

ABBREVIATIONS (NOT ALL USED)

ABV

AFF

AHU

AMB

ARCH

BDD

BHP

BMS

BTU

BTUH

°C

CBC

CC

CD

CD

CFC

CFM

CFSD

CG

CHWP

CHWR

CHWS

CLG

CMC

COND

CONN

CONT

CR

CU FT

CU IN

DN

DWG

EA

EAT

EDB

EES

EF

EL

ELEC

ENT

EQPM

ESP

EWB

EWT

EXH

°F

(F)

FD

FF

FLA

FLR

FLX

FPM

FPS

GA

GAL

GC

GPH

GPM

H

HC

HHWS

HHWR

HS

L

(L)

LAT

LBS

LDB

LIN FT

LVG

LWB

MAX

MB

MBH

MIN

NIC

NTS

OSA/OA

OD

POC

POD

RA

RG

RH

RM

RPM

SA

SF

SOQ

SOV

SP

SPEC

SQ.FT

SS

SSG

TEMP

TS

TG

TV

TYP

UON

UTR

V

VAV

VD

VENT

W

W/

W/O

WB

WC

WG

ABOVE

ABOVE FINISHED FLOOR

AIR HANDLING UNIT

AMBIENT

ARCHITECTURAL

BACKDRAFT DAMPER

BRAKE HORSEPOWER

BUILDING MANAGERMENT SYSTEM

BRITISH THERMAL UNIT

BTU PER HOUR

DEGREES CENTIGRADE (CELSIUS)

CALIFORNIA BUILDING CODE

COOLING COIL

CEILING DIFFUSER

CONDENSATE DRAIN

CALIFORNIA FIRE CODE

CUBIC FOOT/FEET PER MINUTE

COMBINATION FIRE/SMOKE DAMPER

CEILING GRILLE

CHILLED WATER PUMP

CHILLED WATER RETURN

CHILLED WATER SUPPLY

CEILING

CALIFORNIA MECHANICAL CODE

CONDENSATE

CONNECTION

CONTINUATION

CEILING RETURN

CUBIC FEET

CUBIC INCHES

DOWN

DRAWING

EXHAUST AIR

ENTERING AIR TEMPERATURE

ENTERING DRY BULB TEMPERATURE

ENERGY EFFICIENCY STANDARD (TITLE 24)

EXHAUST FAN

ELEVATION

ELECTRICAL

ENTERING

EQUIPMENT

EXTERNAL STATIC PRESSURE

ENTERING WET BULB TEMPERATURE

ENTERING WATER TEMPERATURE

EXHAUST

DEFREES FAHRENHEIT

FUTURE

FIRE DAMPER

FINAL FILTER

FULL LOAD AMPERES

FLOOR

FLEXIBLE CONNECTION

FEET PER MINUTE

FEET PER SECOND

GAUGE

GALLON

GENERAL CONTRACTOR

GALLON PER HOUR

GALLON PER MINUTE

HEIGHT

HEATING COIL

HEATING HOT WATER SUPPLY

HEATING HOT WATER RETURN

HUMIDITY SENSOR

LENGHT

LINED DUCTWORK

LEAVING AIR TEMPERATURE

POUNDS

LEAVING DRY BULB TEMPERATURE

LINEAR FEET

LEAVING

LEAVING WET BULB TEMPERATURE

MAXIMUM

MIXING BOX

THOUSAND BTU PER HOUR

MINIMUM

NOT IN CONTRACT

NOT TO SCALE

OUTSIDE AIR

OUTSIDE DIAMETER

POINT OF CONNECTION

POINT OF DISCONNECTION

RETURN AIR

RETURN GRILLE

REHEAT COIL

ROOM

REVOLUTION PER MINUTE

SUPPLY AIR

SUPPLY FAN

SEQUENCE OF OPERATION

SHUT OFF VALVE

STATIC PRESSURE

SPECIFICATION

SQUARE FOOT

STAINLESS STEEL OR SPLIT SYSTEM FAN COIL

SIDEWAY SUPPLY GRILL

TEMPERATURE

TEMPERATURE SENSOR

TRANSFER GRILL

TURNING VANES

TYPICAL

UNLESS OTHERWISE NOTED

UP THROUGH ROOF

VOLTS

VARIABLE AIR VOLUME

VOLUME DAMPER

VENTILATION AIR

WIDTH

WITH

WITHOUT

WET BULB

WATER COLUMN

WATER GAUGE

SYMBOLS (NOT ALL USED)

