CHINO AIRPORT UPGRADE PERIMETER FENCING AND SIGNAGE

7000 MERRILL AVE CHINO, CA 91710



AGENCY APPROVAL:

REVIEWING AGENCIES



HMC Architects

2277-035-101

SAN DIEGO, CA 92122

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STRUCTURAL

9920 Pacific Heights Blvd Suite 225 San Diego, CA 92121

7000 MERRILL AVE **CHINO, CA 91710**

CHINO AIRPORT UPGRADE PERIMETER FENCING AND

COVER SHEET

SEE CALIFORNIA BUILDING CODE, CHAPTER 35 FOR STATE OF

CALIFORNIA AMENDMENTS TO NFPA STANDARDS.

CODE CHAPTER 80.

ABBREVIATIONS SYMBOL LEGEND

NORTH ARROW WALL TYPE CALLOUT AS6A WALL TYPE MARK - SEE A10.11 TICK INDICATES PLAN NORTH WALL STC RATING ARROW INDICATES TRUE NORTH WALL FIRE RATING TYPE **ELEVATION CALLOUT MATCHLINE REFERENCE** LOCATION ON SHEET LOCATION ON SHEET SHEET WHERE ELEVATION IS DRAWN SHEET WHERE PLAN IS DRAWN **ELEVATION CALLOUT** KEYNOTE LOCATION ON SHEET - KEYNOTE NUMBER (SEE LEGEND ON SHEET) SHEET WHERE ELEVATION IS DRAWN **ROOM EXITING INFORMATION ELEVATION CALLOUT - ALT.** AREA (SQ FT) **LOCATION & SHEET WHERE** 18/AX.XX● **ELEVATION IS DRAWN** OCCUPANT LOAD (AREA DIVIDED BY LOAD FACTOR) OCCUPANT LOAD FACTOR (REFER TO TABLE 1004.5) **SECTION CALLOUT** OCCUPANCY TYPE INDICATES A SIMILAR CONDITION NUMBER OF EXITS REQUIRED (REFER TO TABLE 1006.2.1) LOCATION ON SHEET SHEET WHERE SECTION IS DRAWN WIC CASEWORK TAG MANUFACTURER REFERENCE AND MODEL NUMBER

REQUIREMENTS AND ENVIRONMENTAL

SAFETY DURING CONSTRUCTION SHALL

THE INTENT OF THESE DRAWINGS AND

SPECIFICATIONS IS THAT THE WORK OF

THE ALTERATION, REHABILITATION, OR

ANY EXISTING CONDITIONS SUCH AS

DETERIORATION OR NON-COMPLYING

NOT COVERED BY THE DSA APPROVED

CONTRACT DOCUMENTS WHEREIN THE

FINISHED WORK WILL NOT COMPLY WITH

PLANS AND SPECIFICATIONS DETAILING

AND SPECIFYING THE REQUIRED WORK

SHALL BE SUBMITTED TO AND APPROVED BY DSA BEFORE PROCEEDING WITH THE

WORK. (SECTION 4-317(C), PART 1, TITLE 24,

TITLE 24, CCR,, A CONSTRUCTION CHANGE

DOCUMENT (CCD), OR A SEPARATE SET OF

ACCORDANCE WITH TITLE 24, CCR. SHOULD

CONSTRUCTION BE DISCOVERED WHICH IS

WITH ALL LOCAL ORDINANCES.

COMPLY WITH CFC CHAPTER 33.

RECONSTRUCTION IS TO BE IN

HEALTH CONSIDERATIONS SHALL COMPLY

OR REPAIR EXISTING ELEMENTS DAMAGED

BY THE EXECUTION OF THIS CONTRACT TO

EQUAL OR BETTER CONDITION.

PRIOR TO THE START OF WORK THE

BETWEEN THE REQUIREMENTS OF ALL

DISCIPLINES HEREIN AND BETWEEN THE

REQUIREMENTS OF ALL DRAWINGS AND

SPECIFICATIONS IN ORDER THAT ALL ITEMS

IMMEDIATELY REGARDING ANY ITEMS THAT

CONTRACTOR SHALL EXCERCISE EXTREME

CAUTION IN EXCAVATING AND TRENCHING

ON THIS SITE TO AVOID EXISTING DUCTS.

PIPING, CONDUIT, ETC. AND TO PREVENT

HAZARD TO PERSONNEL AND/OR TO

EXISTING UNDERGROUND UTILITIES OR

IMMEDIATELY NOTIFY THE ARCHITECT

STRUCTURES. THE CONTRACTOR SHALL

SHOULD SUCH UNIDENTIFIED CONDITIONS

BE DISCOVERED. THESE DRAWINGS AND

SPECIFICATIONS DO NOT INCLUDE THE

CHANGES TO THE APPROVED DRAWINGS

AND/OR SPECIFICATIONS SHALL BE MADE

DRILLING THROUGH THE EXISTING OR NEW

STRUCTURAL ELEMENTS SHALL NOT TO BE

STARTED UNTIL THE DETAILS HAVE BEEN

ARCHITECT, AND STRUCTURAL ENGINEER

DETAIL CALLOUT

LOCATION ON SHEET

GRID BUBBLE

GRID NUMBER

INDICATES A SIMILAR CONDITION

SHEET WHERE SECTION IS DRAWN

CONTROL OR DATUM POINT

— NAME OF ELEVATION (IF APPLICABLE)

- ELEVATION ABOVE FINISHED FLOOR

EXISTING BUILDING GRID SYMBOL

NEW BUILDING GRID SYMBOL

NECESSARY COMPONENTS FOR

BY ADDENDA OR A CHANGE ORDER.

CUTTING, BORING, SAWCUTTING OR

REVIEWED AND APPROVED BY THE

CONSTRUCTION SAFETY.

OF RECORD.

AX.XX

FIRST FLOOR +0' - 0" •

CONTRACTOR SHALL COORDINATE

SATISFACTORILY RELATE TO ONE

ANOTHER. NOTIFY ARCHITECT

CANNOT BE COORDINATED.

CABINET HEIGHT **CABINET WIDTH** DISCIPLINE SHEET TYPE **BUILDING LETTER,** SEGMENT, 0 CODE ANALYSIS, NOTES (USER DEFINED) 1 SITE PLAN C CIVIL FLOOR PLAN

BULIDING LETTER FLOOR LEVEL OR SEGMENT

(IF APPLICABLE) SEQUENTIAL (IF APPLICABLE)

LOCK

CABINET DEPTH

USED ONLY IF REQUIRED A ARCHITECTURE 3 CEILING PLAN IF NOT, COLUMN IS **DOOR CALLOUT** INTERIORS 4 ROOF PLAN OMITTED. Q EQUIPMENT 5 EXTERIOR ELEVATIONS DOOR NUMBER (101A) S STRUCTURAL 6 SECTIONS P PLUMBING 7 ENLARGED PLANS 8 INTERIOR ELEVATIONS M MECHANICAL E ELECTRICAL 9 SCHEDULES FA FIRE ALARM 10 DETAILS INTERIOR FINISH CALLOUT T TELECOM AV AV EQUIPMENT FA MATERIAL FINISH TYPE K KITCHEN DISCIPLINE SHEET TYPE SERIES / ORDER (IF APPLICABLE) (SEE FINISH SCHEDULE) FP FIRE PROTECTION WINDOW CALLOUT WINDOW NUMBER 09-WF1 | A | A | 1 | 1 | 1 | A | . | A (SEE WINDOW SCHEDULE)

EXISTING ANCHOR BOLT AC PAVING ASPHALTIC CONCRETE PAVING ACCESS/ACCESSIBLE ACOUSTICAL CEILING PANEL ACOUSTICAL CEILING TILE ADJACENT/ADJUSTABLE ABOVE FINISH FLOOR AGG AGGREGATE AIR HANDLING UNIT ARCH ARCHITECTURAL **ATTENUATION** AUTO AUTOMATIC BLOCKING BUR BUILT UP ROOFING CABT CUBIC FEET CFCI CONTRACTOR FURNISHED CONTRACTOR INSTALLED CFOI CONTRACTOR FURNISHED OWNER INSTALLED CORNER GUARD **CONTROL JOINT** CENTER LINE CHAIN LINK FENCE CLR CMU CONCRETE MASONRY UNIT CLEANOUT COL COLUMN COMP COMPRESSION / COMPOSITE CUBIC FEET COORD COORDINATE CORR CORRUGATED CERAMIC TILE **COUNTER SKUNK** CTSK CURTAINWALL DEPR **DEPRESSED / DEPRESSION** DRINKING FOUNTAIN DIMENSION DISPENSER DOWNSPOUT DETAIL DISHWASHER EACH WAY EXTERIOR INSULATION FINISH SYSTEM **EXPANSION JOINT** ELECTRICAL **ELEV** ELEVATION / ELEVATOR **ENCL** ENCLOSE / ENCLOSURE EOS EDGE OF SLAB **ELECTRICAL PANEL** EXCUTCHEON ELECTRIC WATER COOLER EXPOSED FIRE ALARM FLOOR DRAIN FIRE DEPARTMENT CONNECTION FIRE EXTINGUISHER FIRE EXTINGUISHER W/ CABINET FINISH FLOOR FINISH GRADE FIRE HYDRANT FIRE HOSE CABINET FLAT HEAD SCREW FINISH FLR FLOOR FACE OF CONCRETE FACE OF FINISH FACE OF MASONRY

FOS

FRG

FACE OF STUD

FIREPROOFING

FIRE RATED GLASS

PREFIN

PREP

PREFINISHED

PREP / PREPARATION

FIRE RATED

FRP FIBERGLASS REINFORCED PLASTIC FRT FIRE RETARDANT TREATED FS FINISH SURFACE FTG FOOTING **GRAB BAR** GFRC GLASS FIBER REINFORCED CONCRETE **GLASS TYPE** GLUE LAMINATED BEAM GLB GYP BD GYPSUM BOARD GYP PLAS GYPSUM PLASTIC RECEP' HOSE BIBB **HEAVY DUTY** HDR REFL HEADER HDWR HARDWARE HGT НМ **HOLLOW METAL** REINF HIGH POINT HSS HOLLOW STEEL SECTION INSIDE DIAMTER INTERIOR INVFRT LANDS LANDSCAPE LAV LAVATORY SCHED LLH LONG LEG HORIZONTAI LONG LEG VERTICAL LLV SECT LOW POINT LT WT LIGHT WEIGHT LOUVER MACH MACHINE MACHINE BOLT MDF MEDIUM DENSITY FIBERBOARD SND MDO SOV MEDIUM DENSITY OVERLAY MECH MECHANICAL MED MEDIUM MEMB STC MEMBRANE MFR MANUFACTURER STSMS MANHOLE SCREW MO MASONRY OPENING SUSP MTD MOUNTED MTL METAL NIC NOT IN CONTRACT SYM NON RATED NRC NOISE REDUCTION COEFFICIENT NTS NOT TO SCALE OVFR OVERALL OC ON CENTER OUTSIDE DIAMTER OFCI OWNER FURNISHED, CONTRACTOR INSTALLED OWNER FURNISHED, OWNER OFOI U/C **INSTALLED** OWNER FURNISHED, VENDOR INSTALLED VAC OPPOSITE HAND OPER OPERABLE OVERFLOW ROOF DRAIN ORD VTR VWC PROPERTY LINE P/L PUBLIC ADDRESS W/O PAF POWDER ACTUATED FASTENER PAVING WC WD PCC PORTLAND CEMENT CONCRETE PAVING **PEDESTRIAN** WDW PERF PERFORATED WGT PERIM PERIMETER WH PERP PERPENDICULAR PH PANIC HARDWARE PIV POST INDICATOR VALVE WRGB PLASTIC LAMINATE PLAM PLAS PLASTER PLUMB PLUMBING WSCT PNL WWF PANEL PNT PAINT / PAINTED POC POINT OF CONNECTION POLY ISO POLYISOCYANURATE OTHER ABBREVIATIONS USED ON THESE

POST TENSIONED CONCRETE PAPER TOWEL DISPENSER PARTITION PNEUMATIC TUBE STATION / POLYVINYL CHLORIDE PAVEMENT **QUARRY TILE** RADIUS, RISER RESILIENT BASE ROOF DRAIN ECEPTACLE REFERENCE REFLECT(ED), (IVE) REFLECT(ED), (IVE) REFRIGERATOR REINFORCE/REINFORCED/ REINFORCEMENT REMOVE **ROUND HEAD ROUND HEAD SCREW** ROUGH OPENING RIGHT OF WAY SCHEDULE (FOR PIPE) SCHEDULE / SCHEDULING STORM DRAIN / SOAP DISPENSER SECTION SAFETY GLASS SHEATHING SHEET METAL SCREW SANITARY NAPKIN DISPOSAL SHUT OFF VALVE **SPECIFICATIONS** STAINLESS STEEL SOUND TRAMISSION CLASS SELF TAPPING SHEET METAL SHEET VINYL SYMMETRICAL TOP AND BOTTOM TOP OF CURB / CONCRETE TOP OF PARAPET TOP OF STEEL TOP OF WALL TOILET PAPER DISPENSER TACKABLE SURFACE UNDER CABINET (OR COUNTER **UNLESS NOTED OTHERWISE** VACUUM VAPOR BARRIER VINYL COMPOSITION TILE VERIFY IN FIELD **VENT THROUGH ROOF** VINYL WALL COVERING WITHOUT WOOD BASE WATER CLOSET WOOD WINDOW WEIGHT WATER HEATER WATERPROOFING/WALL PROTECTION WATER RESISTANT WATER RESISTANT GYPSUM **WOOD SCREW** WAINSCOT WELDED WIRE FABRIC

DRAWINGS ARE CONSIDERED STANDARDS IN

FOR NECESSARY CLARIFICATION.

THE BUILDING INDUSTRY. CONTACT ARCHITECT

TEAM SHALL BE CONSISTENT WITH THE

DELIVER THE INDICATED RESULTS OF THE

VERIFY ALL DIMENSIONS, LOCATIONS OF

THE JOB SITE PRIOR TO THE START OF

WORK OR PORTIONS OF THE WORK.

ANY DISCREPANCIES BETWEEN THE

ACTUAL FIELD CONDITIONS AND THE

FIELD CONDITIONS AT THE TIME OF

ALL MATERIALS AND WORKMANSHIP

ERECTION BRACING, SHORING

TEMPORARY SUPPORTS AND

SCAFFOLDING IS THE SOLE

DETAILS ON THE DRAWINGS.

NOTED OTHERWISE.

SHALL COMPLY WITH ALL GOVERNING

THE DESIGN ADEQUACY AND SAFETY OF

RESPONSIBILITY OF THE CONTRACTOR

THE REQUIREMENTS OF LAWS, CODES,

THE MOST STRINGENT SHALL GOVERN.

WHERE ANY CONFLICT OCCURS BETWEEN

ORDINANCES, RULES AND REGULATIONS.

IN NO CASE SHALL WORKING DIMENSIONS

BE SCALED FROM PLANS, SECTIONS OR

DETAILS MARKED 'TYPICAL' SHALL APPLY

IN ALL CASES UNLESS SPECIFICALLY

CODES, ORDINANCES, REGULATIONS AND

CONSTRUCTION DOCUMENTS. EXISTING

CONDITIONS ARE INDICATED AS A RESULT

SHOWN ON AVAILABLE DOCUMENTS AND

OF FIELD OBSERVATIONS, INFORMATION

EXISTING UTILITIES, AND CONDITIONS ON

NOTIFY THE ARCHITECT IMMEDIATELY OF

CONSTRUCTION DRAWINGS AND

DESIGN INTENT.

PREPARATION.

SPECIFICATIONS AS NECESSARY TO

STATE MAP

S4.00 - TYPICAL FOUNDATION DETAILS

S4.01 - FOUNDATION DETAILS

OVERALL SITE PLAN

VICINITY MAP

. RIVERSIDE DR. MERRILL AVE PROJECT SITE KIMBALL AVE

FACILITY:

7000 MERRILL AVE **CHINO, CA 91710**

PROJECT: CHINO AIRPORT UPGRADE PERIMETER FENCING AND

SHEET NAME: **PROJECT DATA SHEET**

CONSTRUCTION DOCUMENTS

DATE: 05.08.2023

AGENCY APPROVAL:

> REVIEWING AGENCIES STAMP HERE

> > DATE



HMC Architects

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△ DESCRIPTION

2277-035-101

1.01 SECTION INCLUDES

- A. Comply with Title 24, Part 9, California Fire Code, Chapter 33 Fire Safety During Construction and Demolition, during all Phases of project.
- B. Hazardous Materials: It is not expected that hazardous materials will be encountered in the Work. 1. Hazardous materials have been or will be removed by Owner before start of the Work.

2. If materials suspected of containing hazardous materials are encountered, do not disturb;

- immediately notify Architect and Owner per the General Conditions. Owner will remove hazardous materials under a separate contract. a. In the case of asbestos, stop work in the area of potential hazard, shut off fans and other air handlers ventilating the area, and rope off area until the questionable material is identified. Reassign workers to continue work in unaffected areas. Resume work in the area of concern after
- 1.02 REFERENCE STANDARDS
- A. Conform to current adopted reference standards by date of issue of the current code cycle and the date of the Contract Documents.
- B. CBC 2022 California Building Code
- . CBC Chapter 19A, Concrete. 2. CBC Chapter 33, Safeguards During Construction.

safe working conditions are verified.

- C. CCR California Code of Regulations. CCR-8.4 - Title 8, Subchapter 4, Construction Safety Orders.
- D. CFC 2022 California Fire Code.
- 1. CFC Chapter 5, Fire Service Features. 2. CFC Chapter 7. Fire-Resistance-Rated Construction.
- 3. CFC Chapter 9, Fire Protection Systems. 4. CFC Chapter 33, Fire Safety During Construction and Demolition.
- E. ICRI International Concrete Repair Institute.
- F. NFPA National Fire Protection Association. 1. NFPA 241- Safeguarding Construction, Alteration and Demolition Operations.
- G. Local AQMD Local Air Quality Management District.
- 1.03 ADMINISTRATIVE REQUIREMENTS
- A. Pre-Demolition Conference: Conduct conference at Project site to comply with below
- B. Contractor shall schedule meeting after Notice of Award to review demolition operations.
- C. Attendance Required: Owner, Architect, Contractor, Demolition Subcontractors, Project Inspector.
- D. Construction Process: Contractor shall discuss overview of demolition procedures.
- Contractor shall identify items to be selected by Owner for salvage. 3. Contractor shall review special requirements for equipment, safety, and noise.
- E. Architect will record minutes and distribute copies within seven days after meeting to participants and those affected by decisions made.
- 1.04 SUBMITTALS
- A. Project Record Documents accurately record actual locations of capped utilities.
- B. Pre-demolition Photographs or Video: Show existing conditions of adjoining construction, including finish surfaces, that might be misconstrued as damage caused by demolition operations.
- 1.05 EXISTING CONDITIONS
- A. Before beginning Work, investigate and verify existence and location of mechanical, drainage, and
- electrical systems and other construction affecting Work, including underground utilities.
- B. Before construction, survey and record points of connection of utility services. C. Locate invert elevation at points of connection to existing sanitary - and storm drain, water-service
- piping, and underground electrical services. D. Employ a utility service locator company to locate underground utilities.
- E. Verify Owner's Record Drawings.
- F. Furnish survey of existing utilities. PART 2 - PRODUCTS
- 2.01 NOT USED. PART 3 EXECUTION
- 3.01 PREPARATION
- A. Disconnect, remove and cap designated utility services within demolition areas. Notify Owner 48 hours in advance of any utility shut down.
- B. Prior to commencement of demolition operations, notify Underground Service Alert of Southern California (800) 422-4133, Monday through Friday, 7:00 A.M. to 5:00 P.M.
- Protect existing items that are not indicated to be altered. 2. Adequately protect staff and public from harm and accident during demolition operations by the erection of proper barricades, signs, lighting, guard rails or other safety precautions. Conform to Title 8, Subchapter 4, CCR and NFPA 241.
- 3. Protective Devices: Install substantial enclosures, weatherproof and dust-proof shields, protective covers, screens and similar devices. Erect and move when necessary to permit use of existing rooms, areas or facilities. Remove entirely when their use is no longer essential. Patch or repair all areas where devices have been removed.
- D. Survey of Existing Conditions: Record existing conditions by use of [measured drawings] [preconstruction photographs or video] [and] [templates]. Inventory and record the condition of items to be removed and salvaged. Provide photographs or video of conditions that might be misconstrued as damage caused by salvage operations.
- 3.02 TEMPORARY MEASURES LIFE SAFETY
- A. Maintain free and unobstructed access to emergency services per Title 19, CFC 503.1; 503.1.1, 503.4; and Appendix D, CFC Chapter 33 Sections 3310.1; 3312.1 and when required by Owner.
- B. Post NO SMOKING signs in English and Spanish, in number and location as approved by Architect.
- C. Reduce flammable and combustible fire load to minimum by daily removal of debris.
- D. Instruct construction personnel in fire safety and fire drill policies appropriate for areas where demolition operations occur.
- E. Deployment, disposition, administration and implementation of any and all safety measures shall be sole responsibility of Contractor. 3.03 EXECUTION
- A. Demolish in orderly and careful manner. Maintain protected egress and access at all times.
- B. Except where noted otherwise, immediately remove demolished materials from site and dispose legally. Do not utilize Owner's disposal system.
- C. Remove materials to be re-installed or retained in manner to prevent damage. Store and protect until re-installation.
- D. Do not burn or bury materials on site
- E. Upon completion of Work, leave areas of Work in clean condition.
- 3.04 SELECTIVE DEMOLITION, REPAIR AND ALTERATIONS WORK
- A. New and existing Work that is cut into, altered, damaged, relocated or reinstalled shall be restored to original conditions. Workmanship and materials to conform to applicable provisions of other applicable Sections of Specifications.
- B. Cutting Equipment: Jack-hammers and vibratory cutting equipment may be utilized under following Approval by Owner.
- Time of day and duration of Work on each given day shall be coordinated with Project Inspector and Owner. Minimum of 24 hours advance notice required.
- 3. Compressors shall be well muffled. 4. Every consideration shall be exercised toward comfort of staff and public. Excessive noise or vibrations will constitute just cause for immediate stoppage of Work.
- C. Asphalt Paving: remove AC paving including sub-base where indicated in drawings and disposed in legal dumpsites, crushing operations on site and re-use of pulverized AC not permitted. Removal of concrete flatwork: remove concrete paving (panel) to the nearest expansion joint or
- contraction joint and provide matching concrete surface to abut to new work at same finish levels unless E. Miscellaneous Removal Items: Items not specifically mentioned shall be removed as indicated on

END OF SECTION

SECTION 32 16 00 - CONCRETE PAVING, CURBS, AND WALKS

PART 1 - GENERAL

- 1.1 SECTION INCLUDES: Description of requirements for materials, fabrications and installation of Curbs. Gutters and Walks and accessory items as shown on drawings and necessary to complete the Concrete Work. Work to include but not be limited to the following:
 - 1.1.1 Examine all other sections for work related to those sections which are required to be included as work of this Section.
 - 1.1.2 Concrete curbs, gutters, walks and concrete pavements.
- 1.2 SUBMITTALS:

1.3 QUALITY ASSURANCE:

- 1.2.1 Provide manufacturer's product data for all materials used and printed recommendations for installation.
- 1.2.2 Submit all shop drawings as requested by Architect for review and approval, to verify conformance with applicable codes and agencies having jurisdiction.
- 1.3.1 Regulatory Requirements: Comply with applicable portions of codes and regulations of
- 1.3.2 Qualifications: Use skilled workers who are thoroughly trained and experienced and who are completely familiar with the specified requirements and methods to perform and complete the scope of work under Contract.
- 1.3.3 Protection: Provide all necessary barricades or temporary fencing necessary to protect public and finished work from injury or damage until work is complete.
- PART 2 PRODUCTS AND EXECUTION:

governmental agencies having jurisdiction.

- 2.1 MATERIAL AND WORKMANSHIP: Conform to the applicable sections of "Standard Specifications for Public Works Construction", latest Edition, and all errata and addenda thereto except where noted otherwise in this Section.
- 2.3 COLOR AS APPROVED BY: Architect.
- 2.3 FINISH:

2.3.1 See Paragraph 3.11.2 for ramps and walk finish.

2.4 CRACKING:

- 2.4.1 Any portion of concrete pavement which develops cracks shall be removed to the nearest joint and replaced. Replaced portions shall match adjacent concrete in texture color and elevation. 2.5 EXPANSION JOINT FILLER:
- 2.5.1 Premolded Joint Filler: Premolded joint filler shall consist of premolded strips of a durable resilient material, and shall be one of the following:
 - 2.5.1.1 Preformed Expansion Joint Filler (Bituminous) ASTM D 994
 - 2.5.1.2 Nonextruding and Resilient Filler (Bituminous) ASTM D 1751
 - 2.5.1.3 Nonextruding and Resilient Filler (Non-bituminous) ASTM D 1752

PART 3 – EXECUTION:

- 3.1 PREPARATION:
- 3.1.1 Base Course: Sub-grade shall be prepared in accordance with Section 312200 Earthwork. 3.2 INSTALLATION:
 - 3.2.1 Formwork:

recommendations.

- 3.2.1.1 Stake rigidly at 4 feet on centers and secure against displacement. Formwork shall
 - 3.2.1.2 Carefully set forms to alignment, grade, and required dimensions. Hold forms

not deviate more than 1/2-inch from required vertical positions and 1 inch from required

- rigidly in place by stakes, clamps, spreaders, and braces where required to insure rigidity. 3.2.1.3 Apply form release to form lumber in accordance with manufacturer's
- 3.2.1.4 Place joint filler on vertical surfaces in contact with concrete paving.
- where shown on the Contract Drawings. 3.2.2.1 Clean reinforcement to remove loose rust and mill scale, earth, and other

3.2.2 REINFORCEMENT: Upon completion of base course and formwork, install reinforcement

- materials which reduce or destroy bond with concrete. 3.2.2.2 Position, support, and secure reinforcement against displacement by concrete
- placement operations. 3.2.2.3 Place reinforcement to obtain the required coverage for concrete protection.
- 3.2.2.4 All slabs and concrete walkways shall conform to the guidelines and recommendations of the American Concrete Institute for reinforcement of cast-in-place concrete slabs. Care shall be taken to place the reinforcement mid-height in the slab.

3.3 QUALITY ASSURANCE:

- 3.3.1 All work shall be installed by a Licensed Contractor who shall provide a foreman or supervisor who has experience with and knowledge of concrete processes.
- The Contractor shall provide a jobsite surface finish sample (100 square feet or 9.3 square meters minimum) to be approved by the Architect prior to the start of the construction. Said sample shall be the standard for the balance of the work installed, and shall be protected against damage until final approval from the Architect. The cost for the construction and protection of the referee sample shall be borne by the Contractor and shall be part of the Contractor's bid.

3.4 CONCRETE MIX DESIGN:

- 3.4.1 For new construction, concrete shall have a minimum compressive strength as follows:
 - 3.4.1.1 Concrete curbs, gutters, sidewalks, and driveway aprons: 2500 psi, concrete type 520-C-2500 in accordance with latest "Greenbook" specifications
 - 3.4.1.2 Concrete cross gutters, ribbon or valley gutters, trash enclosure slabs, and any pavement not otherwise specified: 3250 psi, concrete type 560-C-3250 in accordance with latest "Greenbook" specifications
- 3.4.1.3 Storm drain catch basins and manholes: 3250 psi, concrete type 560-C-3250 in accordance with latest "Greenbook" specifications 3.4.2 Portland cement shall conform to ASTM C150 Type II. Aggregates shall conform to ASTM
- C33. Mixing water shall be fresh, clean and potable. No admixtures containing calcium chloride shall be permitted.

3.5 CURING FOR NEW CONSTRUCTION:

- 3.5.1 All slabs shall be cured properly using conventional five (5) day water cures or using membrane-forming curing agents. 3.6 INSTALLATION PROCEDURES
 - 3.6.1 For new construction, concrete shall be installed in accordance with the standards and specifications of the American Concrete Institute (ACI).
 - 3.6.1.1 Concrete shall be tested in accordance with ASTM F1869-98 and/or ASTM E1970-97.
 - 3.6.1.2 Concrete shall have a pH level between 7-9.
 - 3.6.1.3 Construction joints shall be transferred through the finished surface by tooling them into the finished surface. Construction joints may be filled using a semi-rigid elastomeric material in accordance with manufacturer's recommendations.
- 3.7 PROTECTION AND MAINTENANCE:

3.7.1 Newly completed surfaces shall be protected.

- 3.8 APPLICATION:
 - 3.8.1 Concrete:
 - 3.8.1.1 Mixing: Transit mix the concrete in accordance with provisions of ASTM C94. 3.8.1.2 Conveying and Placing: Place concrete in accordance with pertinent
 - recommendations contained in ACI 304 and with the following: 3.8.1.2.1 Deposit concrete continuously in layers of such thickness that no concrete will be placed on concrete which has hardened sufficiently to cause formation of seams or places of weakness within the section.
 - 3.8.1.2.2 Deposit and consolidate concrete in a continuous operation within the limits of construction joints until the placing of a panel or section is completed.

3.8.1.2.2.1.1 Bring surfaces to the correct level with a straight- edge, and then strike off.

- 3.8.1.2.2.1.2 Use bullfloats or derbies to smooth the surface, leaving it free from bumps and hollows. 3.8.1.2.3 Do not sprinkle water on the plastic surface. Do not disturb the
 - surfaces prior to start of finishing operations. 3.8.1.2.4 Do not use concrete which has become non-plastic and unworkable, which does not meet required quality control limits, or which has been
- contaminated by foreign materials. 3.9 CONTROL JOINTS / WEAKENED PLANE JOINTS:
- 3.9.1 Tops of joints shall be installed flush with the concrete surface. Depth of joint shall be a minimum of 1/4 the thickness of slab. Use control joints/weakened plane joints on curbs, curbs and gutters, ribbon or valley gutters, and cross gutters at maximum intervals of 10 feet on center. Sawed joints may be used in lieu of the above upon Architect's written approval providing they are at least 1-1/2 inch deep.
- 3.10 FINISHES:
- 3.10.1 Paved areas between buildings will consist of various different finishes such as medium and heavy broom, steel trowel exposed aggregate and rock salt. See architectural drawings for specific type of finish for these areas including colored concrete.
- 3.10.2 Walks, Pavements, Ramps: Unless otherwise noted, medium broom finish perpendicular to longitudinal direction of walks, and at exterior ramps heavy broom finish.
 - to the direction of travel. 3.10.2.2 Slopes 6 percent or Greater: Surfaces with a slope of 6 percent gradient or greater

3.10.2.1 Slopes Less Than 6 percent: Surfaces with a slope of less than 6 percent gradient

shall be at least as slip-resistant as that described for medium broom finish, perpendicular

3.10.3 Gutters: Light broom finish with 3 inch wide steel trowel finish at flowlines.

shall be slip-resistant, equivalent to a heavy broom finish.

- 3.10.4 Concrete mow strips or headers: Medium broom finish. 3.10.5 Portland cement concrete paving shall be stable, firm, and slip resistant and shall comply
- with CBC Sections 11B-302 and 11B-403.
 - 3.11.1 Comply with California Building Code, Title 24, Section 1903A.11, Part 2. 3.11.1.1 Begin final curing procedures immediately following initial curing and before concrete has dried. Continue final curing for at least seven (7) days in accordance with ACI
 - 301 procedures. Avoid rapid drying at end of final curing period. 3.11.2 Curing Methods: Perform curing of concrete by curing as herein specified.

3.11.2.1.2 Continuous water-fog spray.

- 3.11.2.1 Provide moisture-curing by the following methods: 3.11.2.1.1 Keep concrete surface continuously wet by covering with water.
- 3.11.2.1.3 Covering concrete surface with specified absorptive cover, thoroughly saturating cover with water and keeping continuously wet. Place absorptive cover to provide coverage of concrete surfaces and edges, with 4 inch lap over adjacent
- 3.11.2.2 Provide curing and sealing compound to exposed exterior slabs, walks, and curbs,
- 3.11.2.2.1 Applied specified curing and sealing compound to concrete slabs as soon as final finishing operations are complete (within 2 hours). Apply uniformly in continuous operation by power-spray or roller in accordance with manufacturer's directions. Re-coat areas subjected to heavy rainfall within 3 hours after initial application. Maintain continuity of coating and repair damage during curing period.
- 3.11.2.2.2 Do not use membrane curing compounds on surfaces which are to be covered with coating material applied directly to concrete, liquid, floor hardener, waterproofing, damp-proofing, membrane roofing, flooring (such as ceramic or quarry tile, glue-down carpet), painting, and other coatings and finish materials, unless otherwise acceptable to Architect.
- 3.11.2.2.3 Concrete slabs and paving shall be properly cured and protected against damage and defacement of nature during construction operations. If weather is hot or surface has dried out, spray surface with fine mist of water starting not later than 2 hours after final troweling. Surface of finish shall be kept continuously wet for at least 10 days. Wetting is considered emergency work and shall be performed on weekends and holidays, if necessary.
- 3.11.3 In lieu of water curing, within 24 hours after finishing, the concrete may be cured with a clear liquid curing compound such as "Sealtight No. 1100 Clear" by W.R. Meadows or equal applied in accordance with manufacturer's recommendations.
- 3.12.1 Flood Tests: Concrete gutters and concrete pavement shall be given a flood test in the presence of the Inspector. Concrete work where water ponds and does not run off in a reasonable amount of time, shall be removed to the nearest score or joint line and replaced to provide proper drainage. Use a water hose to flood test concrete areas. If water stands 1/8 inches in height or more, then remove the section of concrete from concrete joint to concrete joint.

END OF SECTION

3.12 FIELD QUALITY CONTROL:

SECTION 32 31 19 - FENCES AND GATES - ORNAMENTAL METAL

PART I - GENERAL

- 1.01 SUMMARY
- A. Section Includes B. Ornamental Metal Fencing
- C. Manually operated, swing gates D. Rough and finish hardware, fasteners, and related accessories
- 1.02 REFERENCE STANDARDS
- A. Conform to current adopted reference standards by date of issue of the current code cycle and the date of the Contract Documents.
- B. American Society for Testing and Materials (ASTM) ASTM A36 - Carbon Structural Steel
- ASTM A123 Zinc (Hot-Dipped Galvanized) Coatings on Iron and Steel Products ASTM A307 - Carbon Steel Bolts and Studs, 60,000 psi Tensile Strength
- ASTM A513 Electric-Resistance-Welded Carbon and Alloy Steel Mechanical Tubing . ASTM A641 - Standard Specifications for Zinc-Coated (Galvanized) Carbon Steel Wire 6. ASTM A653 - Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by
- the Hot-Dip Process ASTM A568/A568M - General Requirements for Steel, Sheet, Carbon, and High-Strength, Low-Allov. Hot-Rolled and Cold-Rolled
- 8. ASTM B117 Test Method of Salt Spray (Fog) Testing 9. ASTM B221-Standard Specification for Aluminum and Aluminum – Alloy Extruded Bars, Rods, Wire, Profiles and Tubes.
- 10. ASTM C1107 Packaged Dry, Hydraulic Cement Grout (Non-Shrink) 11. ASTM D2247 - Practice for Testing Water Resistance of Coatings in 100% Relative Humidity 12. ASTM D2794 - Test Method for Resistance of Organic Coatings to the Effects of Rapid Deformation
- 13. ASTM D3359 Test Method for Measuring Adhesion by Tape Test . American Welding Society (AWS)
- AWS D1.1 Structural Welding Code, Steel AWS A5.1 - Carbon Steel Electrodes for Shielded Metal Arc Welding
- 3. AWS 5.5 Low Alloy Steel Covered Arc Welding Electrodes. D. American Institute of Steel Construction (AISC)
- 1. AISC Specifications Manual of Steel Construction
- E. 2019 California Building Code (CBC) 1. CBC 10 - Chapter 10, Egress Requirements
- 2. CBC 11 Chapter 11, Accessibility
- 3. CBC 19A Chapter 19A, Concrete
- 1.03 SUBMITTALS
- A. Product Data for each fencing system component and accessory item. B. Shop Drawings, showing materials, construction and fabrication details, layout and erection diagrams as required, finish of materials and methods of anchorage to adjacent construction. Indicate
- welding by AWS code symbols.
- Color Selection Samples for each specified pre-finished item Record Samples of selected finishes
- Material Samples. If requested, submit samples of materials. Samples of finials, caps, and accessories shall be whole pieces.

1.04 DELIVERY, STORAGE AND HANDLING

- A. Stack, store, and handle fencing sections and components to prevent damage during transit and storage at the site. Follow manufacturer's instructions.
- 1.05 PROJECT CONDITIONS A. Verify Existing Conditions. Verify conditions, affecting work of this Section, by taking accurate
- 1.06 SPECIAL WARRANTY A. Manufacturer and installer shall jointly warrant that the installed fencing and gates are and will remain free from defects in material and workmanship including cracking, peeling, blistering and corroding of finish for a period of at least 5 years from the date of Substantial Completion. Upon written

measurements at site of dimensions, elevations, and grades. Fabricate work to fit measured

notice from Owner, they shall promptly, without cost, and with the least practicable inconvenience to Owner correct such defects.

PART 2 - PRODUCTS

dimensions.

- 2.01 REGULATORY REQUIREMENTS A. Gates that are part of the accessible route shall meet all the requirements of an accessible door in
- compliance with CBC Section 11B-404. B. The levers of lever actuated latches or locks for accessible gates shall be curved with a return to within 1/2" of the gate surfaces to prevent catching on the clothing or persons.

C. Swing doors and gate surfaces within 10" of the finish floor or ground shall have a smooth surface

these surfaces shall be within 1/16" of the same plane as the other and be free of sharp or abrasive

on the push side extending the full width of the door or gate. Parts creating horizontal or vertical joints in

edges. Cavities created by added kick plate shall be capped. CBC Section 11B-404.2.10.

B. Color: As scheduled.

2.02 MANUFACTURERS A. Acceptable Manufacturers

Ameristar Fencing Products, Tulsa, OK. Product:

. A & T Iron Works, Inc., New Rochelle, NY D. Builders Fence Company, Sun Valley, CA Century Tube, Port of Pine Bluff, AR F. Or equal, approved in accordance with Division 01, General Requirements, for substitutions.

cold-rolled, butt welded, square or rectangular, minimum 45,000 psi.

- 2.03 MATERIALS A. Steel Material: ASTM A924, A123 and ASTM A653, hot-dipped galvanized, G-90 for sheet steel,
- B. Screws: stainless steel, self-drilling hex-head screws. Type 304 or 316 stainless-steel fasteners. C. Threaded Bolts and Nuts: Standard, commercial quality, hot-dip, galvanized, steel conforming to

D. Accessories: Internal retaining rod, panel brackets, post and picket caps, rubber grommets picket

- E. Touch Up Material for Galvanized Coatings: Anodic zinc-rich coating or hot applied repair
- F. Concrete for Footings: Specified in Section 32 13 13, Sitework Concrete. G. Non-Shrink Grout: ASTM C1107, premixed compound consisting of non-metallic aggregate, cement, water reducing and plasticizing agents; capable of developing minimum compressive strength of 5,000 pounds per square inch in 24 hours and 8,000 pounds per square inch in 7 days; of
- consistency suitable for application and 30 minute working time.
- 2.04 COMPONENTS
- A. Fencing: Ameristar Aegis II Industrial Weight, or equal B. Style: Majestic M2, 2-rail, top rail design.

C. Color: as scheduled in Section 09 06 00.

not permitted at Path-of-Travel gates.

3. Gate Hardware: Shall be mounted at 40" above finish floor.

B. EXIT Gates: galvanized square tube, ASTM A500, Grade B, at lintels and gate posts, minimum galvanizing coating of 1.8 ounces per sq. ft. 2-1/2 inches square. Final finish to match fencing finish. 2.05 ACCESSORIES

A. Swing Gates: 1.75" x 14 gauge forerunner Double channel rail, 2" square x 11 gauge gate ends,

and 1" square x 14 gauge pickets. Gates exceeding 6' in width shall have 1.75" sq x 14 gauge intermediate upright. All rail and upright intersections hall be joined by welding. All pickets and rail intersections shall also be joined by welding. Gusset plates will be welded at each upright to rail intersection. Provide cable kits for additional truss for gates leaves over 6 feet. B. Swing Gate Hardware. Provide hardware and accessories for each hinged, swing gate, galvanized and shop finished to match adjacent gate and fence components. I. Hinges: weldable steel barrel type hinge, ball bearing, non-removable steel pin. Provide two hinges

for each leaf up to 6 foot nominal height, and one additional hinge for each additional 24 inches in height, or fraction thereof. 5" barrel hinge, Model: 44-2003 King Architectural Metals, Los Angeles, CA, or equal. Two hinges per leaf for gates up to 5'-11" wide, three hinges per leaf for 6' to 10' wide

gates. Locks: Self-latching bolt and deadbolt, 3/4 inch diameter, adjustable, lockable, with lever handle, by Ameristar Lock or equal, keyed lock. Hardware shall not require pinching, grasping or twisting motion. The lever of lever-activated latches or locks for an accessible gate shall be curved with a return to within 1/2" of the (face of) gate to prevent catching on the clothing or persons.

2. Double Gates: Provide center lockable cane bolt assembly mounted to gate vertical frame designed to engage strike with anchors, set in concrete. At double gates provide locking slide bolt. Cane Bolts

- 4. All gates intended for pedestrian use, including ticket gates shall comply with all applicable requirements of doors. All gates in the Path of Travel and as indicated on the drawings shall require Exit Devices (panic hardware) as specified above, CBC Sections 11B-309.4 and 11B-404.2.9. Signage is not permitted in lieu of accessible or panic hardware.
- 5. Exit Device at Exit Gates only, outswing in accordance with CBC Sections 1008.1.9, 1008.1.10, and 1008.2, Mounted 36" to 44" above finish floor. Exit Device (panic hardware) shall be mounted to provide 36" clear minimum below the device. Unlatching force not exceed 15# applied in direction a. Panic Bar: Exit Device: Rim Type, Von Duprin 99NL Series exit device, anodized finish, 992L trim, Standard Lever #06, 299 strike at single gates, devices in exit pathways where shown on
 - drawings, attach to gate post, include cylinder. Lever handle on exterior of gate. Lever to return 1/2" of face of gate.
- 6. Accessories: 4" x 3" x 1/4" x 8" high galv. steel angle welded to strike-side frame and 1" x 3" x 1/4" a. Fabricate galv. Steel lock box 16 ga x 3" high x 8" wide x 1-3/4" thick to encase lockset, weld all joints and grind smooth, touch up with galvanizing compound. . solid Metal Panel: Manufactured by McNichols Co. Tampa, FL. Aluminum Plate: solid , , 24 in. high
- by width of gate behind panic device centered at 40 in. above finish surface. Secure to gate frame with #8 stainless steel screws at 6 in on center. 2. Install 0.125 inch thick aluminum kick plate 10 inches high on push side (For larger gates install at both sides). Clear space below gate shall be 3 inches maximum from walking surface on both sides of the gate. Secure with #8 stainless steel screws 4 places each kick plate minimum.
- C. Padlock: 5 pin cylinder, corrosion resistant, hardened steel shackles, 5/16 inch shackle diameter. No. 1158A54 by McMaster-Carr, Los Angeles, CA, or equal as approved in accordance with Division 01 for substitutions, master keyed to building standard one per gate.
- D. Lock Box: Heavy duty, lift-off lid, emergency-access, key-box; 3200 Series KnoxBox by the Knox Company, Newport Beach, CA, or equal.
- 2.06 FABRICATION A. Provide new stock of standard sizes specified or detailed. Fabricate materials in shop to produce
- high-grade metal work. Form and fabricate to meet required conditions. B. Pickets, rails and posts shall be pre-cut to specified lengths. Rails pre-punched to accept rails.
- C. Include bolts, screws and other fastenings necessary to secure work.
- D. Conform applicable work to latest edition of AISC Specifications and AWS D1.1. E. Accurately make and tightly fit joints and intersections in true planes with adequate fastenings. F. Coordinate Work with work of other sections. Provide punchings and drillings indicated or
- G. Welding: weld joints, unless otherwise indicated or specified, using shielded electric arc method. Use coated welding rods, not fluxed or type recommended by manufacturer for use with parent metal. H. Grinding: Grind welds to smooth flush joints.
- I. EXIT Gates: Fabricate posts and lintels to height indicated on drawing but no less than 6'-8", and
- ready to receive closer and gate hardware.
- 2.07 FINISHES A. Base Coat: epoxy electrostatic powder coat over prepared galvanized steel, minimum thickness 2

required for attachment of Work to other Sections.

- B. Finish Coat: TGIC Polyester electrostatic powder coat topcoat. Thickness 3 mils, minimum.
- PART 3 EXECUTION

3.01 INSPECTION

C. Color: black.

unsatisfactory conditions are corrected 3.02 INSTALLATION

A. Verify existing conditions are ready the work of this Section. Do not begin erection of fencing until

- A. Post spacing: Line posts shall be spaced in line maximum of 96 inches on center. B. Post Footings: Set posts in concrete footings 12 inches in diameter and 36 inches deep. Tops of footings: Crowned to shed water. Concrete mix: Minimum 3000 pounds per square inch.
- C. Post Tops: Line posts shall be fitted with pressed steel caps. Gate post top: Welded flush and ground smooth.

C. Install locking fittings to accommodate owner's keying system.

permitted in lieu of accessible or panic hardware.

