANT DAMAGE.
- B. WATERING: WATER ENOUGH THAT MOISTURE PENETRATES THROUGHOUT ROOT ZONE AND ONLY AS FREQUENTLY AS IS NECESSARY TO MAINTAIN HEALTHY GROWTH.
- C. TRASH: REMOVE AS IT ACCUMULATES, BUT NO LESS OFTEN THAN WEEKLY.
- D. EDGING AND TRIMMING: EDGE GROUND COVER TO KEEP IN BOUNDS.
- E. REPLACE DEAD AND MISSING PLANTS.

3.14 LAWN AND TURF CARE

- A. TURF MUST BE WELL-ESTABLISHED PRIOR TO FINAL ACCEPTANCE.
- B. WATERING: WATER LAWNS AT SUCH FREQUENCY AS WEATHER CONDITIONS REQUIRED TO REPLENISH SOIL MOISTURE BELOW ROOT ZONE.
- C. WEED CONTROL: IF NEEDED, CONTROL BROAD LEAF WEEDS WITH SELECTIVE HERBICIDES.
- D. MOWING:
1. PERFORM MOWING AT SUCH TIMES OF THE DAY OR WEEK AS MAY BE REQUESTED BY THE OWNER SO AS NOT TO IMPEDE THE OWNER'S OPERATIONS. MOWING TIMES MAY BE AT TIMES OTHER THAN NORMAL WORKING HOURS OR DAYS. PERFORM WORK AT OWNER'S CONVENIENCE.
2. CLEAN UP GRASS CLIPPINGS DURING AND AFTER MOWING, AND REMOVE LEGALLY FROM SITE. USE OF BLOWING TYPE EQUIPMENT IN LIEU OF SWEEPING OR VACUUMING IS NOT ACCEPTABLE.
- E. RENOVATING:
1. IF REQUIRED, REMOVE THATCH BY VERTICUTTING PREFERABLE IN THE FALL OF THE YEAR, BUT OTHERWISE IN THE SPRING. AT THIS TIME, FERTILIZE WITH NITRATE AND OVER-SEED IF NEEDED. OVER-SEEDING MUST PRECEDE PRE-EMERGENT HERBICIDES BY AT LEAST 4 TO 6 WEEKS. NORMALLY, THIS MEANS THAT LAWNS WHICH HAVE BEEN INVADDED BY CRABGRASS WOULD BE RENOVATED AND OVER-SEEDED IN THE FALL AND TREATED FOR CRABGRASS CONTROL IN THE FOLLOWING LATE WINTER.
2. CLEAN UP GRASS CLIPPINGS DURING AND AFTER MOWING, AND REMOVE LEGALLY FROM SITE. USE OF BLOWING TYPE EQUIPMENT IN LIEU OF SWEEPING OR VACUUMING IS NOT ACCEPTABLE.

3.15 IRRIGATION SYSTEM

- A. INSPECTION: CHECK ALL SYSTEMS FOR PROPER OPERATION. LATERAL LINES MUST BE FLUSHED OUT AFTER REMOVING THE LAST SPRINKLER HEAD OR TWO AT EACH END OF THE LATERAL. ADJUST HEADS AS NECESSARY FOR UNIMPEDED COVERAGE AND NO OVERSPRAY.
- B. CONTROLLERS: SET AND PROGRAM AUTOMATIC CONTROLLERS FOR SEASONAL WATER REQUIREMENTS. GIVE OWNER A KEY TO CONTROLLERS AND INSTRUCTION ON HOW TO TURN OFF SYSTEM IN CASE OF EMERGENCY AS SPECIFIED IN OTHER SECTIONS OF THESE SPECIFICATIONS.
- C. REPAIR ALL DAMAGES TO IRRIGATION SYSTEM. MAKE ALL REPAIRS WITHIN ONE WATERING PERIOD.

END OF SECTION 329300

PROJECT DATA

DATE	REMARKS
06/10/2025	CITY RESUBMISSION 01
08/04/2025	CITY RESUBMISSION 02
08/12/2025	IFC SET

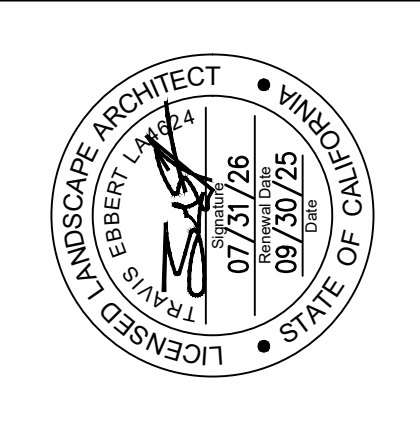
PA/PM:	AN
DRAWN BY.:	MCJ / AN
JOB NO.:	SDG24-0061-00

SHEET
LANDSCAPE
SPECIFICATIONS

L9.5

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