T

THERMOSTAT

TS

TEMPERATURE SENSOR

C

CO2 SENSOR

H

HUMIDITY SENSOR

M

MOTORIZED DAMPER (ELECTRIC)

AUTOMATIC DAMPER (PNEUMATIC)

FD

FIRE DAMPER (FUSED)

CFSD

COMBINATION FIRE/SMOKE DAMPER (ELECTRIC)

BDD

BACK DRAFT DAMPER

MANUAL VOLUME DAMPER

SD

SMOKE DETECTOR

SUPPLY DUCT UP

SUPPLY DUCT DOWN

EXHAUST DUCT UP

EXHAUST DUCT DOWN

RETURN DUCT UP

RETURN DUCT DOWN

FLEXIBLE EQUIPMENT CONNECTION/ FLEXIBLE DUCTWORK

DIRECTION OF FLOW

A"xB"

DUCT SIZE, WHERE FIRST DIMENSION IS THE VISIBLE DUCT ON PLAN

DUCTWORK, DOUBLE LINE

AUCOUSTICAL LINED DUCTWORK, DOUBLE LINE SIZE SHOWN IS THE CLEAR INSIDE DIMENSION

DUCTWORK, SINGLE LINE

AUCOUSTICAL LINED DUCTWORK, SINGLE LINE SIZE SHOWN IS THE CLEAR INSIDE DIMENSION

HORIZONTAL DUCTED FAN COIL UNIT, CEILING-MOUNTED

CEILING SUPPLY DIFFUSER, DIRECTIONAL ARROWS SHOW THE NUMBER OF DIRECTIONS NEEDED.

CEILING RETURN GRILLE

CEILING EXHAUST GRILLE

APPLICABLE CODES

- 2022 CALIFORNIA BUILDING CODE
- 2022 CALIFORNIA MECHANICAL CODE
- 2022 CALIFORNIA ENERGY CODE
- 2022 CALIFORNIA ELECTRICAL CODE
- 2022 CALIFORNIA PLUMBING CODE
- 2022 CALIFORNIA FIRE CODE
- 2022 CALIFORNIA GREEN BUILDING STANDARDS CODE
- NFPA STANDARDS

SCOPE OF WORK

INTERIOR RENOVATION OF AN EXISTING 5,242 SF TEEM CENTER, WITH MINOR EXTERIOR UPGRADES, LOCATED IN EL SEGUNDO RECREATION PARK.
MECHANICAL SCOPE INCLUDES DEMOLITION OF THE EXISTING SPLIT SYSTEM AND RESTROOM EXHAUST, AND INSTALLATION OF THREE NEW ROOFTOP UNITS AND EXHAUST FAN FOR THE RENOVATED RESTROOMS.

SCOPE GAPS

1. CONTRACTOR IS RESPONSIBLE TO REVIEW ALL ENGINEERING PLANS & DOCUMENTS BEFORE & AFTER APPROVAL OF THE ENGINEERING PLANS BY THE CITY & SHALL REVIEW ALL "FOR-CONSTRUCTION-SET(S) & GMP SET(S) TO MAKE SURE ALL SCOPE & ALL CODE REQUIRED ELEMENTS OF THE PROJECT ARE ACCOUNTED FOR.

2. CONTRACTOR IS RESPONSIBLE TO REVIEW:

- ALL ENGINEERING PLANS & DOCUMENTS PRIOR TO BID, PURCHASE, & ORDER ANY MEP EQUIPMENT & MATERIAL.
- CONTRACTOR SHALL PROVIDE PRE-BID RFI(S) & SUBMITTAL(S) FOR PROPER SCOPE & BUDGETING PURPOSES.
- ANY DESIGN QUESTIONS, CLARIFICATION ITEM(S), CONCERNS ON PROVIDED ENGINEERED PLANS SHALL BE BROUGHT TO ACE PRIOR TO BIDDING.

3. CONTRACTOR IS RESPONSIBLE TO REVIEW ALL PLANS & DOCUMENTS FROM OTHER DISCIPLINES FOR ANY CONFLICTS & SCOPE GAPS PRIOR TO BID, PURCHASING, & CONSTRUCTION OF THE PROJECT.

4. CONTRACTOR SHALL PROVIDE:

- SUBMITTAL(S) TO ACE ONCE ALL RELEVANT TRADES REVIEW IS FINALIZED & STAMPED.
- SUBMITTAL(S) THAT DO NOT INCLUDE GENERAL CONTRACTOR'S REVIEWED & APPROVED STAMPED WILL NOT BE SCHEDULED BY ACE FOR REVIEW
- CONTRACTOR WILL BE RESPONSIBLE FOR ANY POSSIBLE DELAYS & DAMAGES TO THE PROJECT CONSTRUCTION COSTS & SCHEDULES DUE TO IMPROPER SUBMITTAL(S).