- A. Gate posts shall be set in accordance with the spacings shown in the drawings. B. Fabricate gates to size and configuration indicated on Drawings, complete with gate hardware.
- D. Attachments to gate shall be permanently secured to assembly. No clamp-on or exposed bolted fittings shall be permitted. E. All gates intended for pedestrian use, [including ticket gates], shall comply with all applicable requirements of doors. All gates in the Path of Travel and part of the accessible route and as indicated on the drawings shall require Exit Devices (panic hardware) and meet all the requirements of an

accessibly door in compliance with CBC Section 11B-404 and as specified above. Signage is not

END OF SECTION

3.03 GATES

REVIEWING AGENCIES STAMP HERE

SAN BERNARDINO

HMC Architects 2277-035-101

8910 UNIVERSITY CENTER LN, #650 SAN DIEGO, CA 92122

AGENCY APPROVAL:

619 744 4077 / www.hmcarchitects.com

△ DESCRIPTION

DATE

7000 MERRILL AVE

CHINO. CA 91710

FACILITY:

CHINO AIRPORT UPGRADE PERIMETER FENCING AND

TECHNICAL SPECIFICATIONS

DATE: 05.08.2023

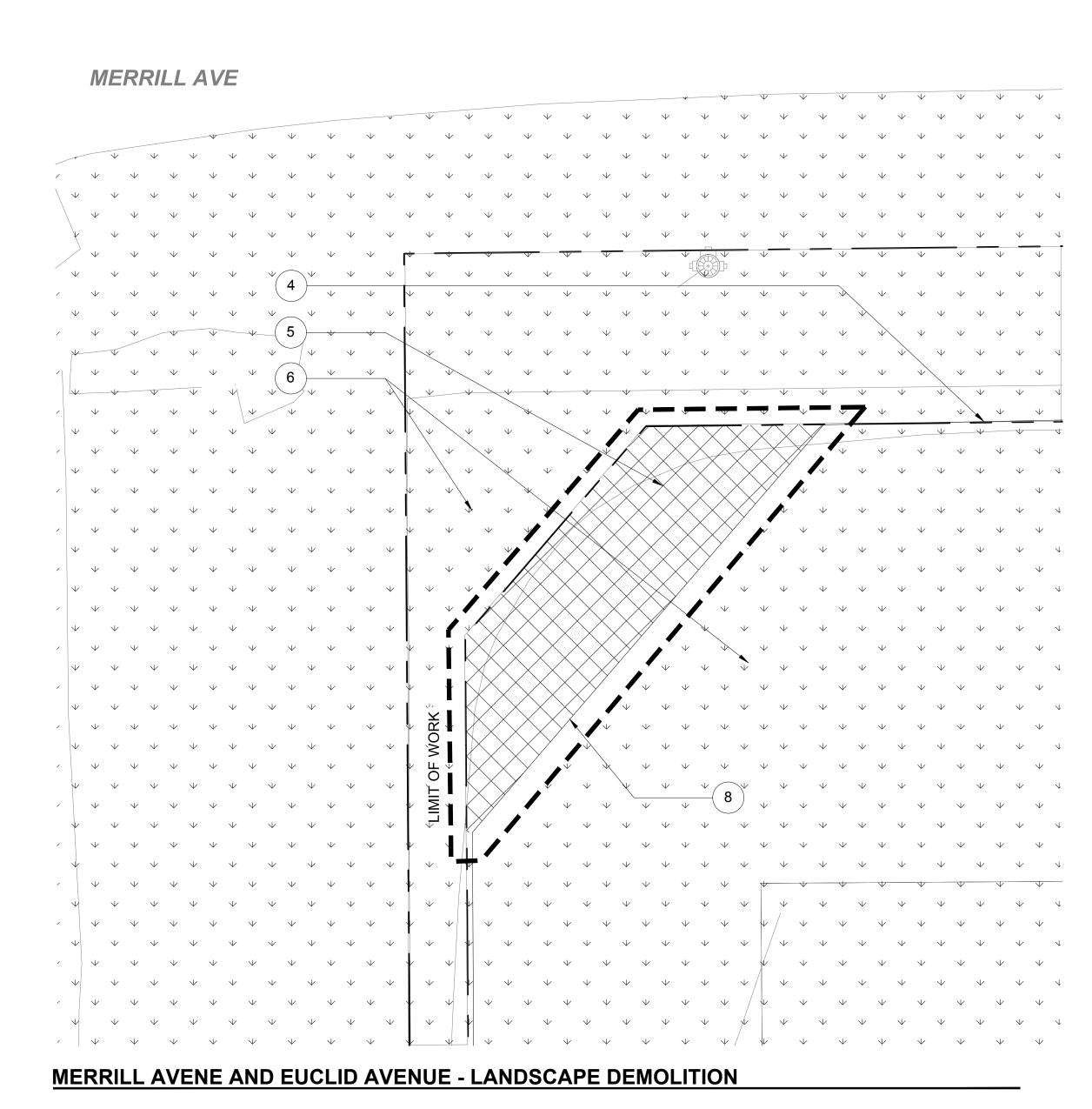
CLIENT PROJ NO:

PLEASE RECYCLE

MERRILL AVENUE AND CAL AERO DRIVE - LANDSCAPE DEMOLITION

KIMBALL AVE

KIMBALL AVENUE AND EUCLID AVENUE - LANDSCAPE DEMOLITION



PLANTING NOTES

- 1. CONTRACTOR IS RESPONSIBLE FOR ERECTING A FENCE TO PROTECT ALL PLANTING AND TREES DESIGNATED TO REMAIN IN PLACE DURING CONSTRUCTION WITHIN AND IMMEDIATELY ADJACENT TO PROJECT BOUNDARY AREA.
- 2. 3 WEEKS MINIMUM PRIOR TO CONTRACTOR'S DEMOLITION / REMOVAL OF ANY PLANT MATERIAL, CONTRACTOR SHALL COORDINATE WITH THE OWNER'S HORTICULTURE / MAINTENANCE STAFF REGARDING REMOVAL / STOCKPILING OF PORTIONS OF EXISTING PLANTS, ROCKS, MULCH, GROUNDCOVER, AND ANY OTHER MATERIAL, AFTER WHICH CONTRACTOR SHALL DEMOLISH AND REMOVE REMAINING LANDSCAPE MATERIAL
- 3. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING THE EXISTING TREES AND PLANTINGS WITHIN PROJECT BOUNDARY AREA DURING CONSTRUCTION, INCLUDING PROVIDING MAINTENANCE AND WATER. CONTRACTOR SHALL REPLACE ANY TREE IN THE EVENT IT DIES, AT NO ADDITIONAL COST TO THE OWNER.
- 4. PRIOR TO ANY NEW PLANTING, VERIFY ALL EXISTING AND PROPOSED TREE AND PLANT LOCATIONS TO AVOID CONFLICT WITH EXISTING AND PROPOSED UTILITIES. PROPOSED PLANTS MAY NEED TO BE SHIFTED OR RELOCATED AS NECESSARY. SEE PLANTING PLAN AND SPECIFICATIONS FOR MORE INFORMATION.
- 5. CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF EXISTING AND PROPOSED UTILITIES WITHIN THE PROJECT LIMITS WHICH MAY BE AFFECTED BY INSTALLATION. IMMEDIATELY CONTACT THE OWNER'S REPRESENTATIVE IF A CONFLICT IS EVIDENT.
- 6. ALL EXISTING PLANT MATERIAL TO REMAIN THAT IS DISTURBED BY THE IRRIGATION OR CONSTRUCTION ACTIVITIES SHALL BE REPAIRED AND REPLACED SAME IN KIND AND SIZE.

IRRIGATION NOTES

- VERIFY ALL EXISTING IRRIGATION VALVES ON CONTROLLER AND WATER SOURCE WITHIN AND ADJACENT TO THE PROJECT AREA. PRIOR TO ANY WORK, COORDINATE WORK WITH OWNER'S REPRESENTATIVE TO CANCEL WATERING PROGRAM ON EXISTING IRRIGATION ZONE/S WITHIN THE AREA OF WORK THAT CAN BE TURNED OFF, AND AREAS WITHIN AND ADJACENT TO THE AREA OF WORK THAT NEED TO REMAIN IN SERVICE.
- 2. ALL EXISTING IRRIGATION SYSTEMS TO REMAIN AFFECTED BY THIS PROJECT SHALL BE PROMPTLY RESTORED TO GOOD WORKING ORDER WITHOUT ADDITIONAL COST TO THE OWNER AND TO THE SATISFACTION OF OWNER'S REPRESENTATIVE BY THE COMPLETION OF PROJECT.
- 3. PROTECT EXISTING IRRIGATION SYSTEMS-TO-REMAIN TO THE GREATEST EXTENT POSSIBLE INCLUDING MAINLINE, VALVES AND WIRES. THESE WILL BE UTILIZED FOR THIS WORK UNLESS OTHERWISE NOTED ON THE IRRIGATION PLAN.
- 4. LOCATE ALL EXISTING IRRIGATION LATERAL LINES, DRIPLINES AND SYSTEM COMPONENTS WITHIN AND ADJACENT TO CLEAR AND GRUB AREA. CUT AND CAP EXISTING IRRIGATION AT LIMIT OF NEW PROJECT AREA, AND RECONNECT ALL LATERAL LINE AND DRIPLINES TO ENABLE FULL CONTINUOUS SERVICE. PROPERLY AND LEGALLY REMOVE ALL DEMOLISHED IRRIGATION FROM SITE.
- 5. EXISTING CONTROLLER WITH ELECTRICAL SERVICE AND ALL VALVE WIRES SHALL REMAIN PROTECTED WITH NO INTERRUPTION IN SERVICE TO EXISTING SYSTEMS-TO-REMAIN AND PROPOSED NEW SYSTEM. PRIOR TO ANY WORK, COORDINATE WATERING SCHEDULES AND ADJUSTMENTS TO ALL EXISTING IRRIGATION SYSTEMS WITH OWNER'S REPRESENTATIVE.

KEY NOTES EXISTING CURB AND GUTTER TO REMAIN AND BE PROTECTED, TYP. EXISTING SIGN, SEE ARCHITECTURAL DRAWINGS EXISTING FLAG POLE/CONCRETE PAD, SEE ARCHITECTURAL FUTURE RIGHT-OF-WAY LINE CLEAR AND GRUB EXISTING PLANTING, TYP. EXISTING PLANTING TO REMAIN AND BE PROTECTED, TYP. EXISTING IRRIGATION SYSTEM TO REMAIN AND BE PROTECTED, TYP. EXTENT OF CLEAR AND GRUB ON THIS SIDE ALIGNS WITH FENCE INSTALLATION, SEE ARCHITECTURAL DRAWINGS FOR FENCE LOCATIONS CUT AND CAP / REMOVE / ADJUST EXISTING IRRIGATION

SHEET NOTES

SYSTEM AS REQUIRED

- REFER TO ARCHITECTURAL PLANS FOR EXISTING SITE FEATURES TO REMAIN AND EXISTING SITE FEATURES TO BE REMOVED, OTHER THAN LANDSCAPE AND IRRIGATION.
- 2. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION. 3. MAINTAIN WATER SUPPLY AND AUTOMATED SERVICE TO IRRIGATION SYSTEMS ADJACENT TO AREAS UNDER CONSTRUCTION, TYP.

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DESCRIPTION	DATE
50% CONSTRUCTION DOCUM	IENTS 04-12-202 3
100% CONSTRUCTION DOCU	MENTS 05-08-202 3





SCALE: 1"=10'

MERRILL AVE.

EUCLID AVE.

AND EUCLID AVE.

KIMBALL AVE. AND

_MERRILL AVE. AND

EX. IRRIGATION

EX. IRRIGATION

CONTROLLER

BACKFLOW

CAL AERO DR.

KEY MAP

N□RTH



7000 MERRILL AVE CHINO, CA 91710

FACILITY:

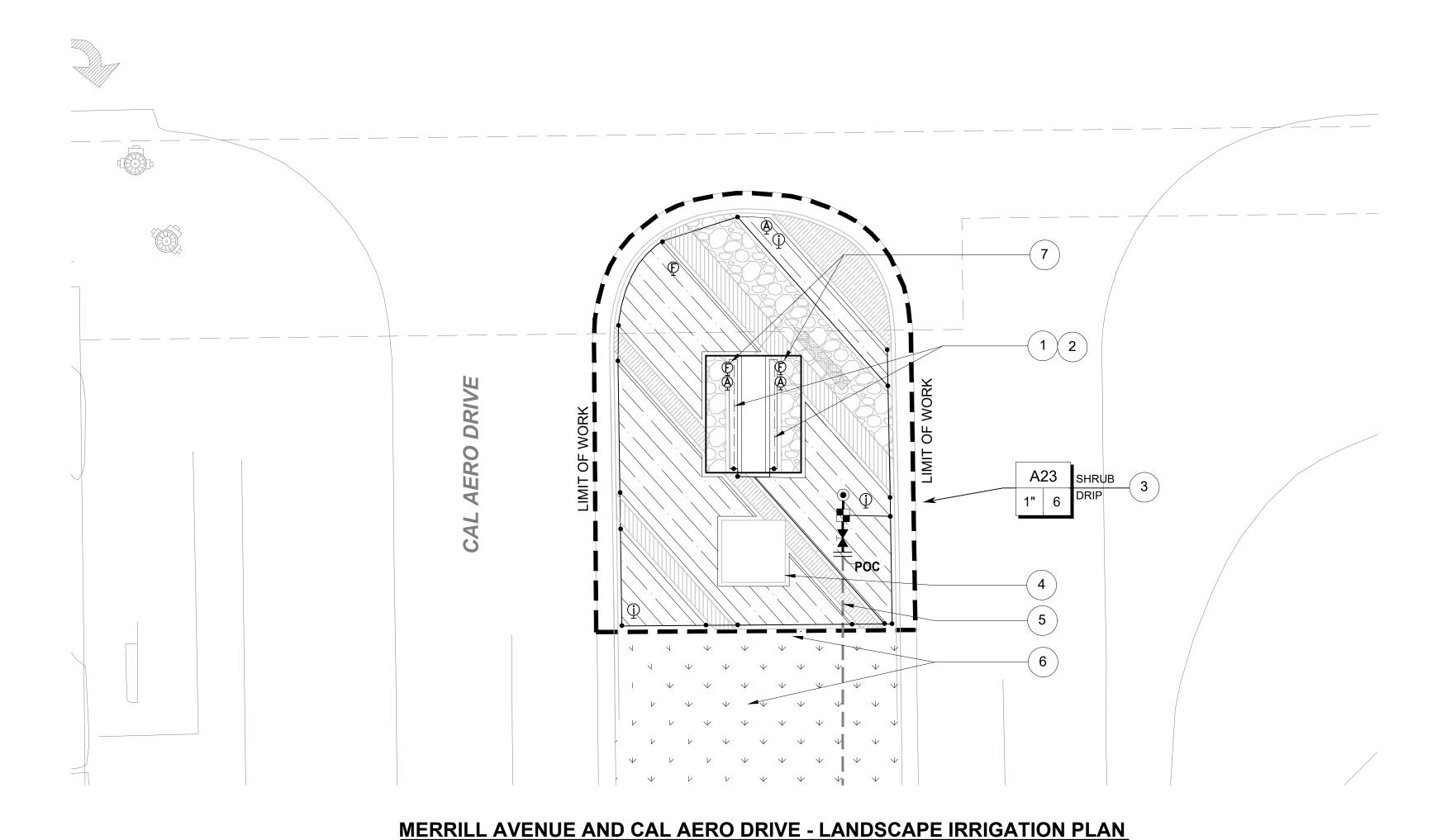
CHINO AIRPORT UPGRADE PERIMETER FENCING AND SIGNAGE

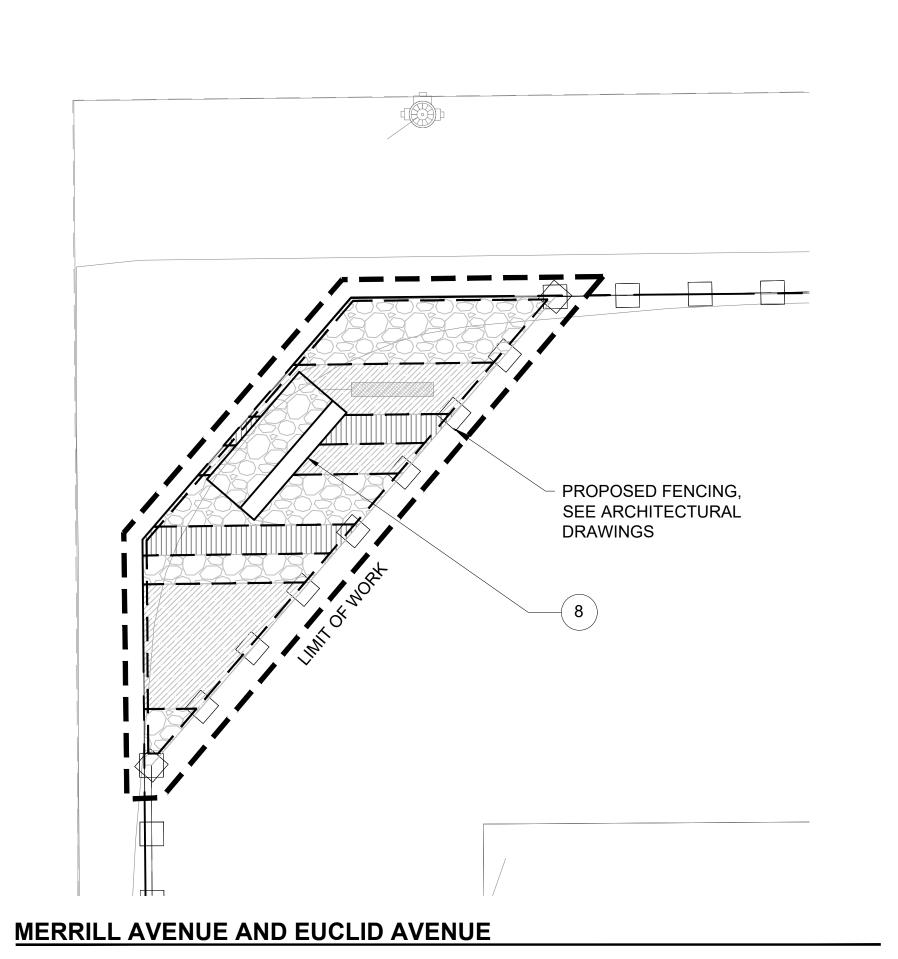
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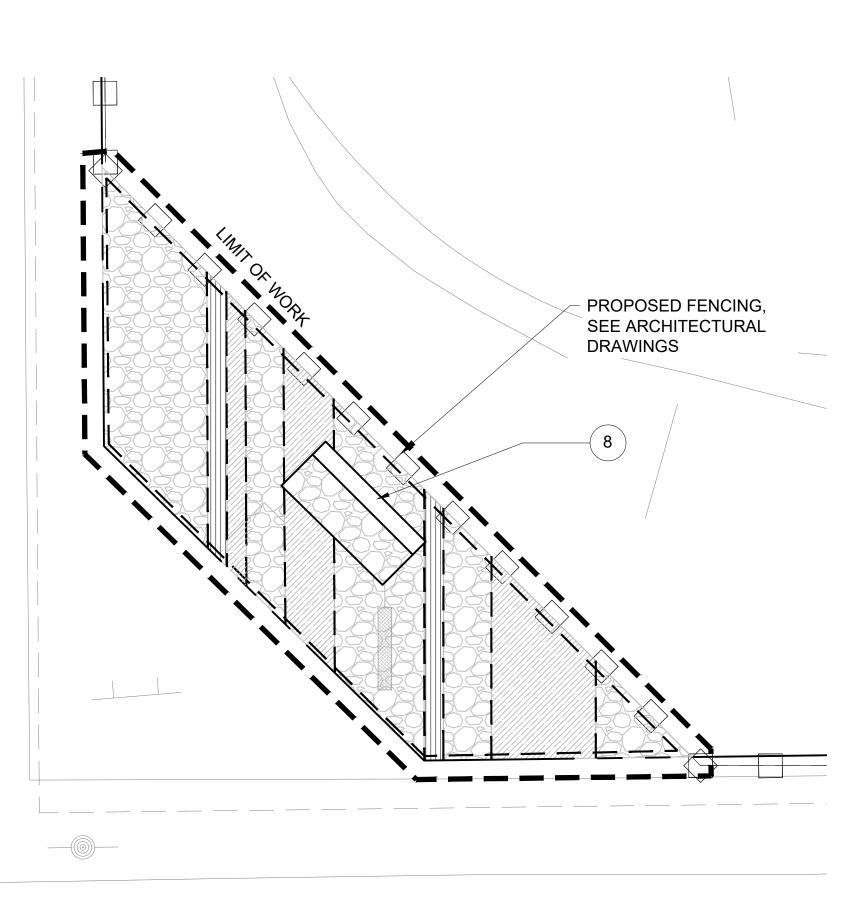
LANDSCAPE DEMOLITION PLANS, NOTES

DATE: **05.08.2023** CLIENT PROJ NO:

PLEASE RECYCLE







MERRILL AVENUE AND KIMBALL AVENUE

SHEET LEGEND (SEE SHEET LI-03 FOR FULL LEGEND) DESCRIPTION SYMBOL SUB-SURFACE DRIPLINE EMITTER TUBING POINT OF CONNECTION POC | BALL VALVE (MANIFOLD ISOLATION) (SAME SIZE AS REMOTE CONTROL VALVE) DRIP CONTROL VALVE QUICK COUPLER VALVE IRRIGATION MAINLINE _____ IRRIGATION LATERAL LINE DRIPLINE TO PVC TRANSITIONAL FITTINGS DRIP AIR VACUUM RELIEF VALVE DRIP FLUSH VALVE DRIP OPERATIONAL INDICATOR HEAD

SHEET KEYNOTES

IRRIGATION FOR SIGN PLANTERS: SIGN FABRICATION SHALL PROVIDE (2) 1" SLEEVES / PENETRATIONS THROUGH PLANTER WALL FOR IRRIGATION, (1) PER PLANTER. CONTRACTOR SHALL INSTALL (2) ROWS OF SUB-SURFACE TUBING IN EACH PLANTER. HOLES / SLEEVES / PENETRATIONS THROUGH PLANTER WALL SHALL BE 6" MIN. BELOW FINISHED GRADE.

PURPOSE SIGN. SEE ARCHITECTURAL DRAWINGS.

APPROXIMATE VALVE LOCATION IN PLANTING AREA ONLY. VERIFY EXACT LOCATION OF EXISTING IRRIGATION MAINLINE AND REMOTE CONTROL VALVE WIRES. CONNECT TO THEM FOR NEW SYSTEM INSTALLATION.

FLAG POLE/CONCRETE PAD, SEE ARCHITECTURAL DRAWINGS.

EXISTING IRRIGATION MAINLINE AND WIRES (APPROXIMATE LOCATION, FIELD VERIFY).

ENSURE EXISTING DRIP SYSTEMS ARE WITH FLUSH VALVE ASSEMBLY AND DRIP AIR VACUUM RELIEF VALVE. PROVIDE THESE VALVES FOR EACH EXISTING SYSTEM AT NEW PROJECT INTERFACE. FLUSH SYSTEMS CLEAN.

TOP OF DRIP AIR VACUUM RELIEF VALVE AND DRIP FLUSH VALVE BOXES SHALL NOT BE VISIBLE FROM CAL AERO DRIVE AND SHALL BE HELD 1" MIN. BELOW TOP OF SIGN PLANTERS, TYP.

IRRIGATION FOR SIGN PLANTERS: SIGN FABRICATION SHALL PROVIDE (2) 1" SLEEVES / PENETRATIONS THROUGH PLANTER WALL FOR IRRIGATION, (1) PER PLANTER. HOLES / SLEEVES / PENETRATIONS THROUGH PLANTER WALL SHALL BE 6" MIN. BELOW FINISHED GRADE.

SHEET NOTES

1. REFER TO SHEET L1.02 FOR IRRIGATION LEGEND AND NOTES. 2. REFER TO SHEETS L1.03 & L1.04 FOR IRRIGATION DETAILS. 3. IRRIGATION MAINLINE, VALVE MANIFOLD AND EQUIPMENT IS SHOWN DIAGRAMMATICALLY FOR DRAWING CLARITY.

CONTROLLER AND MAINLINE INFORMATION

EXISTING RAINBIRD ESP-MC WALL MOUNT AUTOMATIC IRRIGATION CONTROLLER IS LOCATED OUTSIDE OF BUILDING B-130, EAST SIDE OF ROAD. -36 TOTAL STATIONS

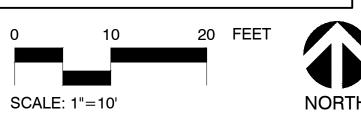
-23 STATIONS USED

-NO WEATHER/RAIN SENSOR SIGNAL TRACE EXISTING WIRES TO ENSURE NEW VALVE IS CONNECTING INTO VIABLE WIRES AT THE CONTROLLER. PROGRAM WATERING TIME FOR NEW VALVE.

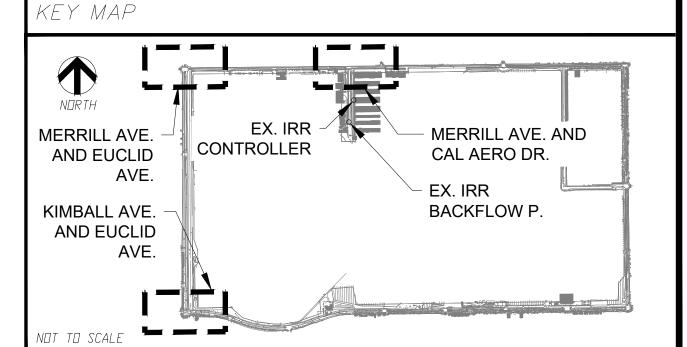
EXISTING 1 1/2" POTABLE IRRIGATION REDUCED PRESSURE BACKFLOW PREVENTER IN ALUMINUM ENCLOSURE LOCATED AT THE BEGINNING OF MEDIAN ON SOUTH WEST SIDE FROM THE PROJECT LOCATION.

LATERAL PIPE SIZING GUIDE

(UNLESS OTHERWISE NOTED ON PLANS) - 0 - 7 GPM 1 1/4" - 15 - 20 GPM - 8 - 14 GPM 1 1/2" - 21 - 30 GPM







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8910 UNIVERSITY CENTER LN, #650 SAN DIEGO, CA 92122 619 744 4077 / www.hmcarchitects.com

Δ 100% CONSTRUCTION DOCUMENTS

DATE

04-12-2023

05-08-2023

△ DESCRIPTION Δ 50% CONSTRUCTION DOCUMENTS

FACILITY:

7000 MERRILL AVE CHINO, CA 91710

CHINO AIRPORT UPGRADE PERIMETER FENCING AND

MERRILL AVENUE AND CAL AERO DRIVE LANDSCAPE IRRIGATION PLAN

DATE: 05.08.2023 CLIENT PROJ NO:

	IRRIGATION LEGEND								
SYMBOL	DESCRIPTION	MANUFACTURER / MODEL NO.	REMARKS	DETAIL					
POC	POINT OF CONNECTION	-	APPROXIMATE LOCATION SHOWN, FIELD VERIFY	-					
	INLINE DRIP EMITTER TUBING	NETAFIM TLCV-06-18, DESIGNED AT 20 PSI OPERATING PRESSURE	APPROXIMATE LOCATION SHOWN, FIELD VERIFY. INSTALL TUBING IN ALIGNMENT INDICATED ON PLAN	F/L1.03 & A/L1.04					
×	BALL VALVE (MANIFOLD ISOLATION)	1" LASCO TRUE UNION ISOLATION VALVE 050N SERIES,	APPROXIMATE LOCATION SHOWN, FIELD VERIFY. INSTALL IN PLANTING AREA ONLY	A/L1.03					
•	DRIP CONTROL VALVE	RAIN BIRD XCZ-100-PRF, 1" SIZE (0.20 -10.0 GPM) INSTALL IN 14"X19" NOM. GREEN CARSON BOX	APPROXIMATE LOCATION SHOWN, FIELD VERIFY. INSTALL IN PLANTING AREA ONLY	C/L1.03					
•	QUICK COUPLING VALVE	RAIN BIRD 44-LRC, 1" SIZE IN 10" ROUND GREEN CARSON BOX	APPROXIMATE LOCATION SHOWN, FIELD VERIFY. INSTALL IN PLANTING AREA ONLY	B/L1.03					
	IRRIGATION MAINLINE	PVC SCHEDULE 40 WITH PVC SCH 40 FITTINGS	DEPTH OF COVER PER TRENCHING DETAIL	E/L1.03					
	IRRIGATION LATERAL LINE	PVC SCHEDULE 40 WITH PVC SCH 40 FITTINGS	APPROXIMATE LOCATION SHOWN, FIELD VERIFY. DEPTH PER TRENCHING DETAILS	E/L1.03					
-	DRIP TO PVC LINE TRANSITION FITTINGS	PVC SCH 40 ELL, LINE SIZE SLIP X $\frac{1}{2}$ " FIPT AND $\frac{1}{2}$ " BARBED MALE ADAPTER	INSTALL PER IRRIGATION DETAILS	F/L1.03 & A/L1.04					
(DRIP AIR / VACUUM RELIEF VALVE	RAIN BIRD ARV050, 1/2" AIR VACUUM RELIEF VALVE INSTALL IN 10" ROUND GREEN CARSON BOX	APPROXIMATE LOCATION SHOWN, FIELD VERIFY. INSTALL AT HIGHEST ELEVATION OF DRIP ZONE IN PLANTING AREA ONLY	C/L1.04					
©	DRIP FLUSH VALVE ASSEMBLY	NETAFIM TLO50MFV-1 : 1/2" AUTOMATIC FLUSH VALVE IN 10" ROUND GREEN CARSON BOX	APPROXIMATE LOCATION SHOWN, FIELD VERIFY. INSTALL IN PLANTING AREA ONLY	B/L1.04					
Ф	DRIP OPERATIONAL INDICATOR	HUNTER ECO-INDICATOR ECO-ID-12, 12" POP-UP	APPROXIMATE LOCATION SHOWN, FIELD VERIFY. INSTALL AT LOCATION NOTED IN PLANTING AREA ONLY	D/L1.04					
NO SYMBOL	WATERPROOF WIRE CONNECTOR	SPEARS DRI-SPLICE #100 WITH #300 SEALANT	INSTALL AT ALL BELOW GRADE WIRE SPLICES	D/L1.03					

IRRIGATION NOTES

- 1. PRIOR TO ANY CONSTRUCTION, CONTACT AND COORDINATE WORK WITH OWNER'S REPRESENTATIVE TO VERIFY THE LOCATIONS OF ALL EXISTING IRRIGATION EQUIPMENT SUCH AS HEADS, DRIP SYSTEM COMPONENTS, VALVES, VALVE BOXES, CONTROLLERS AND REMOTE CONTROL WIRING THAT MAY FALL ADJACENT TO, AND WITHIN THE LIMIT OF NEW CONSTRUCTION.
- 2. ASCERTAIN THE EXTENT OF ANY SIMULTANEOUS AND ESSENTIAL WORK BY OTHERS ON THE SITE. CONTRACTORS SHALL COORDINATE THEIR OPERATIONS AND SHALL COOPERATE TO MINIMIZE INTERFERENCE.
- 3. CORRELATE AND CONFIRM DIMENSIONS AT THE JOB SITE PRIOR TO START OF ANY WORK.
- 4. THIS SYSTEMS ARE DESIGNED ACCORDING TO AN EXISTING AVAILABLE WATER PRESSURE OF 62 PSI AVAILABLE AT THE EXISTING BACKFLOW IRRIGATION PREVENTER. A MINIMUM OF 20 PSI IS REQUIRED AT THE DRIPLINE. ENSURE ALL LANDSCAPED AREAS AFFECTED BY THIS CONSTRUCTION RECEIVE COMPLETE IRRIGATION COVERAGE.
- 5. VERIFY THE EXACT LOCATION AND THE EXISTING AVAILABLE WATER PRESSURE AT POINT OF CONNECTION PRIOR TO ORDERING ANY IRRIGATION MATERIALS AND PROCEEDING WITH INSTALLING IRRIGATION SYSTEM. IF THE CONTRACTOR FAILS TO NOTIFY THE LANDSCAPE ARCHITECT SHOULD THE EXISTING AVAILABLE WATER PRESSURE FOUND BE DIFFERENT, CONTRACTOR SHALL BE RESPONSIBLE FOR ANY CHANGES AND ADDITIONS THAT MAY OCCUR TO THE SYSTEMS.
- 6. IRRIGATION MAINLINE, SPRINKLER HEADS AND EQUIPMENT ARE SHOWN DIAGRAMMATICALLY. MAINLINE AND VALVES SHALL NOT BE PLACED IN PAVED AREAS. INSTALL MAINLINE WHENEVER POSSIBLE 18" FROM WALKS, CURBS AND WALLS.
- 7. VERIFY EXACT LOCATION OF ALL UNDERGROUND UTILITIES, STRUCTURES, EXISTING IRRIGATION VALVES, MAINLINE, IN WORK AREA PRIOR TO START OF CONSTRUCTION. IF A CONFLICT EXISTS BETWEEN SUCH OBSTACLES AND THE PROPOSED WORK, CONTRACTOR SHALL PROMPTLY NOTIFY LANDSCAPE ARCHITECT TO ARRANGE FOR RELOCATIONS IF REQUIRED WITHIN WORK AREA PRIOR TO START OF CONSTRUCTION.
- 8. INSTALL QUICK COUPLING VALVES AND REMOTE CONTROL VALVES ADJACENT TO WALKS AND CURBS (12" MAX. FROM SUCH EDGES) IN PLANTING AREAS WHENEVER POSSIBLE.
- 9. ALL LATERAL END RUNS ARE 3/4" SIZE UNLESS INDICATED OTHERWISE.
- 10. ALL DRIPLINE SHALL BE INSTALLED AND ADJUSTED TO KEEP WATER OFF ALL PAVING, WALKS, NON-PLANTED AREAS AND OTHER STRUCTURES, AT ALL TIMES.
- 11. ALL PLANTINGS SHALL BE FULLY WATERED IN UPON PLANTING. DO NOT RELY SOLELY UPON THE DRIP SYSTEM. UTILIZE SUPPLEMENTAL HOSE WATERING AS REQUIRED, INITIALLY AND DURING THE PLANT ESTABLISHMENT PERIOD, TO ENSURE ALL PLANTINGS RECEIVE ADEQUATE AND REGULAR WATER TO THE ENTIRE ROOT ZONE.

AGENCY APPROVAL:



HMC Architects

2277-035-101

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 Δ
 DESCRIPTION
 DATE

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 50% CONSTRUCTION DOCUMENTS
 04-12-2023

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 100% CONSTRUCTION DOCUMENTS
 05-08-2023



FACILITY

7000 MERRILL AVE

PROJECT:

CHINO AIRPORT UPGRADE PERIMETER FENCING AND

SHEET NAME:

LANDSCAPE IRRIGATION LEGEND AND NOTES

PROGRESS

DATE: **05.08.2023** CLIENT PROJ NO:

1102

1) VALVE BOX, SEE SPECS. (DO NOT CUT ADDITIONAL HOLES IN

(2) ISOLATION BALL VALVE. REFER

- TO LEGEND (3) FINISH GRADE
- (4) BACKFILL MATERIAL
- (5) PVC SCH 80 MALE ADAPTER, MIPT X SLIP, LINE/VALVE SIZE
- (6) FILTER FABRIC (MIRAFI #140N). WRAP 1 LAYER AROUND BOX **COVERING HOLES**

(7) PRESSURE SUPPLY. LENGTH AS REQUIRED. REFER TO LEGEND FOR CLASS

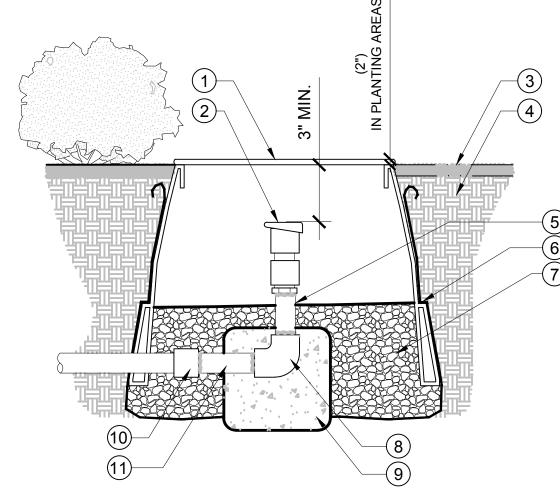
BOTTOM OF VALVE)

(8) PVC SCH 40, 45 DEGREE ELL'S. (4) REQUIRED

(9) GRAVEL BASE AND SUMP. (COMPACT GRAVEL FOR BOX BASE, DO NOT USE BLOCKS OR BRICKS, FILL GRAVEL TO

NOTE:

USE TEFLON TAPE ON ALL THREADED CONNECTIONS.



(7) GRAVEL BASE AND SUMP.

(8) BRASS 90 DEGREE ELL

1 CU.FT MINIMUM

(11) THREADED BRASS NIPPLE.

LENGTH AS REQUIRED

(9) CONCRETE THRUST BLOCK.

(10) BRASS COUPLING WITH PVC SCH

80 MALE ADAPTER. SLIP X PT

(COMPACT GRAVEL FOR BOX BASE,

FILL GRAVEL TO BOTTOM OF VALVE

DO NOT USE BLOCKS OR BRICKS,

(1) VALVE BOX, SEE SPECS. (DO NOT CUT ADDITIONAL HOLES IN BOX)

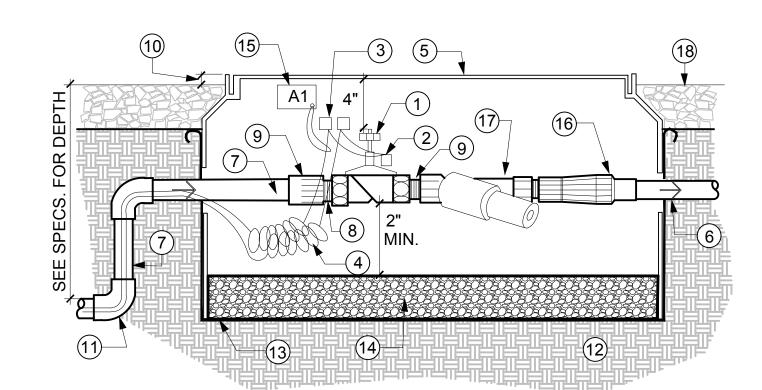
2 QUICK COUPLING VALVE. REFER TO LEGEND.

- (3) FINISH GRADE
- (4) BACKFILL MATERIAL
- 5 THREADED BRASS PIPE RISER. LENGTH AS REQUIRED
- 6 FILTER FABRIC (MIRAFI #140N). WRAP 1 LAYER AROUND BOX, COVERING HOLES

SECTION

USE TEFLON TAPE ON ALL THREADED CONNECTIONS.

USE TEFLON TAPE ON ALL THREADED CONNECTIONS.



- (1) REMOTE CONTROL VALVE
- (2) SOLENOID
- (3) WATERPROOF WIRE CONNECTORS (SEE SPECS.)
- (4) CONTROL WIRE W/ 4' MIN. EXTRA WIRE,
- COILED, & TAPED AT 10 FT INTERVALS
- (5) VALVE BOX (SEE SPECS.)
- (6) PVC NON-PRESSURE PIPE (SEE SPECS.)
- (7) PVC PRESSURE PIPE (SEE SPECS.)
- (8) PVC SCH 80 THREADED NIPPLE (SIZE AS REQUIRED)
- (9) PVC SCH 40 ADAPTER (AS REQUIRED)
- (10) 2" ABOVE FINISH GRADE
- (11) PVC SCH 40 ELL (AS REQUIRED)

(12) UNDISTURBED/COMPACTED

- SUBGRADE (13) FILTER FABRIC (MIRAFI #140N) WRAP 1 LAYER AROUND BOX,
- COVERING HOLES (14) 1 CU. FT. MIN. PEA GRAVEL
- (15) VALVE I.D. TAG
- (16) PRESET PRESSURE REGULATOR
- (17) INLINE STRAINER (FILTER) (18) FINISH GRADE

ISOLATION BALL VALVE SECTION

SCALE: N.T.S.

QUICK COUPLING VALVE

SCALE: N.T.S.

DRIP REMOTE CONTROL VALVE ASSEMBLY

SECTION

SCALE: N.T.S.

CRIMP SLEEVE PLUG **WIRES**

INSTALLATION STEPS (1) INSERT WIRES THROUGH HOLES IN CASE OF BODY

- (2) TWIST STRIPPED WIRES TOGETHER AND APPLY CRIMP SLEEVE WITH AN INDENT TYPE CRIMPING TOOL. TRIM EXCESS BARBED WIRE
- (3) PUSH WIRES ALL THE WAY INTO THE PLUG TO COMPLETELY SEAL THE CRIMP

WIRE CONNECTOR

ISOMETRIC

(4) FILL PLUG WITH SEALANT

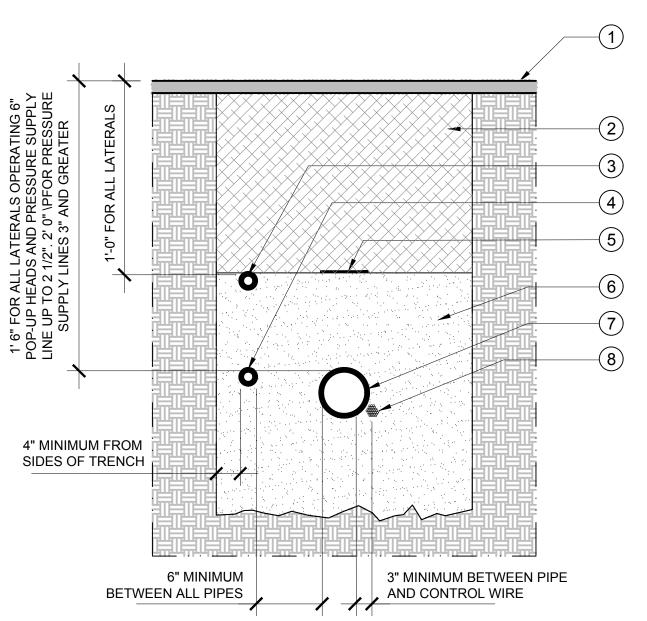


(5) INVERT BODY AND INSERT PLUG INTO BODY UNTIL IT **SNAPS TIGHT**

NOTES:

1. FITS AWG #18, #16, #14, #12 OR #10 WIRE.

2. FOR TWO-WIRE SYSTEM USE CONNECTOR SPECIFIED IN LEGEND.

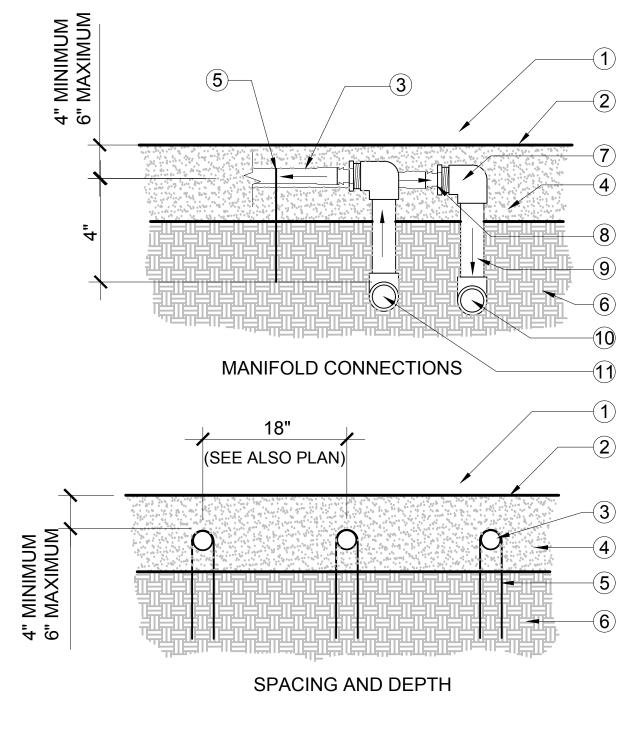


(1) FINISH GRADE

2) BACKFILL MATERIAL. FREE FROM ALL ROCK AND DEBRIS GREATER THAN ONE INCH

NON-PRESSURE LATERAL LINE POP-UPS 6" OR LESS. SEE LEGEND FOR CLASS, REFER TO PLAN FOR

- NON-PRESSURE LATERAL LINE FOR 12" POP-UP HEADS. SEE LEGEND FOR CLASS, REFER TO PLAN FOR SIZE
- (5) 3" DETECTABLE MARKING TAPE. NATIVE BACKFILL MATERIAL
- FREE FROM ALL ROCK AND DEBRIS GREATER THAN ONE HALF INCH. 6" ABOVE AND 6" BELOW PRESSURE SUPPLY LINE
- 7) PRESSURE SUPPLY LINE. SEE LEGEND FOR CLASS, REFER TO PLAN FOR SIZE
- (8) CONTROL WIRES, BURIED 2" AWAY FROM AND BESIDE PRESSURE SUPPLY LINE. **BUNDLE WIRES TOGETHER** WITH TAPE AT 10' MAXIMUM INTERVALS



PLANT MATERIAL PER PLANTING PLAN.

FINISH GRADE

EMITTER DRIPPERLINE. SEE LEGEND.

AMENDED BACKFILL.

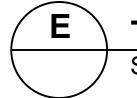
- VINYL COATED TUBING STAPLE. SALCO DTS OR EQUAL. 1 PER EMITTER, PUSHED INTO SOIL.
- EXISTING SUBGRADE.
- PVC SCH 40 ELL, LINE SIZE SLIP X ½" FIPT.
- $\frac{1}{2}$ " BARBED MALE ADAPTER.
- 6" LONG, 1/2" FLEXIBLE VINYL NIPPLE (GPH GFN-050-600) FROM LATERAL DEPTH.
- 10 LATERAL LINE. REFER TO PLAN FOR SIZE.
- EXHAUST HEADER WITH LINE SIZE SLIP TEE.

NOTES:

- 1. USE TEFLON TAPE ON ALL THREADED CONNECTIONS.
- 2. REFER ALSO TO PLANS FOR SPECIFIC DRIPLINE NOTES FOR SIGNAGE PLANTER AREA.

PROGRESS

CLIENT PROJ NO:



SCALE: N.T.S.

TRENCH IN LANDSCAPE SECTION

SCALE: N.T.S.

SUB SURFACE DRIPLINE SECTION

SCALE: N.T.S.

HMC Architects

AGENCY APPROVAL:

CONSULTANT

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Δ 50% CONSTRUCTION DOCUMENTS

 Δ 100% CONSTRUCTION DOCUMENTS

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05-08-2023

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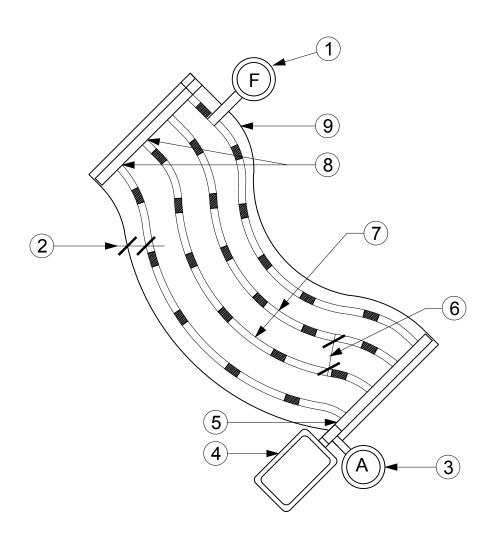
FACILITY:

7000 MERRILL AVE CHINO, CA 91710

CHINO AIRPORT UPGRADE PERIMETER FENCING AND

SHEET NAME: LANDSCAPE IRRIGATION DETAILS

DATE: **05.08.2023**



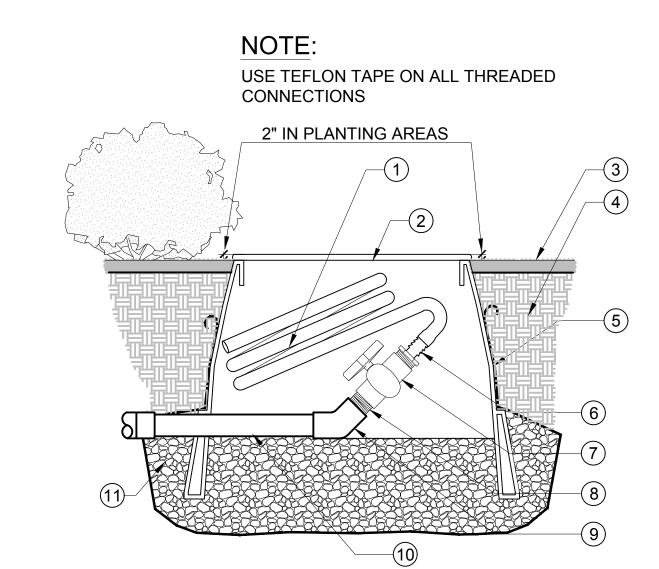
(1) DRIP END FLUSH VALVE

(2) PERIMETER TUBING 6" FROM EDGE OF HARDSCAPE. CENTER TUBING IN LONG LINEAR PLANTING AREAS.

- (3) AIR VACUUM RELIEF VALVE (PLUMBED TO PVC PIPE AT HIGH POINT).
- (4) REMOTE CONTROL VALVE W/BALL VALVE, DRIP FILTER & PRESENT PRESSURE REGULATOR.
- 5 PVC SCH 40 NON-PRESSURE SUPPLY LINE MANIFOLD
- (6) 18" SPACING (SEE ALSO PLAN)
- (7) DRIPLINE (STRICTLY PARALLEL AT ALL TIMES)
- 8 BARBED TEE/ ELL (AS REQUIRED)
- (9) AREA PERIMETER

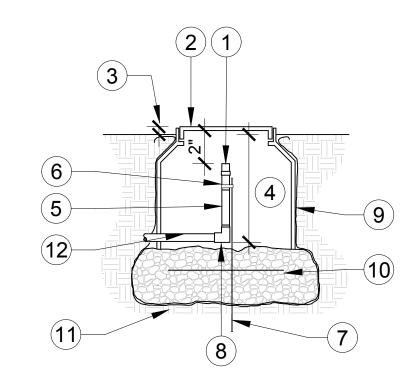
NOTES:

- 1. DRIP SYSTEM SHOWN ON PLAN CANNOT INDICATE ALL FORESEEN OR UNFORESEEN OBSTACLES (BOULDERS, FIXTURES, ETC.). PROVIDE NECESSARY FITTINGS, TUBING, AND PIPING AS REQUIRED TO PROVIDE COMPLETE WATER COVERAGE FOR LANDSCAPE PLANTINGS.
- 2. USE TEFLON TAPE ON ALL THREADED CONNECTIONS.
- 3. REFER ALSO TO PLANS FOR SPECIFIC DRIPLINE NOTES FOR SIGNAGE PLANTER AREA.



 \bigcirc 18" MINIMUM LENGTH OF $\frac{1}{2}$ " RUBBER OR SILICONE HOSE

- 2 VALVE BOX, (DO NOT CUT ADDITIONAL
- HOLES IN BOX) (3) FINISH GRADE
- (4) BACKFILL MATERIAL
- 5 FILTER FABRIC (MIRAFI #140N). WRAP 1 LAYER AROUND BOX, COVERING HOLES
- 6 PVC SCH 40, $\frac{3}{4}$ " MIPT X $\frac{1}{2}$ " BARB HOSE
- (7) PVC SCH 40, ³/₄" FIPT X FIPT BALL VALVE
- (8) PVC SCH 40, 3/4" THREADED NIPPLE (9) PVC SCH 40, 45 DEGREE ELL
- (10) TERMINAL END OF NON-PRESSURE LATERAL LINE, ½" SIZE
- (11) GRAVEL BASE AND SUMP. (COMPACT GRAVEL FOR BOX BASE, DO NOT USE BLOCKS OR BRICKS, FILL GRAVEL TO BOTTOM OF VALVE

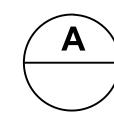


LEGEND

- (1) AIR VACUUM RELIEF VALVE. CENTER IN BOX
- (2) 10" ROUND VALVE BOX WITH BOLT DOWN LID, A STAINLESS STEEL BOLT AND WASHER SPECS. (DO NOT CUT ADDITIONAL HOLES IN BOX UNLESS HOLES ARE NOT PROVIDED OR NOT IN EFFECTIVE LOCATION FOR PIPE TO PASS THROUGH)
- (3) 2" IN PLANTING AREAS
- (4) SEE SPECS. FOR DEPTH
- (5) 1/2" THD'D PVC SCH 80 RISER WITH THREADED COUPLING
- 6) PLASTIC ZIP STRAP/TIE
- (7) #3 REBAR 24" MIN. LONG
- (8) PVC SCH 40 ELL (SS) W/REDUCING, TUBING ADAPTER AS REQUIRED
- (9) FILTER FABRIC (MIRAFI #140N OR APPROVED EQUAL PRODUCT). WRAP LAYER AROUND BOX COVERING HOLES
- (10) GRAVEL BASE AND SUMP (MIN. 1 CU FT)
- (11) UNDISTURBED/COMPACTED SUBGRADE
- (12) PVC LATERAL LINE

NOTES:

- 1. USE TEFLON TAPE ON ALL THREADED
- CONNECTIONS.
- 2. INSTALL VALVE AT HIGHEST POINT OF SYSTEM USE TEFLON TAPE ON ALL THREADED CONNECTIONS.



DRIPLINE TUBING SPACING & LAYOUT

SCALE: N.T.S.

SECTION

DRIP FLUSH VALVE (MANUAL OPERATION)

SCALE: N.T.S.

AIR VACUUM RELIEF VALVE

LEGEND

(1) PAVEMENT OR EDGE OF PLANTED AREA

2) POP-UP INDICATOR CAP ON POP-UP RISER

3) INSTALL POP-UP INDICATOR HEAD 1/2" ABOVE FINISHED GRADE IN SHRUB AND GROUND COVER AREAS

(4) AMENDED SOIL MATERIAL

HUNTER ECO-ID, 12" POP-UP HEAD

(6) PRE-ASSEMBLED POLY, TRIPLE SWING JOINT, 1/2" LAY LENGTH, HUNTER, MODEL #SJ512, OR APPROVED EQUAL

(7) DRIP SYSTEM EXHAUST HEADER, PVC LATERAL LINE PIPE, TYPE AND SIZE AS SHOWN ON LEGEND

(8) SCH 40 PVC SxSxT TEE FITTING, LATERAL X LATERAL X 1/2" SIZE WITH FIPT THREADS (TWO TOTAL AT

(9) DRIP LATERAL CONNECTION, PVC SCH 40 PIPE AND PVC SCH 40 TEE (SxSxS) OR ELL (SxS) FITTING

(10) SUBSURFACE DRIP TUBING, DEPTH AS SHOWN ON LEGEND AND DETAIL

(11) EXHAUST HEADER SHALL BE INSTALLED 10" MIN. BELOW FINSHED SOIL GRADE, TYPICAL

NOTES:

INSTALL INDICATOR HEAD A MIN. 30" FROM THE EDGE OF PAVING OR THE PLANTER EDGE. INSTALL IN LOCATION CLEAR OF PLANT BLOCKAGE.

2. USE TEFLON TAPE ON ALL THREADED CONNECTIONS.

SECTION

DRIP OPERATION POP-UP INDICATOR HEAD

SCALE: N.T.S.



SCALE: N.T.S.

FACILITY:

7000 MERRILL AVE **CHINO, CA 91710**

CHINO AIRPORT UPGRADE PERIMETER FENCING AND

SHEET NAME: LANDSCAPE IRRIGATION DETAILS

DATE: **05.08.2023** CLIENT PROJ NO:

CONSULTANT

2277-035-101

SAN DIEGO, CA 92122

Δ 50% CONSTRUCTION DOCUMENTS

∆ 100% CONSTRUCTION DOCUMENTS

△ **DESCRIPTION**

AGENCY APPROVAL:









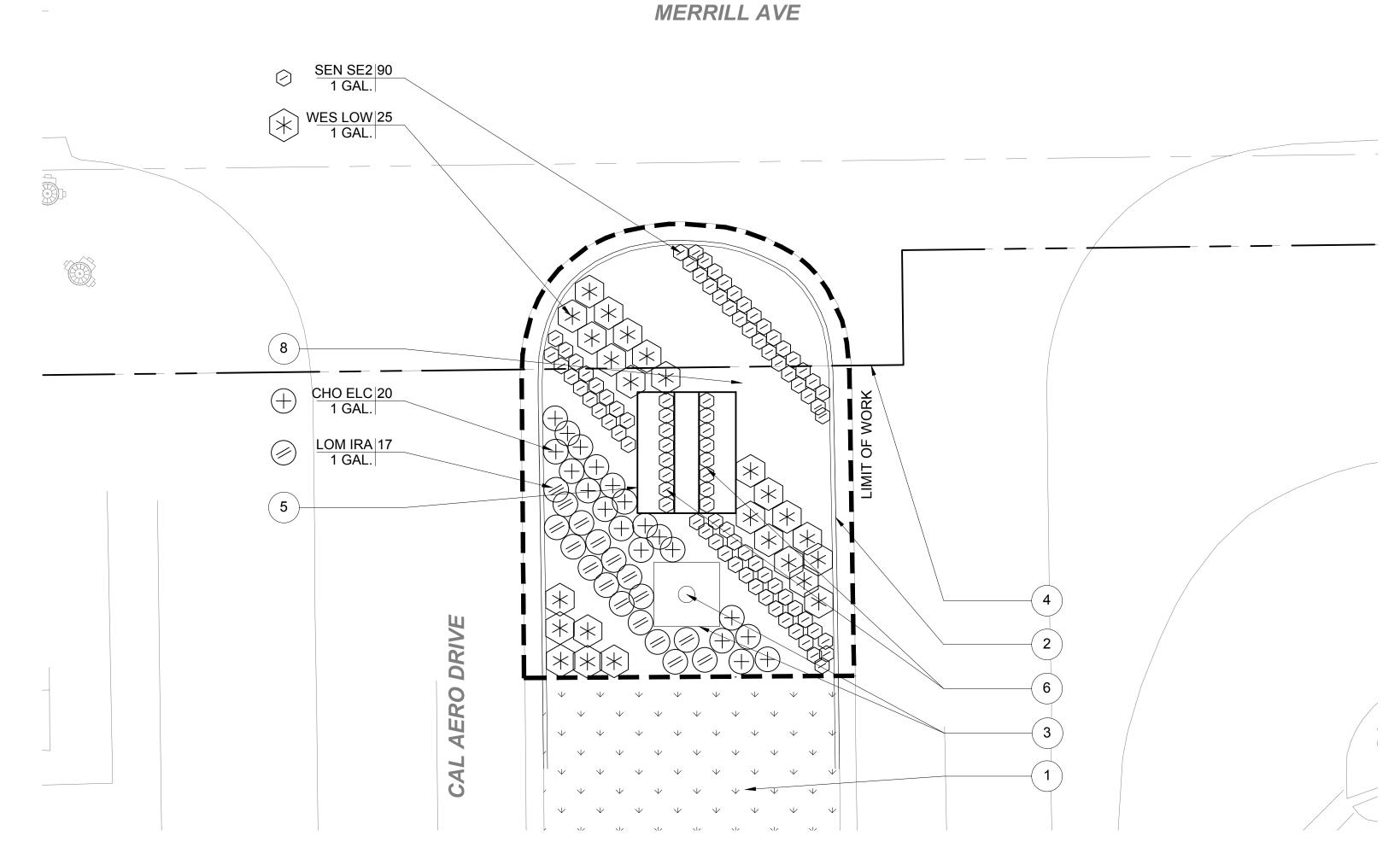




04-12-2023

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MERRILL AVENUE AND CAL AERO DRIVE - LANDSCAPE PLANTING PLAN

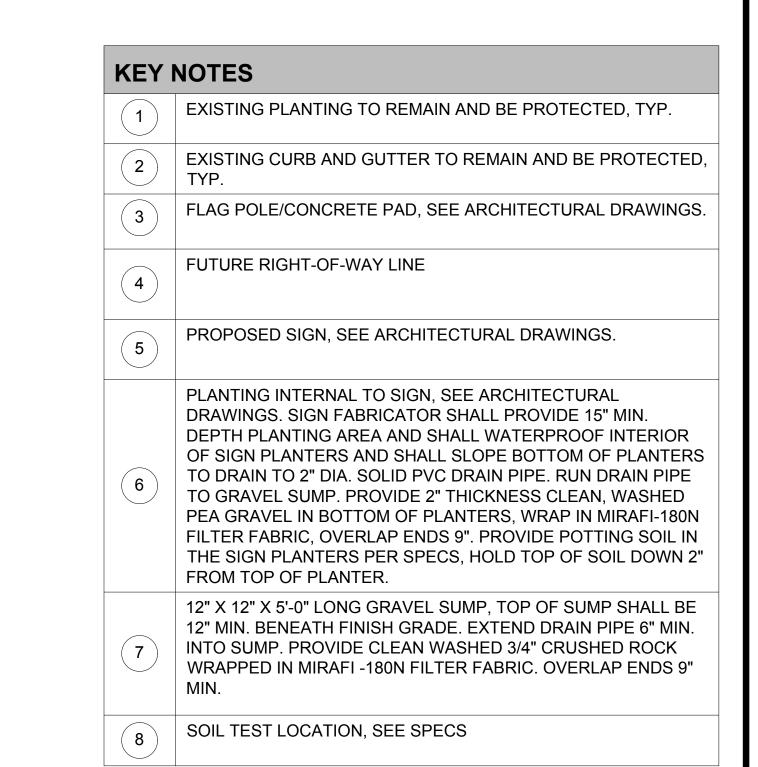
NOTE: MULCH AND EDGER NOT SHOWN FOR CLARITY, SEE PLAN BELOW

MERRILL AVENUE AND CAL AERO DRIVE - MULCHING PLAN

NOTE: PLANTING NOT SHOWN FOR CLARITY, SEE PLAN ABOVE

MERRILL AVE P-01 P-02 P-04

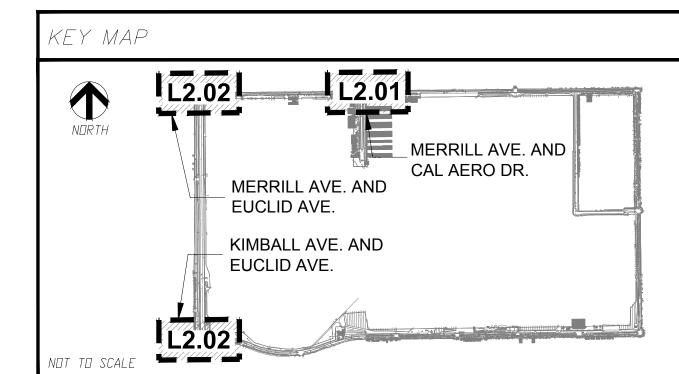
PLANTING MATERIAL LEGEND DETAIL SYMBOL DESCRIPTION P-01 D / L2.04 TYPE 1 COBBLE P-02 TYPE 2 COBBLE D / L2.04 P-03 D / L2.04 TYPE 3 COBBLE P-04 BARK MULCH P-05 STEEL EDGER C / L2.04 — —



SHEET NOTES

- 1. REFER TO SHEET L2.03 FOR PLANTING NOTES.
- 2. REFER TO SHEET L2.03 FOR FULL PLANTING LEGEND.
- 3. REFER TO SHEET L2.04 FOR PLANTING DETAILS. 4. APPLY MULCH IN ALL PROPOSED PLANTING AREAS PER PLANS.
- REFER TO PLANTING NOTES AND SPECIFICATIONS FOR TYPE AND

SCALE: 1"=10' NORTH



AGENCY APPROVAL:



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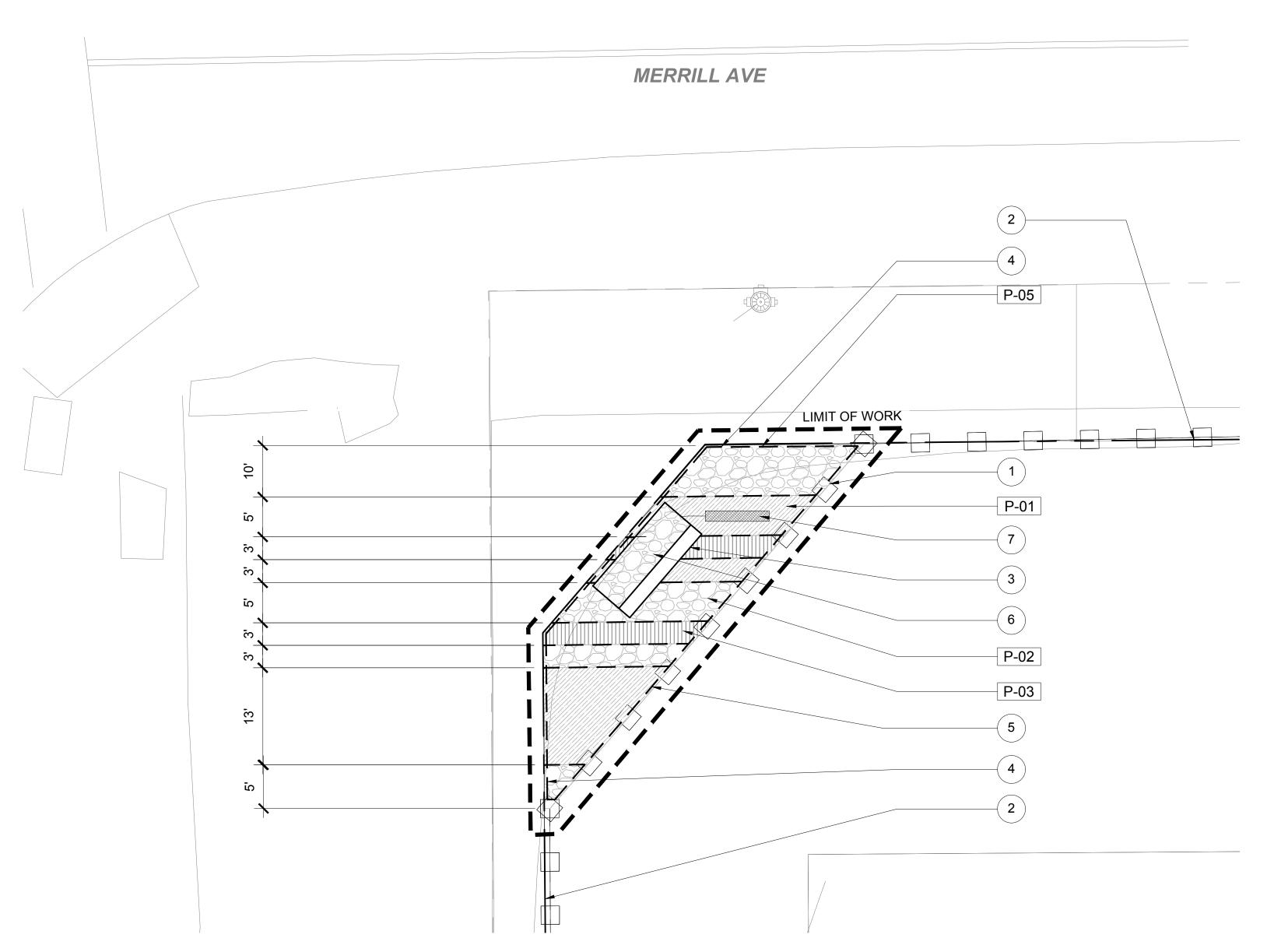
△ DESCRIPTION DATE 04-12-2023 Δ 50% CONSTRUCTION DOCUMENTS Δ 100% CONSTRUCTION DOCUMENTS 05-08-2023

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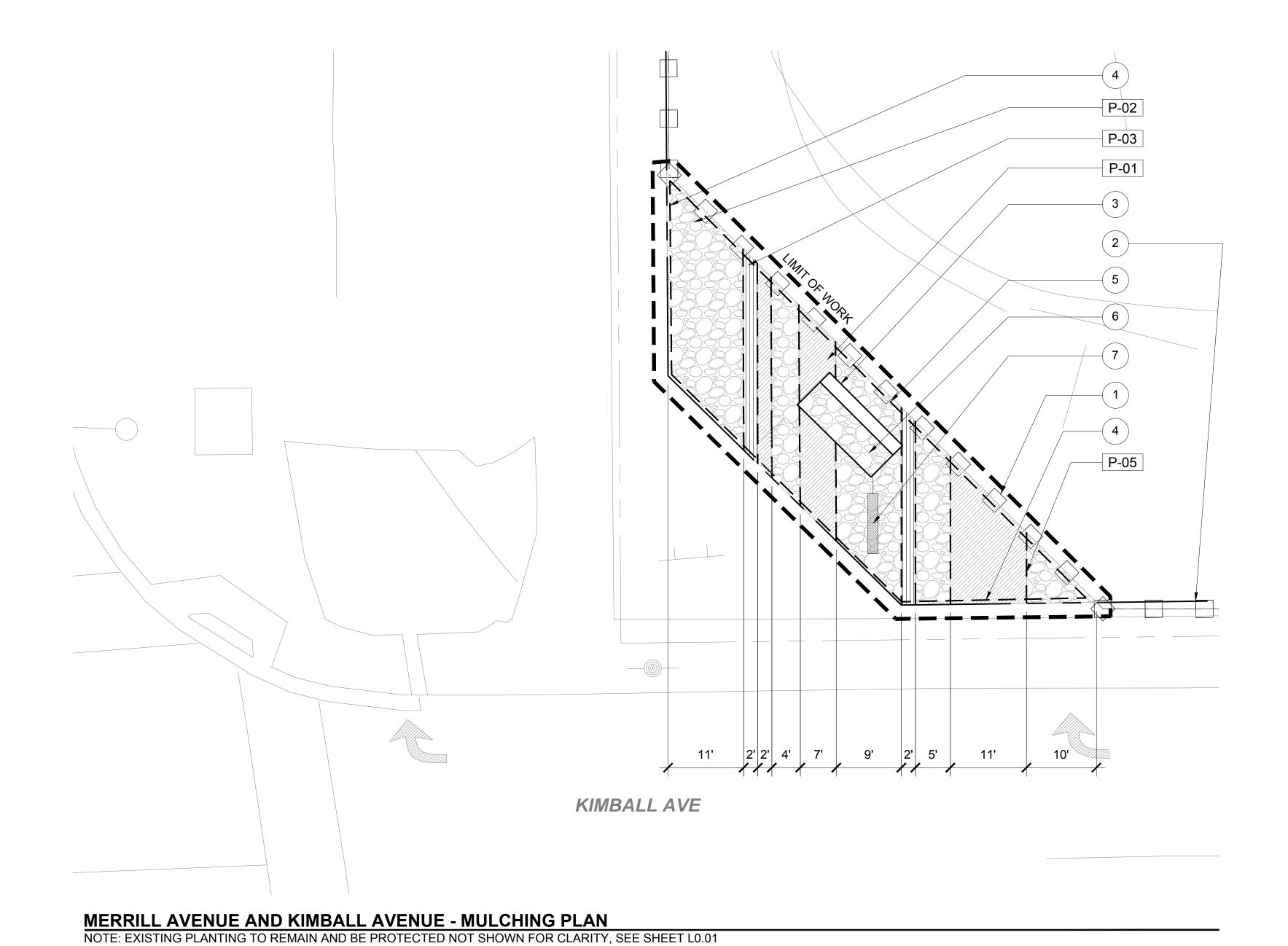
CHINO AIRPORT UPGRADE PERIMETER FENCING AND

LANDSCAPE PLANTING PLAN, MULCHING PLAN

DATE: **05.08.2023** CLIENT PROJ NO:



MERRILL AVENUE AND EUCLID AVENUE - MULCHING PLAN NOTE: EXISTING PLANTING TO REMAIN AND BE PROTECTED NOT SHOWN FOR CLARITY, SEE SHEET L0.01



PLANTI	PLANTING MATERIAL LEGEND						
KEY	SYMBOL	DESCRIPTION		DETAIL			
P-01	TYP	E 1 COBBLE		D / L2.04			
P-02	TYP	TYPE 2 COBBLE D					
P-03	TYP	E 3 COBBLE		D / L2.04			
P-05	— — STE	EL EDGER		C / L2.04			

KEY	NOTES
1	PROPOSED FENCING, SEE ARCHITECTURAL DRAWINGS.
2	FUTURE RIGHT-OF-WAY LINE
3	PROPOSED SIGN, SEE ARCHITECTURAL DRAWINGS.
4	EDGER SHOWN OFFSET FROM FUTURE RIGHT-OF-WAY FOR CLARITY - ALIGN EDGER WITH FUTURE RIGHT-OF-WAY LINE, TYP.
5	EDGER SHOWN OFFSET FROM FENCE FOR CLARITY - CONTRACTOR SHALL INSTALL EDGER AS BASE OF FENCE, TYP.
6	PLANTING INTERNAL TO SIGN, SEE ARCHITECTURAL DRAWINGS. SIGN FABRICATOR SHALL PROVIDE 15" MIN. DEPTH PLANTING AREA AND SHALL WATERPROOF INTERIOR OF SIGN PLANTERS AND SHALL SLOPE BOTTOM OF PLANTERS TO DRAIN TO 2" DIA. SOLID PVC DRAIN PIPE. RUN DRAIN PIPE TO GRAVEL SUMP PROVIDE 2" THICKNESS CLEAN, WASHED PEA GRAVEL IN BOTTOM OF PLANTERS, WRAP IN MIRAFI-180N FILTER FABRIC, OVERLAP ENDS 9". PROVIDE POTTING SOIL IN THE SIGN PLANTERS PER SPECS, HOLD TOP OF SOIL DOWN 2" FROM TOP OF PLANTER.
7	12" X 12" X 5'-0" LONG GRAVEL SUMP, TOP OF SUMP SHALL BE 12" MIN. BENEATH FINISH GRADE. EXTEND DRAIN PIPE 6" MIN. INTO SUMP. PROVIDE CLEAN WASHED 3/4" CRUSHED ROCK WRAPPED IN MIRAFI -180N FILTER FABRIC. OVERLAP ENDS 9" MIN.

SHEET NOTES

KEY MAP

L2.02 L L2.01

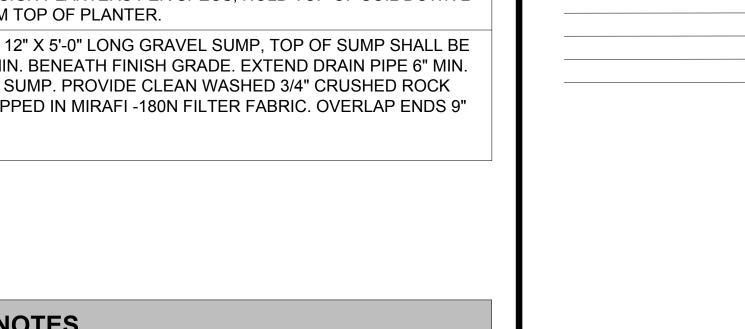
EUCLID AVE.

EUCLID AVE.

MERRILL AVE. AND

KIMBALL AVE. AND

- REFER TO SHEET L2.03 FOR PLANTING NOTES.
 REFER TO SHEET L2.03 FOR FULL PLANTING LEGEND.
- 3. REFER TO SHEET L2.04 FOR PLANTING DETAILS.
- 4. APPLY MULCH IN ALL PROPOSED PLANTING AREAS PER PLANS. REFER TO PLANTING NOTES AND SPECIFICATIONS FOR TYPE AND DEPTH.





MERRILL AVE. AND

CAL AERO DR.





7000 MERRILL AVE CHINO, CA 91710

CLIENT PROJ NO:

PLEASE RECYCLE

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DATE: **05.08.2023**

PLANTING LEGEND									
SHRUBS / GROUNDCOVER	CODE	BOTANICAL / COMMON NAME	SIZE	MIN. HEIGHT	MIN. SPREAD	WUCOLS	DETAILS	QTY	REMARKS
\oplus	CHO ELC	CHONDROPETALUM TECTORUM / 'EL CAMPO' CAPE RUSH	1 GAL.	15"-18"	15"-18"	MODERATE	A / L2.04	20	HEALTHY WITH NO DISEASES OR PESTS. WELL ROOTED BUT NOT ROOT BOUND. FULL AND SPREADING CLUMPS OF GRASS-LIKE LEAVES.
	LOM IRA	LOMANDRA LONGIFOLIA / 'BREEZE' MAT RUSH	1 GAL.	15"-18"	15"-18"	MODERATE	A / L2.04	17	HEALTHY WITH NO DISEASES OR PESTS. WELL ROOTED BUT NOT ROOT BOUND. FULL AND SPREADING CLUMPS OF GRASS-LIKE LEAVES.
\bigcirc	SEN SE2	SENECIO SEERPENS / BLUE CHALKSTICKS	1 GAL.	4"-6"	4"-6"	LOW	B / L2.04	90	HEALTHY NO DISEASES/PEST PRESENT. FULL FLESHY, UNDAMAGED LEAVES WITH NO LEAF TIP BROWNING. WELL-ROOTED. NOT ROOT BOUND.
*	WES LOW	WESTRINGIA FRUTICOSA / 'LOW HORIZON' COAST ROSEMARY	1 GAL.	8"-10"	12"-15"	LOW	A / L2.04	25	HEALTHY WITH NO DISEASES OR PESTS. WELL ROOTED BUT NOT ROOT BOUND. FULL AND BUSHY TO GROUND.

Y	ITEM	DETAIL	DESCRIPTION	COLOR & SIZE	NOTES & REMARKS	SUPPLIER INOFRMATION
P-01	TYPE 1 COBBLE	D / L2.04	CRESTA RUBBLE	COLOR: RUST-RED WITH BRONZE SIZE: 75% - 6" MINUS 25% - 3" MINUS	SEE SPECIFICATIONS. INSTALL TO A DEPTH OF 3" MIN. MIRAFI 180N WEED BARRIER FABRIC SHALL NOT BE VISIBLE ONCE COBBLE IS INSTALLED, TYP.	SOUTHWEST BOULDER & STONE PHONE: (619) 331-3120
P-02	TYPE 2 COBBLE	D / L2.04	COPPER CANYON CRUSHED ROCK.	COLOR: GOLD WITH BROWN TONES SIZE: 1"-3"	SEE SPECIFICATIONS. INSTALL TO A DEPTH OF 3" MIN. MIRAFI 180N WEED BARRIER FABRIC SHALL NOT BE VISIBLE ONCE COBBLE IS INSTALLED, TYP.	SOUTHWEST BOULDER & STONE PHONE: (619) 331-3120
P-03	TYPE 3 COBBLE	D / L2.04	CRESTA RUBBLE	COLOR: RUST-RED WITH BRONZE SIZE: 75% - 12" MINUS 25% - 3" MINUS	SEE SPECIFICATIONS. INSTALL TO A DEPTH OF 3" MIN. MIRAFI 180N WEED BARRIER FABRIC SHALL NOT BE VISIBLE ONCE COBBLE IS INSTALLED, TYP.	SOUTHWEST BOULDER & STONE PHONE: (619) 331-3120
P-04	BARK MULCH	-	GORILLA HAIR BARK MULCH	COLOR: RED AND BROWNS SIZE: 1/4" - 1/2"	SEE SPECIFICATIONS. INSTALL TO A DEPTH OF 3" MIN., DO NOT INSTALL WEED BARRIER FABRIC IN BARK MULCH AREAS, TYP.	SOUTHWEST BOULDER & STONE PHONE: (619) 331-3120
P-05	STEEL EDGER	C / L2.04	5-1/2" STEEL HEADER, 3/16" THICK	COLOR: BLACK FINISH: BLACK ANODIZED	REFER TO SPECIFICATIONS. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.	SURE-LOC PHONE: (800) 787-3562

LANDSCAPE PLANTING NOTES

- ALL FINISH GRADING AND LANDSCAPE OPERATIONS SHALL BE CARRIED OUT IN ACCORDANCE WITH THE PROJECT DRAWINGS, DETAILS, AND PROJECT SPECIFICATIONS. REFER TO PROJECT SPECIFICATIONS FOR ALL PLANTING REQUIREMENTS.
- SEE SHEET L2.04 FOR PLANTING DETAILS. SEE LANDSCAPE SPECIFICATIONS FOR ADDITIONAL INFORMATION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REVIEW AND COORDINATION OF ALL DRAWINGS AND SPECIFICATIONS PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL INFORM THE OWNER'S REPRESENTATIVE AND THE LANDSCAPE ARCHITECT IMMEDIATELY OF ANY CHANGED CONDITIONS WHICH OCCUR ON PROJECT SITE WHICH ARE NOT REFLECTED ON PLANS.
- REMOVE ALL WEEDS, DEBRIS, AND ROCKS LARGER THAN ONE INCH (1") FROM ALL PLANTING AREAS, AND DISPOSE OF APPROPRIATELY OFF-SITE.
- CONTRACTOR SHALL INSTALL A THREE-INCH (3") MIN. LAYER OF BARK, OR COBBLE MULCH IN ALL PROPOSED PLANTING AREAS, SEE PLANS FOR LOCATIONS. SUBMIT SAMPLE FOR APPROVAL BY OWNER'S REPRESENTATIVE, REFER TO SPECIFICATIONS.
- CONTRACTOR SHALL PROVIDE ELECTRONIC PHOTOGRAPHS OF ALL PLANTS FOR APPROVAL PRIOR TO PURCHASE AND INSTALLATION. REFER TO SPECIFICATIONS.
- CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE AT THE TIME OF DELIVERY OF ANY PLANT MATERIAL WHICH HAS BEEN DAMAGED OR IS IN POOR CONDITION. THE OWNER'S REPRESENTATIVE SHALL DETERMINE ACCEPTABILITY OF SUBJECT PLANT MATERIAL.
- PLANT MATERIAL SHALL BE INSPECTED BY THE OWNER'S REPRESENTATIVE BEFORE PLANTING. PLANT MATERIAL MAY BE REJECTED AT ANY TIME BY THE OWNER'S REPRESENTATIVE DUE TO POOR CONDITION, FORM, OR DAMAGE PRIOR TO, DURING, OR AFTER THE PLANTING PROCESS.
- 9. AT LEAST ONE PLANT OF EACH SPECIES DELIVERED TO THE SITE SHALL HAVE AN IDENTIFICATION TAG FROM THE SUPPLYING NURSERY SHOWING BOTH COMMON AND SCIENTIFIC NAMES.
- 10. THE PLANTING PLANS ARE DIAGRAMMATIC. PLANT MATERIALS SHALL BE SPOTTED AS SHOWN ON THE DRAWINGS. TREE LOCATIONS ARE TO BE APPROVED BY THE OWNER'S REPRESENTATIVE PRIOR TO THE EXCAVATION OF PLANTING PITS AND REMOVAL FROM CONTAINERS. FINAL LAYOUT OF ALL OTHER PLANT MATERIALS SHALL BE APPROVED IN THE FIELD BY THE OWNER'S REPRESENTATIVE PRIOR TO PLANTING.
- 11. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL PLANT COUNTS AND SQUARE FOOTAGES.
- 12. CONTRACTOR IS RESPONSIBLE FOR PROVIDING PLANT MATERIALS SUFFICIENT TO COVER AREAS SHOWN ON THE DRAWINGS AT THE SPECIFIED SPACING.
- 13. CONTRACTOR SHALL SUBMIT AN AGRICULTURAL SUITABILITY AND FERTILITY ANALYSIS REPORT, AS NOTED IN THE PLANTING SPECIFICATIONS, TO THE LANDSCAPE ARCHITECT AND THE OWNER'S REPRESENTATIVE FOR APPROVAL PRIOR TO ANY PLANTING WORK OR SOIL AMENDMENT INCORPORATION. THE RECOMMENDATIONS OF THE SOILS ANALYSIS REPORT FOR TOPSOIL AMENDMENT AND BACKFILL MIX AMENDMENT SHALL SUPERSEDE THE RECOMMENDATIONS LISTED IN THE SPECIFICATIONS.
- 14. CONTRACTOR SHALL COORDINATE LANDSCAPE WORK WITH THE WORK OF OTHER TRADES AND PROFESSIONS. CONTRACTOR SHALL MAINTAIN PROPER DRAINAGE DURING THE COURSE OF CONSTRUCTION.
- 15. CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF EXISTING PROPOSED UTILITIES WITHIN THE PROJECT LIMITS WHICH MAY BE AFFECTED BY INSTALLATION. IMMEDIATELY CONTACT THE OWNER'S REPRESENTATIVE IF A CONFLICT IS EVIDENT.
- 16. REMOVE ALL TYING MATERIALS, MARKING TAPES, AND NURSERY STAKES AT THE

TIME OF PLANTING.

- 17. CONTRACTOR SHALL PROTECT EXISTING VEGETATION AND OTHER IMPROVEMENTS OUTSIDE THE LIMITS OF WORK. CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OR REPLACEMENT OF ANY DAMAGES INCURRED DURING CONSTRUCTION.
- 18. THE MAINTENANCE PERIOD SHALL BEGIN ONLY UPON WRITTEN ACCEPTANCE OF THE COMPLETED PLANTED AREAS BY THE LANDSCAPE ARCHITECT AND THE OWNER'S REPRESENTATIVE.
- 19. PROVIDE MATCHING FORMS AND SIZES FOR ALL PLANT MATERIAL WITHIN EACH SPECIES AND SIZE DESIGNATED BY THE DRAWINGS.
- 20. ALIGN AND EQUALLY SPACE, IN ALL DIRECTIONS, ALL PLANT MATERIAL WITHIN EACH SPECIES SO DESIGNATED PER THESE NOTES AND DRAWINGS.
- 21. FURNISH ALL DELIVERY SLIPS OF THE SPECIFIED AMENDMENTS TO THE CONSTRUCTION MANAGEMENT SUPERVISOR AND OWNER'S REPRESENTATIVE FOR REVIEW AFTER PLANT INSTALLATION. IF IT IS DETERMINED MORE AMOUNTS ARE NEEDED, CONTRACTOR WILL BE REQUIRED TO ADD INTO SOIL WITH OBSERVATION OR PROVIDE CREDIT BACK TO OWNER.
- 22. ALL PLANTING AREAS SHALL BE GRADED TO HAVE POSITIVE DRAINAGE (2% MIN.) AWAY FROM THE BUILDING WALLS AND STRUCTURES AND TOWARDS AREA DRAINS.
- 23. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING EXISTING LANDSCAPE WITHIN SCOPE AREA. ALL PLANTING WITHIN SCOPE OF WORK AREAS ARE TO BE KEPT FREE OF LITTER AND DEBRIS. ALL PLANTS SHALL BE MAINTAINED IN A HEALTHY GROWING CONDITION. ALL DISEASED OR DEAD PLANTS SHALL BE REPLACED IMMEDIATELY. REPLACE PLANTINGS IF DAMAGED, WITH LIKE SIZE, DURING CONSTRUCTION.
- 24. CONTRACTOR SHALL BE HELD RESPONSIBLE FOR REPLACEMENT OF ALL PLANTINGS
- AND TURF DAMAGED DURING IRRIGATION REPAIR OR PLANTING INSTALLATION. 25. MINIMUM TREE SEPARATION DISTANCE FROM IMPROVEMENTS:

).	MIIN	IIMUM TREE SEPARATION DISTANCE FROM IMPROVEMENTS:	
	A.	TRAFFIC SIGNAL, STOP SIGN	20 FEET
	B.	UNDERGROUND UTILITY LINES	5 FEET
	C.	SEWER LINES	10 FEET
	D.	ABOVE GROUND UTILITY STRUCTURES (TRANSFORMERS, HYDRANTS, UTILITY POLES, ETC)	10 FEET
	E.	DRIVEWAYS	10 FEET
	F.	RESIDENTIAL STREETS RATED AT 25 MPH OR LOWER	5 FEET

25 FEET

G. INTERSECTIONS (INTERSECTING CURB LINES OF TWO STREETS)

AGENCY APPROVAL:

CONSULTANT 3916 Normal Street San Diego, CA 92103

HMC Architects

8910 UNIVERSITY CENTER LN, #650

SAN DIEGO, CA 92122

2277-035-101

619 744 4077 / www.hmcarchitects.com

△ DESCRIPTION DATE Δ 50% CONSTRUCTION DOCUMENTS 04-12-2023 ∆ 100% CONSTRUCTION DOCUMENTS 05-08-2023

Signature

O2/28/2025
Reneyal Date

FACILITY:

7000 MERRILL AVE CHINO, CA 91710

CHINO AIRPORT UPGRADE PERIMETER FENCING AND SIGNAGE

SHEET NAME: LANDSCAPE PLANTING LEGEND / NOTES

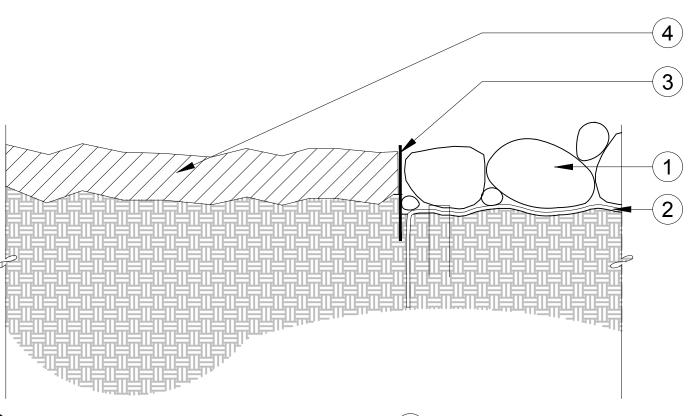
DATE: **05.08.2023** CLIENT PROJ NO:

LEGEND

- 1 SHRUB
- (2) SHRUB CROWN (1" ABOVE FINISH
- 3 MULCH, REFER TO SPECIFICATION AND PLANTING NOTES FOR DEPTH &
- 4" HIGH WATERING BERM ALL AROUND
- (5) PLANT PIT W/ ROUGHENED SIDES
- (6) PLANT TABLETS (3" BELOW GRADE), SEE SPECS
- 7 BACKFILL MIX (PUDDLE & SETTLE)
- (8) TOPSOIL AND SUBGRADE PER **SPECIFICATIONS**
- 9 2X ROOTBALL DIAMETER MIN.
- (10) ROOTBALL
- (11) DEPTH OF ROOTBALL
- (12) CURB OR PAVING (WHERE APPLICABLE)
- (13) EXISTING FINISH GRADE AT SLOPE (WHERE APPLICABLE)
- 14 NEW FINISH GRADE AT SLOPE (WHERE APPLICABLE)



NOT TO SCALE



LEGEND

- 1 COBBLE MULCH PLACE ON FINISH GRADE
- (2) WEED BARRIER FABRIC BENEATH COBBLE MULCH (NOT BARK MULCH), TYP. FABRIC SHALL NOT BE VISIBLE ONCE COBBLE HAS BEEN INSTALLED, TYP. FASTEN FABRIC TO GROUND WITH 6" GALVANIZED STEEL U STAKES AT 24" O.C. LAP FABRIC 12" WHERE
- 3 METAL EDGER, SEE DETAIL THIS
- (4) WOOD MULCH (NO WEED BARRIER

NOTE:

1. MIRAFI 180N WEED BARRIER FABRIC SHALL NOT BE VISIBLE ONCE COBBLE IS INSTALLED, TYP.

COBBLE MULCH SECTION

FABRIC JOINS.

NOT TO SCALE

LEGEND

1 EDGE OF PAVING 2 EQUAL, SEE PLANTING PLAN AND LEGEND FOR SPACING

(3) GROUNDCOVER

4 PLANT TABLET (1" MIN. AWAY FROM ROOTS), SEE SPECS

5 FINISH GRADE

PREPARE SOIL THROUGHOUT PLANTING AREA PER SPECS.

7 SUBGRADE

PLAN

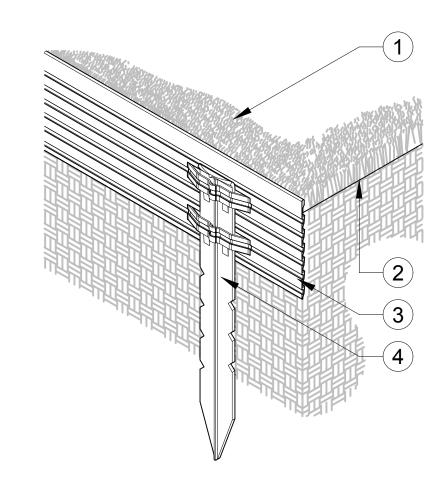
SECTION

PLAN | SECTION

GROUNDCOVER PLANTING

(8) 1/2 OF SPACING DISTANCE AT ALL EDGES

NOT TO SCALE



LEGEND

- 1 PLANTING AREA
- (2) FINISH GRADE
- (3) STEEL EDGER, REFER TO SPECIFICATIONS AND PLANTING MATERIAL AND FINISH SCHEDULE
- 4 STEEL STAKE, SECURE STAKE 1/2" BELOW TOP OF EDGING

NOTES:

- 1. SECURE STAKE INSIDE COBBLE MULCH
- OR GROUND COVER PLANTING, TYP. 2. EDGER SHALL BE NO MORE THAN 1/2"
- ABOVE FINISH GRADE.
- 3. COMPACT GRADE ADJACENT TO EDGER TO PREVENT SETTLING.
- 4. INSTALL STAKES PER MANUFACTURER'S RECOMMENDATIONS.

STEEL EDGER ISOMETRIC

NOT TO SCALE

AGENCY APPROVAL:

CONSULTANT 3916 Normal Street San Diego, CA 92103 619.294.4477 www.ktua.com

HMC Architects

2277-035-101

△ **DESCRIPTION**

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Δ 50% CONSTRUCTION DOCUMENTS

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DATE

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FACILITY:

7000 MERRILL AVE CHINO, CA 91710

CHINO AIRPORT UPGRADE PERIMETER FENCING AND

SHEET NAME: PLANTING DETAILS

DATE: 05.08.2023 CLIENT PROJ NO:

SECTION 328000 – LANDSCAPE IRRIGATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

Drawings and General Provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 GENERAL CONDITIONS

The General Conditions and Special Conditions are a part of this section and the contract for this work and apply to this section as fully as if repeated herein.

1.3 SCOPE OF WORK

- A. The scope of work includes the construction of an irrigation system for landscape planting areas. The extent of the irrigation system is shown on the drawings. The work includes all services, labor, materials, transportation and equipment necessary to perform the work as shown and/or noted on the drawings and/or as specified. Irrigation system shall be fully functional with all capabilities met.
- B. Contractor is responsible for close coordination with other contractors involved with grading, drainage and construction of site elements. For the project to be successful, it is the responsibility of Contractor to coordinate his work with other trades, as well as with the Landscape Architect or Owner's Representative prior to, and throughout the construction period to avoid conflicts which may interrupt another's work progress.

1.4 QUALIFICATIONS AND REQUIREMENTS

- A. Project Experience. Have a minimum of five (5) years experience installing three (3) different projects of this size including subterranean drip systems of similar scope. Provide project references.
- B. Project Completion. Successful completion of a minimum of three (3) commercial irrigation projects of this size, from beginning to end (not including projects that may not have been originally bid upon from the project beginning). Must have good reputation for quality of work and the ability to stay on schedule.
- C. Company Specialization. Professional contractor must have at a minimum, a C-27 license, is a Certified Irrigation Contractor (by the Irrigation Association) or equivalent certified Contractor with CLCA (California Landscape Contractors Association), specializing in commercial irrigation system installation and maintenance. A review of a current copy of each bidder's license is required.

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defective equipment, materials and workmanship. Repairs shall be made by the Contractor in a timely fashion at no expense to Owner. The guarantee shall include provisions for non-settling of the backfill in trenches and excavations which, if occur, shall be corrected, including repairs and/or replacement of any material damaged thereby or there from, to the complete satisfaction of, and at no cost to the Owner.