SHEET INDEX

NO.	SHEET	DESCRIPTION	SCALE
1	M0.01	NOTES, SYMBOLS & ABBREVIATIONS	N/A
2	M0.02	GENERAL NOTES	N/A
3	M0.03	MECHANICAL SCHEDULE	N/A
4	M0.04	MECHANICAL SCHEDULE	N/A
5	M0.05	MECHANICAL SCHEDULE	N/A
6	M0.06	MECHANICAL SCHEDULE	N/A
7	M0.07	MECHANICAL SCHEDULE	N/A
8	M1.01	SITE PLAN	1/8"≈1'
9	M1.02	FLOOR PLAN	1/8"≈1'
10	M1.03	ROOF PLAN	1/8"≈1'
11	M1.04	DEMO ROOF PLAN	1/8"≈1'
12	MD0.1	MECHANICAL DETAIL	N/A
13	MDT0.1	T24 FORMS	N/A
14	MDT0.2	T24 FORMS	N/A

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GENERAL NOTES

1. CONTRACTOR SHALL APPLY FOR ALL PERMITS & INSPECTION REQUIRED BY LEGAL AUTHORITIES.

2. WORKS & MATERIAL S SHALL BE IN FULL COMPLIANCE WITH THE LATEST & MOST STRINGENT APPLICABLE CODE OR REGULATION.

3. CONTRACTOR SHALL BE SOLELY & COMPLETELY RESPONSIBLE FOR ANY ADDITIONAL COSTS FOR MATERIAL, OR LABOR DUE TO DEVIATION FROM DESIGN AND CODE COMPLIANCE.

4. CONTRACTOR SHALL BE SOLELY & COMPLETELY RESPONSIBLE FOR THE CONDITION OF THE PREMISES, SAFETY OF THE PERSONNEL, & SAFE KEEPING OF THE PROPERTY DURING PERFORMANCE OF THE CONTRACT.

5. CONTRACTOR SHALL VERIFY THE EXISTING CONDITIONS IN THE FIELD BEFORE BID & INFORM THE ENGINEER OF ANY DISCREPANCIES.

6. EQUIPMENT & MATERIALS SHALL BE LISTED, LABELED & INSTALLED PER RECOGNIZED ELECTRICAL TESTING LABORATORY AS APPROVED BY JHA.

7. WORK SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR FROM DATE OF ACCEPTANCE BY OWNER OR LONGER AS SPECIFIED IN THE CONTRACT.

8. DESIGN DRAWINGS ARE DIAGRAMMATIC ONLY & SHALL BE FOLLOWED AS CLOSELY AS ACTUAL CONSTRUCTION CONDITIONS WILL PERMIT.

9. NOTHING ON THE DESIGN DRAWINGS SHALL BE DEEMED AS TO VIOLATE THE LATEST & MOST STRINGENT APPLICABLE CODES OR REGULATIONS.

10. ANY ERROR, OMISSION OR DESIGN DISCREPANCY ON THE PLANS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER OF RECORD & ARCHITECT FOR CLARIFICATION OR CORRECTION PRIOR TO CONSTRUCTION.

11. OPENINGS AROUND MECHANICAL/PLUMBING PENETRATIONS THRU FIRE RESISTANCE RATED WALLS, PARTITIONS, FLOORS, OR CEILINGS SHALL BE FIRE STOPPED USING APPROVED METHODS AS DETERMINED BY CODE OR REGULATION.

12. ALL MATERIALS SHALL BE NEW. ANY DAMAGED PARTS & EQUIPMENT SHALL BE REPLACED.

13. PLUMBING SYSTEMS TO BE FURNISHED, INSTALLED & CONNECTED AS A COMPLETE SYSTEM.

14. IT IS THE INTENTION OF THE PLANS & SPECIFICATIONS TO COVER ALL REQUIREMENTS TO MAKE A COMPLETE & OPERATIVE SYSTEM. CONTRACTOR SHALL FURNISH ALL LABOR MATERIALS, EQUIPMENT, & MISCELLANEOUS SERVICE REQUIRED TO COMPLETE THE PROJECT.