1.9 SITE OBSERVATION VISITS BY THE LANDSCAPE ARCHITECT

- A. In all cases where site observation visits of the irrigation system work are required and/or where portions of the work are specified to be performed under the direction and/or site observation of the Landscape Architect or Owner's Representative, the Contractor shall notify the Landscape Architect or Owner's Representative at least three (3) working days in advance of the time such site observations and/or directions are required (unless otherwise indicated).
- 1. Site observation will be required for the following parts of the work at the sole option of the Landscape Architect or Owner's Representative. The Contractor shall request the presence of the Landscape Architect to observe the installation at the following stages of progress:
- a. Substantial completion walkthrough prior to the start of maintenance. When the irrigation system is completed, the Contractor in the presence of the Landscape Architect or Owner's Representative, shall perform a coverage test to determine if the coverage of water afforded the planting areas is complete and adequate. The systems shall be automatic and be operated from the controller. The Contractor shall prepare all systems including making any adjustments prior to any coverage test and shall promptly furnish all materials and perform all work required to correct any inadequacies, without extra cost to the Owner.
- b. A final site observation visit by the Landscape Architect or Owner's Representative and performance test shall be at the same time as the final site observation of the specified landscape maintenance period work.

1.10 TESTING

A. All P.V.C. mains shall be subjected to a pressure test of existing line pressure for a period of four (4) hours and shall be watertight. All shut-off valves to isolate the section of mainline to be tested shall be fully closed prior to testing. All testing shall be in the presence of the Owner's Representative unless otherwise authorized. Liquid filled test gauges rated to a minimum 200 psi with maximum 5 psi increments shall be used for testing purposes.

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- D. Credit Rating. Business has a good credit standing with irrigation distributors, manufacturers and other creditors that the business relies upon to perform.
- E. Contractor shall be able to secure bonding.
- F. Contractor shall be able to obtain and carry appropriate insurance policies.
- G. Installation Expertise. It is required for the Contractor's performance that installers are experts in the operations they are engaged to perform.
- H. Contractors shall provide evidence of valid training, certifications, safety training, and continuing education of employees by industry leading trade groups such as the IA and CLCA.
- I. Company crew size and equipment shall be sufficient to accomplish the installation on schedule, and maintain the landscape according to maintenance specifications. The contractor shall own or have access to all the equipment necessary to properly install the irrigation system.
- J. Designation of site project leader or foreman shall not change for the duration of the installation.
- K. Site project leader or foreman must be able to fluently speak English and understand English.
- L. Mandatory Pre-Bid Conference. All contractors are required to participate in a Pre-Bid Meeting with the Landscape Architect and Owner's Representative to discuss project scope, expectations, and timetables.
- M. Bid Submittal. Must examine the bid to ensure it fully complies with all requirements of the construction documents. Bids not following the construction documents may be subject to rejection.
- N. Water Management. The contractor must be sensitive to the realities of limited water supplies in this region, and that it is in an Emergency Drought Response stage. Contractor shall provide along with his bid, a signed acknowledgement in writing that the State's landscape ordinance is in effect and will be adhered to at all times by his employees during installation and maintenance. Contractor and his employees shall know how to properly manage water that will provide the landscape with the health and appearance desired by the Owner, while minimizing the use of water.
- 1.5 RELATED DOCUMENTS

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- B. Test water mains as follows: (1) add water slowly to pipe, (2) bleed system at pressure gauge location to ensure all air is out of pipes, (3) pressurize system to line pressure for duration specified. Visually inspect for leaks while system is under constant pressure.
- C. All lateral lines and driplines shall be visually observed for leaks under line pressure, prior to burial of lines.
- D. All installed irrigation control wiring shall be visually observed by the Landscape Architect or Owner's Representative. Contractor shall be responsible for providing and passing a wire conductivity test for all remote control valve wiring. Testing shall be repeated as required until equipment tested passes inspection and exhibit correct operation.
- E. Authorization to proceed with installation shall be received prior to backfilling any trench. Do not cover any lines, sleeves, conduits, conductors, or fittings until they have been reviewed, and authorization to proceed is given by the Landscape Architect or Owner's Representative.

1.11 RECORD DRAWINGS

- A. Following construction, prior to the start of maintenance period, and prior to final acceptance of work, the Contractor shall provide a record set of drawings showing the irrigation system work. Utilize one complete set of irrigation drawing prints used for installing system, for indicating installed equipment. Make daily annotations thereon as project progresses, prior to burial of irrigation facilities. Lettering shall be 1/4" height minimum. Final submitted information shall be on a clean, full size set of bond copy prints for reproduction purposes. All items changed/relocated from original drawings shall be so indicated with the same symbol in the new location, the original symbol erased. All notes/callouts pertaining to the item shall be directed to new location. All work shall be neat, in red ink and subject to the satisfaction of the Landscape Architect and/or Owner's Representative. Once approved by the Landscape Architect and/or Owner's Representative, obtain one (1) reduced print copy of record drawings (11" X 17" format), laminate in plastic, and submit to Landscape Architect and/or Owner's Representative.
- B. Immediately upon the installation of any pipe or equipment, the Contractor shall indicate on the drawings the locations of said pipe or equipment. All locations of main line, and all conduits and sleeves shall be noted on plans with number, size and depth of cover at each location. Any detours around obstacles shall be noted with description of the obstacle and how the installation detoured, (for example, "shallow bury- 12" cover, or otherwise described for the occurrence).

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- A. Section 329000 for "Landscape Planting"
- B. Section 329119 for "Finish Grading"

1.6 REFERENCES

The latest editions of standards and specifications published by the following organizations, and referenced herein, apply to the work only to the extent specified by the reference.

- A. American National Standards Institute (ANSI)
- B. American Society for Testing and Materials (ASTM)
- C. United States General Services Administration (Federal Specification)
- D. Local Jurisdiction/s, Water Agency, State Agency, Local Health Department Regulations

1.7 SUBMITTALS

- A. Submit a list of all irrigation equipment to be used and to be handed over to the Owner, manufacturer's brochures, maintenance manuals, warrantees and operating instructions, within ten (10) calendar days of notice to proceed. Provide an index sheet clearly identifying (by underlining, circling, highlighting, etc.) the product name, manufacturer/model number, any options, and the sheet number where the product cut sheet is located in the submittal package.
- 1. If substitution of irrigation equipment from that which is specified on plans is proposed, Contractor shall provide in writing to the Landscape Architect or Owner's Representative the proposed substitution for approval prior to any installation. Substitution shall be equal or better. Approval by Landscape Architect of any items, alternate or substitute indicates only that the product or products apparently meet the requirements of the Drawings and Specifications on the basis of the information or samples submitted.
- B. Provide a copy of project as-builts and controller charts. Refer also to following section on details of submittal.
- C. Refer to extra irrigation equipment list indicated for irrigation materials to be provided to Owner prior to project turnover.

1.8 GUARANTEE

Furnish a guarantee in accordance with the General Provisions and Special Conditions for a period of one (1) year from the date of final acceptance, at the conclusion of the maintenance period by the Contractor. The entire system shall be guaranteed against

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C. Any changes in type/manufacturer/model number/size of equipment or installations from that shown on Drawings shall be so indicated on the Record Drawings. This includes irrigation legends, irrigation notes, irrigation details and any other information included in the construction of project.

D. All remote control valves shall be numbered by station and corresponding numbers shall be shown on the record drawings.

- E. All points of connection to water mains, wire splice boxes, remote control valves, drip air/vacuum relief valves, drip lateral flush valves, remote control valves, shut-off valves and quick coupling valves shall be located by measured dimensions, to the nearest one-half foot. Dimensions from two (2) different reference points minimum shall be given from permanent objects such as face of curbs, drain inlets, sidewalks, walls, structures and driveways. Use the nearest, best points of reference for documenting the dimensions for each item. Indicate lateral line routing to system where valve location and/or lateral line different than plans.
- F. For the inside surface of the cover of each Automatic Controller, prepare and mount a color-coded chart showing the valves, mainline, and systems serviced by that particular Controller. All valves shall be numbered to match the operation schedule and the drawings. Only those areas controlled by that Controller shall be shown. This chart shall be the as-built plan, entire or partial, showing building, walks, roads and walls. A photostatic print of this plan, reduced as necessary and legible in all details, shall be made to a size (11" X 17" size) that will fit into the Controller enclosure. This print shall be approved by the Landscape Architect and/or Owner's Representative and shall be hermetically laminated by plastic. This shall then be placed inside the enclosure door, or in an agreed to location given by the Owner.
- G. Record drawings shall be signed and dated in black ink by the Contractor attesting to and certifying the accuracy of the record drawings. Contractor shall indicate company name, address and phone number on record drawings.
- 1.12 OPERATION AND MAINTENANCE MANUALS
 - A. Prepare and deliver to the Landscape Architect of Record within ten (10) calendar days prior to completion of construction, a hardcopy binder containing the following information:
 - 1. Index sheet stating Contractor's address and telephone number, list of equipment with name and addresses of local manufacturers' representatives.
 - 2. Catalog and parts sheets on all material and equipment.

3. Equipment warranties and certificates.

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APPROVAL:

AGENCY

3916 Normal Street
San Diego, CA 92103
619.294.4477
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HMC Architects

2277-035-101

8910 UNIVERSITY CENTER LN, #650 SAN DIEGO, CA 92122 619 744 4077 / www.hmcarchitects.com



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 DESCRIPTION
 DATE

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 50% CONSTRUCTION DOCUMENTS
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 05-08-2023

Signature
02/28/2023
Regrend Date
05/08/2023
PE OF CALLE OR

FACILITY:

7000 MERRILL AVE CHINO, CA 91710

PROJECT:

CHINO AIRPORT UPGRADE PERIMETER FENCING AND SIGNAGE

SHEET NAME:
IRRIGATION SPECIFICATIONS

PROGRES:

DATE: **05.08.2023** CLIENT PROJ NO:

120

- 4. Guarantee statement.
- 5. Complete operating and maintenance instruction for all major equipment.

1.13 GENERAL REQUIREMENTS

- A. Code requirements shall be those of State and Municipal Codes and Regulations locally governing this work, providing that any requirements of the Drawings and Specifications, not conflicting therewith, but exceeding the Code Requirements, shall govern unless written permission to the contrary is granted by the Landscape Architect and/or Owner's Representative.
- B. The Contractor is responsible for understanding the correct installation and operation of all equipment. If installation or operation is in doubt, contact manufacturer's representative for instruction.
- C. Extreme care shall be exercised at all times by the Contractor in excavating and working in the project area due to existing utilities. Contractor shall be fully responsible for expenses incurred in the repair of damages caused by his operation.
- D. If discrepancies are encountered between the plans and actual site conditions, or within the plans themselves, the Contractor shall promptly contact the Landscape Architect for direction.
- E. For the purpose of clarity, plan locations of driplines, valves, drip flush valves, drip air/vacuum relief valves, splice boxes, and existing facilities are diagrammatic for drawing clarity and indicate the spacing and relative locations of all installations. Final locations of installations shall be determined by final site conditions and plantings prior to their installation with the Landscape Architect and/or Owner's Representative present.
- F. All lines shall have a minimum horizontal and vertical clearance of 6" from each other and 6" from lines of other trades. Parallel lines shall not be installed directly over one another. Install system so that repairs can be made without disturbing rest of system.
- G. Prior to starting any work, Contractor shall obtain a reading of existing available water pressure (no flow condition) at designated location and promptly submit written verification of pressure with date and time of recording to the Landscape Architect and/or Owner's Representative. Any differences to stated pressure on plans and readings may cause changes directed by the Landscape Architect and/or Owner's Representative. Failure of Contractor to provide stated information as

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and type of pipe, working pressure rating at 73.4 degrees F., and National Sanitation Foundation (NSF) rating, and date of extrusion.

F. All plastic pipes shall conform to ASTM D2441.

2.3 BRASS PIPE

A. Brass pipe shall be IPS Standard weight 125 pounds, 85% red brass.

2.4 FITTINGS AND CONNECTIONS

- A. Polyvinyl Chloride Pipe Fittings and Connections: Type I, Cell C1. 12454-B, Schedule 40, high impact molded fittings, manufactured from virgin compounds as specified for piping tapered socket or molded thread type, suitable for either solvent weld or screwed connections. Machine threaded fittings and plastic saddle and flange fittings are not acceptable. Furnish fittings permanently marked with following information: Nominal pipe size, type and schedule of material, and National Sanitation Foundation (NSF) seal of approval. PVC fitting shall conform to ASTM D2464 and D2466.
- B. Ultraviolet Resistant Polyvinyl Chloride Pipe Fittings and Connections: Type 1, Grade 1 Schedule 40, high impact molded fittings, manufactured in accordance with ASTM Designation D-2246 by the Brownline Pipe Company, or approved equal.
- C. Brass Pipe Fittings and Connections: Standard 125 pound class 85% red brass fittings and connections, IPS threaded.
- D. Polyvinyl Chloride Schedule 80 Risers and Nipples: Type 1, Grade 1, Schedule 80, high impact molded, manufactured from virgin compounds as specified for piping and conforming to ASTM D-2464. Threaded ends shall be molded threads only. Machined threads are not acceptable.
- E. Swing joint assemblies for sprinklers shall be as indicated on the details, or approved equal.
- F. PVC unions at valve assemblies shall be PVC SCH 80, molded and threaded inlet and outlet.

2.5 SOLVENT CEMENTS. PRIMER AND THREAD LUBRICANT

A. Solvent cements shall comply with ASTM D2564. Socket joints shall be made per recommended procedures for joining PVC plastic pipe and fittings with PVC solvent cement by the pipe and fitting manufacturer and procedures outlined in the Appendix of ASTM D2564.

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- noted above will cause the Contractor to bear full responsibility in cost, installation and equipment changes or additions for any changes necessary for a fully functional irrigation system with acceptable pressure for all site irrigation.
- H. Point of connection shall be approximately as shown on drawings. Connect new underground piping and valves and provide all flanges, adapters or other necessary fittings for connection.
- I. Permission to shut off any existing in-use water line must be obtained 48 hours in advance, in writing from the Landscape Architect or Owner's Representative. The Contractor shall receive instructions from the Landscape Architect or Owner's Representative as to the exact length of time of each shut-off.
- J. Where occurs, new work will tie into existing facilities. Prior to starting any work, coordinate with the Landscape Architect or Owner's Representative the exact tie-in locations and timing. Verify their exact locations and suitability for this new work. Promptly report to the Landscape Architect or Owner's Representative any obstacles to work, including conditions differing from that indicated on the drawings.
- K. It is of utmost importance, and Contractor's responsibility to preserve any water supply line's service, and to keep interruption to the irrigation water supply to existing, installed landscaped areas to a minimum. Contractor shall be responsible for providing continued watering of the site's existing landscape during the entire demolition and construction period. Contractor shall, with the Landscape Architect or Owner's Representative's prior written approval, utilize hose watering off building wall hydrants, highlining mainline, or whatever is deemed necessary to ensure watering is uninterrupted and existing plantings are maintained in a sustainable condition. Any cause for Contractor not preparing for, and not employing a watering program which results in plant decline or demise shall cause the Landscape Architect or Owner's Representative to have the existing plants replaced by the Contractor at Contractor's expense. The Landscape Architect and/or Owner's Representative shall cause Contractor to replace plants during the construction period, along with a plant replacement guarantee.
- L. Contractor shall acquaint himself with all site conditions and proposed site conditions as indicated on the plans and specifications, prior to any installation. Measure site planter areas and dimensions and compare them to drawing area dimensions. Do not proceed with installation in any area until conflicts between these measurements have been brought to the immediate attention of Landscape Architect and/or Owner's Representative, and resolved by and with the Landscape Architect and/or Owner's Representative. Do not willfully install the irrigation system as shown on the drawings when it is obvious in the field that unknown obstructions, grade differences or grade discrepancies in area dimensions exist that might not have been considered in engineering. Such differences shall be brought to

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B. Primer shall be as recommended by pipe manufacturer of pipe used.

C. Thread lubricant shall be Teflon ribbon-type, or approved equal, suitable for threaded installations as per manufacturer's recommendations.

2.6 CONTROL VALVES

A. Remote control valves shall be Rain Bird of model numbers as specified in the irrigation legend, or approved equal.

2.7 VALVE BOXES

- A. All valve boxes shall be commercial grade, professional irrigation type, integral green colored, with locking bolt-down green lids, by Carson-Brooks, Ametek, or approved equal. Include stainless steel bolt and stainless steel washer for each valve box.
- B. For remote control valve assembly: 14" x 19" nom. plastic valve box.
- C. For ball valve 1-1/2" and smaller: 10" diameter round plastic box.
- D. For quick coupling valve box: 10" diameter round plastic box.
- E. For drip flush assembly: 10" diameter round plastic valve box.
- F. For drip air vacuum relief valve assembly: 10" diameter round plastic valve box.
- G. For wire splice box, pull box and spare wire box: 10" diameter round plastic box.
- H. For air/pressure relief valve box: 10" x 19" nom. plastic valve box.
- 2.8 DRIP OPERATION INDICATOR HEADS
 - A. Drip operation indicator heads shall be of the pop-up types and sizes with designations indicated on the drawings.
- 2.9 QUICK COUPLING VALVES
 - A. Shall be 1" size brass, as indicated in the irrigation legend, or approved equal.

2.10 BALL VALVES

A. Ball valves for mainline isolation shall be Lasco Slo-Close full block true union ball valves, or approved equal.

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the immediate attention of the Landscape Architect and/or Owner's Representative. In the event this notification is not performed, the Contractor shall assume full responsibility and costs involved for any revisions necessary.

M. Where occurs, the Owner's Representative is to coordinate with their landscape maintenance staff to help ensure that the landscape areas where water to existing areas will be disrupted is well watered in the days preceding the start of demolition and construction to provide plants with a bank of moisture.

1.14 QUALITY ASSURANCE

- A. Refer to Site Observation Visits Section for irrigation installation milestones and quality control measures.
- B. Refer to Testing Section for testing and review of installed equipment.

PART 2 - PRODUCTS

2.1 STANDARD PRODUCTS

Materials furnished under this specification shall be standard products of manufacturers regularly engaged in the production of such materials and shall be the manufacturers' latest standard design that complies with the specification requirements.

2.2 POLYVINYL CHLORIDE PIPE

- A. All plastic piping and sleeves shall be integral white color, Type 1, Grade 1 (impact modified) designated as Polyvinyl Chloride (PVC), conforming to ASTM D1785, for potable water use.
- B. PVC Plastic Pressure Lines: For piping upstream of remote control valves, shut-off valves and quick coupling valves. All piping 2" to 3" shall be Class 315 PVC 1120 (SDR 13.5). All piping 1-1/2" and smaller shall be Schedule 40 PVC. All above grade pipe shall be Schedule 40 UVR ultra-violet resistant pipe.
- C. Plastic Non-Pressure Lines: For piping downstream of remote control valves. All pipes shall be PVC SCH 40.
- D. Plastic Sleeves: Where required, sleeves for underground installation shall be PVC SCH 40, sized at a minimum twice the diameter of pipe to be sleeved, with a 2" minimum size. Each pipe shall have its own sleeve.
- E. Identification: Furnish plastic pipe continuously and permanently marked with following information: Manufacturer's name or trade mark, size, schedule or class

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B. Ball valves for drip flush valve assemly shall be Spears Utility SBBV or approved

2.11 LOW VOLUME IRRIGATION SYSTEMS

- A. Remote control valve assembly. Low volume remote control valve assemblies shall be with valve and preset pressure regulating screen filter. The valve assemblies shall be of the sizes and types listed in the irrigation legend, or approved equal.
- B. Drip line flush valve. Drip line flush valve shall be of the size and types in the assembly specified on the details, or approved equal.
- C. Drip air/vacuum relief valve. Drip air/vacuum relief valve shall be the size and type specified in the irrigation legend, or approved equal.
- E. The drip line with integral emitters shall consist of nominal sized one-half inch linear low density polyethylene tubing, housing turbulent flow, integral 0.6 gallon per hour drip emitters impregnated with an herbicide. Drip line shall be of type as noted in the legend.
- F. Drip supply tubing shall consist of nominal sized one-half inch black linear low density polyethylene tubing of same manufacturer as drip line with integral emitters.
- 2.12 DRIP TUBING CONNECTIONS, FITTINGS, AND ACCESSORIES
 - A. All fittings, connections, and adapters used shall be compatible with tubing used, barbed tubing connections, as per manufacturer's recommendations.
 - B. 1/2" tubing fittings, adapters and connections shall be type as specified in the details.
 - C. Tubing stakes. Salco DTS, or approved equivalent.
- 2.13 TRENCH MARKER TAPE
 - A. Water warning marker tape for pressure irrigation lines shall be 3" wide, detectable type, blue text with "Caution Irrigation Line Buried Below" (TA-DT-3B-I), manufactured by T. Christy Enterprises, Inc., Paul Potter Warning Tape Inc., or approved equal.

2.14 FILTER FABRIC

A. Filter fabric for all valve boxes shall be non-woven type, fully stabilized UV-resistant

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DESCRIPTION DATE

Δ 50% CONSTRUCTION DOCUMENTS 04-12-2023

Δ 100% CONSTRUCTION DOCUMENTS 05-08-2023



FACILITY:

7000 MERRILL AVE CHINO, CA 91710

PROJECT:

CHINO AIRPORT UPGRADE PERIMETER FENCING AND SIGNAGE

SHEET NAME:
IRRIGATION SPECIFICATIONS

PROGRESS

DATE: **05.08.2023** CLIENT PROJ NO:

L2.06

and shall prevent soil particles from clogging and entering valve box pits. Mirafi 140N or approved equivalent.

2.15 GRAVEL

A. Clean rock gravel free from organic material, clay or loam; ½ inch to ¾ inch in size.

2.16 CONCRETE FOOTINGS AND THRUST BLOCKS

A. Concrete footings and thrust blocks shall be 2,000 P.S.I. concrete at 28 days, 5 sack minimum mix, natural color.

2.17 EXTRA EQUIPMENT

- A. Contractor shall provide to Owner:
- 1. One (1) quick coupler key with swivel hose ell to match, of the type installed.
- 2. One hundred feet (100') of dripline of the type installed on this project
- 3. Fifty (25) dripline stakes of the type used on the project.
- 4. Five (5) of each type of dripline fitting of the type used on the project.

PART 3 - EXECUTION

3.1 GENERAL REQUIREMENTS

- A. Locations on drawings are diagrammatic and approximate only for drawing clarity purposes and shall be changed and adjusted as necessary and as directed to meet existing conditions and obtain complete water coverage. Locate and stake all work and obtain approval of the Landscape Architect or Owner's Representative prior to any installations. This includes, but is not limited to valve locations, mainline locations, and dripline locations. Shrub placement shall be considered also prior to layout of the dripline.
- B. Install and extend system indicated on the drawings, and as necessary to carry out the intent of the Drawings and Specifications. The Contractor shall not willfully install any equipment as shown on plans when it is obvious in the field that conditions exist that were not evident at the time these plans were prepared. Any such conditions shall be brought to the prompt attention of the Landscape Architect and/or Owner prior to any work, or the Contractor shall assume all responsibility for any field changes deemed necessary by the Owner.

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- G. Backfill material shall be an approved soil, or sand where specified, free from rocks and clods, litter and other debris.
- 3.3 INSTALLATION OF POLYVINYL CHLORIDE PIPE
 - A. Because of the nature of plastic pipe and fittings, exercise caution in handling, loading and storing, to avoid damage.
 - B. The pipe and fittings shall be stored under cover until using, and shall be transported in a vehicle with a bed long enough to allow the length of pipe to lay flat so as not to be subjected to undue bending or concentrated external load at any point.
 - C. All pipe that has been dented or damaged shall be discarded unless such dent or damaged section is cut out and pipe rejoined with a coupling.
 - D. Trench depth shall be as specified above from the finish grade to the top of the pipe. The bottom of the trench shall be free of rocks, clods, and other sharp-edged objects.
 - E. Pipe ends and fittings shall be wiped with "MEK" primer, or approved equal, prior to applying welding solvent. Welded joints shall be given a minimum of 15 minutes to set prior to moving or handling. All field cuts shall be beveled to remove burrs and excess material prior to fitting and gluing together.
 - F. Pipe shall be snaked from side-to-side of trench bottom to allow for expansion and contraction.
 - G. Center load pipe at 10' intervals with small amount of backfill to prevent arching and slipping under pressure. Leave joints exposed for site observation during testing.
 - H. No water shall be permitted in the pipe until a period of at least 24 hours has elapsed for solvent weld setting and curing.
 - I. Plastic to metal joints shall be made with metal threaded couplings with PVC SCH 80 male adapters hand tightened, plus one turn with a strap wrench.
 - J. Plastic to plastic joints shall be solvent-weld, assembled per pipe manufacturer's specifications and using solvent recommended by pipe manufacturer only.
 - K. All pressure pipe shall have a continuous blue colored metallic three (3) inch wide marker tape placed nine (9) inches below finished grade directly above the buried pipe, or as detailed on the drawings.
- 3.4 INSTALLATION OF BRASS PIPE

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- C. The Contractor shall obtain permits and call for inspections as required by local codes and regulations.
- D. The system is designed for operation pressure as noted for equipment in the irrigation legend. The Contractor shall verify the available water pressure at the site prior to the start of installation and provide written documentation to the Landscape Architect of the recorded pressure.
- E. The automatic controller is existing and shall provide for the operation of the valves as indicated on the drawings. Contractor shall be responsible for verifying electrical service is available with the irrigation controller, and stations available for the work indicated on the drawings.
- F. Locate existing potable water lines and control wires for connection thereto, controller/s, valves, and other underground utilities prior to digging trenches.
- G. Paving, curb, drainage system, signage, and plantings shall be installed or indicated prior to installation of irrigation system mains, laterals, driplines, drip operation indicator heads, and valve or pull boxes.
- H. All drip systems shall be installed, adjusted and maintained to keep all water and off utilities, walls, paving and signage surfaces, other structures and unintended areas apart from plantings at all times. This includes, but is not limited to, adjustment of location of driplines and the equipment attached thereto.
- I. All piping, whether existing installation or new, shall be kept free from contaminants that may potentially enter piping during construction and following construction. Should Contractor's work cause contamination in the irrigation water and it exhibit itself during construction and/or the maintenance period, Contractor shall be responsible to decontaminate the entire irrigation system's components affected by contamination by flushing the debris out until water appears clear at the satisfaction of the Landscape Architect or Owner's Representative, at Contractor's expense. Components include, but are not limited to the following: mainlines, valves, sprinkler swing joints, sprinklers and nozzles. Contractor shall replace components where attempts at cleaning them prove unsuccessful. All work to decontaminate system and put it back into satisfactory working order shall be completed within 48 hours of the time condition is found and/or at the time of notification by the Landscape Architect or Owner's Representative. Work shall be done to the complete satisfaction of the Landscape Architect or Owner's Representative.
- J. All existing wires and cables/conduits and mainlines shall be reconnected together where damaged/disrupted by construction in order to have a fully functioning irrigation system, with all system capabilities met.

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- A. Cut brass piping by power hacksaw, circular cutting machine using an abrasive wheel, or hand hacksaw. No piping shall be cut with metallic wheel cutter of any description. Ream and remove rough edges of burrs so smooth and unobstructed flow is obtained.
- B. Carefully and smoothly place thread lubricant on male thread only. Tighten screwed joints with tongs or wrenches. Caulking is not permitted.
- 3.5 INSTALLATION OF UVR-POLYVINYL CHLORIDE PIPE
 - A. Where occurs, install UVR-PVC pipe and fittings anywhere above grade PVC pipe is required.
- 3.6 INSTALLATION OF DRIP AIR/VACUUM RELIEF VALVE ASSEMBLY
 - A. Install the air/vacuum relief valve at approximate locations as shown on the irrigation plans and as per detail, at the highest elevation on each system. Where at all possible, find the most ideal location for maintenance purposes. Do not install where susceptible to damage from vehicles.
- 3.7 INSTALLATION OF DRIP FLUSH VALVE ASSEMBLY
 - A. Install the end flush valve at approximate locations shown on the irrigation plans and details. Find the most ideal location for maintenance purposes. Do not install in a location where drainage from the valve could occur and cause ponding and runoff onto non-pervious surfaces, or where susceptible to damage from vehicles.
- 3.8 INSTALLATION OF DRIP SYSTEM
 - A. Hard PVC pipe laterals with fittings and flexible risers, remote control valves, drip filters, ball valves and pressure regulators shall first be installed. Next, contractor shall flush out system thoroughly. Following flushing, contractor shall install all supply tubing and end flush caps/valves, and flush the lines once more. Flush again.
 - B. Lay rolled out tubing in flat area to encourage tubing to relax from its stored form. Distribution tubing shall be cut into lengths that will allow tubing to lay in a relaxed manner from connection to connection as shown in the detail drawings. Tubing shall be given a generous amount of slack to allow for some movement. Use stakes as required to secure tubing. Provide consistent 4" cover over tubing.
 - C. Special precautions
 - 1. Distance from edges: allow not more than 6 inches from the edges, particularly

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- K. Contractor shall employ whatever means necessary to protect valves, conduits, lateral lines and mainlines installed, especially when working with other trades. Stake out facilities; use flat, sturdy material to cover shallow buried piping as required throughout the construction period to minimize damage to the installation and to help deter bodily injury. Employ removable barriers as required to keep activity outside of construction areas.
- L. Ponding/runoff from irrigation system shall be kept to a minimum wherever possible.
- M. No low head drainage shall be allowed.
- 3.2 INSTALLATION OF IRRIGATION SYSTEM

Excavation and backfilling of Trenches

- A. Excavate trenches, prepare subgrade and backfill to line and grade with sufficient room for pipe fittings, testing and inspecting operations. Do not backfill until the pipe system has been subjected to a hydrostatic test as specified. Do not cover any installed control wiring until it has been visually observed by the Landscape Architect or Owner's Representative. Control wire shall be installed along with Pressure Line.
- B. Depth of Cover

In Landscape: (from Soil Finish Grade to Top of Pipe, Conduit or Tubing)

PVC Pressure Line (2-1/2" & smaller)

Subsurface Dripline Tubing

4" min.

- C. Soil backfill within 3" of piping shall be free of all rocks over 1/2" diameter, debris, and litter prior to use as backfill. The remaining soil backfill shall be free of 1" and larger rock, debris and litter prior to using as backfill.
- D. Deposit topsoil on one side of trench and subsoil on the opposite side, then install irrigation lines and test each section.
- E. Repair any leaks and replace all defective pipe or fittings until lines meet test requirements. Do not cover any lines until they have been checked and approved for tightness, quality of workmanship and materials.
- F. Backfill trenches, after approval of piping, with suitable and approved material, tamping soil around pipe and thoroughly compact all trench fills until 90% relative compaction has been achieved.

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if it is the top edge of a slope. Edges tend to dry more easily than the center. Remember that at the bottom of a slope the distance from the edges may be larger. (see also plans).

- 2. Be aware of high points and siphoning: a potential problem with buried drip lines is siphoning dirt in when the system is switched off. For this reason:
- a. Drip lines should have a fairly constant slope.
- b. A vacuum relief valve should be provided at the highest point in each sector.
- c. Drip lines should be connected at the end to a common flush line with a flush valve/vacuum breaker.
- 3. Be aware of excessive level differences: level differences between drip lines belonging to the same valve should not exceed 6 to 8 feet.
- 4. Slopes: the steeper the slope, the better the horizontal movement of water in the soil. For this reason concentrate the density of the drip lines towards the top of the slope. At the bottom of the long gentle slope, the distance of the last dripper line from the edge should be as noted on plans, as water moves down due to gravity.
- 5. Positioning of air/vacuum relief valves: ensure that these valves are at a point high enough to prevent the system from draining through these valves when the water pressure is switched off.
- D. System installation guidelines
- 1. Prepare the topsoil/backfill at adjacent location to planting area to get the best water saving results with the system. For new installations, it is recommended to follow the preparation procedures described above under "special precautions". Remember that excavation and grading should have been finished before installation of the subsurface drip system.
- 2. Be sure you have everything required for the installation before opening trenches. Do a dry runoff assembling without gluing the system parts on top of the ground first. Pre assemble as many sets of components as practical above ground and in a convertible place. It is much easier to work above ground, so get as much work done as practical. Adapters should be glued or threaded to PVC tees/ells.
- 3. Always condition soil moisture the day before opening trenches or installing drip lines. Remember it is much easier to install the system in moist soil.
- 4. Install the system head first. Remote control valve assembly and ball valve. Then

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FACILITY:

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PROJECT:

CHINO AIRPORT UPGRADE PERIMETER FENCING AND SIGNAGE

SHEET NAME:
IRRIGATION SPECIFICATIONS

PROGRESS

DATE: **05.08.2023** CLIENT PROJ NO:

L2.07

install the PVC lateral lines.

- 5. Flush the PVC lateral line. Connect to drip lines.
- 7. Distribute drip lines uniformly and as plans specify. Tubing stakes shall be installed on the tubing at the spacing of one per loop, or one every 10 linear feet. Contractor shall also mound small amounts of backfill over tubing at intervals to set tubing.
- a. Select the tentative distance between drip lines. (say d inches)
- b. Measure the exact dimension of the area to be covered leaving 6 inches for the edges. (say I inches)
- c. See how many spacings can actually be left. (I/d approximated to the nearest integer, say n)
- d. Recalculate what the new revised distance between drip lines should be to divide the space evenly.
- e. Stake where the beginning and flush end of each drip line will go.
- f. Locate and install drip operation indicator head in the clear for observation purposes.
- 8. Tubing installation: leave enough length at the beginning and end for connections. It is convenient to finish the last foot of the installation or trench by hand. This gives more room for connections. Beware of bending the drip tubing too tight during installation. Do not bend tubing below a 24 inch radius because the pipe may kink, reducing the flow. Use compression type elbows and fittings whenever required. Use large bucket for forming bends or for spacing lines as required to maintain uniform line spacing. Install tubing stakes at a 5 foot maximum spacing along each tube, more as required on curving sections.
- 9. The systems shall be left open and tubing and emitters left uncovered for testing purposes by the landscape architect. After successful testing of systems, cover system with prepared backfill previously set aside. Cover tubing early in the morning when temperatures are low to avoid tubing stress.
- 10. Warning: drip line is temperature sensitive. The protective life of the system will be reduced if the drip line outside is exposed to the sun for a long period of time. Store the drip line in a cool shaded place until installed.
- 3.9 REMOTE CONTROL WIRING INSTALLATION

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- C. Valve boxes shall not be modified in any way by cutting away portions of them, to ensure structural integrity. Any removal of valve box material will be subject to rejection and replacement, unless such removal is granted by the Landscape Architect and/or Owner's Representative, but only under consideration prior to valve box installation.
- 3.13 QUICK COUPLING VALVE INSTALLATION
 - A. Install all quick coupling valves approximately where shown on drawings and as shown on the detail drawings. Do not locate in paving.
 - B. Prior to ordering parts and installing assemblies, coordinate location of, and construction of assemblies with the Landscape Architect or Owner's Representative.
- 3.14 BALL VALVE INSTALLATION
 - A. Install all ball valves approximately where shown on drawings and as shown on the detail drawings. Install one valve per box. Do not locate in paving.
- 3.15 CONCRETE FOOTING INSTALLATION
 - A. Footings shall be placed on 90% minimum compacted or undisturbed subgrade. Construct to shapes specified and parallel to walkways. Tool finish exposed surface.
 - B. Thrust blocks should be constructed to industry standard shapes. They should be so shaped that they allow access to all fittings or joints or valves for inspection or repair. This includes the use of form lumber or equally effective form material, which shall be removed upon setting and curing.
 - C. Thrust blocks shall be completely separated from all other trench materials placed in trench (such as, but not limited to wires, cables, conduits) and shall not be shaped so that access to inspection or other repairs cannot be made.
 - D. To be effective, a thrust block must: a) be placed against undisturbed (freshly excavated) trench wall or fully compacted earth; b) contact the fitting over a sufficiently large area so as not to create point stresses on the fitting; and c) have sufficient area on the soil side to restrain the thrust block without exceeding the bearing strength of the soil. Over-excavation and under-excavation of thrust block support area shall be avoided at all times.
- 3.16 CLEAN-UP
 - A. As project progresses, Contractor shall daily maintain all areas in a neat manner and remove unsightly debris as necessary. After completion of project, Contractor shall

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- A. Direct burial control wire sizes shall be as shown and as specified hereinbefore.
- B. All remote control valve wire shall be run up and looped with 4 feet of wire into each valve manifold along the mainline run.
- C. Provide one control wire and one common ground wire to service each valve in system. Provide 4-foot minimum expansion loop at each valve to permit removal and maintenance of valves. Form expansion loops by wrapping multiple turns of wire around a 1-inch diameter PVC pipe then withdrawing the pipe.
- D. Install control wires at least 18" below finish grade and minimum of 4" from any pipe or fittings except at terminal points.
- E. Install control wires and irrigation pressure piping in common trenches.
- F. Provide and install waterproof wire splice connectors to bare ends of spare wires.
- G. Wire splices shall be made with waterproof connectors as specified.
- H. Wire splices shall be done according to manufacturer's instructions and placed in a valve box as specified in previous section.
- I. All valves shall have wires identified by controller and station designation inside each valve box with Christy Enterprises Standard Yellow I.D. Tags or approved equal. Identify spare wires by capping ends with waterproof connectors as specified above and tagging with an I.D. tag marked "SP".
- 3.10 AUTOMATIC CONTROLLER AND CONTROL SYSTEM INSTALLATION
 - A. Existing automatic controller shall be located per the drawings. Controller shall be checked for complete electrical power connection/operation. Contractor shall be responsible for temporary and permanent power to the controller for operation and testing purposes. Controller shall be fully operable prior to planting operations.
 - B. All connections to control wiring shall be made within the pedestal of the controller or in junction boxes.
 - C. The Contractor shall coordinate with Owner throughout the demolition and construction phases any adjustments to operation of the existing irrigation systems prior to, and immediately following any work to the existing irrigation systems. Contractor shall set the controller parameters for each new irrigation system controlled by each controller. Contractor to meet with and provide operation instructions to the Owner's Representative for the control system prior to the start

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remove all debris and containers used in accomplishing work. Contractor shall sweep and clean all sidewalks, asphalt, and concrete areas, and clean all vertical surfaces affected by Contractor's work, to the satisfaction of the Owner's

3.17 WATERING GUIDELINES

Representative.

- A. The Contractor shall monitor the planting areas and new plants closely and frequently during the maintenance period for adequate levels of soil moisture; so that over- and under-watering situations can be corrected.
- B. Watering shall occur according to site conditions, local conditions and water restrictions to keep the plantings sustained and healthy. Adjustments to watering intervals and durations shall be as required with weather changes and establishment of the plants.
- C. Do not depend solely on the automatic irrigation system. Utilize hose watering for the trees through the plant establishment period. Utilize hose watering for other plantings as required.
- D. Care shall be taken that the rate of application of water does not cause ponding or runoff onto non-pervious surfaces.
- E. All depressions, voids and settled trenches generated by watering shall be filled with amended topsoil and brought up to finish grade. Restore planting as required to match adjacent areas.

END OF SECTION

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of maintenance. Contractor to coordinate with the Owner's Representative during maintenance period any recommended adjustments to the control system. Provide a copy of the watering schedule at the time of turnover.

- D. Where required, provide simultaneous watering of multiple valves per watering program as required for site watering requirements on allowable water days. Refer to and follow the local water agency's restrictions and/or Owner's restrictions.
- E. Weather sensors shall be installed with controller in an open area where unobstructed rainfall would occur, in exact location coordinated with Owner's Representative.
- 3.11 REMOTE CONTROL VALVE AND MASTER CONTROL VALVE INSTALLATION
 - A. Install remote control valves and master control valves in locations approximately as shown on the drawings, with sufficient distance from top of flow control stem to valve box lid. Install a union type connection. Affix valve ID tag to valve with nylon zip strap. Fit with plastic valve box and cover as shown in the detail drawings. Install one valve per box. Do not locate in paving or adjacent to where susceptible to vehicular damage. See also valve box installation.
 - B. Provide specified waterproof connections at all below grade wire splices and at every spare wire end.
- 3.12 VALVE BOX INSTALLATION
 - A. Install valve boxes as shown in the detail drawings. Install no more than one valve per box. Set valve boxes perpendicular and plumb to adjacent hardscape and to each other. Set boxes 12" apart, and 12" from adjacent hardscape areas. Heat brand valve number and controller letter on outside top of remote control valve box lid to maximum 1/8" depth with 1-1/2" minimum to 2" maximum height text, readable from side valve would be accessed. Size shall be consistent throughout the
 - B. Heat brand outside top of valve box with branding of the identification of contents inside valve box. Brand lids using the following:
 - 1. Wire splice box: WS
 - 2. Spare wire: SW
 - 3. Drip Air/Vacuum relief valve: AVR
 - 4. Drip flush valve: FV
 - 5. Ball valve: BV

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DATE: **05.08.2023** CLIENT PROJ NO:

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SECTION 329119 - FINISH GRADING

PART 1 - GENERAL

1.1 DESCRIPTION

A. Work includes: weeding and finish grading of planting areas.

1.2 DEFINITIONS:

- A. Finish grading: finish grading shall consist of adjusting and finishing soil surfaces with site or imported topsoil, raking grades to a smooth, even, uniform plane. Remove and legally dispose of all extraneous matter off site. Facilitate natural runoff water and establish grades and drainage indicated as part of the contract work.
- B. The word Architect as used herein shall refer to the Landscape Architect or the Owner's authorized representative.

PART 2 - PRODUCTS

2.1 MATERIALS:

A. Import Top Soil: Import top soil shall be classified as sandy loam, and must conform to the following:

1. Particle size

Class	Particle Size Range	Maximum %	Minimum %
Coarse sand	0.5 - 2.0mm	15	0
Silt plus clay	<0.05mm	50	15
Other classes:			
Gravel	2-13mm	15	0
Rock	1/2 - 1"	5% by volume v	with none > 1"

2. Chemistry

- a. Salinity: Saturation Extract Conductivity (ECe) less than 3.0 sD/m @ 25°
- b. Sodium: Sodium Absorption Ratio (SAR) less than 6.0
- c. Boron: Saturation Extract Concentration Less than 1.0 ppm
- d. Reaction: pH of Saturated Paste 5.5-7.8 without high lime content
- 3. Soil shall contain sufficient quantities of available nitrogen, phosphorus,

potassium, calcium and magnesium to support normal plant grown. In the

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even t of nutrient inadequacies, provisions shall be made to add required material prior to planting.

- B. In order to insure conformance, samples of the import soil shall be submitted to an approved laboratory for analysis prior to and following backfilling.
- C. Obtain imported topsoil from approved local sources.

PART 3 - EXECUTION

3.1 EXAMINATION:

- A. Verification of conditions: Prior to commencing the finish grading, review the installed work of other trades and verify that their work is complete.
- 1. Rough Grading: Grading in planting areas (except raised planter areas) shall be established to within plus or minus 0.10 foot prior to beginning of finish
- 2. Moving onto the site and/or commencing work shall be construed as acceptance of rough grade conditions by the Contractor.
- B. Import topsoil only when necessary to supplement site soil to achieve grades shown on Drawings, or if site soil is unsuitable for planting.

3.2 PREPARATION:

- A. Weeding: Before finish grading, weeds and grasses shall be dug out by the root or sprayed with an herbicide and disposed of off-site. This procedure is outlined under the Landscape Planting Section.
- B. Debris: Remove stones and debris 1 inch in diameter and greater and clumps of earth that do not break up. Dispose of off-site.

3.3 INSTALLATION:

- A. General: When rough grading and weeding have been completed, and the soil has dried sufficiently to be readily worked, lawn and planting areas shall be graded to the elevations indicated on the Drawings.
- 1. Grades indicated on Drawing are grades that will result after thorough settlement and compaction of the soil.
- 2. Grades not otherwise indicated shall be uniform finish grades and, if
- required, shall be made at the direction of the Architect. 3. Finish grades shall be smooth, even, and a uniform plane with no abrupt
- change of surfaces. 4. Soil areas adjacent to buildings shall slope away from the building to allow a natural run-off of water, and surface drainage shall be directed as indicated

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on the drawings by remodeling surfaces to facilitate the run off water at 2%

- 5. Low spots and pockets shall be graded to drain properly.
- B. Drainage: Finish grade with proper slope to drains.
 - 1. Flow lines, designated or not, shall be graded and maintained to allow free flow of surface water.
 - 2. If any drainage problems arise during construction period due to Contractor's work (such as, but not limited to, low spots, slides, gullies and general erosion), the Contractor shall be responsible for repairing these areas to a condition equal to their original condition, and in so doing shall prevent further drainage problems from occurring.
- C. Toe of slope: To prevent soil creep or erosion across pavement, where pavement (walk, curb, etc.) is at the toe of a slope, finish grade is to level out or swale slightly at least 6" before reaching pavement
- Moisture Content: The soil shall not be worked when the moisture content is so great that excessive compaction occurs, nor when it is so dry that dust may form in the air or that clods do not break readily. Water may be applied, if necessary, to provide moisture content for tilling and planting operations. It is the Contractor's responsibility to control dust that is spread as a result of grading operations.
- Grades: The finish grade shall be 1-1/2 inch below grade of adjacent pavement, walks, curbs, or headers except when drainage conditions require flush grades, as directed by the Owner's Representative, or if otherwise indicated on Drawings.
- Compaction: Soils in planted areas shall be loose and friable, yet firm enough that no settling occurs from normal foot traffic or irrigation.

3.4 FIELD OBSERVATION:

- A. Contact the Architect 48 hours or two working days in advance of each agreed observation or conference.
- B. Schedule for On-Site Reviews: At completion of finish grading and prior to any planting operations.

END OF SECTION

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SPECIFICATIONS - LANDSCAPE PLANTING

SECTION 329000 - LANDSCAPE PLANTING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this

1.2 SUMMARY

Section.

- A. Section includes (not all inclusive)
- Planting soils, soil amendments, and fertilizers
- Landscape cobble. Bark mulch.
- Filter fabric. 7. Planting tablets.
- 8. Potting Soil.

1.3 SCOPE OF WORK

A. The work includes all labor, materials, appliances, tools, equipment, facilities, transportation and services necessary for, and incidental to performing all operations in connection with furnishing, delivery, and installation of "landscaping," complete as shown on the drawings and as specified herein.

1.4 DEFINITIONS:

- A. Architect: The Landscape Architect or the Owner's authorized representative.
- B. Backfill: The earth used to replace or the act of replacing earth in an excavation.
- C. Bonded Fiber Matrix: A continuous layer of elongated fiber strands held together by a water-resistant bonding agent.
- D. Caliper: Diameter of a trunk measured by a diameter tape at a height of 12
- Compost: The product resulting from the controlled biological decomposition of organic material that has been sanitized through the generation of heat and stabilized to the point that it is beneficial to plant growth.
- Container-Grown Stock: Healthy, vigorous, well-rooted plants grown in a container, with a well-established root system reaching sides of container and maintaining a firm ball when removed from container. Container shall be rigid enough to hold ball shape and protect root mass during shipping and be sized according to ANSI Z60.1 for type and size of plant required.
- Final Acceptance: Observation review by Architect at end of the specified Maintenance Period to verify completion and acceptance of the Work.

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- H. Finish Grade: Elevation of finished surface of planting soil.
- Imported Soil: Soil that is transported to Project site for use.
- J. Organic Matter: The total of organic materials in soil exclusive of undecayed plant and animal tissues, their partial decomposition products, and the soil biomass; also called "humus" or "soil organic matter."
- K. Pesticide: A substance or mixture intended for preventing, destroying, repelling, or mitigating a pest. Pesticides include insecticides, miticides, herbicides, fungicides, rodenticides, and molluscicides. They also include substances or mixtures intended for use as a plant regulator, defoliant, or desiccant. Some sources classify herbicides separately from pesticides.
- Pests: Living organisms that occur where they are not desired or that cause damage to plants, animals, or people. Pests include insects, mites, grubs, mollusks (snails and slugs), rodents (gophers, moles, and mice), unwanted plants (weeds), fungi, bacteria, and viruses.
- M. Planting Area: Areas to be planted.
- N. Planting Soil: Existing, on-site soil; imported soil; or manufactured soil that has been modified with soil amendments and perhaps fertilizers to produce a soil mixture best for plant growth.
- O. Plant; Plants; Plant Material: These terms refer to vegetation in general, including trees, shrubs, vines, ground covers, ornamental grasses, bulbs, corms, tubers, or herbaceous vegetation.
- P. Pre-maintenance review: Observation by Architect to verify substantial completion of the Work. The Architect will generate a Punch List during this review. Maintenance Period will commence when Contractor has completed items on this Punch List and Architect has verified that the Punch List is
- Q. Punch List: List of work within the Contract, generated by Architect that needs to be completed, repaired, replaced, or rectified by Contractor.
- Root Flare: Also called "trunk flare." The area at the base of the plant's stem or trunk where the stem or trunk broadens to form roots; the area of transition between the root system and the stem or trunk.
- S. Soil Test: Required testing performed by Contractor after site is rough graded. A current soil report is also required for import soil prior to transport to the site.

T. Stem Girdling Roots: Roots that encircle the stems (trunks) of trees below the

U. Subgrade: The surface or elevation of subsoil remaining after excavation is complete, or the top surface of a fill or backfill before planting soil is placed.

1.5 QUALITY ASSURANCE

soil surface.

A. Standards:

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- 1. Provide plants and planting materials that meet or exceed specifications of Federal, State, and County laws requiring inspection for plant disease or insect
- Provide quality and size conforming to current edition of "Horticultural Standards" for number one nursery stock as adopted by the American Association of Nurserymen.
- 3. Provide plants that are true to name. Tag one of each bundle or lot with the name and size of plants in accordance with the standards of practice of the American Association of Nurserymen.
- 4. Botanical names shall take precedence over common names.
- B. Workmanship: Perform work in accordance with the best standards of practice for landscape work and under the continual supervision of a competent foreman capable of interpreting the Drawings and Specifications.
- C. Installer Qualifications: A qualified landscape installer whose work has resulted in successful establishment of exterior plants.
- D. Installer's Field Supervision: Require Installer to maintain an experienced and qualified full-time supervisor on project site when landscaping is in progress.
- Quantities and Types: Plant materials shall be furnished in the quantities and/or spacings as shown or noted for each location, and shall be of the species, kinds, sizes, etc., as symbolized and/or described in the Plant List, and as indicated on the Drawings.
- F. Verification of dimensions, quantities, and existing conditions 1. Scaled dimensions are approximate. Before proceeding with work, carefully check and verify dimensions and quantities and immediately inform the Architect of discrepancies between the Drawings and/or specifications and actual conditions. Do not start work in areas where there are discrepancies until
- Prior to the excavation for planting or placing of plant materials, the Contractor shall verify the location of all underground utility lines and other improvements and take proper precautions to avoid damage to such improvements. In the event of conflict between such improvements and plant locations, the Contractor shall notify the Architect and arrangements will be made for relocation as necessary. Failure to follow the procedure places upon the Contractor the responsibility for making any and all repairs for damage resulting from work as herein specifies at his own expense.

1.6 VERIFICATION AND PROTECTION OF EXISTING CONDITIONS

approval for same has been given by the Architect.

- A. All scaled dimensions on the drawings are approximate. Before proceeding with any work, the Contractor shall carefully check and verify all dimensions, quantities, and grade elevations, and shall immediately inform the Owner of any discrepancies. Submit with the bid the proposed source of import soil (if utilized) and a recent test evaluation on the soil.
- B. Prior to the excavation for planting or placing of plant materials, the Contractor shall verify the location of all underground utility lines and other improvements, and take proper precautions to avoid damage to such improvements. In the event of conflict between such improvements and plant locations, the Contractor shall notify the Owner, and arrangements will be made for relocation

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AGENCY APPROVAL:

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ISSUE △ **DESCRIPTION** DATE 04-12-2023 Δ 50% CONSTRUCTION DOCUMENTS Δ 100% CONSTRUCTION DOCUMENTS 05-08-2023

FACILITY:

7000 MERRILL AVE CHINO, CA 91710

CHINO AIRPORT UPGRADE PERIMETER FENCING AND

SHEET NAME: FINISH GRADING AND LANDSCAPE PLANTING SPECIFICATIONS

DATE: 05.08.2023 CLIENT PROJ NO:

- as necessary. Failure to follow this procedure places upon the Contractor the responsibility for making any and all repairs for damage resulting from work as herein specified at his own expense.
- C. The specified soil amendments and their rates of application are for bidding purpose only. The Contractor shall verify the soil conditions through soil testing. See Part 3 for execution of soil amendments.
- D. During the construction and maintenance period, the Contractor shall take every precaution to protect and avoid damage to sprinkler heads, irrigation lines, drainage lines, existing underground facilities, paving, structures, fixtures, and existing plantings. The Contractor shall be held responsible for any and all damage to such improvements and shall completely repair or replace the same at no cost to the Owner.

1.7 SUBMITTALS AND SUBSTITUTIONS

- A. Upon 15 days after the Contractor has received the Owner's notice to proceed, the Contractor shall submit to the Landscape Architect three (3) typewritten lists of all materials proposed with quantities, size, quality, and source. Electronic (pdf) submittal is acceptable.
- B. Prior to installation of any landscape elements, the Contractor shall submit for approval by the Landscape Architect, a list of all materials and equipment proposed for use. Submit product data for each type indicated for approval, such as (not all inclusive):
 - 1. Electronic photos in JPEG format of each size and species of plant. Photos shall be an accurate representation of the actual plant specimens to be utilized on the project. Photos shall be transmitted to the Landscape Architect via e-mail and/or other electronic media. Identify each photograph with the full scientific name of the plant (genus, species, variety, cultivar, etc), plant size, and name of the growing nursery (under separate text if needed). Include a scale rod or other measuring device in each photograph. For species where more than 10 plants are required, include a minimum of three photographs of that species showing the average plant, the best quality plant, and the worst quality plant to be
 - All soil conditioners, soil amendments, fertilizers, and other chemicals.
- Imported soil.
- All hydroseed materials, including Bonded Fiber Matrix
- Filter fabric.
- 6. Landscape cobble.
- Bark mulch.
- 8. Potting Soil spec sheet
- 9. Planting Tablet spec sheet.
- 10. Pesticides: Also, include copies of sample label and Material Safety Data Sheet (MSDS).
- Soil Test: Contractor shall have import soil and the soil of the site tested for fertility, agricultural suitability, and appraisal by Soil and Plant Laboratory Inc.
 - 1. Submit a copy of the Planting Plan and Plant Legend to the laboratory with

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(714) 282-8777, or Wallace Labs (310) 615-0116.

value than those indicated or specified, the contract price will be adjusted in accordance with the provisions of the contract.

1.8 OBSERVATION SCHEDULE

- A. Site observations herein specified shall be made by the Owner's Representative and/or the Landscape Architect during regular business hours. The Contractor or his authorized representative shall be on the site at the time of each observation. The Contractor will not be permitted to initiate the succeeding step of work until he has received approval to proceed by the Owner's Representative.
- B. All changes and deviations to the plans and specifications shall be communicated to the Construction Manager and shall be confirmed in writing.
- C. The Contractor shall have sufficient work personnel available during normal working hours to correct deficiencies immediately upon request of the Landscape Architect. Such repair or re-work services are to be performed without interference of regular project schedule.
- D. Contractor shall be responsible for notifying the Owner's Representative, in advance, for the following observations, according to the time indicated:
 - 1. Pre-construction conference seven (7) days, immediately prior to the commencement of work of this section, the Owner, Contractor, and Owner's Representative shall meet for the approval of the materials specified, equipment, schedule of work and the method of installation.
- Tree tagging at nursery (trees 24" box size and larger) 48 hours, Owner's Representative
- Incorporation of soil amendments- 48 hours, specified soil amendments are for bidding purposes only. A final soil test performed by an approved laboratory shall be submitted and paid for by the Contractor for agricultural suitability recommendations and approved by the Owner's Representative before planting begins
- 4. Layout of Tree Materials (trees 24" box size and larger) 48 hours, when trees are spotted in place for planting, but before planting holes are excavated, Owner's Representative
- 5. Final grade, soil preparation and planting area layout review 72 hours, Owner's Representative. Upon the completion of soil amending, the finish grading and planter edging layouts in the field will be approved prior to planter edging installation. Shrub and tree samples, three (3) each of all varieties and sizes (shrubs 5-gallon and under, trees 15-gallon and under) shall be submitted for approval at the site a minimum of fifteen (15) days prior to planting operations for quality, size, variety, vigor, and rooting characteristics. Approved samples shall remain on the site and shall be maintained, by the Contractor as standards of comparison for plant materials to be furnished.
- Plant materials review 48 hours, Owner's Representative
- Plant and Mulch layout review 48 hours, when material is spotted in place for planting, but prior to excavation of planting holes., Owner'
- Representative and Landscape Architect Planting operations - 48 hours, Owner's Representative
- Completed planting (Pre-maintenance) walk through seven (7) days, when planting and all specified work has been installed and completed, the Owner's Representative and the Landscape Architect will prepare a

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- 2. Soil shall be tested from a minimum of three (3) locations per acre of planted area. Representative samples shall be taken from random and varied locations of the project site that will receive landscaping installation. Samples should represent major conditions of exposed cut soils, fill soils, and native undisturbed soil. Sample from the top foot for ground cover and shrubs. Sample from the expected depth for large container stock. Label each sample for location/origin, type of soil condition visibly observed, and sampling depth. Laboratory report shall identify each sample with same information. All samples taken shall be split into two samples, one half will go to a qualified laboratory by the Contractor (at his or her expense) and the other half will be retained by the Owner. All samples shall be at least one pint in volume. All samples shall go to an approved soil-testing laboratory.
- A copy of the soil test results shall be submitted to the Owner and Architect before work begins.
- 4. Testing methods should comply with the United States Department of Agriculture Handbook Publication No. 60, Methods of Soil Analysis published by the Soil Science Society of America and peer-viewed methods published in scientific journals. Evaluations and recommendations should be based on University of California publication's and peer-viewed articles published in) scientific journals.
- The Owner shall appoint a representative to oversee soil sampling that may be required. The time, depth, location, and number of samples to be taken as per instructions from the Owner.
- 6. Soil report shall include:
 - a. pH measurement
 - b. Determination whether limestone is present or not. c. Percent water in saturation extract.
 - d. Electrical conductivity of the saturated extract (salinity ECe) / soluble
 - e. Measurement of sodicity (Sodium Adsorption Ratio).
 - Concentration of boron in saturation extract.
 - g. Nutrients and elements:
 - 1) Measurement (low, medium, high) of: Boron, calcium, copper, iron, magnesium, manganese, molybdenum, phosphorus, potassium, sodium, sulfur, and zinc.
 - 2) Analyze saturation extract for: calcium, magnesium, sodium, boron, chloride, phosphorus, nitrate and sulfate.
 - 3) Trace metals: Aluminum, arsenic, barium, cadmium, chromium, cobalt, lead, lithium, nickel, selenium, silver, strontium, tin and
 - 4) The presence of calcium carbonate and/or magnesium
 - h. Soil Texture (gravel, sand, silt and clay). Determine organic matter content by the measurement of organic carbon. The quality of the organic matter shall be determined by measuring organic carbon and total nitrogen.
 - 1) Methods of Soil Analysis, Part 1, Physical and Mineralogical Methods, Soil Science Society of America, Inc., 1986, chapter 36, pgs 901-926 and Methods of Soil Analysis, Part 3 Chemical Methods, Soil Science Society of America, Inc, 1996, chapter 34, pgs 965-977 & pgs 1001-2 and chapter 37, pg 1088

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written "punch list" indicating all items to be corrected. These items must be completed prior to initiating the beginning date of the maintenance period. The Landscape Architect will inform the Owner and Contractor of the actual date of the start of the maintenance period in writing. This observation is not the final acceptance of the project, and does not relieve the Contractor from any of the responsibilities in the contract documents.

- 10. Final Site Observation and Acceptance of the Project seven (7) days, Owner's Representative. At the conclusion of the maintenance period a final site observation will be made. The Contractor shall show all corrections made from the punch list." Any items deemed not acceptable shall be reworked and the maintenance period will be extended. The Contractor will be notified in writing that the contract work and maintenance period has been accepted or that the maintenance period has been extended to correct any deficiencies remaining. Final acceptance of the project shall establish the beginning date for the guarantee period.
- E. Contractor shall be responsible for scheduling site Observation visits with Owner's Representative and Landscape Architect as work progresses. Failure to schedule required Observations shall not relieve Contractor of responsibility for obtaining approvals. Contractor shall redo, at no cost to the Owner, work that does not satisfy the Owner.
- Observations may be waived or combined at the discretion of the Architect.
- G. When someone other than the Architect conducts observations, the Contractor shall show evidence in writing of when and by whom these observations were
- H. No site visits shall commence without adequate preparation or items noted in previous Observation Reports, either completed or remedied, unless the Owner has waived such compliance. Failure to adequately prepare or accomplish previous punch list items shall make the Contractor responsible for reimbursing the Architect for the site visit at his current billing rates per hour plus transportation costs. No further inspections will be scheduled until this charge has been paid and received.
- Site observations of the work shall not relieve the Contractor of the obligation to fulfill all conditions of the contract.

1.9 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. The Contractor shall notify the Landscape Architect in advance when material is scheduled for each delivery, in order to ensure satisfactory coordination of delivery and to expedite the required inspection at the point of delivery. The delivery of the material shall include invoices certifying that subject material has been inspected as required by the State Agricultural Code prior to acceptance or installation. Particular care, using approved equipment, shall be exercised to ensure safe loading, unloading, shipping and handling for all material from source to in place locations indicated on the drawings.
- B. The Contractor shall furnish the Landscape Architect with three (3) copies of signed, legible certificates and/or invoices stating the quality and quantity of all items herein specified at time of delivery. Recommendation shall be made by

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- Interpretation and recommendations for correction of nutritional deficiencies/ excesses and potential toxicities. These recommendations shall include:
- 1) Volume of soil amendment per 1,000 sq.ft. and cu.yd. of backfill mix.
- Pounds of gypsum per 1,000 sq.ft. and cu.yd. of backfill mix. Pounds of soil sulfur per 1,000 sq.ft. and cu.yd. of backfill mix. Pounds of iron sulfate per 1,000 sq.ft. and cu.yd. of backfill
- 5) Pounds of pre-plant fertilizer per 1,000 sq.ft. and cu.yd. of
- backfill mix.
- Pounds of soil polymers per 1,000 sq.ft.
- Recommendation for soil leaching.
- Recommendation for tree drain installation. Pounds of maintenance fertilizer per 1,000 sq. Ft. and analysis.
- 10) Recommendation for soil wetting agent and application rate.
- 11) Percent of site soil-to-soil amendment in backfill mix 12) Whether or not soil polymers need to be added to soil.

If any of the above listed items are not recommended, the recommendation shall call for zero volume or zero poundage per 1,000 square feet. All soil test costs will be the responsibility of the Contractor.

- D. Legible copies of delivery slips for soil amendments, plant materials, rock products, and bark mulch specifying the quantities that were delivered. The contractor shall provide certificates, trip slips, and invoices to the Owner prior to final acceptance of the work.
- Samples for verification for each of the following:

addresses of owners' contact persons.

- Bark Much- 1 quart volume of each organic mulch required; in sealed plastic bags labeled with composition of materials by percentage of with and source of mulch. Each sample shall be typical of the lot of material to be furnished; provide an accurate representation of color, texture, and organic makeup.
- Cobble Mulch- 3-5 stones in sealed plastic bags labeled of each Cobble mulch required. Each sample shall be typical of the lot of material to be furnished; provide an accurate representation of color, texture, and size.
- Top Soil- 1 quart volume of each organic mulch required; in sealed plastic bags labeled with composition of materials. 4. Actual samples of the soil amendments shall be submitted to the

Landscape Architect only if requested by the Landscape Architect after

- approval of the soils test. Qualification Data: For landscape Installer. Include list of similar projects completed by Installer demonstrating Installer's capabilities and experience. Include project names, addresses, and year completed, and include names and
- G. Substitutions for the indicated materials will only be permitted provided the substitute materials are approved in writing, in advance, by the Landscape Architect and the Owner. All substitute materials shall conform to the requirements of these specifications. If accepted substitute materials are of less

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the Landscape Architect or the Owner to stop work progress until certificates are received and reviewed by the Landscape Architect.

- Upon delivery of materials and/or completion of all soil amending and with the heretofore specified signed copies of required certificates, trip slips and invoices for soil preparation materials the Landscape Architect shall invoice such material, comparing the total quantities of each material furnished against the total area of each operation. If the minimum rates of application have not been met, the Landscape Architect will require the distribution of additional quantities of these materials to fulfill the minimum application requirements
- D. After installation of plant materials, but prior to the pre-maintenance site observation, the Landscape Architect, with the heretofore specified signed copies of the required certificates and related items, shall invoice such material, comparing the total area and/or the amounts specified. If the minimum amounts have not been furnished, the Landscape Architect will require the installation of additional materials to fulfill the minimum requirements
- Deliver fertilizer or soil amendments to site in original unopened containers bearing manufacturer's guaranteed chemical analysis, name, trademark, and conformance to state law. Protect material from damage or breakage. Immediately remove empty containers from site. The contractor shall furnish the Architect with a copy of signed, legible certificates or invoices stating the quality and quantity of all items herein specified at the time of delivery.
- Deliver plants with legible identification labels. Store plant material in shade and protect from weather or injury. Maintain in a healthy, vigorous condition. Architect may at time reject plant material not maintained in this condition.
- G. Handling: Do not drop plants or pick up container plants by their stems or trunks.

1.10 SAMPLES AND TESTS:

- A. Contractor shall submit soil samples for testing, per this Specification.
- B. Architect reserves the right to take and analyze samples of materials for conformity to specifications at any time. Contractor shall furnish samples upon request by Architect.
- C. Rejected materials shall be immediately removed from the site at the Contractor's expense.
- D. Contractor shall pay cost of all testing or replacement of materials not meeting specifications.

1.11 WARRANTY AND REPLACEMENT

A. Special warranty: All plant material 15-gallon size and larger shall be guaranteed to live and grow in a healthy condition during the Contract Period, Maintenance Period, and for a one (1) year period from the date of final acceptance. The Contractor shall not be held responsible for failure due to neglect by the Owner, vandalism, etc. during the guarantee period. Report such conditions to the Owner immediately in writing.

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AGENCY APPROVAL:

CONSULTANT 3916 Normal Street San Diego, CA 92103 619.294.4477 www.ktua.com

HMC Architects

2277-035-101

8910 UNIVERSITY CENTER LN, #650 SAN DIEGO, CA 92122 619 744 4077 / www.hmcarchitects.com

△ **DESCRIPTION** DATE Δ 50% CONSTRUCTION DOCUMENTS 04-12-2023 Δ 100% CONSTRUCTION DOCUMENTS 05-08-2023



FACILITY:

7000 MERRILL AVE CHINO, CA 91710

PROJECT: CHINO AIRPORT UPGRADE PERIMETER FENCING AND

SHEET NAME: LANDSCAPE PLANTING SPECIFICATIONS

PROGRESS DATE: 05.08.2023

SHEET:

- B. Special warranty: All plant material smaller than 15-gallon size shall be guaranteed to live and grow in vigorous, healthy, and upright condition for a minimum of ninety (90) days after final acceptance of work (excluding seasonal color).
- C. Replacement: All plants not healthy and in a vigorous growing condition as determined by the Owner shall be replaced immediately. Plants used for replacement shall be the same kind and size as specified in the plant legend as shown on the drawings. They shall be furnished, planted, and fertilized as originally specified at no cost to the Owner.

1.12 SUSPENSION OF WORK

- A. The Landscape Architect shall recommend to the Owner any necessity to suspend the work wholly, or in part, for such period or periods as he/she may deem necessary due to unsuitable weather, or such other conditions as are considered unfavorable for the reasonable performance of the work, or for such time as is necessary due to the failure on the part of the Contractor to carry out orders given or to perform any or all provisions of the contract.
- B. If it should become necessary to stop work for an indefinite period, the Contractor shall store all materials in such a manner that they will not become an obstruction nor become damaged in any way, and he shall take every precaution to prevent damage or deterioration of the work performed. The Contractor shall cover all open excavations and shall provide suitable drainage by opening ditches, planting pits, etc., and erect temporary structures where necessary.
- C. Grading, soil preparation, and planting work shall be performed only during periods when beneficial and optimum results may be obtained. Excessive soil moisture that would destroy the soil structure, soil spreading, grading, and/or tilling operations shall be suspended until the moisture content reaches acceptable levels and the desired results are attainable. Moisten excessively dry soil that is not workable and which is too dusty before working the soil.

PART 2 - PRODUCTS

2.1 QUALITY

A. All materials shall be of standard, approved, and first grade quality and shall be in prime condition when installed and accepted. All commercially processed and/or packaged materials shall be delivered to the site in the original unopened containers bearing the manufacturer's guaranteed analysis.

2.2 SITE SOIL

- A. Site soil used to form landscape planting areas or backfill planters shall be clean, fertile, loamy soil, free of stones, sticks, stumps, or other deleterious matter one inch in diameter or larger. It shall also be free from wire, plaster, construction debris, or similar objects that would be a hindrance to planting or maintenance.
- B. The Architect shall approve suitability of soil of the site after reviewing results of the soil test

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- If the soil pH is between 6 and 7, the maximum permissible elemental concentration shall be reduced 50%. If the soil pH is less than 6.0, the maximum permissible elemental concentration shall be reduced 75%. No more than three metals shall be present at 50% or more of the above values.
- O. Phytotoxic Constituent, Herbicides, Hydrocarbons, etc. Germination and growth of monocots and dicots shall not be restricted more than 10%. Total petroleum hydrocarbons shall not exceed 100 mg/kg dry soil measured per the modified EPA Method No. 8015. Total aromatic volatile organic hydrocarbons (benzene, toluene, xylene and ethylbenzene) shall not exceed 2 mg/kg dry soil measured per EPA Methods No. 8020.
- P. Soil Texture/Organic Matter Provide information on the soil texture and soil organic matter.

2.4 SOIL AMENDMENTS AND FERTILIZER

- A. Soil Conditioner shall be a product that aids the structure of the soil consisting of rapidly decaying, slowly decaying and non-decaying material. The rate of decomposition of this amendment is very important.
- 1. The humus material shall have an ash content of no less than 8% and no
- more than 50%.
- The pH of the material shall be between 6 and 7.5.
 The salt content shall be less than 10 millimho/cm @ 25° C. (ECe less than
- 10) on a saturated paste extract.4. Boron content of the saturated extract shall be less than 1.0 parts per
- million.

 5. Silicon content (acid-insoluble ash) shall be less than 30%.
- Calcium carbonate shall not be present if to be applied on alkaline soils.
 Types of acceptable products are composts, manures, mushroom composts, straw, alfalfa, sludges, peat mosses etc. low in salts, low in

heavy metals, free from weed seeds, free of pathogens and other

- deleterious materials.

 8. Composted wood products are conditionally acceptable (stable humus must be present). Wood based products are not acceptable which are based on redwood or cedar.
- 9. Sludge-based materials are not acceptable if the soil already has a high level (toxic level) of zinc, copper or other heavy metals based on soil
- 10. Carbon:nitrogen ratio is less than 25: 1.
- 11. The compost shall be aerobic without malodorous presence of decomposition products.
- 12. The maximum particle size shall be 0.5 inch, 80% or more shall pass a NO. 4 screen.

Maximum total permissible pollutant concentrations in amendment in parts per million on a dry weight basis: arsenic: 20, cadmium: 15, chromium: 300, cobalt: 50, nickel: 100, copper: 150, lead: 200, mercury: 10, molybdenum: 60, selenium: 50, silver: 10, vanadium: 50, zinc: 300

The commercial grade product used shall be Loamex, or approved equal.

3. Agricultural grade gypsum - shall be a (CaS04 - 2H20) calcium sulfate product minimum 92% grade. Ninety-percent (90%) shall pass a 50-mesh screen. Control

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2.3 IMPORTED TOP SOIL

A. Definition

- General Imported soil shall be from a source outside the limits of the project selected by the Contractor and in compliance with the requirements specified herein. Imported soil shall be screened, fertile, friable soil from well-drained aerated land, and shall be free of roots, clods, heavy clay, pockets of coarse sand, stones larger than 1-inch in the greatest dimension, paint, paint washout, concrete slurry, concrete layers or chunks, cement, plaster, oils, gasoline, diesel fuel, paint thinner, turpentine, tar, roofing compound, acid or the like, obnoxious or invasive weeds (such as, but not all inclusive: Quackgrass, Johnsongrass, Poison Ivy, Nutsedge, Nimblewill, Canada Thistle, Bindweed, Bentgrass, Wild Garlic, Ground Ivy, Perennial Sorrel and/or Bromegrass), sticks, lumber, brush, other litter and/or refuse, or any material that might be deleterious to healthy plant growth. Imported soil shall not be infested with nematodes or other undesirable organisms, such as insects and disease causing plant pathogens. Imported soil shall be friable and have sufficient structure in order to give good tilth and aeration to the soil. Continuous, air-filled pore space content on a volume/volume basis shall be at least 15 percent (15%) when moisture is present at field capacity. Soil shall have a field capacity of at least 15 percent (15%) on a dry weight basis.
- 2. At least 15 days before scheduled use, the proposed source of imported soil must be submitted to the Landscape Architect for approval. The Contractor shall submit a written request for approval, which shall be accompanied by a written report from an approved soil-testing laboratory registered by the State of California for agricultural soil evaluation, which states that the proposed source complies with these specifications. The imported soil shall meet the following requirements:
- B. Gradation limits Sand, 50-80 percent, clay 20 percent maximum, and silt, 30 percent maximum. Recommendations of sandy loam or loam per USDA definitions. The sand, clay and silt gradation limits shall be as defined by the USDA classification scheme. Gravel over one-quarter-inch (1/4") in diameter shall be less than ten-percent (10%) by weight.
- C. Permeability rate Hydraulic conductivity rate shall be not less than 1-inch per hour nor more than 20-inches per hour when tested in accordance with the USDA Handbook Number 60, method 34b or other approved methods. Successful soil can have a permeability rate of 5 to 10-inches per hour.
- D. Agricultural suitability The soil shall be suitable to sustain the growth of the plants specified as per USDA specs.
- E. Fertility The range of the essential elemental concentration in soil shall be as

Ammonium Bicarbonate/DTPA Extraction parts per million (mg/kilogram) dryweight

phosphorus 2 - 40 potassium 40 - 200 iron 2 - 35 manganese 0.3 - 6 zinc 0.6 - 8

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of dust during application is mandatory. The commercial grade product used shall be U.S. Gypsum, Sof'n'Soil, Dolmar, or approved equal.

- C. Sulfur (soil sulfur) shall be elemental sulfur (99.5%) commercially manufactured so that a pure sulfur product is used. Sulfur is a constituent of three amino acids (cystine, methionne and cysteine) and is essential for protein synthesis. Sulfur is also supplied by gypsum. Sulfur is not effective until it is oxidizes. The bacteria are specific for this and are not common in alkaline soils. The oxidization may require months or years. Gypsum is rapid in its actions. The sulfur used shall be 99.5% elemental. Sizing on stacked screen shall be approximately: 8-mesh 4.3%; 20-mesh 7.8 %; 50-mesh 46.9 %; 100-mesh 39.3 %; 200-mesh 1.7%. The commercial grade product used shall be Wil-Gro; Union Chemicals, Baker Industries, or approved equal.
- D. Iron sulfate derived from sulfate-deep green (FeS04, 7H20), a minimum analysis of iron shall be expressed as metallic is 20.0%. The commercial grade product used shall be Wil-Gro, Bandini, Wilson & Geo. Meyer, or approved equal.
- E. Chelated iron shall be Becker Underwood Sprint 138 Fe or other approved equal commercial FeEDDHA for dicots and woody plants, and Becker Underwood Sprint 330 Fe or other commercial FeDTPA for grasses and monocots, or approved equal.
- F. Pre-plant starter fertilizer (1-10-10) analysis shall be a commercial grade flowable fertilizer with a 1 % nitrogen analysis; 10% phosphorous pentoxide and 10% potassium oxide. No potassium chloride is to be used. Organic nitrogen shall be from cottonseed meal and urea. Phosphorous. from superphosphate and cottonseed meal. Potassium (potash) from sulfate of potash and cottonseed meal. Screen analysis 74% to be retained on a 20-mesh screen. 0% to pass a 4-mesh screen, and 2 % to pass a 48-mesh screen. The commercial grade product used shall be Wil-Gro, Gro-Power, Bandini, Kellogg, or approved equal.
- Prilled post-plant fertilizer (14-7-3) for maintenance all areas. A maintenance fertilizer shall be used that is granular and homogeneous. Iron and zinc shall be in chelated form and sizing of granules during manufacture is very important. A regular maintenance program using this product for at least the first year is recommended. The homogeneous fertilizer granules used shall contain a fertilizer analysis of 14% nitrogen of which 4% is ammoniac sulfate. Remainder of nitrogen shall be 8.75% water soluble and 1.25% water insoluble. Available phosphorous pentoxide shall be 7%. Potassium oxide shall be 3%. Minor elements shall be chelated 25% by volume consisting of iron 2.0%; zinc 0.15% and manganese 0.15%. By-product calcium shall be 2.0%. Organic nitrogen is derived from urea and cottonseed meal. Phosphate from superphosphate and cottonseed meal. Potash from sulfate of potash and cottonseed meal. No potassium chloride is 'to be used. Sulfur from sulfate of ammonia. Calcium from superphosphate, iron \ from ferrous sulfate and mixed sulfides. Zinc and manganese are expressed as metallic and in their elemental form. Screen Analysis (% retained) approximately: 4-mesh 1.3%; 8 mesh = 24.2%; 20-mesh = 74.0%; and 48-mesh = 0.05%. The commercial grade product used shall be Wil-Gro Fairway, Gro-Power, Bandini, Kellogg, or approved equal.

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 copper
 0.1 - 5

 boron
 0.2 - 1

 magnesium
 50 - 150

 sodium
 0 - 100

 sulfur
 25 - 500

 molybdenum
 0.1 - 30

- F. Acidity The soil pH range measured in the saturation extract (Method 21a, USDA Handbook Number 60) shall be 6.0 7.5.
- G. Salinity The salinity range measured in the saturation extract (Method 3a, USDA Handbook Number 60) shall be 0.5 2.0 dStm. If calcium and if sulfate ions both exceed 20 milliequivalents per liter in the saturation extract, the maximum salinity shall be 4.0 dS/mH.
- H. Chloride The maximum concentration of soluble chloride in the saturation extract (Method 3a, USDA Handbook Number 60) shall be 150 mgtl (parts per million)
- I. Boron The maximum concentration of soluble boron in the saturation extract (Method 3a, USDA Handbook Number 60) shall be 1 mgtl (parts per million).
- J. Sodium Absorption Ratio (SAR) The maximum SAR shall be 3 measured per Method 20b, USDA Handbook Number 60.
- K. Aluminum Available aluminum measured with the Ammonium Bicarbonate/DTPA Extraction shall be less than 5 parts per million.
- L. Soil Organic Matter Content Sufficient soil organic matter shall be present to impart good physical soil properties but not be excessive to cause toxicity or cause excessive reduction in the volume of soil due to decomposition of organic matter.
- M. Calcium Carbonate Content Free calcium carbonate (limestone) shall not be
- N. Heavy Metals The maximum permissible elemental concentration in the soil shall not exceed the following:

Ammonium Bicarbonate/DTPA Extraction parts per million (mg/kilogram) dry weight basis:

arsenic 2
cadmium 2
chromium 10
cobalt 2
lead 30
mercury 1
nickel 5
selenium 3
silver 0.5
vanadium 3

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H. Planting tablets shall be tightly compressed chip type commercial grade planting tablets, of varying sizes with the following available percentages by weight of

Nitrogen 20.0 % min.
Phosphoric acid 10.0% min.
Potash 5.0 % min.

The commercial grade product used shall be Agriform, Gro-power, or approved equal.

2.5 WETTING AGENT

- A. An adjuvant (helping agent) is needed to make water penetrate difficult to wet soils. Also, organic soil amendments are more receptive to increased water holding capacity.
- B. Soil water repellence resulting from compaction will be overcome with multiple applications of a soil penetrant in the irrigation water.
- C. Product used shall have the following functioning agents: 2- hydroxyethyl ammoniumalkyl benzene sulfonate = 8.77%; alkyl phenoxy poly (ethylene oxy) ethanol= 4.49%; di (2 hydroxy ethyl)- ammonium cis-9 otadecenoate-octyl alkyldiamide = 2.50 %; dimethyl silicone = 1.00 %; carrier= 83.24 %. Adjuvant used shall be a commercial grade product and manufactured by Naiad/Wil-Gro, Dow, Dupont, or approved equal.

2.6 PLANTING BACKFILL FOR TREES AND SHRUBS

A. (For Bidding purposes only. Application rates shall be per soil analysis recommendation) Planting backfill shall be a thoroughly blended mixture of site soil and soil amendments at the following mixtures:

soil conditioner
site soil from excavated planting pit
gypsum
iron sulfate
pre-plant (1-10-10)

30%
70%
10 lbs. per cu. yd. of mix
5 lbs. per cu. yd. of mix
5 lbs. per cu. yd. of mix

2.7 PLANT TABLETS

A. 7 gram planting tablet designed for 12 month slow release. 12-8-8 NPK, 20% humus, 4% humic acids, 3.5% sulfur, 2% iron, micronutrients.

2.8 PLANT MATERIAL

- A. Nomenclature: Scientific and common names of plants herein specified shall conform with the approved names given in "Checklist Of Woody Ornamental Plants of California", published by the University of California, College of Agriculture, Manual 32 (1963).
- B. Labeling: Each group of plant materials delivered on site shall be clearly labeled as to species and variety. However, final determination of plant species and variety will be made by the Landscape Architect and whose decision will be final. All patented plants

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AGENCY APPROVAL:

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 100% CONSTRUCTION DOCUMENTS
 05-08-2023



FACILITY:

7000 MERRILL AVE CHINO, CA 91710

CHINO AIRPORT UPGRADE PERIMETER FENCING AND SIGNAGE

SHEET NAME:
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DATE: **05.08.2023** CLIENT PROJ NO:

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- (cultivars) required by the plant list shall be delivered with a proper plant patent label attached.
- C. Quality: Quality of all plants shall conform to the American Nursery & Landscape Association (AN LA) American Standard For Nursery Stock ANSI Z-60. 1-2004 (Approved May 12, 2004). Plants shall be vigorous or normal growth, free from disease, insects, insect eggs, insect larvae, and other pests. Plant materials shall not contain any deleterious, obnoxious, or invasive weeds such as (not all inclusive): Quackgrass, Johnsongrass, Poison Ivy, Nutsedge, Nimblewill, Canada Thistle, Bindweed, Bentgrass, Wild Garlic, Ground Ivy, Perennial Sorrel and/or Bromegrass. All plants shall equal or exceed any measurements specified and shall be supplied from the source indicated when a source is specified.
- D. Container stock: Shall have grown in containers for at least six (6) months and through one (1) full growing season, but not over two (2) years. Samples shall be shown to prove that no girdled roots, circled roots, and/or root-bound conditions are present. Any such trees or shrubs shall be deemed as not acceptable. All container plants or trees that have a cracked or broken rootball when taken from the container shall not be planted except on special approval from the Owner or the Landscape Architect.
- E. Pruning: At no time shall the plant materials be pruned, trimmed, or topped prior to delivery, and any alteration on the site of their shape shall be conducted only with the approval and in the presence of the Landscape Architect.
- F. Inspection of plant materials required by city, county, state, and/or federal authorities, and/or other regulatory agencies, shall be the responsibility of the Contractor. When necessary, the Contractor shall have secured permits or certificates prior to delivery of plants at site.
- G. Inspection of plant materials: Plants shall be subject to inspection and approval or rejection at the project site at any time before or during progress of work for size, variety, condition, latent defects and injuries. Rejected plants shall be removed from the project site immediately.
- H. Rejection and substitution: All plants not conforming to the requirements herein specified and/or as indicated on the drawings shall be considered defective, and such plants, whether in place or not, shall be marked as rejected and be immediately removed from the site of the work and replaced with acceptable plant materials. Under no condition will there be any substitution of plant species, variety, or reduced size for those listed on the accompanying drawings, except with the express written consent of the Landscape Architect.
- I. Right to changes: The Landscape Architect reserves the right to change the plant species, plant variety, and/or sizes of plant material to be furnished, provided that the cost of such plant changes does not exceed the cost of plants in the original bid. The Contractor shall be notified in writing sixty (60) days before the planting operation has commenced. Field changes to the plant species, plant variety, and/or sizes of plant material might be required due to current availability, and shall be coordinated with the Landscape Architect and Owner. Changes in the size and/or variety of any plant to be furnished which involves a reduction or addition in cost shall be adjusted in the contract cost.

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2.17 POTTING SOIL

A. Potting soil in all sign planter areas shall be "Premium cactus potting soil" by Earthworks Soil Amendments, 1725 Agua Mansa Rd., Riverside, CA 92509, Phone: (951)-782-0260.

PART 3 - EXECUTION

- 3.1 INSPECTION AND PREPARATION:
 - A. Site acceptance:
 - 1. The Contractor shall be responsible for coordinating his work with the General Contractor and other Sub-Contractors so no damage occurs to
 - plantings after installation.
 The Contractor shall be responsible for verifying grades and site conditions before beginning work. No change in Contract price will be owed for actual or claimed discrepancy between existing grade and those shown on the plan after Contractor has accepted existing grades and moved on the site.
 - B. General: The areas to receive trees, shrubs, ground covers, seed planting, and other vegetation and their respective requirements for imported soil, fertilizer applications, soil amendments, and other treatments shall be as defined on the drawings. Equipment necessary for preparation of the ground surface and for handling and placing all required material shall be readily available and in proper working condition.
 - C. Scheduling: Perform planting only when weather and soil conditions are suitable, as approved by Architect.
 - D. Utilities: Prior to excavation for planting or installation of stakes or guys, Contractor shall locate utility lines and cables, so that proper precautions will be taken not to damage them. In the event of a conflict between utility lines and plant locations, promptly notify the Architect, who shall arrange for the relocation of one or the other. Failure to follow this procedure shall make the Contractor responsible for repairing damages at his own expense.
 - E. Clearing and Grubbing: Prior to ripping and tillage operations, all existing vegetation in the area to be planted shall be grubbed, raked, and cleared from the site. The subsoil and ground surface shall be cleared of all material which has accumulated during construction activities, and all material which might hinder proper grading, tillage, planting, future plant health, and subsequent maintenance operations. The Contractor shall lawfully dispose of all grubbed materials and debris off the site at his or her expense. The Contractor shall completely remove any masonry, asphaltic concrete, and concrete from planting areas if present, and lawfully dispose of off site at his expense. Do not bury any grubbed materials, debris, masonry, asphaltic concrete, concrete, paints, chemicals, or other deleterious substances within any planting area on the project. Completely remove any concrete and plaster slurry / washout from planting areas if present, and remove the soil a minimum depth of 2-inches below a slurry / washout location.
 - F. The irrigation system shall be operational and approved prior to planting.
 - G. Underground Obstructions: All subsurface rocks over 2-inches in diameter and other underground obstructions shall be removed to the depth necessary to 329000 LANDSCAPE PLANTING 19

- J. Root condition: The Landscape Architect reserves the right to inspect root condition of any species, particularly those grown from seed, and if found defective, to reject the plants represented by the defective sample.
- K. Protection: All plants at all times shall be handled and stored so that they are adequately protected from drying out, from wind burn, and from all other injury. All plants determined by the Landscape Architect or Owner to be wilted, burned, or dried out, may be rejected at any time, whether in the ground or not. All plants shall be handled solely by their containers and all plants that have been handled by the stem or trunk shall be rejected, and removed from the site immediately. The Contractor's on-site plant storage area shall be approved by the General Contractor prior to the delivery of any plant materials.

L. Specimen tree selection:

- 1. Electronic photos of each tree variety and size, as called out on the drawings, fifteen (15) gallon size and larger shall be submitted to the Landscape Architect for approval prior to delivery to the project site and prior to installation.
- 2. After delivery to the project site, the Contractor shall immediately remove any trees not approved.
- 3. The Owner at his or her option and at his or her own expense, can retain the services of the Landscape Architect to review trees fifteen (15) gallon or larger tagged at the nursery and/or at its place of growth.

2.9 GROUNDCOVER

A. Groundcover plants shall be grown in one (1) gallon pots, fiats, or other approved containers, variety and sizes as indicated on the planting plan and legend. Flat grown plants (rooted cuttings) shall remain in those flats until transplanting. The soil in the flats shall contain sufficient moisture so that it will not fall apart when lifting the plants. Flat grown plants shall be fully rooted, with top vegetation that is not overgrown in relation to the size of the flat. Plants shall be protected at all times to prevent drying of the root ball.

2.10 PESTICIDES

- A. General: Pesticide registered and approved by EPA, acceptable to authorities having jurisdiction, and of type recommended by manufacturer for each specific problem and as required for Project conditions and application. Do not use restricted pesticides unless authorized in writing by authorities having jurisdiction.
- B. Pre-Emergent Herbicide (Selective and Non-Selective): Effective for controlling the germination or growth of weeds within planted areas at the soil level directly below the mulch layer.
- C. Post-Emergent Herbicide (Selective and Non-Selective): Effective for controlling weed growth that has already germinated.

2.11 WATER:

- A. Furnished by Owner.
- B. Transport by Contractor as required.

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permit proper fine grading, tilling, or planting according to plans and specifications, a minimum depth of 6-inches. All abandoned utility lines uncovered or severed shall be cut below grade and capped or plugged with concrete. Explosives, shall not be used for removal. When the location of utility lines is shown on the plans or has been made known to the Contractor, all damage to these lines shall be repaired by the Contractor in a manner approved by the Owner and affected utility purveyor.

- H. Deep Ripping: All areas to receive trees, shrubs, groundcover, hydroseeding, and turf shall be deep-ripped and loosened to a depth of 12-inches in all directions. Access roads used during construction activities within planting areas shall be deep-ripped and loosened to a depth of 3 feet in all directions.
- Protect structures, utilities, sidewalks, pavements, and other facilities and turf areas and existing plants from damage caused by planting operations.
- Install erosion-control measures to prevent erosion or displacement of soils and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways.

3.2 SOIL AMENDMENTS, FERTILIZING AND ROTOTILLING:

- A. The following specified soil amendments and fertilizers are guidelines for bidding purposes only. At the time of rough grade, the Contractor shall meet with the Owner to determine quantity and locations of soil samples to be taken. The soil tests/analysis are the responsibility of the Contractor. The Contractor shall submit soil samples from the site to an approved soil-testing laboratory for agricultural suitability analysis. The Contractor shall submit the results of the soil tests/analysis to the Landscape Architect for interpretation and recommendations. If the test results reduce or increase the quantities specified, then the Owner shall be notified. The contract prices shall be adjusted to reflect any differences between the amendments as specified below and the recommendations of the soil-testing laboratory.
- B. After the areas have been deep ripped, the following rates of soil amendment materials shall be evenly spread over all planting areas and shall be thoroughly scarified to an average depth of 8-inches by rototilling a minimum of 2 alternating passes. Amendments must be intimately blended with soil.

Soil Conditioner: 4 cu.yd. per 1,000 sq. ft.
Gypsum: 100 lbs. per 1,000 sq. ft.
Soil Sulfur: 20 pounds per 1,000 sq. ft.

Iron Sulfate: 20 pounds per 1,000 sq. ft.
Triple superphosphate (0-45-0) 4 pounds per 1,000 sq. ft.
Potassium sulfate (0-0-50) 8 pounds per 1,000 sq. ft.

Leaching shall be done prior to the application of soil conditioner,

gypsum, soil sulfur, iron sulfate, and pre-plant fertilizer.

2. The thoroughness and completeness of the rototilling and incorporation of the soil amendments shall be acceptable to the Owner. Adjust soil amendments and fertilizers on all slopes with gradients of 2: 1 and

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steeper, or as indicated on the drawings.

2.12 MULCH:

- A. Bark Mulch:
 - 1. Gorilla Hair (Shredded Redwood) Mulch available from Southwest Boulder & Stone, or approved equal.
 - 2. No shredded animal waste, or C&D wood by-products will be accepted.
- B. Type 1 Cobble see planting material and finish schedule
- C. Type 2 Cobble see planting material and finish schedule
- D. Type 3 Cobble see planting material and finish schedule

2.13 DRAINAGE MATERIAL - 3/8" CRUSHED ROCK:

95% -100% passing through a 3/8" screen. 0-5% passing through No. 8 mesh. 80-100# per cubic yard.

2.14 SOIL SEPARATOR:

- A. Geotextile filter fabric shall be a nonwoven geotextile composed of polypropylene fibers, formed into a stable network such that fibers retain their relative position.
- B. Geotextile filter fabric shall be inert to biological degradation and resist naturally encountered chemicals, alkalis, and acids.
- C. Geotextile filter fabric shall be Mirafi #180N, as manufactured by Mirafi Construction Products, Inc. 365 South Holland Drive, Pendergrass, Georgia 30567, (706) 693-2226, www.tcmirafi.com/products/productnindex2.html or approved equal.

2.15 FILTER FABRIC

- A. Spun-bonded polypropylene with UV inhibitors, non-degrading geotextile fabric that blocks 95% of weed growth and is permeable to air, water, gasses and fertilizer. Mirafi 180N, or equal.
- . Properties:
- 1. Roll Weight: 239 pounds per roll (500 square yards)
- 2. Tensile Strength: 205 pounds
- 3. CBR Puncture Strength: 500 pounds4. Apparent Opening Size: 80 US sieve
- Apparent Opening Size: 80
 Permitivity: 1.4 sec⁻²
- 6. Color: Black

2.16 EDGING

- A. Steel Edger: 3/16" thick x 5 1/2" tall with steel punch outs fabricated in each strip and steel stakes 12" long min., locking below top of edger.
- B. Finish: Black anodized
- C. Manufacturer: Sure-Loc. (800) 787-3562.

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3. Deep Water Leaching And Follow-Up Soil Testing:

- a. After rototilling in soil amendments, the area shall be deep water leached a minimum of three (3) times. Apply water slowly and avoid runoff. Allow the soil to drain thoroughly and partially dry out between applications. The total amount of water applied may be between 3 to 12-inches depending on the depth and degree of improvement. The soil type (sand, silt, or clay) will determine the amount of time required for the soil to dry out between leaching processes. Do not apply more water if the soil saturation exceeds 50% between applications. Treat and/or remove weeds that germinate.
- b. One day after final application of water, the soil shall be tested for content of soluble salts (electrical conductivity or E.C.). The Owner and the Contractor shall take several soil samples from the top 6-inches of sailor the depth of planting for that particular area, and deliver the samples to an approved laboratory for testing of soluble salts. Reference Section 02900, for a listing of approved soil testing laboratories. The E.C. test reading shall not be above 3.0 millimho/cm. 3.
- c. If soil test reading for E.C. for a particular area tested is above 3.0 millimho/cm, the soil amending, tilling and deep watering procedure shall be repeated until test readings are not above 3.0 millimho/cm.
- d. Care shall be taken that the rate of application of water does not cause erosion, sloughing of soils, damage to paving, damage to hardscape elements, or damage to structures. Contractor assumes all responsibility for monitoring of all areas during leaching period.
 e. All depressions, voids, erosion scars and settled trenches generated by the deep watering shall be filled with amended soil and brought
- to finish grade.

 f. Uniformly spread amendments and thoroughly cultivate by means of mechanical tiller per Soils Report.

3.3 IMPORTED SOIL

- A. Subgrades of all planting areas (as noted on the plans to receive imported soil), shall be established at below finish grade in order to accommodate imported soil.
- B. The subgrade shall be scarified a minimum depth of 2-inches before placement of the imported soil. Compacted subgrade needs to be ripped. Place 2-inches of import soil and till to 4-inches depth, to form a fifty-fifty (50/50) blend 4-inches in depth in order to avoid a sharp interface of soil types.
- C. Placement: of the imported soil shall be smooth and even in all planting areas. Finish grades in lawn areas shall be 1-inch below adjacent finished paving surfaces and 2-inches in shrub areas without abrupt changes in gradient, not only in the surface of the soil but also where soil meets walks, curbs, pavement or other features, unless otherwise indicated on the drawings.

3.4 EDGER

A. Steel Edger – install per plans, details, and per manufacturer's recommendations.

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FACILITY:

7000 MERRILL AVE CHINO, CA 91710

PROJECT:

CHINO AIRPORT UPGRADE PERIMETER FENCING AND SIGNAGE

SHEET NAME:
LANDSCAPE PLANTING SPECIFICATIONS

PRUGRESS

DATE: **05.08.2023**SHEET:

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3.6 SOIL PREPARATION AND FINISH GRADING

- A. Rough Grade: Site to be received by Landscape Installer to within one-tenth-ofa-foot (0.1'), plus or minus, by others based on Civil Engineer's drawings.
- B. Finish Grade: Finish grading to consist of grading, raking, watering in, mechanically compacting and settling to achieve desired contour and flow line patterns resulting in evenly finished surface.
- C. All undulations and irregularities in the planting surfaces resulting from tillage, rototilling and all other operations shall be leveled and floated out before planting operations are initiated.
- D. Finish grades shall insure positive drainage of the site with all surface drainage away from buildings, walls, over mow curbs, and toward roadways, drains and catch basins. Planting surfaces shall be graded with no less than two-percent (2%) surface slope for positive drainage.
- E. The Contractor shall take every precaution to protect and avoid damage to existing sprinkler heads, irrigation lines, and other underground utilities during soil amending and fertilizing operations.
- All rocks, debris, and other deleterious materials shall be removed from planting areas, and then from the site. Rocks in accordance with the following criteria: one-half-inch (1/2") diameter in hydroseed areas; 1-inch diameter in turf areas and groundcover areas: 2-inches diameter in shrub areas a minimum depth of 6- inches, and three-eighths-inch (3/8") from the top 2-inches in turf areas.
- Final finish grade shall be one-inch below finish paving surface in adjacent lawn areas and 2-inches in shrub areas, and decomposed granite areas. Final grades shall be acceptable to the Owner before planting operations will be allowed to
- H. Ease top and toe of all existing and new slopes.

3.8 PLANTING INSTALLATION – GENERAL

- A. Timing: Actual planting shall be performed during those periods when weather and soil conditions are suitable and in accordance with locally acceptable
- Layout of trees: All trees 24" box size and larger (including any specimen bareroot palms) shall be placed in the landscape per the direction of the Landscape Architect prior to installation of irrigation system. The trees shall then be moved so that planting holes can be excavated and amended. The trees shall then be installed in their respective holes and positioned in the holes per direction of the Landscape Architect. For those trees located within tree grates, the layout shall be in direct coordination with the installation of the tree grates. The trees shall be placed so that the center of trunk is directly within the center of the tree grate, equidistant on all sides of the tree grate cutout.
- C. Layout of planting: Locations shall be approved by the Landscape Architect. All container plants shall be set by the Contractor in their final location in their respective containers prior to digging holes and/or planting. All plant locations shall be checked for possible interference with existing underground utility lines. 329000 - LANDSCAPE PLANTING - 22
 - 4. Four 21-gram tablets per 15 gallon container. 5. One 21-gram tablet per each 4-inch of box size.
- Random testing to verify planting tablet installation shall be conducted by the
- Tree trunks shall be set vertical and plumb, unless otherwise noted on the drawings or at the direction of the Landscape Architect.
- Immediately after planting, install a soil berm around the perimeter of each planting pit to create an enclosed water basin, except in turf locations. The height of the soil berm shall be 4-inches for trees and 3-inches for shrubs. All plants shall be thoroughly watered to the full depth of each planting hole. If water slowly moves into the rootball from the backfill soil, dual berms may be needed. One over the rootball and another one at the edge of the backfill so that each one can be separately irrigated. Drip irrigation can be used to irrigate difficult rootballs.
- Staking and tying: All trees and any other plants indicated on the plans shall be staked per detail. Stakes shall be driven into the ground of the windward side of the tree. The stakes shall be driven in plumb and secure. Special care shall be taken that the driving in of the stake does not damage the tree bark, tree roots or root ball. Tree ties shall be wrapped around the tree trunk and the stake, twisting to form a figure-eight. The tree ties shall be long enough to provide for 3-inches of slack to permit the tree trunk limited movement in any direction. Secure the tree tie with the double-back locking configuration. Secure each tree tie with one galvanized nail driven through the tree tie and into the stake to prevent slippage (see Drawings). The staking shall be accomplished by the Contractor in such a manner as to ensure the proper and healthy growth and the safety of the plants, property, and the public.
- Pruning after planting shall be required on all trees, shrubs, and vines when necessary to provide the specified or approved standard shapes, form and/or sizes characteristic to each plant. Pruning shall be required when necessary to provide horizontal and/or vertical sight line clearance. Pruning may include thinning and/or cutting and shall be under the direction of the Landscape Architect. Pruning cuts shall not be painted with tree sealants.

3.11 PLANTING GROUNDCOVER

- A. Groundcovers shall be planted in the areas indicated on the plans, and shall be installed only after all debris and surface rocks 1-inch diameter and larger have been removed from the planting area.
- If the top 4-inches of soil in the area to be planted in groundcover is not sufficiently moist (horticulturally acceptable standards), the area shall be thoroughly irrigated and no less than 12 hours shall pass before planting.
- C. Groundcovers shall be planted in even, triangularly spaced rows, at the intervals called out for in the legend on the drawings, unless otherwise noted.
- D. The size of planting excavation for groundcover shall be at least twice the width of the root ball.

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- D. Backfill for trees and shrubs: shall be as specified in this section. If artificial drainage is requested, then drains shall be installed first, then backfilled with
- Disposal of excess soil and debris all excess excavated subsoil, rocks and debris shall be legally disposed of off the site by the Contractor at his or her cost or utilized on the site as directed by and at the option of the Owner. Use the more suitable soil excavated from the planting pit, and dispose the less suitable soil. Do not place unamended soil over amended soil.

3.9 EXCAVATION FOR PLANT MATERIALS

- A. Planting Pits and Trenches: Excavate circular planting pits with sides sloping inward at a 45-degree angle. Excavations with vertical sides are not acceptable. Trim perimeter of bottom leaving center area of bottom raised slightly to support root ball and assist in drainage away from center. Do not further disturb base. Ensure that root ball will sit on undisturbed base soil to prevent settling. Scarify sides of planting pit smeared or smoothed during excavation.
- B. Excavate approximately 2 times as wide as ball diameter for boxed and container-grown stock.
- C. Do not excavate deeper than depth of the root ball, measured from the root flare to the bottom of the root ball.
- D. If area under the plant was initially dug too deep, add soil to raise it to the correct level and thoroughly tamp the added soil to prevent settling.
- Maintain required angles of repose of adjacent materials as shown on the Drawings. Do not excavate subgrades of adjacent paving, structures, hardscapes, or other new or existing improvements.
- Excavation shall include the stripping and stacking of all acceptable soil encountered within the areas to be excavated for plant pits and planting beds. Protect all areas that are to be trucked over and upon which soil is to be temporarily stacked pending its re-use for the filling of holes, pits, and beds.
- G. Maintain supervision of excavations during working hours.
- H. Keep excavations covered or otherwise protected when unattended by Installer's personnel.
- Subsoil and topsoil removed from excavations may be used as planting soil.
- Obstructions: Notify Landscape Architect if unexpected rock or obstructions detrimental to trees or shrubs are encountered in excavations.
- K. Hardpan Layer: The following method shall be used in the excavation of planting pits for trees sized 24" box and larger. Drill 6-inch diameter holes, 24-inches apart, into free draining strata or to a depth of 10 feet, whichever is less, and backfill with free-draining material. Provide two holes for 24" to 36" box trees, 3 holes for 48" to 60" box trees, and 4 holes for 72" box and larger trees.
- Drainage: Notify Architect if subsoil conditions evidence unexpected water seepage or retention in tree or shrub planting pits. 329000 - LANDSCAPE PLANTING - 23
- For rooted cutting plants supplied in flats, each plant shall be planted in a manner that will ensure minimum disturbance of the root system, but in no case

shall this depth be less than two (2) nodes.

Each groundcover plant shall be planted with one 5-gram planting tablet incorporated into the root zone. Planting area shall be hand-smoothed after planting to provide an even and smooth final finished grade. To avoid drying out and damaging groundcover, plants must be irrigated after planting. This may be done manually or by using the installed irrigation system. Repeated applications may be required, especially on a sloping site. This initial irrigation procedure shall continue until the soil profile is thoroughly moistened to field capacity a minimum depth of twice the depth of each planting hole.

BARK MULCH

- A. All planter areas, as shown in drawings, shall be evenly covered with bark mulch to a uniform depth of 3" min.
- Provide 4-inches of horizontal clearance away from the collar of tree trunks, 3inches of horizontal clearance away from the collar of shrubs and ornamental grasses, and 2-inches of horizontal clearance away from the basal stem of ground covers.

3.14 COBBLE MULCH

- A. Cobble mulch shall be installed within the project at locations as shown on the Plans and Drawings.
- Install cobble mulch over weed barrier fabric as shown on the details of the Plans & Drawings.
- Install cobble mulch at such uniform depth that one-hundred-percent (100%) of the weed barrier fabric is covered in those areas where cobble mulch is to be installed.
- Contractor shall coordinate final placement and installation with the Landscape Architect and Owner

3.15 PESTICIDE APPLICATIONS.

- A. Apply pesticides and other chemical products and biological control agents in accordance with manufacturer's written recommendations
- Coordinate applications with Owner's operations and others in proximity to the Work.
- Notify Owner before each application is performed.
- D. No restricted pesticides shall be used.
- Pre-Emergent Herbicides (Selective and Non-Selective): Apply to tree, shrub, and groundcover areas in accordance with manufacturer's written recommendations. Do not apply to seeded areas.

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M. Fill excavations with water and allow to percolate away before positioning trees and shrubs.

3.10 PLANTING TREES, SHRUBS, ORNAMENTAL GRASSES, AND VINES

- A. Soil moisture level in planting areas at time of planting shall be no less than horticulturally acceptable. The Contractor shall request approval of moisture, and if found to be insufficient for planting, the planting pits shall be filled with water and allowed to drain before starting any planting operations.
- B. Before planting, verify that root flare is visible at top of root ball according to ANSI Z60.1. If root -flare is not visible, remove soil in a level manner from the root ball to where the top-most root emerges from the trunk. After soil removal to expose the root flare, verify that root ball still meets size requirements.
- Remove stem girdling roots and kinked roots. Remove injured roots by cutting cleanly; do not break.
- D. Set container-grown stock plumb and in center of excavated planting pit or trench with root flare 1-inch above adjacent finish grades.
- 1. Carefully remove root ball from container without damaging root ball or
- 2. Use planting soil with the heretofore specified amendments for backfill. 3. Backfill around root ball in layers, tamping to settle soil and eliminate voids and air pockets. When planting pit is approximately one-half filled, water thoroughly before placing remainder of backfill. Repeat watering until no more water is absorbed.
- 4. Do not cover the top of the rootball with backfill soil, which might create
- soil interface conflicts and inhibit aeration and gaseous exchange. Place planting tablets in each planting pit when pit is approximately one half filled; in amounts recommended below. Place tablets beside the root ball about 1-inch from root tips; do not place tablets in bottom of the hole. See below for application rates.
- 6. Continue backfilling process. Water again after placing and tamping final laver of soil.
- 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 root ball on the downhill side will be above the surrounding soil. Apply enough soil to cover the downhill side of the root ball.
- Create rootball drainage for all boxed trees by removing the bottom of the box before planting, or cutting drainage holes in the bottom of the box, or separating the boards on the bottom after planting, or other approved method.
- G. The Contractor shall be responsible for all surface and subsurface drainage required which may affect his / her guarantee of the trees, shrubs, ornamental grasses and vines.
- H. Planting tablets shall be placed in each planting hole at the following rates and per the manufacturer's recommendations (soil reports from soil-testing laboratory supersede application rates in this section, if different):
 - One 5-gram tablet per individual liner and flat size plant. One 21-gram tablet per 1 gallon container.
 - Three 21-gram tablets per 5 gallon container.
 - 329000 LANDSCAPE PLANTING 24

Post-Emergent Herbicides (Selective and Non-Selective): Apply only as necessary to treat already-germinated weeds and in accordance with

3.16 CLEAN UP

- A. After planting operations have been completed, remove trash, excess soil, empty plant containers, and rubbish from the property, and dispose of legally.
- B. Cleanup shall be performed at the end of each working day, with a maximum cleanup effort (in a manner satisfactory to the Owner) for each weekend or
- C. The Contractor shall sweep the site and shall wash down pavement within the Contract area, leaving the premises in a clean condition. Walks shall be left in a clean and safe condition.
- D. Scars, ruts, or other marks in the ground caused by this work shall be repaired and the ground left in a smooth condition throughout the site.

3.17 GENERAL MAINTENANCE AND THE MAINTENANCE PERIOD

manufacturer's written recommendations.

- A. Keeping the plants in a healthy, growing condition by watering, fertilizing, pruning, spraying, weeding and all other necessary operations of maintenance. All paving and walks shall be kept clear, clean and washed down.
- B. Protection: The Contractor shall be responsible for providing adequate protection of all planting areas against traffic or other use by erecting fencing or other acceptable means immediately after the planting is completed. Warning signs and barricades shall be placed in various high traffic areas. Damaged areas shall be repaired immediately by the Contractor.
- C. Weeding and cultivating: All tree, shrub, groundcover, vine, turf, and hydroseeded areas shall be kept free of weeds, noxious grasses, rocks over 1inch in diameter, clods, trash and debris on a weekly basis. Groundcover and shrub areas shall be cultivated at intervals of not more than 14 days minimum.
- Replacement: During the Maintenance Period, plants which die or which are in an unhealthy or badly impaired condition shall be replaced by the contractor within 14 days after unsatisfactory condition is evident. No replacement of plantings shall be made in any season definitely unfavorable for planting. At the conclusion of the Maintenance Period, the Landscape Architect will make an inspection of the work to determine the condition of all plants. All unhealthy plants shall be removed from the site and replaced with plants of the same kinds and sizes as originally specified. Such replacement shall be made in the same manner as specified for the original planting and at no extra cost to the Owner.
- Fertilization:
- 1. Trees post fertilization shall occur at 100-day intervals after planting. Apply fertilizer at the rate of 1-lb. per 1-inch caliper of tree trunk diameter at breast height. Fertilizer shall be 14-7-3 or approved equal.
- Shrubs post fertilization shall occur 60 days after planting and apply fertilizer at the rate of 1 teaspoon per each one-gallon plant and 1 tablespoon per five-gallon plant. Fertilizer shall be 14-7-3, or approved

329000 - LANDSCAPE PLANTING - 27

AGENCY APPROVAL:

CONSULTANT 3916 Normal Street San Diego, CA 92103 619.294.4477 vww.ktua.com

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△ **DESCRIPTION** DATE 04-12-2023 Δ 50% CONSTRUCTION DOCUMENTS Δ 100% CONSTRUCTION DOCUMENTS 05-08-2023



FACILITY:

SHEET:

7000 MERRILL AVE CHINO, CA 91710

PROJECT: CHINO AIRPORT UPGRADE PERIMETER FENCING AND

SHEET NAME: LANDSCAPE PLANTING SPECIFICATIONS

DATE: **05.08.2023** CLIENT PROJ NO:

PLEASE RECYCLE (4)

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- Groundcover and lawn areas post fertilization shall occur 60 days after planting and apply fertilizer at the rate of 7-lbs per 1,000 square feet fertilizer shall be 14-7-3, or approved equal.
- F. Maintenance Period: The Maintenance Period shall begin on the first day after the pre-maintenance observation acceptance and shall continue thereafter for no less than 90 continuous calendar days. If any plants are replaced during the Maintenance Period, then the 90-day Maintenance Period for those plants shall begin at the date of installation for that plant, if so directed by the Landscape Architect or the Owner.
- G. Extended Maintenance Period: When, in the opinion of the Landscape Architect, there is improper maintenance, and/or poor condition of plant materials, and/or unhealthy condition of plant materials, then the Contractor shall be responsible for additional maintenance of the work at no additional cost to the contract until all work is acceptable by the Landscape Architect.

END OF SECTION

329000 – LANDSCAPE PLANTING - 28

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 05-08-2023



FACILITY:

7000 MERRILL AVE CHINO, CA 91710

PROJECT:

CHINO AIRPORT UPGRADE PERIMETER FENCING AND

SHEET NAME:
LANDSCAPE PLANTING SPECIFICATIONS

PRUGRESS

DATE: **05.08.2023** CLIENT PROJ NO:

AGENCY APPROVAL: MERRILL AVE △ **DESCRIPTION KEYNOTES NOTES** SITE DEMOLITION PLAN FACILITY: PROJECT: SHEET NAME: SITE DEMOLITION PLAN DATE: **05.08.2023**

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EXISTING FENCE TO REMAIN EXISTING REMOVE FLAGPOLE AND SAVE

REMOVE EXISTING GATE 02.06 REMOVE EXISTING FENCE, TYP

REFER TO SHEET G0.11 FOR TYPICAL SYMBOLS AND

ABBREVIATIONS REFER TO LANDSCAPE DRAWINGS FOR PAVING AND PLANTING INFORMATION
REFER TO ELECTRICAL DRAWINGS FOR UTILITY

INFORMATION

CONTRACTOR IS RESPONSIBLE FOR REPAIR/REPLACEMENT OF ALL HARDSCAPE/PLANTING OUTSIDE OF LIMIT OFWORK LINE FOR CONNECTION OF UNDERGROUND UTILITIES

7000 MERRILL AVE CHINO, CA 91710

CHINO AIRPORT UPGRADE PERIMETER FENCING AND

CONSTRUCTION DOCUMENTS

312' 71' 26' —EXISTING FENCE TO REMAIN --ORNAMENTAL METAL FENCE, TYP. REFER TO DETAIL 1/A10.01 **.**42 ┣╾╼╾<u>┩╫╫╫╫╸</u>╫╼╼╾╾╾╾╊╼╾╾╾╾╾╾╾╾╾╾╾╾╾ <u>_____</u> ARCHITECTURAL SITE PLAN

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ISSUE

Δ **DESCRIPTION**

KEYNOTES

02.03 EXISTING FENCE TO REMAIN
32.01 ORNAMENTAL METAL FENCE, TYP. REFER TO DETAIL 1/A10.01

32.02 NEW SIGNAGE. REFER TO SIGNAGE PLANS
32.03 ORNAMENTAL METAL DOUBLE GATE. REFER
TO DETAIL 5/A5.21

REINSTALL EXISTING FLAGPOLE. REFER TO DETAIL 6/A10.01

ORNAMENTAL METAL DOUBLE GATE. REFER TO DETAIL 8/A5.21

NOTE

- REFER TO SHEET G0.11 FOR TYPICAL SYMBOLS AND ABBREVIATIONS
- 2. REFER TO LANDSCAPE DRAWINGS FOR PAVING AND PLANTING INFORMATION
- 3. REFER TO ELECTRICAL DRAWINGS FOR UTILITY INFORMATION

UNDERGROUND UTILITIES

4. CONTRACTOR IS RESPONSIBLE FOR REPAIR/REPLACEMENT OF ALL HARDSCAPE/PLANTING OUTSIDE OF LIMIT OFWORK LINE FOR CONNECTION OF

FACILITY:

7000 MERRILL AVE CHINO, CA 91710

PROJECT:

CHINO AIRPORT UPGRADE PERIMETER FENCING AND SIGNAGE

SHEET NAME:
PROJECT SITE PLAN

CONSTRUCTION DOCUMENTS

DATE: **05.08.2023**

CLIENT PROJ NO:

A A O

PARTIAL DEMOLITION PLAN - NORTHWEST SIGNAGE 1/8" = 1'-0" AP-004 PARTIAL DEMOLITION PLAN - MAIN ENTRANCE 1/8" = 1'-0" PLEASE RECYCLE 🖧

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KEYNOTES

EXISTING REMOVE FLAGPOLE AND SAVE REMOVE EXISTING FENCE, TYP

NOTES

- REFER TO SHEET G0.11 FOR TYPICAL SYMBOLS AND ABBREVIATIONS

- ABBREVIATIONS
 REFER TO LANDSCAPE DRAWINGS FOR PAVING AND
 PLANTING INFORMATION
 REFER TO ELECTRICAL DRAWINGS FOR UTILITY
 INFORMATION
 CONTRACTOR IS RESPONSIBLE FOR
 REPAIR/REPLACEMENT OF ALL HARDSCAPE/PLANTING
 OUTSIDE OF LIMIT OFWORK LINE FOR CONNECTION OF
 UNDERGROUND UTILITIES

FACILITY:

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CHINO AIRPORT UPGRADE PERIMETER FENCING AND SIGNAGE

PARTIAL DEMOLITION SITE PLAN

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KEYNOTES

EXISTING FENCE TO REMAIN ORNAMENTAL METAL FENCE, TYP. REFER TO DETAIL

NEW SIGNAGE. REFER TO SIGNAGE PLANS REINSTALL EXISTING FLAGPOLE. REFER TO DETAIL 6/A10.01 32.04

NOTES

- 1. REFER TO SHEET G0.11 FOR TYPICAL SYMBOLS AND **ABBREVIATIONS**
- 2. REFER TO LANDSCAPE DRAWINGS FOR PAVING AND PLANTING INFORMATION
 REFER TO ELECTRICAL DRAWINGS FOR UTILITY
- INFORMATION
- 4. CONTRACTOR IS RESPONSIBLE FOR REPAIR/REPLACEMENT OF ALL HARDSCAPE/PLANTING OUTSIDE OF LIMIT OFWORK LINE FOR CONNECTION OF UNDERGROUND UTILITIES

FACILITY:

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CHINO AIRPORT UPGRADE PERIMETER FENCING AND

PARTIAL SITE PLAN - A

CONSTRUCTION DOCUMENTS

DATE: **05.08.2023**

CLIENT PROJ NO:

1" = 80'-0"

PARTIAL SITE PLAN - A

32.03 FACILITY: ARCHITECTURAL SITE PLAN

AGENCY APPROVAL:

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KEYNOTES

32.01 ORNAMENTAL METAL FENCE, TYP. REFER TO DETAIL 1/A10.01

32.02 NEW SIGNAGE. REFER TO SIGNAGE PLANS ORNAMENTAL METAL DOUBLE GATE. REFER TO DETAIL

ORNAMENTAL METAL DOUBLE GATE. REFER TO DETAIL

NOTES

1. REFER TO SHEET G0.11 FOR TYPICAL SYMBOLS AND ABBREVIATIONS

2. REFER TO LANDSCAPE DRAWINGS FOR PAVING AND PLANTING INFORMATION
3. REFER TO ELECTRICAL DRAWINGS FOR UTILITY

INFORMATION

4. CONTRACTOR IS RESPONSIBLE FOR REPAIR/REPLACEMENT OF ALL HARDSCAPE/PLANTING OUTSIDE OF LIMIT OF WORK LINE FOR CONNECTION OF UNDERGROUND UTILITIES

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CHINO AIRPORT UPGRADE PERIMETER FENCING AND

PARTIAL SITE PLAN - B

CONSTRUCTION DOCUMENTS

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Δ DESCRIPTION

KEYNOTES

32.03 ORNAMENTAL METAL DOUBLE GATE. REFER TO DETAIL 5/A5.21

NOTES

- REFER TO SHEET G0.11 FOR TYPICAL SYMBOLS AND ABBREVIATIONS
- 2. REFER TO LANDSCAPE DRAWINGS FOR PAVING AND PLANTING INFORMATION
- 3. REFER TO ELECTRICAL DRAWINGS FOR UTILITY INFORMATION
- 4. CONTRACTOR IS RESPONSIBLE FOR REPAIR/REPLACEMENT OF ALL HARDSCAPE/PLANTING OUTSIDE OF LIMIT OFWORK LINE FOR CONNECTION OF UNDERGROUND UTILITIES

FACILITY:

7000 MERRILL AVE CHINO, CA 91710

PROJECT:

CHINO AIRPORT UPGRADE PERIMETER FENCING AND SIGNAGE

SHEET NAME:
PARTIAL SITE PLAN - C

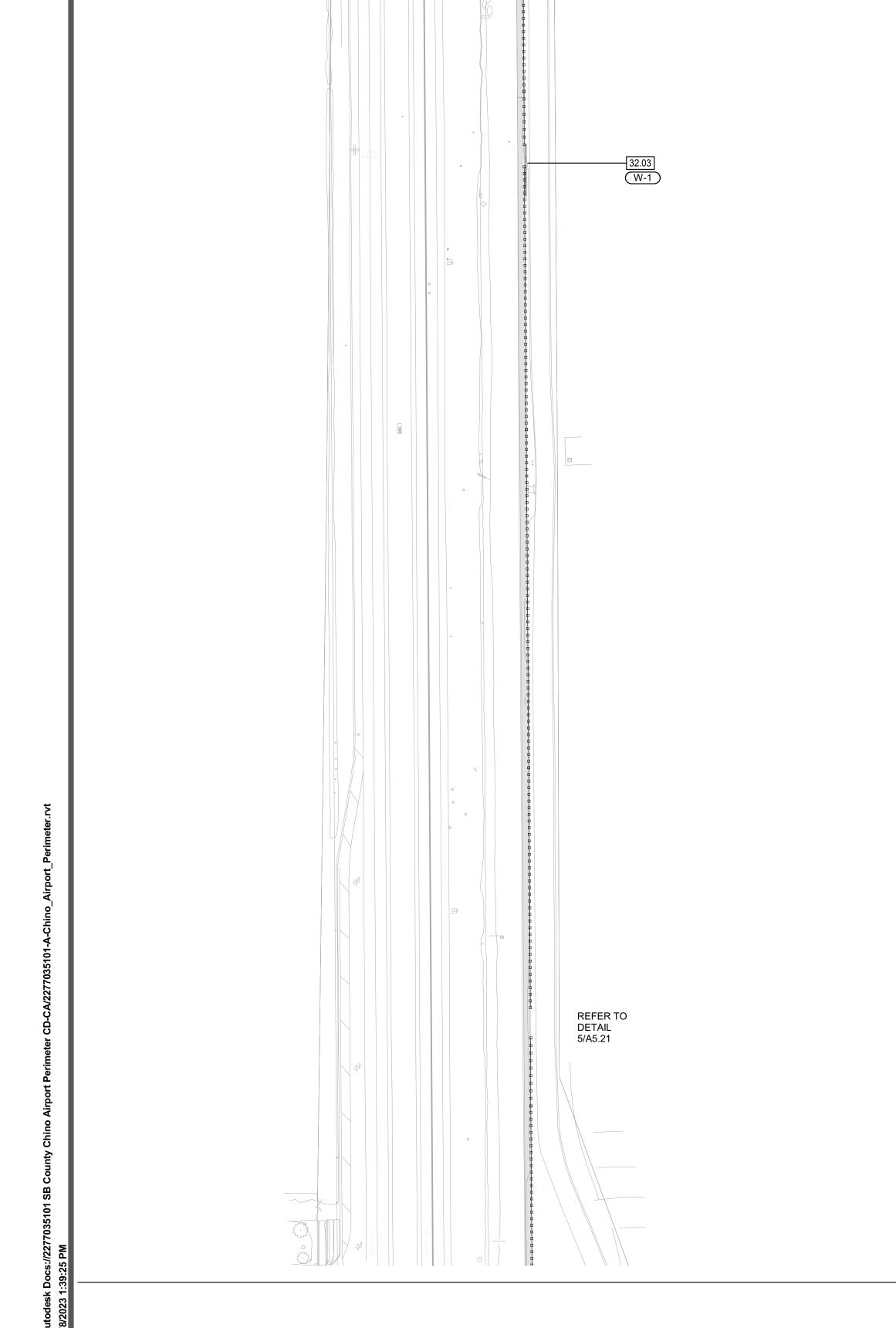
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DATE: **05.08.2023**

CLIENT PROJ NO:

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ARCHITECTURAL SITE PLAN
PLEASE RECYCLE TO 1" = 80'-0"



ORNAMENTAL
METAL FENCE,
TYP. REFER TO
DETAIL 1/A10.01

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KEYNOTES

32.01 ORNAMENTAL METAL FENCE, TYP. REFER TO DETAIL 1/A10.01 32.02 NEW SIGNAGE. REFER TO SIGNAGE PLANS

NOTES

- REFER TO SHEET G0.11 FOR TYPICAL SYMBOLS AND ABBREVIATIONS

ABBREVIATIONS

2. REFER TO LANDSCAPE DRAWINGS FOR PAVING AND PLANTING INFORMATION

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FACILITY:

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CHINO AIRPORT UPGRADE PERIMETER FENCING AND SIGNAGE

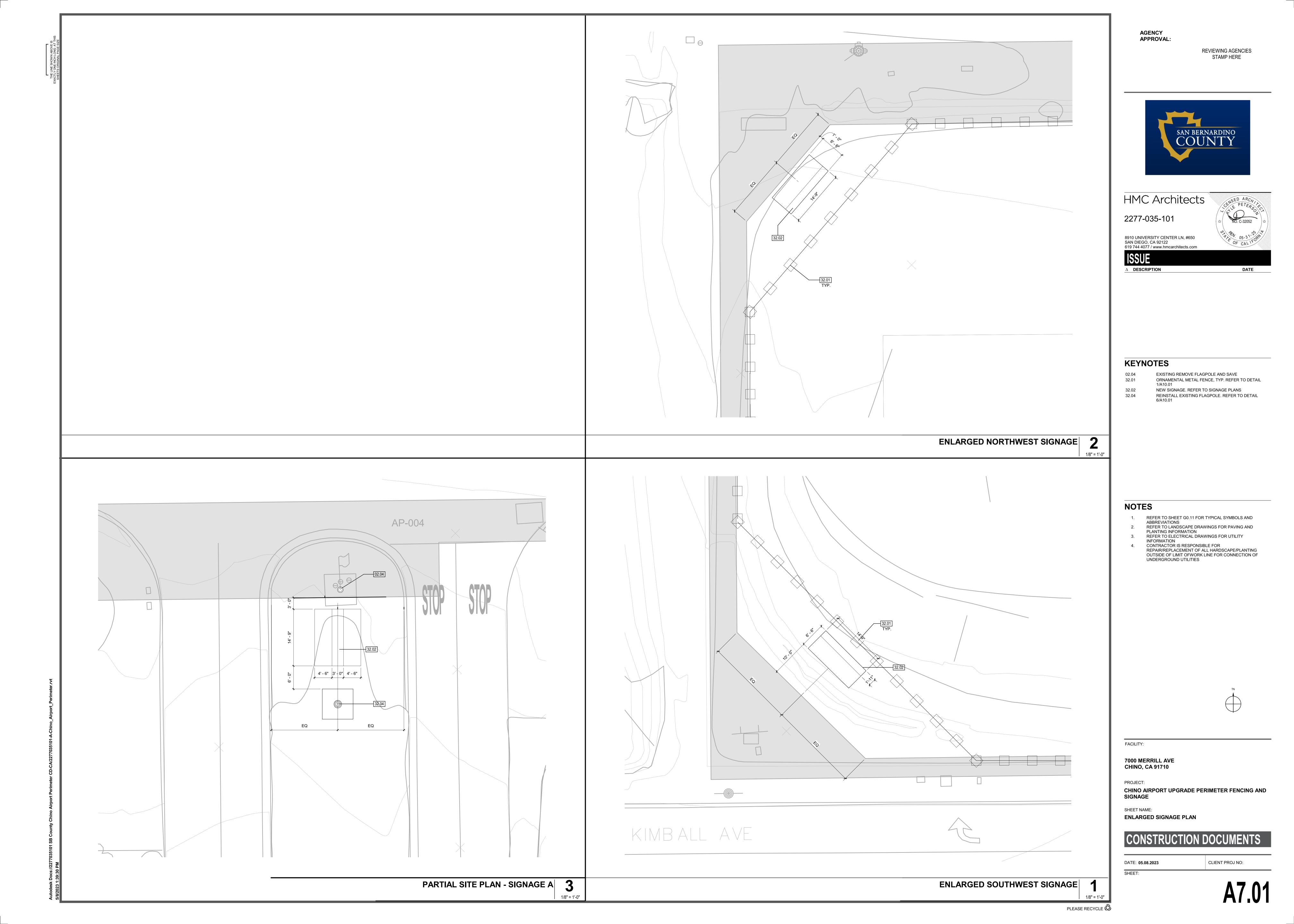
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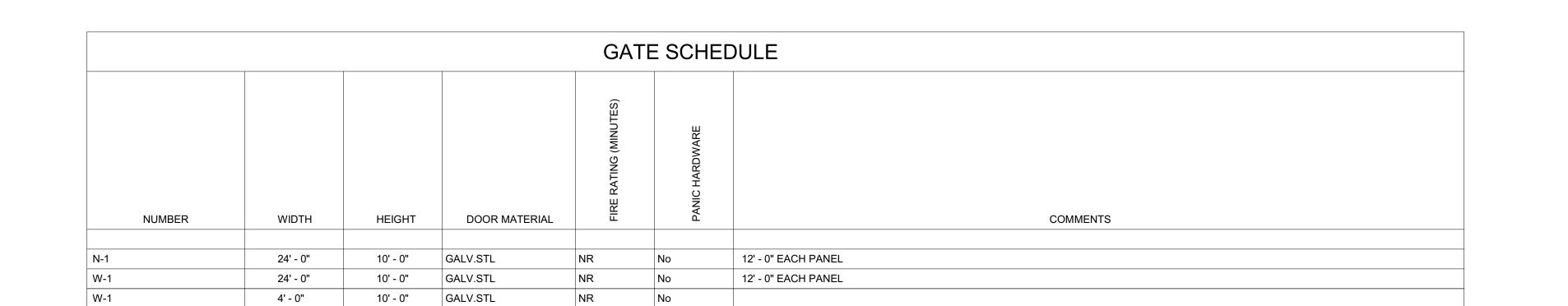
CONSTRUCTION DOCUMENTS

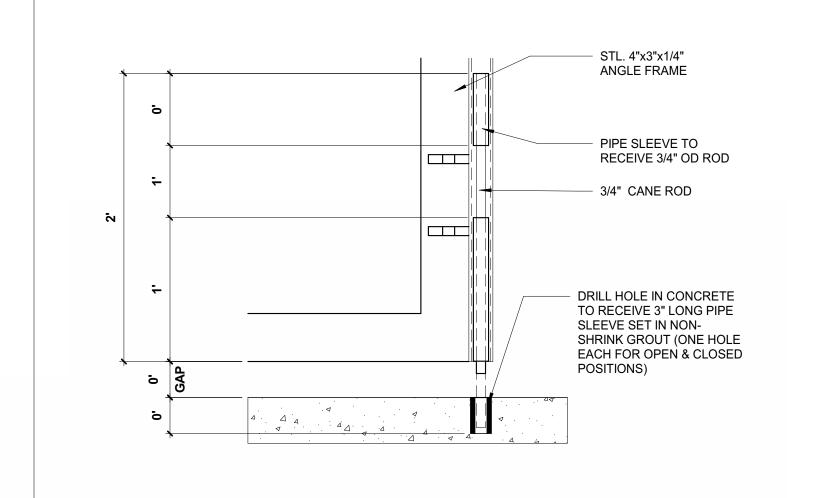
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SSUE

A DESCRIPTION

CANE BOLT ELEVATION AT METAL GATE 1/2" = 1'-1

2-#4 CONT.

LANDSCAPING

2" GRAVEL WRAPPED
IN FILTER FABRIC.
SLOPE TO PIPE DRAIN

WATERPROOFING
MEMBRANE

PROTECTION
BOARD

2"-0". MIN.

8"

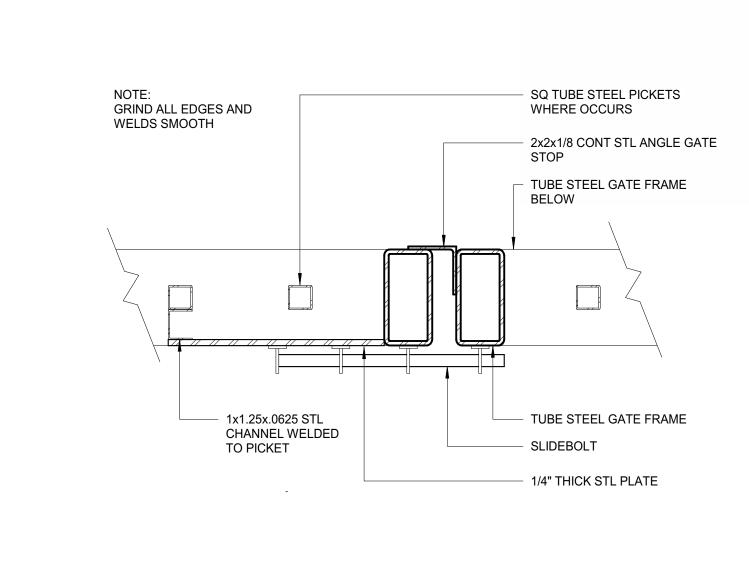
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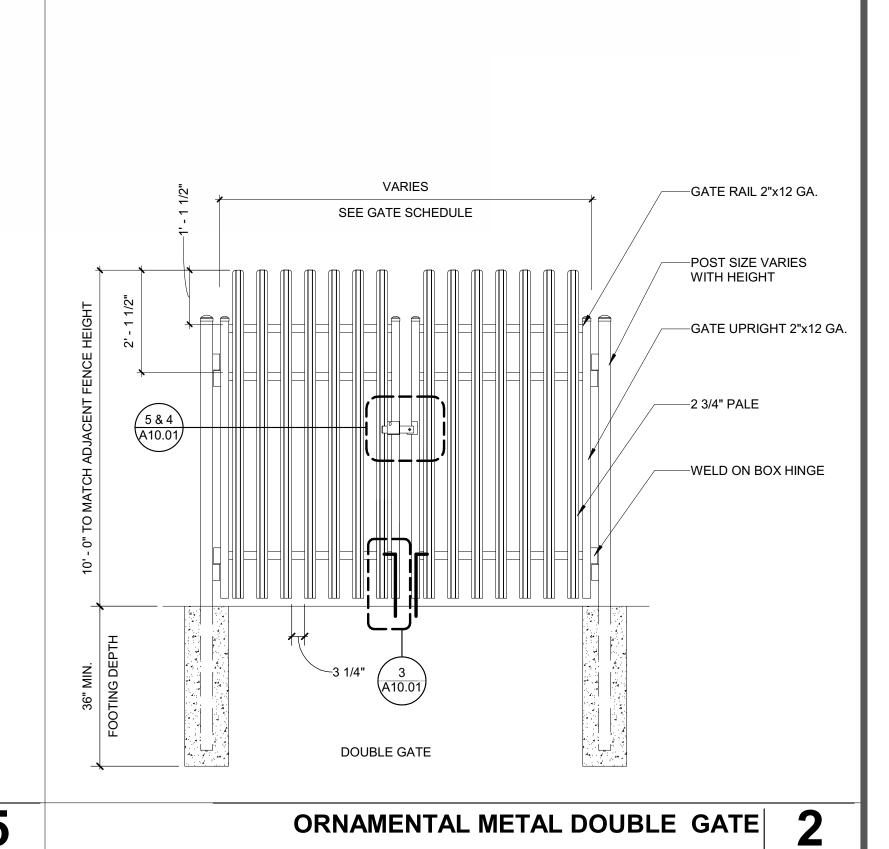
1/4" RADIUS TOOLED EDGE,
TYP
CAST-IN-PLACE CONC. WALL

FINISH PER SIGNAGE DRAWINGS

9 12" O.C. VERT.,
#4 @12" O.C. HORIZ

EXISTING GRADE

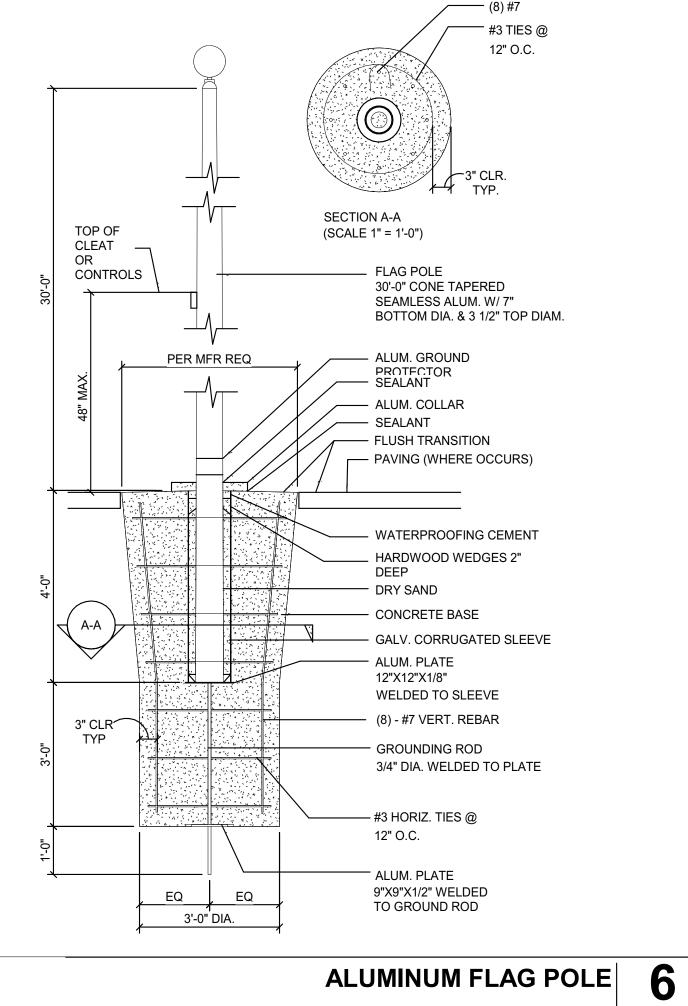






1" = 1'-0"

1/2" = 1'-0"



4' - 0"

SINGLE GATE

-GATE RAIL 2"x12 GA.

-POST SIZE VARIES

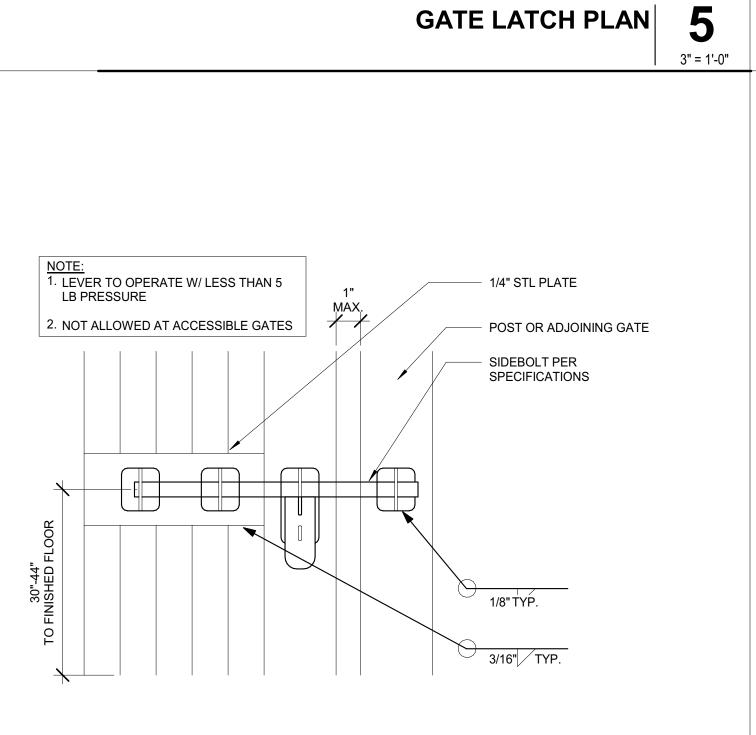
—GATE UPRIGHT 2"x12 GA.

---WELD ON BOX HINGE

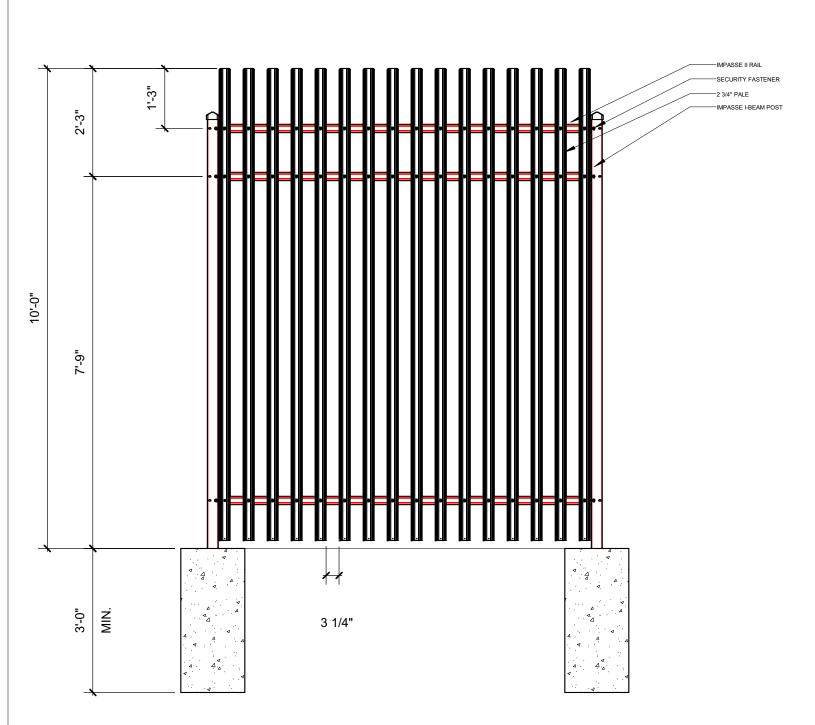
WITH HEIGHT

—2 3/4" PALE

ORNAMENTAL METAL GATE 8



METAL GATE LATCH 4



ORNAMENTAL METAL FENCE

FACILITY:

7000 MERRILL AVE

CHINO, CA 91710

PROJECT:

CHINO AIRPORT UPGRADE PERIMETER FENCING AND

SHEET NAME: **DETAILS & GATE SCHEDULE**

CONSTRUCTION DOCUMENTS

DATE: **05.08.2023**

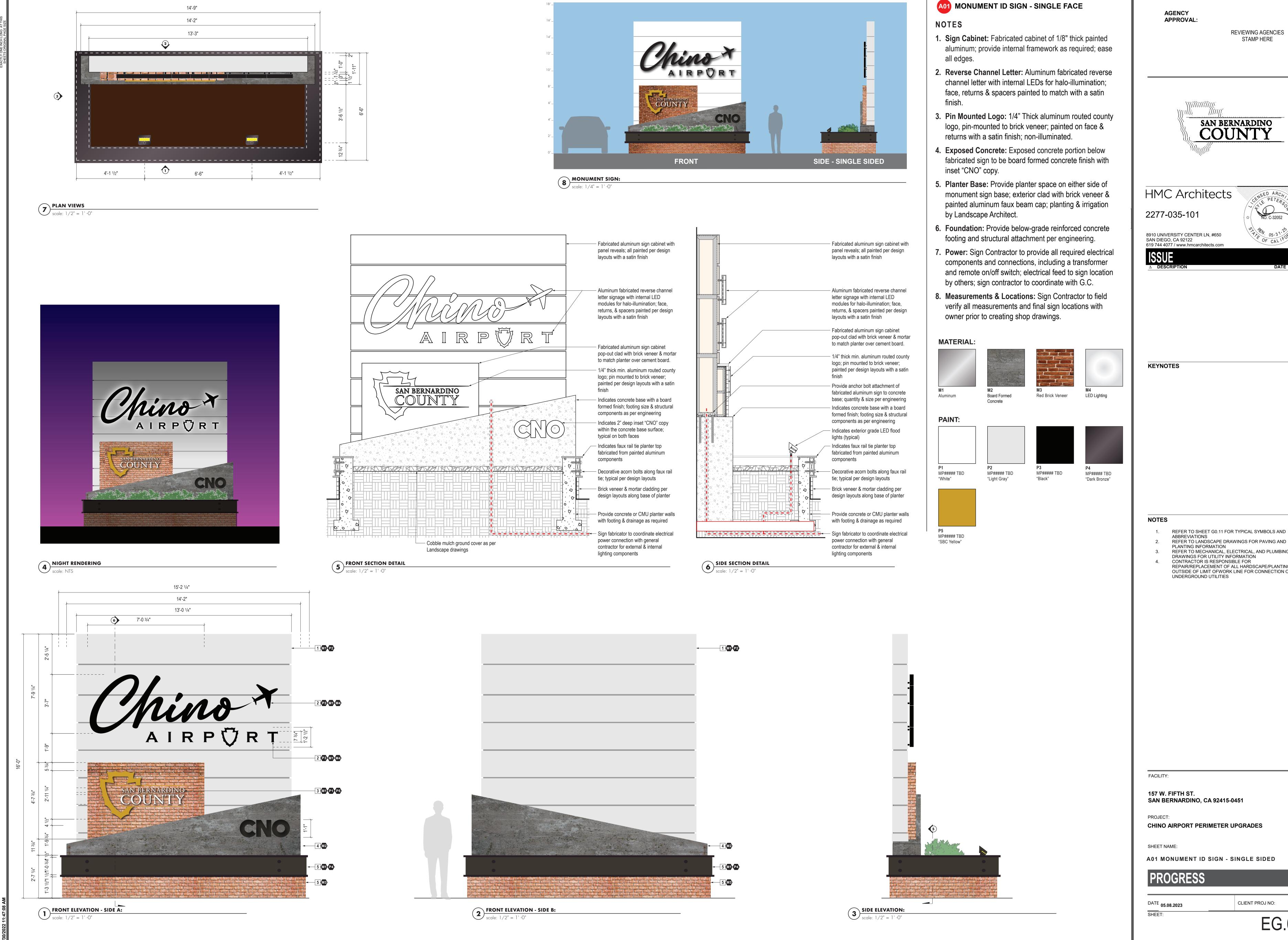
1/2" = 1'-0"

PLEASE RECYCLE

CLIENT PROJ NO:

A 4 A

A10.0'



REVIEWING AGENCIES STAMP HERE

SAN BERNARDINO COUNTY

REFER TO SHEET G0.11 FOR TYPICAL SYMBOLS AND

REFER TO MECHANICAL, ELECTRICAL, AND PLUMBING

DRAWINGS FOR UTILITY INFORMATION

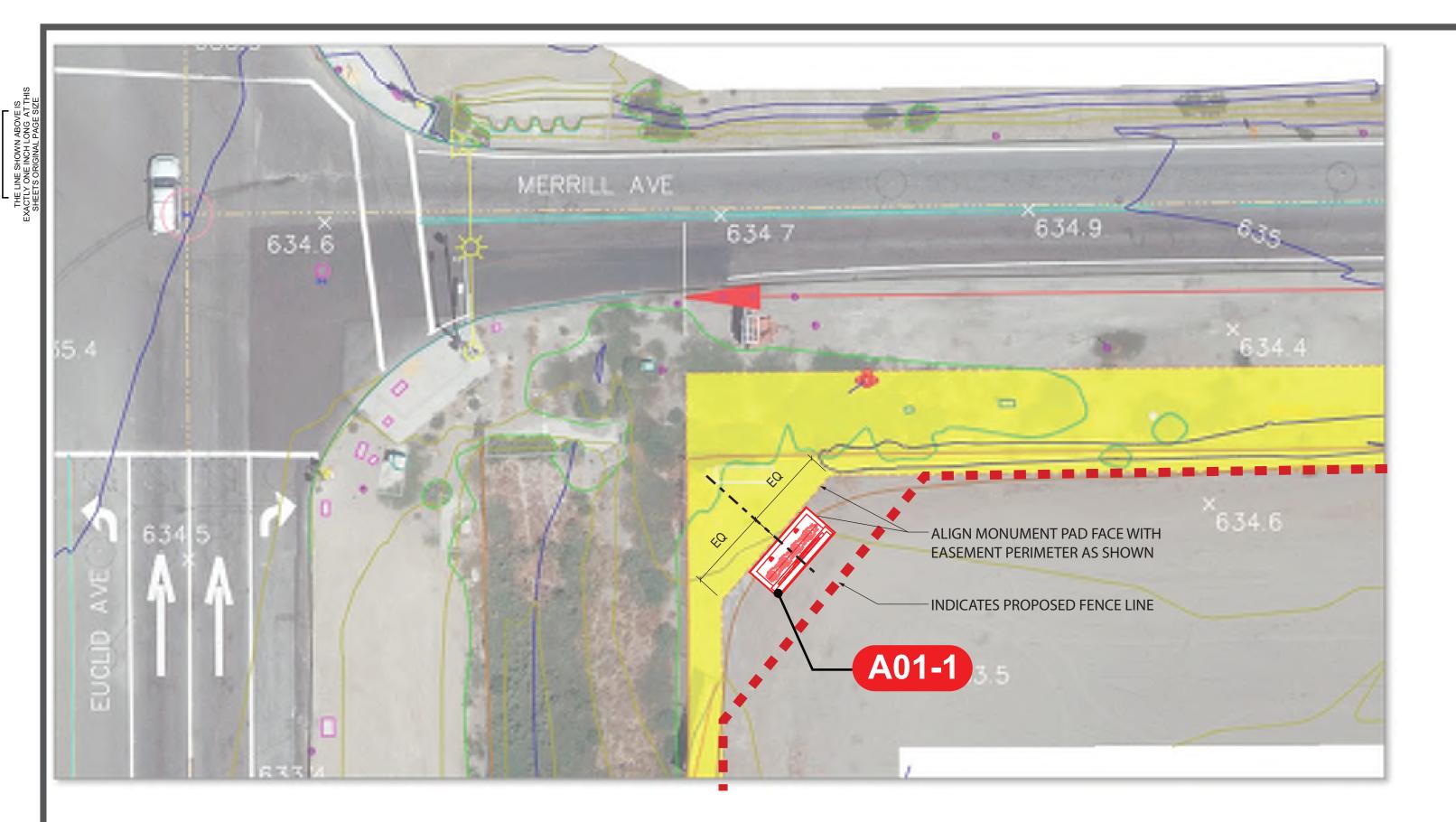
REPAIR/REPLACEMENT OF ALL HARDSCAPE/PLANTING OUTSIDE OF LIMIT OFWORK LINE FOR CONNECTION OF

CHINO AIRPORT PERIMETER UPGRADES

CLIENT PROJ NO:

EG.01





URCUSAN

SIGN LOCATION PLAN - CAL AERO DR. ENTRANCE:

| scale: NTS

— ALIGN MONUMENT PAD FACE WITH EASEMENT PERIMETER AS SHOWN —INDICATES PROPOSED FENCE LINE •-----

SIGN LOCATION PLAN - EUCLID AVE & KIMBALL AVE:
scale: NTS

SIGN LOCATION PLAN - EUCLID AVE & MERRILL AVE:

| scale: NTS

AGENCY APPROVAL:

REVIEWING AGENCIES STAMP HERE



HMC Architects

2277-035-101

8910 UNIVERSITY CENTER LN, #650 SAN DIEGO, CA 92122 619 744 4077 / www.hmcarchitects.com

KEYNOTES

NOTES

- 1. REFER TO SHEET G0.11 FOR TYPICAL SYMBOLS AND
- ABBREVIATIONS
 2. REFER TO LANDSCAPE DRAWINGS FOR PAVING AND PLANTING INFORMATION
- 3. REFER TO MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS FOR UTILITY INFORMATION

UNDERGROUND UTILITIES

 CONTRACTOR IS RESPONSIBLE FOR REPAIR/REPLACEMENT OF ALL HARDSCAPE/PLANTING OUTSIDE OF LIMIT OFWORK LINE FOR CONNECTION OF

FACILITY:

157 W. FIFTH ST. SAN BERNARDINO, CA 92415-0451

CHINO AIRPORT PERIMETER UPGRADES

SHEET NAME:

SIGN LOCATION PLANS

DATE **05.08.2023**

CLIENT PROJ NO:

EG.03

(NDS) AMERICAN FOREST & PAPER ASSOCIATION (NDS) AMERICAN INSTITUTE OF STEEL CONSTRUCTION AMERICAN IRON AND STEEL INSTITUTE APA-ENGINEERED WOOD ASSOCIATION APA-FWA ASCE AMERICAN SOCIETY OF CIVIL ENGINEERS ASTM AMERICAN SOCIETY FOR TESTING AND MATERIALS AMERICAN WELDING SOCIETY

CALIFORNIA BUILDING CODE CONCRETE REINFORCING STEEL INSTITUTE DIVISION OF THE STATE ARCHITECT DEPARTMENT OF HEALTH CARE ACCESS AND INFORMATION INTERNATIONAL BUILDING CODE

STEEL DECK INSTITUTE STEEL JOIST INSTITUTE STEEL STUD MANUFACTURERS ASSOCIATION

NATIONAL DESIGN SPECIFICATIONS

BSMT

BTWN

CALCS

CFRP

CONT

CSK

DCW

DWG

ELEC

ENGR

FLR

FTR

GALV

GLB

HDR

HEX

HORIZ

HGR

CANTILEVER

CAST IN PLACE

CONTROL JOINT

CENTERLINE

CEILING

COLUMN

CONCRETE

CONTINUOUS

COORDINATE

DOUBLE

DETAIL

DIAMETER

DIMENSION

DIRECTION

DEAD LOAD

DRAWING

EXISTING

EACH FACE

EDGE NAIL

FNGINFFR

EQUIPMENT

EACH WAY

EXPANSION

FOUNDATION

FINISH

FLANGE

FLOOR

FIELD NAI

FACE OF

FRAMING

FOOTING

GAUGE

GRADE

HOLDOWN

HEXAGONAL

HORIZONTAL

INSIDE FACE

INFORMATION

INSPECTION

JOINT

KIPS (1000#)

KING POST

INSIDE DIAMETER

INVERT, INVERTED

INTERIOR, INTERSECTION

INSPECTOR OF RECORD

HILTI KWIK BOLT 3 (ANCHOR)

KIPS PER SQUARE FOOT

KIPS PER SQUARE INCH

HILTI KWIK BOLT TZ (ANCHOR)

HOUR (FIRE RATING)

HEADER

HANGER

HEIGHT

GALVANIZE

FIELD SCREW

FULLY-THREADED ROD

GENERAL CONTRACTOR

GLUFD-LAMINATED BEAM

EXTERIOR

ELECTRICAL

FACH

DISTANCE

DOWN

DIAGONAL

PENNY (NAIL SIZE)

BAR DIAMETER (REBAR)

DEMAND CRITICAL WELD

ECCENTRIC BRACED FRAME

EMBED, EMBEDDED, EMBEDMENT

EMBED. EMBEDDED. EMBEDMENT

ELEVATION, ELEVATOR

ENGINEER OF RECORD

EDGE SCREW, EACH SIDE

EXCAVATE, EXCAVATION

EQUAL, EQUALLY

DOUGLAS FIR LARCH

CENTER OF GRAVITY

CLEAR. CLEARANCE

POUND, NUMBER, QUANTITY LBS POUNDS DEVELOPMENT LENGTH LDGR LESS THAN **GREATER THAN** HOOK DEVELOPMENT LENGTH PLUS OR MINUS LONG LIVE LOAD DEGREE DIAMETER LONG LEG HORIZONTAL LONG LEG VERTICAL LOCS LOCATIONS LONG LONGITUDINAL ANCHOR BOL LAP SPLICE LENGTH ABOVE ADDITIONAL LTWT LIGHT-WEIGHT

ADDL ADHESIVE LWT LIGHT-WEIGHT ADJACENT LVL LEVEL LAMINATED VENEER LUMBER AI TERNATE ALUMINUM ALUM ANCHOR, ANCHORAGE MANUF MANUFACTURER APPROX APPROXIMATE, APPROXIMATELY MATL MATERIAL MAX MAXIMUM ARCH ARCHITECT, ARCHITECTURAL ATR MECH MECHANICAL ALL-THREAD ROD MEZZANINE MEZZ MFR MANUFACTURER BELOW MHP MHP STRUCTURAL ENGINEERS BUII DING MID MIDDI F BLDG BLKG BLOCKING, BLOCK MINIMUM

BFAM MISCELLANEOUS **BOUNDARY NAIL** MULT MULTIPLE BUCKLING RESTRAINED BRACE FRAME (N) NEW NOT APPLICABLE BEARING BOUNDARY SCREW NAT NATURAL NOT IN CONTRACT NIC BASEMENT NTS NOT TO SCALE BETWEEN NORMAL-WEIGHT CALCULATIONS

OUTSIDE FACE CARBON FIBER REINFORCED POLYMER OC ON CENTER OUTSIDE DIAMETER OPPOSITE HAND OPERATING OPER OPERATING OPENING OPNG OPPOSITE OSB ORIENTED STRAND BOARD

POUNDS PER SQUARE FOOT

POUNDS PER SQUARE INCH

REFER TO, REFERENCE

REQUIRE, REQUIRED

STRUCTURAL ENGINEER OF RECORD

SIMPSON STRONG-TIE COMPANY

SHEET METAL SCREW

SLAB-ON-GRADE

SPACED, SPACING

SPECIFICATION

STAINLESS STEEL

STIFFEN, STIFFENER

SPECIAL MOMENT-RESISTING FRAME

PARALLAM

QUANTITY

RADIUS

RFINFORCING

RETAINING

REVISION

ROOF RAFTER

SCHEDULE

SECTION

SELECT

SHEET

SHEATHING

SIMII AR

SPECIAL

SQUARE

STAGGER

STIRRUP

STEEL

STANDARD

STRUCTURAL

SHEAR WALL

SYMMETRICAL

TOP & BOTTOM

TONGUE & GROOVE

TO BE DETERMINED

THICK, THICKNESS

THROUGH

TOE NAIL

TRANSVERSE

TUBE STEEL

VERIFY IN FIELD

TYPICAL

WITH

WITHOUT

WFIGHT

M SHAPES

S SHAPES

XX-STRG DBL EXTRA STRONG PIPE

EXTRA STRONG PIPE

STRUCTURAL STEEL SHAPES

STD PIPE STANDARD PIPE

WTx, STx STRUCTURAL TEES W SHAPES

WORK POINT

WELDED WIRE FABRIC

STANDARD CHANNEL

MISCELLANEOUS CHANNE

HOLLOW STRUCTURAL SECTIONS

TOP OF

TEMPERATURE, TEMPORARY

TAPERED STEEL GIRDER

UNLESS NOTED OTHERWISE

ROOF

ROOM

CONCRETE MASONRY UNIT PARA PARALLEI PERP PERPENDICULAR CONNECT, CONNECTION PLATE, PROPERTY LINE POUNDS PER LINEAR FOOT COMPLETE JOINT PENETRATION PI LIMBING PLYWOOD PΓΥ COUNTERSINK, COUNTERSUNK PARTIAL JOINT PENETRATIC PROJECT, PROJECTION

PSF

PSI

PSL

RAD

RFINE

REQD

RET

REV

SECT

SEOR

SOG

SPCL

SPEC

STD

STIFF

STIRR

STL

SW

SYM

TEMP

THK

THRU

TYP

UNO

VERT

W/O

MCx

X-STRG

STRUC

SPA

SHT

RFF

TECHNIQUES, SEQUENCES AND PROCEDURES, INCLUDING BUT NOT LIMITED TO BRACING, SHORING, AND LAY DOWN OF MATERIALS. 10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DETERMINATION OF LOADS AND EVALUATION OF THE LOADING POST-TENSIONED (CONCRETE) PRESSURE-TREATED (WOOD)

GENERAL STRUCTURAL NOTES:

A. CODE OF RECORD:

WIND DESIGN PARAMETERS:

EXPOSURE CATEGORY:

D. SEISMIC DESIGN PARAMETERS:

SEISMIC IMPORTANCE FACTOR:

SEISMIC DESIGN CATEGORY:

SEISMIC SITE CLASS

S_S: 1.685

S_{DS}: 1.348

SCALES SHOWN ON THE PLANS.

■ Sp₁: 0.68

S₁: 0.6

DESIGN CRITERIA: THE FOLLOWING DESIGN PARAMETERS HAVE BEEN USED IN THE DESIGN OF THE STRUCTURAL,

(REFERENCE TO THE "AUTHORITY HAVING JURISDICTION" OR "GOVERNING AGENCY" THROUGHOUT THESE

ASTM DESIGNATIONS, ICC REPORT REFERENCES, AND ALL STANDARDS AND REFERENCED DOCUMENTS SHALL

3. GENERAL NOTES AND TYPICAL DETAILS SHALL APPLY TO ALL PARTS OF THE PROJECT. WHERE SPECIFIC DETAILS

ARE NOT PROVIDED, THE GENERAL NOTES AND TYPICAL DETAILS SHALL GOVERN. HOWEVER, WHEN A SPECIFIC

GOVERN FOR THE SPECIFIC CASE. IN ADDITION, WHEN A DETAIL IS REFERENCED AS SIMILAR (SIM) TO A SPECIFIC

DETAIL, OR WHEN IT CAN BE REASONABLY INFERRED THAT A SITUATION IS SIMILAR TO A SPECIFIC DETAIL, THAT

SPECIFIC DETAIL SHALL BE ASSUMED TO APPLY UNTIL OTHERWISE DIRECTED BY THE ENGINEER OF RECORD.

4. THESE STRUCTURAL DRAWINGS ARE AN INTEGRAL PART OF, AND RELIANT ON, INFORMATION CONTAINED WITHIN

THE ENTIRE SET OF CONSTRUCTION DOCUMENTS PREPARED FOR THE PROJECT. AS SUCH, IT SHALL BE THE

RESPONSIBILITY OF THE CONTRACTOR AND SUBCONTRACTORS TO REVIEW AND COORDINATE INFORMATION

FULL UNDERSTANDING OF THE PROJECT REQUIREMENTS. ANY OMISSIONS AND/OR CONFLICTS BETWEEN THE

THE AFFECTED WORK UNTIL CLARIFICATION AND/OR DIRECTION HAS BEEN GIVEN.

SLEEVES, PIPES, CONDUITS AND OTHER NON-STRUCTURAL ITEMS.

UNTIL CLARIFICATION AND/OR DIRECTION HAS BEEN GIVEN.

CONTAINED IN THE CIVIL/ARCH/M/E/P AND SPECIALTY CONSULTANT DRAWINGS AND SPECIFICATIONS TO ENSURE A

VARIOUS ELEMENTS OF THE WORKING DRAWINGS AND/OR SPECIFICATIONS SHALL BE BROUGHT TO THE IMMEDIATE

ATTENTION OF THE ARCHITECT AND STRUCTURAL ENGINEER AND THE CONTRACTOR SHALL NOT PROCEED WITH

PRIOR TO STARTING WORK ON THE PROJECT AND/OR ON A SPECIFIC AREA OF THE PROJECT, THE CONTRACTOR

FROM THE ARCHITECTURAL AND OTHER CONSULTANT DRAWINGS. WHERE DIMENSIONS DIFFER BETWEEN PLANS,

THE ARCHITECT AND STRUCTURAL ENGINEER SHALL BE NOTIFIED AND THE CONTRACTOR SHALL NOT PROCEED

WITH THE AFFECTED WORK UNTIL DIRECTION HAS BEEN PROVIDED. WRITTEN DIMENSIONS SHALL GOVERN OVER

AND MEP DRAWINGS SHALL BE USED FOR THE SIZE AND LOCATION OF ALL OPENINGS (EXCEPT AS SPECIFICALLY

CONTROLLED BY THE STRUCTURAL DRAWINGS), INTERIOR NON-BEARING PARTITIONS, CONCRETE CURBS, SLOPES,

UNLESS SPECIFICALLY NOTED ON THE STRUCTURAL PLANS OR REFERENCED DETAILS, DO NOT PLACE MECHANICAL,

THROUGH STRUCTURAL MEMBERS, REGARDLESS OF MATERIAL, WITHOUT PRIOR APPROVAL AND DIRECTION BY THE

ELECTRICAL (INCLUDING LOW-VOLTAGE AV), AND PLUMBING (MEP) SLEEVES, PIPES, INSERTS OR CONDUIT IN OR

STRUCTURAL ENGINEER. EXCEPT AS SPECIFICALLY SHOWN ON PLAN, NO STRUCTURAL MEMBER (BEAM, COLUMN,

PRIOR AUTHORIZATION AND DIRECTION FROM THE STRUCTURAL ENGINEER AND AUTHORITY HAVING JURISDICTION.

ALL INFORMATION SHOWN ON THE DRAWINGS RELATIVE TO EXISTING CONDITIONS IS GIVEN AS THE BEST CURRENT

KNOWLEDGE BUT WITHOUT GUARANTEE OF ACCURACY. WHERE THE ACTUAL CONDITIONS VARY FROM THAT SHOWN

IN THESE DRAWINGS, THEY SHALL BE REPORTED TO THE ARCHITECT AND STRUCTURAL ENGINEER SO THAT PROPER

CLARIFICATION OR REVISION MAY BE MADE. THE CONTRACTOR SHALL NOT PROCEED WITH THE AFFECTED WORK

9. THE CONTRACT DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE AND DO NOT INDICATE THE

METHOD OR SEQUENCE OF CONSTRUCTION, UNLESS SPECIFICALLY NOTED OTHERWISE. THE CONTRACTOR SHALL

SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS,

SHEAR WALL, STRUCTURAL SLAB, GRADE BEAM, BRACE, ETC.) SHALL BE CUT, DRILLED, OR NOTCHED WITHOUT

THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE WORK OF ALL TRADES. THE ARCHITECTURAL

DEPRESSIONS, CHANGES IN LEVEL, FINISHES, CHAMFERS OR GROOVES, FLOOR AND ROOF DRAINS, INSERTS,

SHALL CHECK ALL DIMENSIONS. DIMENSIONS NOT SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE COORDINATED

DETAIL OR NOTE HAS BEEN PROVIDED, REFERENCED OR CALLED OUT ON PLAN, THAT DETAIL OR NOTE SHALL

REFER TO THE LATEST EDITIONS AND/OR AMENDMENTS AS ADOPTED BY THE CODE OF RECORD.

AND WHERE APPLICABLE, NON-STRUCTURAL SYSTEMS REPRESENTED IN THESE STRUCTURAL DRAWINGS.

2022 CBC

STRUCTURAL DRAWINGS SHALL BE CONSIDERED TO BE THE AUTHORITY LISTED ABOVE.)

• ULTIMATE (LFRD) DESIGN WIND SPEED (V 3 SEC. GUST): 95 MPH

SITE COEFFICIENTS, SPECTRAL ACCELERATION PARAMETERS:

DESIGN SPECTRAL ACCELERATION PARAMETERS:

AUTHORITY HAVING JURISDICTION: CITY OF CHINO

EFFECTS ON THE STRUCTURE FROM TEMPORARY CONSTRUCTION CONDITIONS, INCLUDING FROM EQUIPMENT SUCH AS SKIP LOADERS, SCISSOR LIFTS, ETC., FROM HORIZONTAL WIND AND SEISMIC FORCES IMPOSED DURING THE CONSTRUCTION SCHEDULE, ALONG THE PATH-OF-TRAVEL FOR MOVING PERMANENT EQUIPMENT TO ITS FINAL LOCATION, AND FROM TEMPORARY LOADING THAT MAY OCCUR DURING EQUIPMENT INSTALLATION. THE CONTRACTOR MAY USE THE "DESIGN LOADS" INFORMATION PROVIDED IN NOTE #1 ABOVE WHEN CONSIDERING TEMPORARY CONSTRUCTION LOADING CONDITIONS ON A COMPLETED RAISED FLOOR OR ROOF SYSTEM.

11. OBSERVATION VISITS TO THE SITE BY REPRESENTATIVES OF THE STRUCTURAL ENGINEER SHALL NOT BE DEEMED TO INCLUDE INSPECTIONS OF THE PROTECTIVE MEASURES OR OF THE CONSTRUCTION PROCEDURES. OBSERVATION VISITS AND CONSTRUCTION SUPPORT SERVICES ARE PROVIDED BY THE STRUCTURAL ENGINEER OR HIS/HER REPRESENTATIVE SOLELY FOR THE PURPOSE OF ASSISTING THE OWNER IN QUALITY CONTROL AND IN ACHIEVING CONFORMANCE WITH THE CONTRACT DOCUMENTS. THESE SUPPORT SERVICES SHALL NOT BE DEEMED TO PROVIDE A GUARANTEE OF THE CONTRACTOR'S PERFORMANCE AND SHALL NOT BE CONSTRUCTED AS ACCEPTANCE OR SUPERVISION OF CONSTRUCTION.

A. SHOP DRAWINGS AND SUBMITTALS, INCLUDING CONCRETE MIX DESIGNS, REQUIRED BY THE SPECIFICATIONS AND/OR THESE DRAWINGS SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER FOR REVIEW PRIOR TO FABRICATION OR USE. A SCHEDULE FOR THE RELEASE OF SHOP DRAWINGS AND SUBMITTALS SHALL BE PREPARED BY THE CONTRACTOR AND SUBMITTED TO THE ARCHITECT AND STRUCTURAL ENGINEER FOR APPROVAL PRIOR TO THE FIRST SUBMITTAL. THIS SUBMITTAL SCHEDULE SHALL PROPORTION THE NUMBER OF SHOP DRAWINGS TO BE REVIEWED IN EACH SUBMITTAL TO ALLOW SUFFICIENT TIME AS DEEMED REASONABLE IN THE PROFESSIONAL JUDGMENT OF THE ARCHITECT AND STRUCTURAL ENGINEER TO PERMIT ADEQUATE REVIEW. MHP WILL COORDINATE WITH THE ARCHITECT AND/OR CONTRACTOR TO ENSURE THAT THE SUBMITTAL SCHEDULE PRIORITIZES THE REVIEW IN A MANNER CONSISTENT WITH THE ANTICIPATED CONSTRUCTION SEQUENCE. SHOP DRAWINGS AND SUBMITTALS SHALL REFERENCE THE LATEST REVISION OF EACH STRUCTURAL DESIGN DRAWING USED FROM WHICH TO DETAIL. SHOP DRAWINGS AND/OR SUBMITTALS THAT DO NOT IDENTIFY THE LATEST REVISION OF THE STRUCTURAL DRAWINGS AND/OR DO NOT REFERENCE THE AGENCY APPROVED CONSTRUCTION DOCUMENTS SHALL BE RETURNED FOR THE DETAILER TO UPDATE AND RESUBMIT. PARTIALLY COMPLETE SHOP DRAWINGS AND SHOP DRAWINGS COMPLETED WITHOUT INCORPORATING THE INFORMATION PROVIDED IN RESPONSE TO REQUESTS FOR INFORMATION (RFI/RFC) MAY BE RETURNED (AT MHP'S SOLE DISCRETION) FOR UPDATING IF IT IS DETERMINED THAT SUCH INFORMATION WAS PROVIDED IN A TIMELY MANNER PRIOR TO THE RELEASE OF THE SHOP DRAWING SUBMITTAL. IF A

BY CLOUDING OR OTHER MEANS. B. SUBMITTALS, INCLUDING SHOP DRAWINGS, DEFERRED APPROVAL ITEMS, AND RFI/RFCS, WILL NOT BE ACCEPTED BY MHP DIRECTLY FROM THE PROJECT SUB-CONTRACTORS. SUBMITTALS WILL BE ACCEPTED FROM THE OWNER'S AUTHORIZED CONTRACT ADMINISTRATOR (I.E. GENERAL CONTRACTOR, CONSTRUCTION MANAGER, OR ARCHITECT) ONLY AFTER THEY HAVE BEEN CONFIRMED TO COMPLY WITH CONTRACT SUBMITTAL REQUIREMENTS AND THE REQUIREMENTS OF THE CONTRACT DOCUMENTS. THE OWNER'S AUTHORIZED CONTRACT ADMINISTRATOR SHALL COORDINATE AND VERIFY COMPLIANCE WITH THE REQUIREMENTS OF THE PROJECT SPECIFICATIONS REGARDING DISTRIBUTION OF THE SUBMITTALS TO AND THROUGH THE ARCHITECT'S OFFICE.

SUBMITTAL MUST BE REVISED, IT SHALL IDENTIFY EACH REVISION AND/OR ADDITION TO EACH SHOP DRAWING

SUBMITTALS FOR DEFERRED APPROVAL ITEMS, SUCH AS (BUT NOT LIMITED TO) ELEVATORS AND CURTAIN WALLS, SHALL INCLUDE CALCULATIONS, DETAILED PLANS AND SPECIFICATIONS FOR ALL ELEMENTS OF THE DEFERRED SYSTEM INCLUDING, BUT NOT LIMITED TO, MEMBERS, SUPPORTING BRACKETS OR ATTACHMENTS AND ANCHORAGE. DEFERRED APPROVAL ITEM SUBMITTALS SHALL BE ISSUED TO THE ARCHITECT AND STRUCTURAL ENGINEER OF RECORD FOR REVIEW AND VERIFICATION THAT THE PROPOSED SYSTEM DOES NOT NEGATIVELY IMPACT NOR SUBSTANTIALLY CHANGE THE STRUCTURAL LOADS AND SUPPORT CONDITIONS FOR WHICH THE BASE STRUCTURE WAS DESIGNED WITH ADEQUATE TIME TO ALLOW ANY REQUIRED CHANGES TO BE MADE BEFORE FORMAL SUBMITTAL TO THE GOVERNING AGENCY. FOLLOWING VERIFICATION BY THE SEOR AND ARCHITECT, THE MANUFACTURER OR CONTRACTOR SHALL SUBMIT THE CALCULATIONS, DETAILED PLANS, AND SPECIFICATIONS, STAMPED AND SIGNED BY A PROFESSIONAL ENGINEER LICENSED IN THE PROJECT STATE, TO THE GOVERNING AGENCY FOR APPROVAL. INSTALLATION OF DEFERRED ITEM ELEMENTS, SUCH AS GUIDE RAILS, MULLIONS, SUPPORTING BRACKETS, AND/OR ITEMS CONTINGENT ON THE DEFERRED SUBMITTAL SHALL NOT BE STARTED UNTIL THE DETAILED PLANS AND SPECIFICATIONS HAVE BEEN APPROVED BY THE GOVERNING AGENCY.

WHEN THE ALLOWANCE FOR SUBSTITUTION OF A SPECIFIED MATERIAL OR PRODUCT DESIGNATION IS IMPLIED WITHIN THE CONSTRUCTION DOCUMENTS BY THE USE OF THE WORDS "ACCEPTED ALTERNATES". "ALTERNATIVE PRODUCTS/SUPPLIERS", ETC. OR "OR APPROVED EQUAL", A FORMAL SUBSTITUTION REQUEST SHALL BE SUBMITTED BY THE GENERAL CONTRACTOR. THE FORMAL SUBSTITUTION REQUEST SHALL CLEARLY IDENTIFY THE ORIGINAL PRODUCT AND THE REQUESTED SUBSTITUTE PRODUCT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THAT THE REQUESTED SUBSTITUTION IS "EQUAL" TO, OR BETTER THAN, THE ORIGINAL PRODUCT FOR ALL CONSIDERATIONS SUCH AS, BUT NOT NECESSARILY LIMITED TO, STRENGTH. PERFORMANCE, AND INSTALLATION VARIABLES, INCLUDING SCHEDULE. SUCH VERIFICATION SHALL BE CLEARLY OUTLINED IN THE FORMAL SUBMITTAL AS A TABULAR COMPARISON BETWEEN THE ORIGINAL PRODUCT CRITERIA AND THE REQUESTED SUBSTITUTE'S PRODUCT CRITERIA. APPROVAL OF THE SUBSTITUTION REQUEST SHALL BE OBTAINED FROM THE ARCHITECT, STRUCTURAL ENGINEER OF RECORD AND, IF NECESSARY, THE GOVERNING AGENCY, PRIOR TO FABRICATION OR INSTALLATION OF THE SUBSTITUTED MATERIAL OR PRODUCT.

FOUNDATIONS:

1. PRESUMPTIVE LOAD BEARING VALUES PER CBC TABLE 1806.2 WERE USED FOR THE STRUCTURAL DESIGN OF FOUNDATIONS AND EARTH RETAINING ELEMENTS CONTAINED HEREIN. IF IT IS DETERMINED THAT ANY OF THE CODE REQUIREMENTS ON WHICH THESE PRESUMPTIVE VALUES ARE BASED WILL NOT BE FOLLOWED DURING CONSTRUCTION, A FORMAL CHANGE ORDER SHALL BE PREPARED WITH ADEQUATE TIME FOR PROCESSING APPROVAL BY THE SEOR AND THE GOVERNING AGENCY. MHP, INC. ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OR ADEQUACY OF THE PRESUMPTIVE VALUES.

2. THE FOLLOWING DESIGN PARAMETERS WERE USED AS THE BASIS FOR ALLOWABLE FOUNDATION LOADS AND SOIL

A. ALLOWABLE SOIL BEARING PRESSURES: SPREAD/ISOLATED FOOTINGS:

CONTINUOUS FOOTINGS: 1,500 PSF • FOR LOAD COMBINATIONS INCLUDING WIND OR SEISMIC, ONE-THIRD (1/3) INCREASE IS ALLOWED. B. RETAINED EARTH PRESSURES:

EQUIVALENT FLUID PRESSURE (ACTIVE): 45 PCF

 EQUIVALENT FLUID PRESSURE (AT REST): 45 PCF C. RESISTANCE TO SLIDING FRICTION COEFFICIENT 0.25 x DEAD LOAD

> COHESION: 130 PCF PASSIVE PRESSURE 100 PCF FOR LOAD COMBINATIONS INCLUDING WIND OR SEISMIC, ONE-THIRD (1/3) INCREASE ON PASSIVE PRESSURE IS ALLOWED.

3. ALL SITE FILL AND BACKFILL SHALL BE COMPACTED TO 90% OF MAXIMUM DENSITY IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, IF APPLICABLE AND ASTM TEST METHOD D-1557. FLOODING IS NOT PERMITTED AND

SHALL NOT BE USED FOR COMPACTION PURPOSES. 4. SPECIAL INSPECTION SHALL BE PERFORMED BY A GEOTECHNICAL PROFESSIONAL REGISTERED IN THE STATE OF CALIFORNIA, WITH THE APPROPRIATE REGIONAL EXPERIENCE AND BACKGROUND KNOWLEDGE TO CONFIRM THAT THE USE OF THE PRESUMPTIVE LOAD BEARING VALUES PER CODE IS APPROPRIATE. THE SPECIAL INSPECTION

INSPECTION REPORT SHALL BE SUBMITTED TO THE SEOR PRIOR TO POURING CONCRETE. IF ADVERSE SOIL

EXCAVATIONS INACCESSIBLE FOR ANY CORRECTIVE WORK DEEMED NECESSARY FOR APPROVAL. A COPY OF THE

CONDITIONS ARE ENCOUNTERED, A SOILS INVESTIGATION MAY BE REQUIRED. 5. WATER SHALL BE REMOVED FROM FOUNDATION EXCAVATION PRIOR TO PLACING OF CONCRETE. CARE SHALL BE

SHALL TAKE PLACE PRIOR TO INSTALLATION OF REINFORCING OR OTHER ELEMENTS WHICH MAKE THE

6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SEQUENCING AND SHORING, ETC., NECESSARY TO SUPPORT CUT AND/OR FILL BANKS DURING EXCAVATION AND FORMING AND PLACEMENT OF CONCRETE. CARE SHALL BE TAKEN TO AVOID DISTURBING SOILS AROUND AND/OR SUPPORTING EXISTING FOUNDATIONS AND UTILITIES.

SEE SPECIAL INSPECTION GENERAL NOTES FOR INSPECTION REQUIREMENTS.

TAKEN TO AVOID DRYING OUT UNDERLYING NATURAL SOILS.

REINFORCING STEEL:

B. TIE WIRE:

 DETAILING, FABRICATION AND PLACING OF REINFORCING STEEL SHALL CONFORM TO STANDARDS AND RECOMMENDATIONS CONTAINED WITHIN THE CRSI "MANUAL OF STANDARD PRACTICE".

2. REINFORCING BARS (REBAR), AND TIE WIRE USED TO SECURE REBAR SHALL CONFORM TO THE FOLLOWING ASTM SPECIFICATIONS, UNO: A. REINFORCING, (ALL BAR SIZES, UNO): ASTM A-615, GR 60

ASTM A-82

ALL REINFORCING STEEL SHALL BE BENT COLD. GRADE 60 BARS MAY ONLY BE BENT ONCE, STRAIGHTENING AND/OR RE-BENDING IS NOT ALLOWED. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO SEQUENCE PLACEMENT OF REINFORCING SUCH THAT INCIDENTAL BENDING DOES NOT OCCUR.

4. PRIOR TO PLACING CONCRETE; REINFORCING STEEL, INCLUDING WWR, AND OTHER EMBEDDED ITEMS SHALL BE WELL-SECURED IN POSITION AND SHALL BE CLEAN OF RUST, GREASE OR OTHER MATERIAL LIKELY TO IMPAIR BOND. WHERE TWO LAYERS OF REINFORCING STEEL ARE REQUIRED (I.E. FOOTING PADS OR SLABS) PROVIDE APPROPRIATE CHAIRS TIED TO AND SUPPORTED BY LOWER MAT OF REINFORCING TO SUPPORT THE UPPER MAT OF REINFORCING. "HOOK AND PULL" METHODS SHALL NOT BE ALLOWED.

5. CONCRETE PROTECTION FOR REINFORCING BARS SHALL BE AT LEAST EQUAL TO THE DIAMETER OF THE BAR. MINIMUM COVER FOR CAST IN PLACE CONCRETE SHALL BE AS FOLLOWS: A. CAST AGAINST AND PERMANENTLY IN CONTACT WITH GROUND:

 ALL MEMBERS, ALL REINFORCEMENT: B. EXPOSED TO WEATHER OR IN CONTACT WITH GROUND: ALL MEMBERS, #6 THROUGH #18 BARS:

 ALL MEMBERS, #5, W31 OR D31 WIRE AND SMALLER NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND: SLABS, JOISTS, WALLS; #14 AND #18 BARS: SLABS, JOISTS, WALLS; #11 BARS AND SMALLER: BEAMS, COLUMNS

PRIMARY REINF, STIRRUPS, TIES, SPIRALS AND HOOPS: 1 1/2"

6. MINIMUM CLEAR SPACING BETWEEN PARALLEL BARS IN A SINGLE LAYER SHALL NOT BE LESS THAN 1 1/2", 4/3 TIMES LARGEST AGGREGATE. 1 1/2 TIMES DIAMETER OF THE LARGER BAR. WHICHEVER IS GREATER. WHERE PARALLEL REINFORCING IS PLACED IN TWO OR MORE LAYERS, BARS IN THE UPPER LAYERS SHALL BE PLACED DIRECTLY ABOVE THE BARS IN LOWER LAYERS WITH NOT LESS THAN 1" CLEAR SPACE BETWEEN LAYERS.

7. DEVELOPMENT AND LAP SPLICE LENGTHS FOR REINFORCING STEEL AND WELDED WIRE REINFORCING SHALL BE AS NOTED ON PLANS AND DETAILS CONTAINED THEREIN. WHERE SPLICE LOCATIONS ARE NOT SPECIFICALLY INDICATED, SPLICES SHALL BE STAGGERED A MINIMUM OF ONE (1) LAP LENGTH. WHERE SPECIFIC LAP LENGTH REQUIREMENTS ARE NOT SPECIFICALLY SHOW ON PLANS, THE FOLLOWING MINIMUM LENGTHS SHALL BE USED: A. REBAR IN CONCRETE: SEE TYPICAL DETAILS

8. COMPLETE REINFORCING PLACEMENT DRAWINGS (SHOP DRAWINGS) SHALL BE PREPARED IN ACCORDANCE WITH ACI 315 AND SHALL BE SUBMITTED TO THE SEOR FOR REVIEW PRIOR TO FABRICATION. APPROVED SHOP DRAWINGS SHALL BE MADE AVAILABLE ON THE JOB SITE PRIOR TO PLACING OF CONCRETE. SEE SUBMITTALS SECTION OF THE STRUCTURAL NOTES FOR ADDITIONAL INFORMATION AND REQUIREMENTS.

9. CONTRACTOR SHALL SCHEDULE SPECIAL INSPECTIONS SO THAT BAR SIZE, SPACING, LAP SPLICE AND EMBEDMENT LENGTH OF REINFORCING BARS, AND THE LOCATION OF CONDUIT, SLEEVES AND EMBEDDED ITEMS, MAY BE CORRECTED, IF NECESSARY, PRIOR TO PLACEMENT OF OVERLYING GRIDS OF REINFORCING STEEL AND/OR PLACEMENT OF CONCRETE.

CONCRETE:

1. ALL CONCRETE WORK SHALL CONFORM TO THE STANDARDS OF THE AMERICAN CONCRETE INSTITUTE (ACI), "ACI MANUAL OF CONCRETE PRACTICE" CURRENT EDITION, "SPECIFICATIONS FOR STRUCTURAL CONCRETE" (ACI 301), AND BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE (ACI 318).

WHEN SPECIFIED FOR USE, NORMAL WEIGHT (NWT) CONCRETE SHALL HAVE A DRY UNIT WEIGHT OF 150 ± 3 PCF. AGGREGATES FOR NORMAL WEIGHT CONCRETE SHALL CONFORM TO ASTM C33.

WHEN SPECIFIED FOR USE LIGHTWEIGHT (LWT) CONCRETE SHALL HAVE A DRY UNIT WEIGHT OF 110 ± 3 PCF.

AGGREGATES FOR LIGHTWEIGHT CONCRETE SHALL BE EXPANDED SHALE AGGREGATE CONFORMING TO ASTM C330.

4. CEMENT SHALL CONFORM TO PORTLAND CEMENT ASTM C-150 (TYPE II) UNLESS NOTED OTHERWISE. WHEN USED IN THE CONCRETE MIX, FLY ASH SHALL CONFORM TO ASTM C618 CLASS F OR N.

5. MIXING WATER SHALL CONFORM TO ASTM C1602.

INHIBITING CHLORIDE-INDUCED CORROSION:

ADMIXTURES SHALL CONFORM TO THE FOLLOWING WATER REDUCTION AND SETTING TIME MODIFICATION: ASTM C494 PRODUCING FLOWING CONCRETE: ASTM C1017 AIR ENTRAINMENT: ASTM C260

ALL NON-SHRINK GROUT SHALL CONFORM TO ASTM C1107/C1107M AND SHALL BE PRE-MIXED COMPOUND CONSISTING OF NON-METALLIC AGGREGATE, CEMENT AND WATER-REDUCING AND PLASTICIZING AGENTS. A. MINIMUM COMPRESSIVE STRENGTH AT 48 HOURS: 2,000 PSI B. MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS:

8. CONCRETE SHALL ATTAIN THE FOLLOWING MINIMUM COMPRESSIVE STRENGTH (f'c) AT 28 DAYS AND SHALL MEET THE OTHER REQUIREMENTS INDICATED BELOW: A. ALL CONCRETE: 3,000 PSI, NWT, 1" AGGREGATE, 0.45 W/C

ASTM C1582

9. MAXIMUM SLUMP FOR CONCRETE MIXES SHALL BE 5" TYPICALLY AND 4" FOR ALL FLATWORK, WHETHER ON GRADE OR ELEVATED, EXCEPT WHEN A HIGH RANGE WATER REDUCING ADMIXTURE IS SPECIFIED FOR USE IN THE CONCRETE MIX DESIGN, SLUMP SHALL BE A MAXIMUM OF 9".

10. CONCRETE MIX DESIGN SHALL BE PREPARED BY AN APPROVED TESTING LAB AND A REGISTERED CIVIL ENGINEER AND SUBMITTED TO THE STRUCTURAL ENGINEER OF RECORD (SEOR) FOR REVIEW. CONCRETE MIX DESIGN SUBMITTALS SHALL BE STAMPED AND SIGNED BY THE LICENSED ENGINEER RESPONSIBLE FOR THE MIX DESIGN.

11. WHEN USED, AIR ENTRAINMENT SHALL NOT BE MORE THAN 5%. 12. ALL FURNISHED CONCRETE MIX DESIGNS SHALL REFLECT PROVEN CONCRETE SHRINKAGE CHARACTERISTICS OF 0.0004 IN/IN (0.04%) FINAL SHRINKAGE STRAIN OR LESS AT ALL SLABS (INCLUDING TOPPING SLABS WHERE THEY

OCCUR). AND 0.0006 IN/IN (0.06%) FINAL SHRINKAGE STRAIN OR LESS AT OTHER CONCRETE ELEMENTS. AS DETERMINED IN ACCORDANCE WITH ASTM C157. 13. CONCRETE SHALL BE CONVEYED TO FINAL LOCATION BY METHODS THAT PREVENT SEGREGATION OR LOSS OF

14. WATER SHALL NOT BE ADDED TO CONCRETE AT THE SITE.

CONSTITUENTS AND ENSURE THE REQUIRED CONCRETE QUALITY.

15. LOCATE CONSTRUCTION AND/OR CONTROL JOINTS AS INDICATED IN CONTRACT DOCUMENTS AND/OR SUBMIT INFORMATION FOR ACCEPTANCE OF PROPOSED LOCATION AND TREATMENT OF JOINTS NOT INDICATED IN CONTRACT DOCUMENTS.

16. ALL CONSTRUCTION JOINTS SHALL BE ROUGHENED TO 1/4" AMPLITUDE, THOROUGHLY CLEANED AND ALL LAITANCE REMOVED. LONGITUDINAL KEYWAYS, 1 1/2" DEEP, SHALL BE USED WHERE INDICATED IN THE CONTRACT DOCUMENTS. ALL JOINTS SHALL BE THOROUGHLY DAMPENED, BUT WITHOUT STANDING WATER, IMMEDIATELY BEFORE PLACING NEW CONCRETE.

17. THE CONTRACTOR(S) SHALL BE RESPONSIBLE FOR COORDINATING WITH ALL TRADES TO VERIFY THE LOCATION OF ALL ITEMS SUCH AS, BUT NOT LIMITED TO, SLEEVES, ANCHORS, ANCHOR BOLTS, CONDUITS, EMBED PLATES ETC. TO BE INSTALLED WITHIN CONCRETE ELEMENTS. EMBEDDED ITEMS NOT SPECIFICALLY SHOWN IN THE STRUCTURAL DRAWINGS SHALL BE LOCATED BY THE TRADES/SUB-CONTRACTORS INVOLVED. AND SHALL BE REVIEWED BY THE SEOR PRIOR TO PLACEMENT OF CONCRETE. IN COORDINATING THE LOCATION OF EMBEDDED ITEMS NOT OTHERWISE LOCATED IN THE STRUCTURAL DRAWINGS, PRIORITY SHALL BE GIVEN TO MAINTAIN SPACING AND CONTINUITY OF ALL REINFORCING. EMBEDDED ITEMS SHALL BE WELL DISTRIBUTED TO AVOID CLUSTERING IN SUCH A MANNER AS TO REQUIRE CUTTING OR RELOCATION OF REINFORCING STEEL

18. UNLESS OTHERWISE NOTED, BOLTS EMBEDDED IN CONCRETE SHALL BE ASTM F-1554 GR 36. ALL EMBEDDED ANCHOR BOLTS SHALL BE HEADED-TYPE. DO NOT USE J-TYPE BOLTS.

19. UNLESS OTHERWISE NOTED, A 3/4" CHAMFER SHALL BE PROVIDED AT EXPOSED EDGES OF CONCRETE BEAMS AND

20. PRIOR TO PLACING CONCRETE, ALL EMBEDDED ITEMS, INCLUDING REINFORCING STEEL, SHALL BE WELL SECURED IN POSITION. CONCRETE SHALL NOT BE POURED UNTIL ALL FORMS AND REINFORCING HAVE BEEN INSPECTED. ALL PREPARATIONS FOR THE PLACEMENT HAVE BEEN COMPLETED, AND THE PREPARATIONS HAVE BEEN REVIEWED BY THE PROJECT INSPECTOR.

21. ONLY ONE GRADE OF CONCRETE SHALL BE ALLOWED AT THE JOB SITE AT ANY ONE TIME.

22. CONCRETE TO BE PLACED DURING COLD WEATHER SHALL COMPLY WITH ACI 306R, "GUIDE TO COLD WEATHER CONCRETING" AND ACI 306.1, "STANDARD SPECIFICATION FOR COLD WEATHER CONCRETING".

23. CONCRETE TO BE PLACED DURING HOT WEATHER SHALL COMPLY WITH ACI 305R, "GUIDE TO HOT WEATHER CONCRETING" AND ACI 305.1, "STANDARD SPECIFICATION FOR HOT WEATHER CONCRETING".

24. CONCRETE SHALL BE MAINTAINED IN A CONTINUOUSLY MOIST CONDITION ABOVE 50F FOR A MINIMUM OF SEVEN (7) DAYS AFTER PLACEMENT. THE 7-DAY REQUIREMENT MAY BE REDUCED TO 3 DAYS FOR HIGH-EARLY-STRENGTH CONCRETE. ALTERNATE ACCELERATED CURING METHODS MAY BE APPROVED BY THE SEOR IF SATISFACTORY PERFORMANCE CAN BE ASSURED.

25. THE CONTRACTOR SHALL DEVELOP A PROCEDURE AND SCHEDULE FOR REMOVAL OF SHORES AND INSTALLATION OF RE-SHORES, AS REQUIRED. NO CONSTRUCTION LOADS SHALL BE SUPPORTED ON, NOR ANY SHORING REMOVED FROM, ANY PART OF THE ELEVATED STRUCTURE UNDER CONSTRUCTION EXCEPT WHEN THE CONTRACTOR'S ANALYSIS, PROCEDURES AND SCHEDULE INDICATE THAT THE SUBJECT PART OF THE STRUCTURE HAS SUFFICIENT STRENGTH AND STIFFNESS TO SUPPORT ITS WEIGHT AND LOAD PLACED THEREON WITHOUT ADVERSE EFFECT. AT A MINIMUM, ALL ELEVATED STRUCTURAL MEMBERS SHALL BE SHORED UNTIL CONCRETE HAS REACHED DESIGN STRENGTH AND ORIGINAL SHORING OR RE-SHORING SHALL REMAIN IN PLACE FOR A MINIMUM OF 28 DAYS.

26. FOOTINGS SUPPORTING BUILDING LOADS, CONSISTING OF COLUMN OR WALL SELF-WEIGHT, FORMWORK AND/OR REINFORCING STEEL, SHALL NOT BE FURTHER LOADED UNTIL THE FOOTING CONCRETE REACHES DESIGN STRENGTH AND THE CONCRETE HAS CURED FOR A MINIMUM OF 7 DAYS.

27. ALL CONCRETE SHALL BE TESTED AND INSPECTED AS REQUIRED PER THE SPECIAL INSPECTION SECTION OF THESE GENERAL NOTES.

STRUCTURAL AND MISCELLANEOUS STEEL:

1. ALL STRUCTURAL AND MISCELLANEOUS STEEL SHALL BE FABRICATED AND ERECTED IN ACCORDANCE WITH AISC SPECIFICATIONS FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS (AISC 360). LATEST EDITION, AND SEISMIC PROVISIONS FOR STRUCTURAL STEEL BUILDINGS (AISC 341) LATEST EDITION.

WELDING PROCEDURE SPECIFICATIONS (WPS) SHALL BE SUBMITTED FOR REVIEW FOR EACH WELD TYPE, WELDING PROCESS, WELDING ELECTRODE CLASSIFICATION AND/OR BASE MATERIAL (WHERE ASTM GRADE OR ALLOY VARIES) SHOWN ON THE DRAWINGS IN CONFORMANCE WITH AWS D1.1/D1.1M, D1.4/D1.4M AND D1.8/D1.8M AS APPLICABLE. EACH WPS SHALL BE RECORDED ON FORMS RECOMMENDED BY THE APPLICABLE AWS STANDARD AND SHALL BE REVIEWED BY AN AWS SCWI CERTIFIED INSPECTOR AND SUBMITTED TO THE SEOR AND, IF THE PROJECT IS GOVERNED BY DSA OR OSHPD, THE INSPECTOR OF RECORD (IOR) FOR REVIEW. IF A WELD ASSEMBLY NOTED ON PLANS DOES NOT FALL WITHIN THE PREQUALIFIED CRITERIA, CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A WELDING PROCEDURE QUALIFICATION RECORD FOR THE SPECIFIED WELD AS PART OF THE WPS SUBMITTAL.

3. ALL STRUCTURAL AND MISCELLANEOUS STEEL SHALL CONFORM TO THE FOLLOWING SPECIFICATION (UNLESS

NOTED OTHERWISE): A. CHANNELS AND MISC SHAPES (C,MC,S,M) ASTM A-36 FY=36KSI ANGLES AND PLATES ASTM A-36 FY=36KSI PIPE (STD,X-STRG,XX-STRG) ASTM A-53 TYPE E, GR B FY=35KSI HSS TUBE (SQ,RECTANG) ASTM A-500, GR C FY=50KSI SULFUR CONTENT SHALL BE LESS THAN OR EQUAL TO 0.05% E. HSS TUBE (ROUND) ASTM A-500, GR C SULFUR CONTENT SHALL BE LESS THAN OR EQUAL TO 0.05%

4. STRUCTURAL STEEL SHOP DRAWINGS SHALL BE SUBMITTED TO THE ARCHITECT AND SEOR FOR REVIEW PRIOR TO FABRICATION AND ERECTION, IN ACCORDANCE WITH NOTE 12 OF GENERAL STRUCTURAL NOTES.

5. AFTER FABRICATION, ALL STEEL SHALL BE CLEANED FREE OF RUST, LOOSE MILL SCALE, AND OIL.

6. ALL STEEL EXPOSED TO MOISTURE OR WEATHER SHALL BE HOT-DIPPED GALVANIZED, UNLESS NOTED OTHERWISE. GALVANIZING SHALL BE IN CONFORMANCE WITH ASTM A123 AND A153. REPAIR GALVANIZING AFTER WELDING SHALL BE IN ACCORDANCE WITH ASTM A780.

7. HOT-DIP GALVANIZE OR PROVIDE THREE-INCH (3") MINIMUM CONCRETE COVER AROUND ALL STRUCTURAL STEEL

8. SEE ARCHITECTURAL DRAWINGS FOR PAINTING OF STRUCTURAL STEEL. STRUCTURAL STEEL EMBEDDED IN CONCRETE OR MASONRY SHALL BE UNPAINTED.

9. WHERE CARBON STEEL IS IN CONTACT WITH STAINLESS STEEL OR WHERE EITHER CARBON OR STAINLESS STEEL IS IN CONTACT WITH ALUMINUM, PHENOLIC SHIM OR BREAK SHALL BE INSTALLED TO SEPARATE DISSIMILAR METALS.

10. BOLTS, THREADED RODS, AND WASHERS SHALL CONFORM TO THE FOLLOWING, UNO: A. WASHERS ASTM F-436 B. ANCHOR BOLTS IN CONCRETE OR MASONRY ASTM F-1554, GR 36

11. ANCHOR BOLTS SHALL BE HEADED. J-BOLTS SHALL NOT BE USED.

12. SEE CONCRETE GENERAL NOTES FOR NON-SHRINK GROUT SPECIFICATIONS.

13. ALL STRUCTURAL STEEL WELDING SHALL BE PERFORMED WITH E70XX ELECTRODES. 14. WHERE LENGTH OF WELD IS NOT INDICATED. WELD SHALL BE FULL LENGTH OF JOINT.

15. SEE SPECIAL INSPECTION AND TESTING NOTES FOR INSPECTION AND TESTING REQUIREMENTS.

HMC Architects

2277-035-10°

△ **DESCRIPTION**

8910 UNIVERSITY CENTER LN, #650 SAN DIEGO, CA 92122 619 744 4077 / www.hmcarchitects.com

DATE

STRUCTURAL ENGINEERS



FACILITY:

7000 MERRILL AVE CHINO. CA 91710

DATE: 05.08.2023

SB COUNTY CHINO AIRPORT PERIMETER CD-CA

STRUCTURAL NOTES AND ABBREVIATIONS

CONSTRUCTION DOCUMENTS

CLIENT PROJ NO:

PLEASE RECYCLE

POST-INSTALLED ANCHORS:

- 1. POST INSTALLED ANCHOR NOTES IN THIS SECTION SHALL APPLY TO ALL ANCHORS (INCLUDING THREADED ROD OR REINFORCING BARS) INSTALLED INTO HARDENED CONCRETE OR MASONRY EXCEPT FOR POWDER DRIVEN FASTENERS, AS APPLICABLE, SEE POWDER DRIVEN FASTENER GENERAL NOTES FOR MORE INFORMATION.
- 2. INSTALLATION SHALL CONFORM TO THE MANUFACTURER'S INSTRUCTIONS AND THE APPLICABLE EVALUATION REPORT AND SHALL BE INSTALLED BY PERSONNEL TRAINED TO INSTALL THE TYPE OF POST-INSTALLED ANCHOR BEING INSTALLED.
- 3. LOCATE EXISTING REINFORCING BY NON-DESTRUCTIVE METHODS PRIOR TO DRILLING. EXISTING REINFORCING SHALL NOT BE CUT OR DAMAGED.
- 4. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF F'C = 2500 PSI, BE A MINIMUM OF 21 DAYS OLD AND HAVE A MINIMUM TEMPERATURE OF 50 DEGREES FAHRENHEIT WHEN DRILLING OCCURS.
- 5. HOLES FOR INSTALLATION OF THE POST-INSTALLED ANCHOR SHALL BE DRILLED USING A DRILL THAT HAS A CARBIDE-TIPPED BIT THAT COMPLIES WITH ANSI B212.15. A REBAR CUTTING DRILL BIT IS NOT ALLOWED.
- 6. CONTRACTOR SHALL USE APPROPRIATE EQUIPMENT AND METHODS AS REQUIRED TO PROVIDE DRILLED HOLES FOR POST-INSTALLED ANCHORS IN ACCORDANCE WITH APPLICABLE STANDARDS. MANUFACTURER'S RECOMMENDATIONS, AND QUALIFYING (ICC) TEST REPORTS. CARE SHALL BE TAKEN TO PREVENT OVERSIZING, OVALING, AND/OR BLOW-OUT THROUGH THE BACK FACE OF THE DRILLED MEMBER. IF OVERSIZING, OVALING, AND/OR BLOW-OUT OCCURS, THE EMPLOYED EQUIPMENT AND METHODS SHALL BE DISCONTINUED. ADDITIONAL DRILLING SHALL NOT BE RESUMED UNTIL THE SEOR HAS PROVIDED APPROVED REPAIR PROCEDURES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COST OF ALL SUCH REPAIRS. WHEN RESUMING DRILLING, THE CONTRACTOR SHALL MODIFY THE PROCEDURES AS NECESSARY TO PREVENT FURTHER DAMAGE.
- 7. HOLES SHALL BE CLEANED OF DUST AND DEBRIS, USING A WIRE BRUSH AND COMPRESSED AIR OR MANUFACTURER'S BLOW-OUT BULB (AS PER MANUFACTURER'S RECOMMENDATIONS) AS REQUIRED TO REMOVE PARTICULATE DEBRIS AND TO ACHIEVE A RELATIVELY DUST-FREE SURFACE.
- 8. OIL, SCALE, AND RUST SHALL BE REMOVED FROM THE POST-INSTALLED ANCHOR AND HOLES SHALL BE DRY, PRIOR TO INSTALLATION.
- 9. POST-INSTALLED EMBEDMENT DEPTHS NOTED ON THE PLANS OR DETAILS ARE NOMINAL (I.E. MEASURED FROM FACE OF CONCRETE OR MASONRY TO EMBEDDED TIP OF ANCHOR/REBAR). FOR CORRESPONDING HOLE DEPTH, REFER TO APPLICABLE EVALUATION REPORT.
- 10. ANCHORS IN APPROVED ADHESIVE ANCHOR SYSTEMS SHALL HAVE MINIMUM Fy = 36 KSI AND SHALL BE ZINC ELECTROPLATED OR HOT-DIP GALVANIZED AS REQUIRED PER ESR.
- 11. APPROVED EXPANSION ANCHORS AND EVALUATION REPORTS ARE AS FOLLOWS:
- A. CONCRETE NOT EXPOSED TO WEATHER: HILTI KWIK BOLT-TZ2 ANCHORS
- B. CONCRETE EXPOSED TO WEATHER:
- STAINLESS STEEL HILTI KWIK BOLT-TZ2 ANCHORS

TORQUE WITHIN ONE QUARTER TURN OF THE NUT.

12. WHERE APPLICABLE, EXPANSION ANCHORS SHALL BE INSTALLED WITH THE MINIMUM TORQUE, USING A CALIBRATED TORQUE WRENCH. WEDGE OR SLEEVE TYPE ANCHORS MUST ATTAIN THE SPECIFIED TORQUE WITHIN ONE HALF TURN OF THE NUT, EXCEPT 1/4" AND 3/8" DIAMETER WEDGE OR SLEEVE TYPE ANCHORS MUST ATTAIN SPECIFIED

13. INSTALLATION TORQUES FOR EXPANSION ANCHORS SHALL BE AS NOTED BELOW:

EXPANSION ANCHOR MAXIMUM INSTALLATION TORQUE LOADS IN CONCRETE (FT-LB)					
NOMINAL ANCHOR DIAMETER	HILTI KWIK BOLT TZ2				
1/4"	4CS/6SS				
3/8"	30				
1/2"	50CS/40SS				
5/8"	40CS/60SS				
3/4"	110CS/125SS				
1"	185				

14. SEE SPECIAL INSPECTION AND TESTING NOTES FOR INSPECTION REQUIREMENTS.

STRUCTURAL OBSERVATION:

- 1. THE STRUCTURAL ENGINEER OF RECORD (SEOR), OR HIS/HER DESIGNATED ENGINEER, SHALL PROVIDE VISUAL STRUCTURAL OBSERVATION OF THE STRUCTURAL SYSTEM FOR GENERAL CONFORMANCE TO THE APPROVED CONSTRUCTION DOCUMENTS AND SPECIFICATIONS AT SIGNIFICANT CONSTRUCTION STAGES AND AT COMPLETION OF THE STRUCTURAL SYSTEM, AS REQUIRED BY CBC SECTION 1704 AND AS DEFINED IN CBC SECTION 1702. WRITTEN REPORTS SHALL BE SUBMITTED TO THE OWNER'S REPRESENTATIVE OR HIS DESIGNEE FOR DISTRIBUTION TO THE SPECIAL INSPECTOR, CONTRACTOR AND BUILDING OFFICIAL.
- 2. THE STRUCTURAL OBSERVER SHALL SUBMIT A WRITTEN STATEMENT TO THE GOVERNING AGENCY THAT THE SITE VISITS HAVE BEEN MADE. SUCH REPORTS SHALL IDENTIFY ANY OBSERVED DEFICIENCIES, WHICH TO THE BEST OF THE STRUCTURAL OBSERVER'S KNOWLEDGE HAVE NOT BEEN RESOLVED. AT THE COMPLETION OF THE STRUCTURAL SYSTEM THE STRUCTURAL OBSERVER SHALL PROVIDE A FINAL OBSERVATION REPORT INDICATING THAT TO THE BEST OF HIS/HER KNOWLEDGE ALL OBSERVED DEFICIENCIES HAVE BEEN RESOLVED AND THE STRUCTURAL SYSTEM GENERALLY CONFORMS TO THE APPROVED PLANS AND SPECIFICATIONS.
- 3. STRUCTURAL OBSERVATION DOES NOT INCLUDE OR WAIVE THE RESPONSIBILITY OF THE INSPECTIONS BY THE BUILDING OFFICIAL AS REQUIRED BY THE CALIFORNIA ADMINISTRATIVE CODE, SPECIAL INSPECTIONS REQUIRED BY CBC SECTION 1705, OR ANY OTHER INSPECTION REQUIRED BY OTHER SECTIONS OF THE CODE OR AS NOTED ELSEWHERE IN THE CONTRACT DOCUMENTS. THE STRUCTURAL OBSERVER DOES NOT HAVE THE AUTHORITY TO APPROVE COVERING OF CONSTRUCTION AND HIS/HER POSITIVE DISPOSITION OF THE OBSERVATION REPORT DOES NOT WARRANT THAT THE CONSTRUCTION WILL PASS THE BUILDING OFFICIAL'S INSPECTION.
- 4. STRUCTURAL OBSERVATION FOR THIS PROJECT SHALL BE PROVIDED BY MHP STRUCTURAL ENGINEERS, INC.; 3900 COVER STREET, LONG BEACH, CALIFORNIA, 90808; TELEPHONE (562) 985-3200; FAX (562) 985-1011.
- 5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONSTRUCTION SCHEDULE AND SHALL NOTIFY THE STRUCTURAL OBSERVER NO LESS THAN THREE (3) BUSINESS DAYS IN ADVANCE OF REQUIRED OBSERVATIONS. FAILURE OF THE CONTRACTOR TO PROVIDE ADEQUATE NOTIFICATION MAY RESULT IN DELAYS DUE TO CORRECTIVE WORK OR REMOVAL OF SUBSEQUENT WORK TO ALLOW ADEQUATE OBSERVATION. REMOVAL AND REPLACEMENT OF ANY FINISHED WORK AND/OR FRAMING DAMAGED BY THE REMOVAL PROCESS OR AS REQUIRED FOR CORRECTIVE ACTION RESULTING FROM INADEQUATE NOTIFICATION SHALL BE AT THE CONTRACTOR'S EXPENSE.
- 6. THE STRUCTURAL OBSERVER SHALL AS A MINIMUM PERFORM STRUCTURAL OBSERVATION AT THE FOLLOWING STAGES OF CONSTRUCTION (CONSTRUCTION STAGES AND ELEMENTS/CONNECTIONS TO BE OBSERVED):
- A. CONCRETE & REINFORCING STEEL AFTER EXCAVATION OR FORMING AND PLACEMENT OF REINFORCING STEEL (INCLUDING POST-TENSIONING HARDWARE AND TENDONS), PRIOR TO CLOSING FORMS AND PLACEMENT OF CONCRETE, FOR FIRST SIGNIFICANT POUR OF STRUCTURAL WORK.
- B. COMPLETION OF STRUCTURAL SYSTEM

SPECIAL INSPECTIONS:

- 1. THE OWNER, OR THE OWNER'S AUTHORIZED AGENT (OTHER THAN THE CONTRACTOR AS APPLICABLE) SHALL EMPLOY ONE OR MORE SPECIAL INSPECTORS, INCLUDING AS APPLICABLE AN INSPECTOR OF RECORD (IOR), WHO SHALL PROVIDE SPECIAL INSPECTIONS DURING CONSTRUCTION FOR CERTAIN TYPES OF WORK WHEN SO SPECIFIED IN THE CONTRACT DOCUMENTS AND PROJECT SPECIFICATIONS. WHERE AN IOR IS REQUIRED BY THE GOVERNING AGENCY, THE IOR MAY PERFORM SPECIAL INSPECTIONS IF THAT PERSON IS QUALIFIED PER THE GOVERNING AGENCY'S STANDARDS FOR THE SPECIAL INSPECTION REQUIRED. WHERE AN IOR IS NOT REQUIRED, THESE SPECIAL INSPECTIONS SHALL BE IN ADDITION TO AND COMPLEMENTARY WITH THE INSPECTIONS PROVIDED BY THE GOVERNING AGENCY.
- 2. THE SPECIAL INSPECTOR SHALL BE A QUALIFIED PERSON FROM AN APPROVED AGENCY CONFORMING TO ASTM C1077 WHO SHALL DEMONSTRATE COMPETENCE, TO THE SATISFACTION OF THE ARCHITECT, STRUCTURAL ENGINEER OF RECORD AND THE GOVERNING AGENCY, FOR INSPECTION OF THE PARTICULAR TYPE OF CONSTRUCTION OR OPERATION REQUIRING SPECIAL INSPECTION.
- 3. THE SPECIAL INSPECTOR SHALL OBSERVE THE WORK ASSIGNED FOR CONFORMANCE WITH THE DESIGN DRAWINGS, SPECIFICATIONS AND APPLICABLE WORKMANSHIP PROVISIONS OF THE CODE AND OTHER APPLICABLE REGULATIONS IDENTIFIED WITHIN THE CONSTRUCTION DOCUMENTS. ALL DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE GENERAL CONTRACTOR FOR CORRECTION AND THEN, IF UNCORRECTED, TO THE ATTENTION OF THE ARCHITECT, STRUCTURAL ENGINEER OF RECORD AND THE GOVERNING AGENCY. IT SHALL BE THE GENERAL CONTRACTOR'S RESPONSIBILITY TO COORDINATE WITH THE SPECIAL INSPECTOR AND SCHEDULE THE SPECIAL INSPECTIONS WITH ADEQUATE TIME TO ADDRESS ANY AND ALL POTENTIAL DISCREPANCIES PRIOR TO PROCEEDING WITH SUBSEQUENT WORK THAT COVERS OR OTHERWISE MAKES INACCESSIBLE ANY WORK IDENTIFIED AS DEVIATING FROM THE PROJECT REQUIREMENTS.
- 4. THE SPECIAL INSPECTOR SHALL FURNISH REGULAR INSPECTION REPORTS TO THE ARCHITECT, STRUCTURAL ENGINEER OF RECORD AND THE GOVERNING AGENCY IDENTIFYING THE WORK INSPECTED AND ANY UNCORRECTED DISCREPANCIES FROM THE CONSTRUCTION DOCUMENTS. AT THE CONCLUSION OF THE PROJECT OR THE SPECIAL INSPECTORS ASSIGNED SCOPE OF WORK, THE SPECIAL INSPECTOR SHALL SUBMIT A FINAL SIGNED REPORT STATING WHETHER THE WORK REQUIRING SPECIAL INSPECTION WAS, TO THE BEST OF HIS OR HER KNOWLEDGE, COMPLETED IN CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS AND SPECIFICATIONS (INCLUDING APPROVED RFI'S, ADDENDUMS, ETC.) AND THE APPLICABLE WORKMANSHIP PROVISIONS OF THE CODE AND OTHER APPLICABLE REGULATIONS IDENTIFIED WITHIN THE CONSTRUCTION DOCUMENTS.
- UNLESS NOTED OTHERWISE, SPECIAL INSPECTIONS INDICATED BELOW SHALL BE PROVIDED IN EITHER A CONTINUOUS OR PERIODIC CAPACITY, AS DEFINED BELOW, AS REQUIRED BY THE INDIVIDUAL CODE OR REFERENCED STANDARD.
- 6. CONTINUOUS SPECIAL INSPECTION BY THE SPECIAL INSPECTOR WHO IS PRESENT WHEN AND WHERE THE WORK TO BE INSPECTED IS BEING PERFORMED.
- 7. PERIODIC SPECIAL INSPECTION BY THE SPECIAL INSPECTOR WHO IS INTERMITTENTLY PRESENT WHERE THE WORK TO BE INSPECTED HAS BEEN OR IS BEING PERFORMED. FOR STRUCTURAL STEEL, PERIODIC INSPECTION IS FURTHER DEFINED SUCH THAT ITEMS ARE OBSERVED ON A RANDOM BASIS.
- 8. FOR STRUCTURAL STEEL WELDING AND BOLTING, SPECIAL INSPECTION SHALL BE PROVIDED IN EITHER AN OBSERVE OR PERFORM CAPACITY AS DEFINED BELOW: OBSERVE (0) - INSPECTOR SHALL OBSERVE THESE ITEMS ON A RANDOM BASIS PERFORM (P) - INSPECTOR SHALL OBSERVE OR PERFORM SPECIFIED TASK FOR EACH WELDED OR BOLTED
- 9. QUALITY CONTROL (QC) INSPECTION TASKS SHALL BE PERFORMED BY THE FABRICATOR'S OR ERECTOR'S QC INSPECTOR (QCI) AS INDICATED. QUALITY ASSURANCE (QA) INSPECTION TASKS SHALL BE PERFORMED BY THE QA INSPECTOR (QAI) AS INDICATED. WHEN A TASK IS INDICATED TO BE PERFORMED BY BOTH THE QAI AND QCI, COORDINATION IS PERMITTED SO THAT THE INSPECTION FUNCTIONS ARE PERFORMED BY ONLY ONE PARTY. WHEN THE QAI RELIES ON THE QCI, THE APPROVAL OF THE SEOR AND AGENCY HAVING JURISDICTION IS REQUIRED.
- 10. THE FOLLOWING CONSTRUCTION ELEMENTS AND MATERIALS SHALL BE INSPECTED AND EVALUATED BY A SPECIAL INSPECTOR IN ACCORDANCE WITH THE NOTED CBC SECTIONS AND REFERENCED STANDARDS, WHERE ELEMENTS AND MATERIALS ARE PRESENT ON THE PROJECT. SEE GENERAL NOTES FOR EACH MATERIAL FOR ADDITIONAL REQUIREMENTS, IN ADDITION TO TABLES AND NOTES BELOW:

FOUNDATION SPECIAL INSPECTION TABLES:

	REQUIRED VERIFICATION AND INSPECTION OF SOILS	PER CBC TABLE	1705.6
	VERIFICATION AND INSPECTION	CONTINUOUS DURING TASK LISTED	PERIODICALLY DURING TASK LISTED
1.	VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY		Х
2.	VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL		Х
3.	PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS		Х
4.	VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL	Х	
5.	PRIOR TO PLACEMENT OF COMPACTED FILL, INSPECT SUBGRADE AND		Х

REQUIRED VERIFICATION AND INSPECTION OF CAST-IN-PLACE DEEP FOUNDATION ELEMENTS PER CBC TABLE 1705.8

	VERIFICATION AND INSPECTION	CONTINUOUS DURING TASK LISTED	PERIODICALLY DURING TASK LISTED
1.	INSPECT DRILLING OPERATIONS AND MAINTAIN COMPLETE AND ACCURATE RECORDS FOR EACH ELEMENT	Х	
2.	VERIFY PLACEMENT LOCATIONS AND PLUMBNESS, CONFIRM ELEMENT DIAMETERS, BELL DIAMETERS (IF APPLICABLE), LENGTHS, EMBEDMENT INTO BEDROCK (IF APPLICABLE) AND ADEQUATE END BEARING STRATA CAPACITY. RECORD CONCRETE OR GROUT VOLUMES.	Х	

. FOR STEEL, CONCRETE OR CONCRETE-FILLED ELEMENTS PERFORM ADDITIONAL INSPECTIONS INDICATED BELOW AS APPLICABLE.

CONCRETE SPECIAL INSPECTION TABLE:

REQUIRED VERIFICATION AND INSPECTION OF CONCRETE CONSTRUCTION PER CBC TABLE 1705.3

		CONTINUOUS	DEDIODION	REFERENCE I	FOR CRITERIA	
VE	RIFICATION AND INSPECTION	CONTINUOUS DURING TASK LISTED	PERIODICALLY DURING TASK LISTED	MISC. STANDARDS	CBC	
1.	INSPECT REINFORCEMENT, AND VERIFY PLACEMENT		Х	ACI 318: CH. 20, 25.2, 25.3, 26.5.1-26.5.3	1908.4	
3.	INSPECTION OF ANCHORS CAST IN CONCRETE		Х	ACI 318: CH 17.8.2		
4.	INSPECT ANCHORS POST- INSTALLED IN HARDENED CONCRETE MEMBERS (SEE NOTE 1 BELOW): B. MECHANICAL ANCHORS AND ADHESIVE ANCHORS NOT DEFINED IN 4A.	X	X	ACI 318: CH 17.8.2.4		
5.	VERIFY USE OF REQUIRED DESIGN MIX		Х	ACI 318: CH. 19, 26.4.3, 26.4.4	1904.1, 1904.2, 1908.2 1908.3	
6.	PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTS (SEE NOTE 2 BELOW), PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE	X		ASTM C 172 ASTM C 31 ACI 318: CH 26.4.5, 26.12	1908.10	
7.	INSPECT CONCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES	Х		ACI 318: CH 26.4.5	1908.6, 1908.7, 1910.8	
8.	INSPECTION FOR MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES		Х	ACI 318: CH 5.11-5.13	1908.9	
12.	INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED		х	ACI 318: CH 26.10.1(B)		

- CONCRETE SPECIAL INSPECTION NOTES SPECIFIC REQUIREMENTS FOR SPECIAL INSPECTION ARE INCLUDED IN THE RESEARCH REPORT FOR EACH POST-INSTALLED ANCHOR ISSUED BY AN APPROVED SOURCE. THESE SPECIAL INSPECTION REQUIREMENTS SHOULD BE FOLLOWED. WHERE SPECIFIC REQUIREMENTS ARE NOT PROVIDED, CONTACT STRUCTURAL ENGINEER FOR SPECIAL INSPECTION REQUIREMENTS PRIOR TO PROCEEDING WITH THE WORK, PROJECT SPECIFIC SPECIAL INSPECTION MEASURES SHALL BE APPROVED BY THE GOVERNING AGENCY PRIOR TO THE COMMENCEMENT OF THE WORK.
- 2. A STRENGTH TEST SHALL BE THE AVERAGE OF, AT A MINIMUM, TWO 6x12 CYLINDERS OR THREE 4x8 CYLINDERS MADE FROM THE SAME SAMPLE OF CONCRETE. A TESTING LABORATORY SHALL MAKE AND TEST ONE SAMPLE SET FOR EACH 150 CUBIC YARDS OF CONCRETE BUT NOT LESS THAN ONE SAMPLE SET FOR EACH 5,000 SQFT OF SURFACE AREA FOR SLABS OR WALLS. IF TOTAL VOLUME OF CONCRETE IS SUCH THAT FREQUENCY OF TESTING WOULD PRODUCE FEWER THAN 5 STRENGTH TESTS FOR A GIVEN CONCRETE MIXTURE. THEN STRENGTH TEST SPECIMENS SHALL BE MADE FROM AT LEAST 5 RANDOMLY SELECTED BATCHES OR FROM EACH BATCH IF FEWER THAN 5 BATCHES ARE USED.

STEEL SPECIAL INSPECTION AND TESTING NOTES: THE FABRICATOR OR ERECTOR, AS APPLICABLE, SHALL MAINTAIN A SYSTEM BY WHICH A WELDER WHO HAS WELDED A JOINT OR MEMBER CAN BE IDENTIFIED, STAMPS, IF USED. SHALL BE THE LOW-STRESS TYPE.

- 2. SHOP WELDING WHERE DONE IN THE SHOP OF A LICENSED STEEL FABRICATOR REGISTERED WITH AND APPROVED BY THE GOVERNING AGENCY MAY BE EXEMPT FROM SPECIAL INSPECTION.
- 3. INSPECTION OF WELDS SHALL BE PERFORMED IN ACCORDANCE WITH AWS D1.1/D1.1M.



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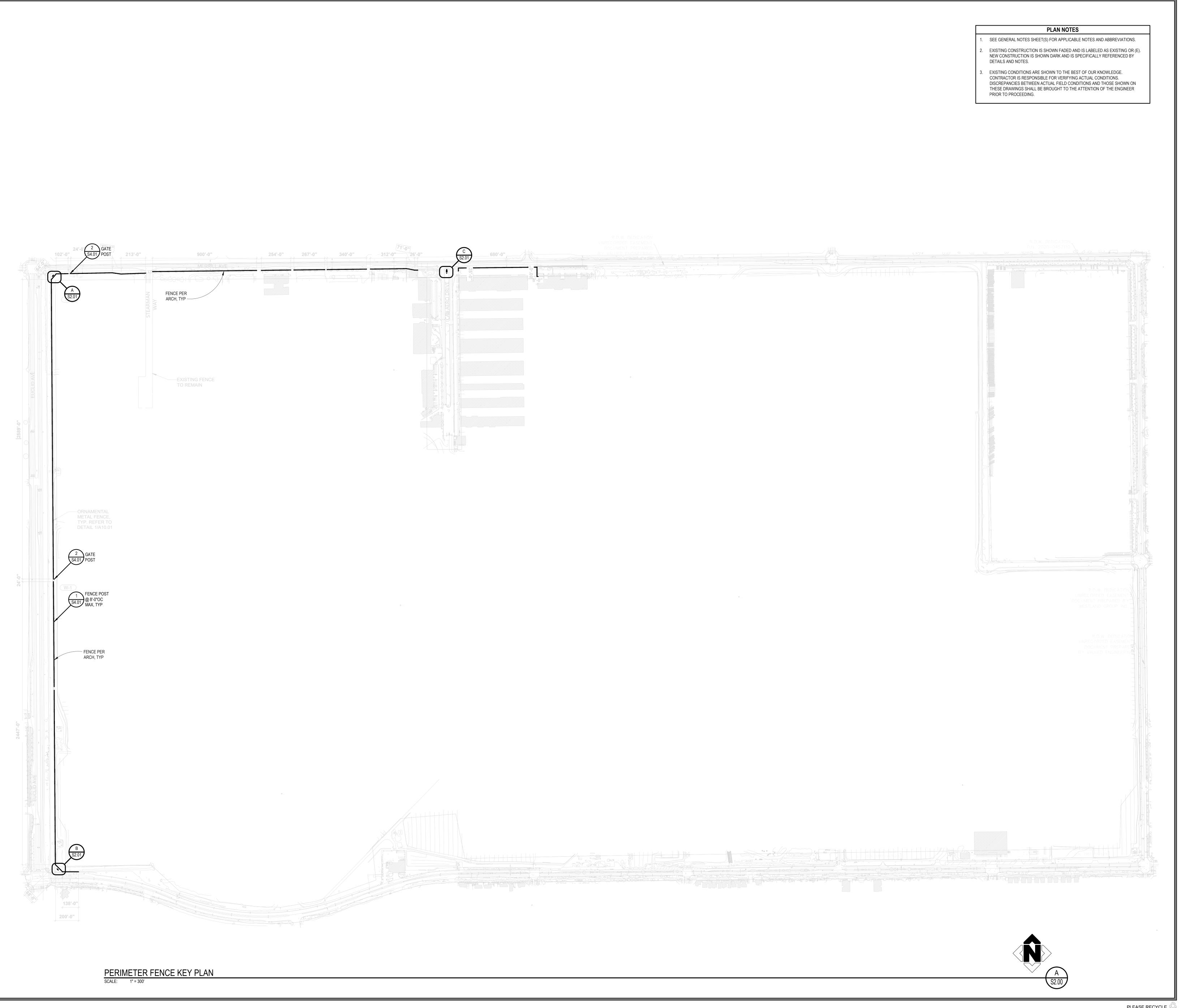
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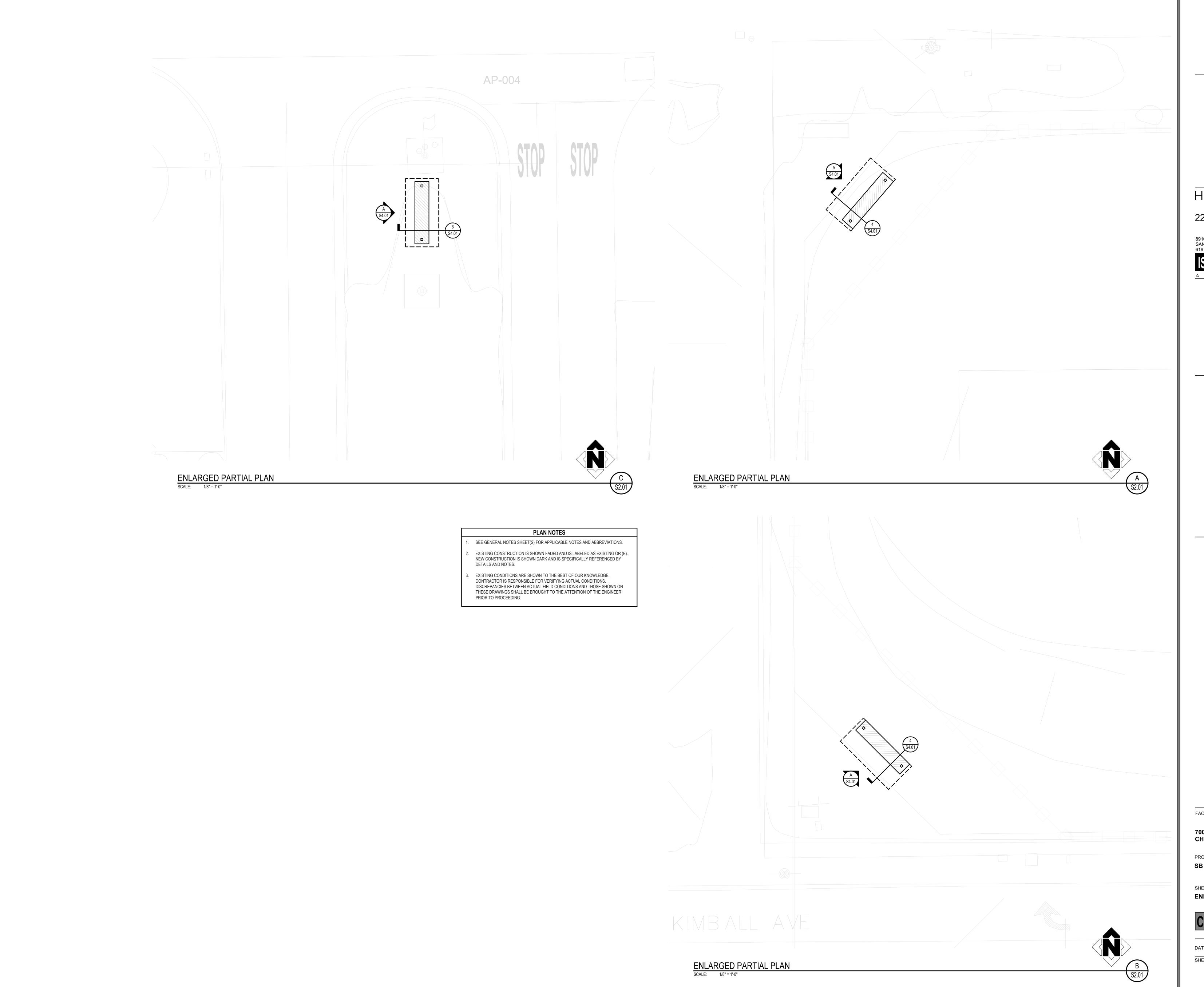
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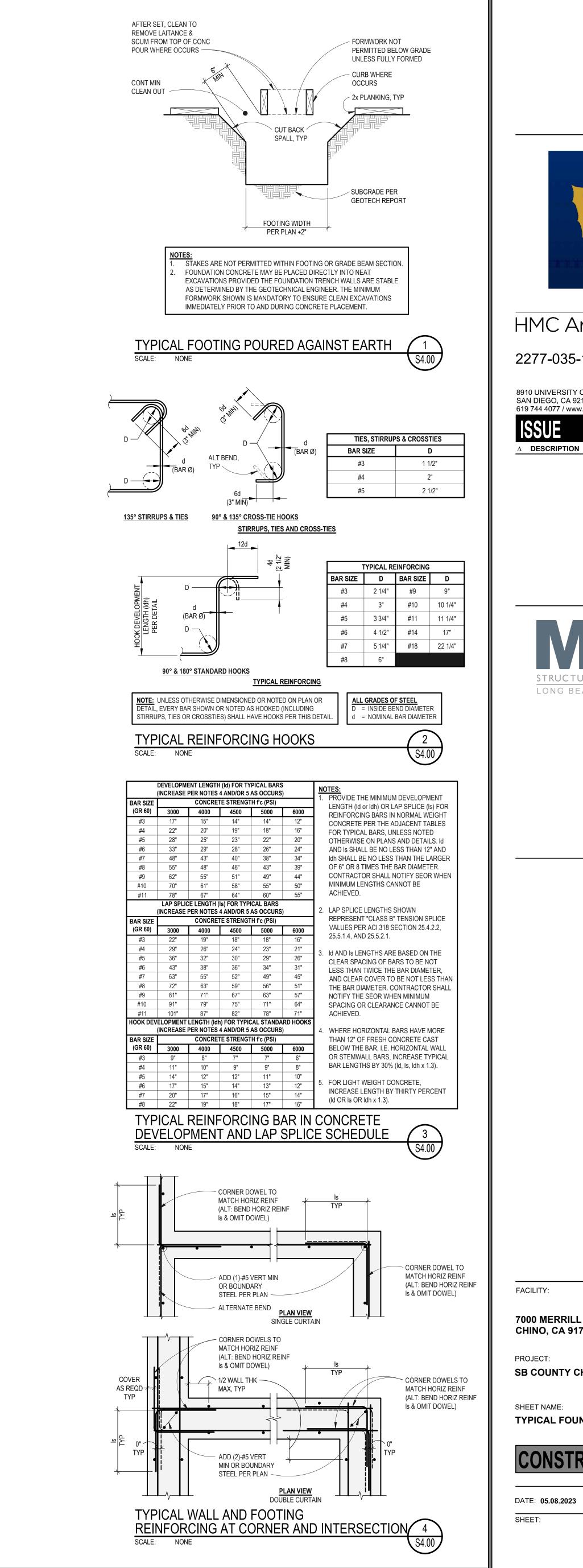
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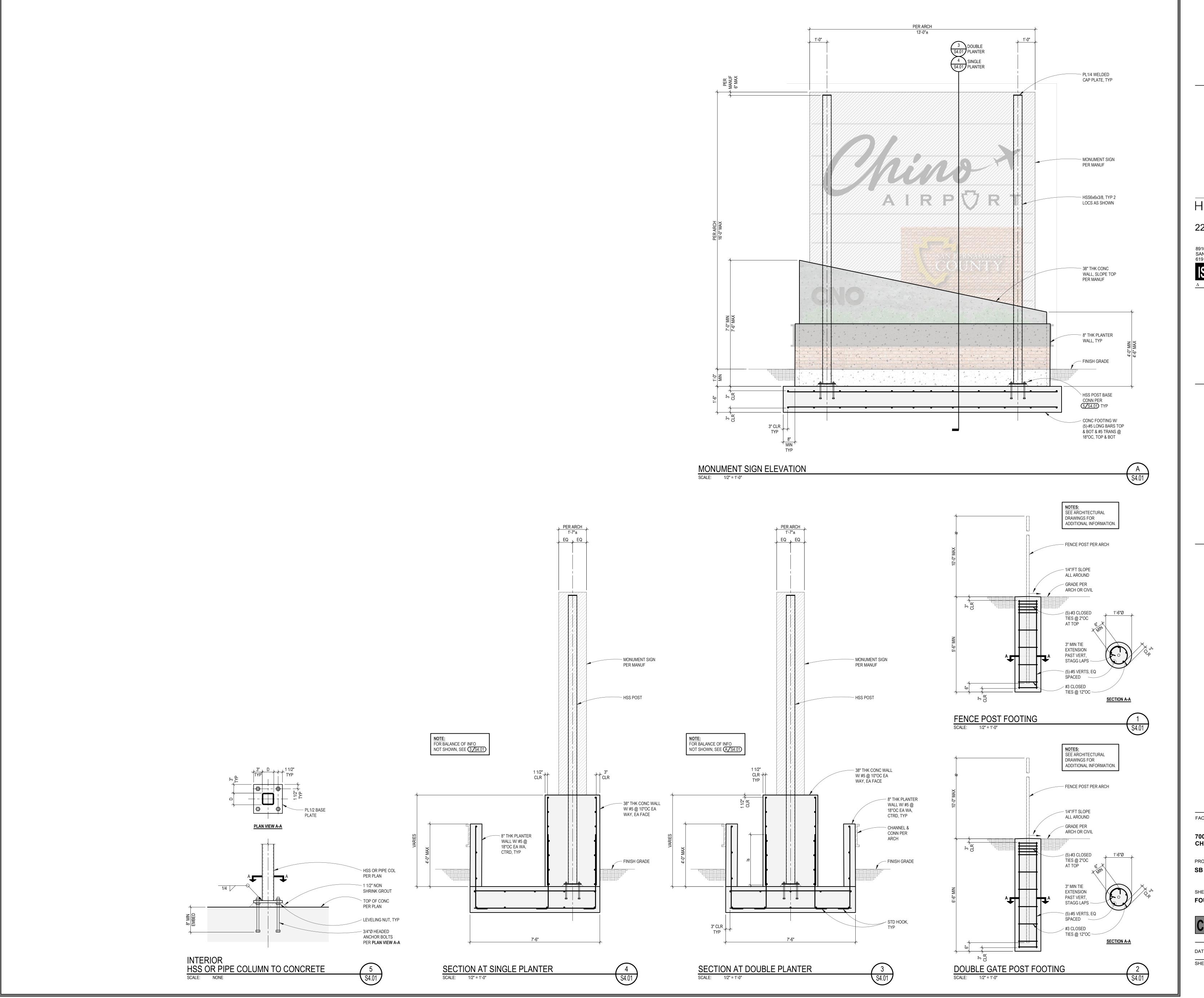
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