15. CONTRACTOR SHALL BID THE PROJECT AS INDICATED & SPECIFIED ON THE DRAWINGS. WHEN SUBSTITUTING MATERIALS OR EQUIPMENT, THE CONTRACTOR SHALL SUBMIT CATALOG CUT-SHEETS & AN AMOUNT FOR THE SUBSTITUTION FOR APPROVAL PRIOR TO PURCHASE & INSTALLATION.

16. CONTRACTOR'S SCOPE OF WORK & DELIVERABLES SHALL INCLUDE OTHER TRADES & DISCIPLINES' PLANS, NOTES & SCHEDULES WITH REFERENCE TO PLUMBING PLANS.

17. SUBSTITUTION OF ANY MATERIAL OR EQUIPMENT SHALL BE APPROVED BY ARCHITECT & ENGINEER OF RECORD PRIOR TO PURCHASE & INSTALLATION.

18. ALL WORK & /OR EQUIPMENT INSTALLED OUTDOORS SHALL BE APPROVED FOR USE IN WET LOCATION WITH PROPER RATINGS.

19. PRIOR TO FINAL ACCEPTANCE OF THE WORK, CONTRACTOR SHALL INSURE THAT ALL EQUIPMENT ARE INSTALLED CORRECTLY & FUNCTIONING PROPERLY BY PERFORMING REQUIRED FIELD TESTS.

20. "OR EQUAL" MEANS EQUIVALENT OR SUPERIOR IN PERFORMANCE. MATERIALS, WORKMANSHIP & APPEARANCE TO THE SPECIFIED EQUIPMENT. PHYSICAL DIMENSION OF THE PROPOSED SUBSTITUTION INCLUDING THE MIN. REQUIRED CLEARANCES SHALL COMPLY WITH ALL APPLICABLE CODES & REGULATIONS.

21. DESIGN DETAILS SHOWN ON THE DRAWINGS ARE FOR REFERENCE ONLY & ARE NOT FOR CONSTRUCTION UNLESS SPECIFICALLY NOTED "FOR CONSTRUCTION". REFER TO ARCHITECTURAL DETAILS FOR COORDINATION, CONSTRUCTION DETAILS, DIMENSIONS & MOUNTING CONDITIONS.

22. CONTRACTOR SHALL CONTACT SERVING UTILITY COMPANIES FOR APPROVED ENGINEERED DRAWINGS PRIOR TO CONSTRUCTION.

23. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN & OTHER ARCHITECTURAL DRAWINGS AS REQUIRED FOR COORDINATION OF LIGHTING WITH MECHANICAL, STRUCTURAL, PLUMBING & OTHER.

24. PLANS & DIAGRAMS ARE SCHEMATIC. PLUMBING CONTRACTOR SHALL, (A) VERIFY BUILDING CONDITIONS PRIOR TO BIDDING, ORDERING, FABRICATION &/OR INSTALLATION OF EQUIPMENT OR MATERIAL, (B) NOTIFY ARCHITECT & ENGINEER IN WRITING OF ANY DISCREPANCIES.

25. THE GENERAL CONTRACTOR IS RESPONSIBLE (A) TO REVIEW ALL OTHER TRADES INSTALLATION SCHEDULE & REQUEST FOR SEQUENCE OF INSTALLATION, (B) REVIEW & APPROVE PLANS & SPECIFICATIONS OF OTHER RELATED TRADES TO MAKE SURE THERE ARE NO CONFLICTS PRIOR TO SCHEDULING ANY INSTALLATION.

26. PLUMBING CONTRACTOR TO SUBMIT SHOP DRAWINGS TO ARCHITECT & ENGINEERS FOR REVIEW & APPROVAL.

27. PLUMBING CONTRACTOR SHALL VISIT THE SITE & VERIFY ALL CLEARANCES BEFORE ORDERING & INSTALLATION OF PIPING. SPECIFY OFFSETS & CHANGES REQUIRED TO MEET FIELD CONDITIONS. ANY DISCREPANCIES SHALL BE SUBMITTED IN A FORM OF AN RFPI TO RELATED PARTIES FOR CONFIRMATION & CLARIFICATION.

28. PLUMBING CONTRACTOR TO MAINTAIN AN UPDATED OR CURRENT/COMPLETE SET OF PLUMBING PRINTS & INDICATING ALL CHANGES.

29. PLUMBING CONTRACTOR TO PROVIDE A COMPLETE SET OF AS-BUILT DRAWINGS TO ARCHITECT & ENGINEER AT THE TIME OF COMPLETION.

30. OPENINGS MADE IN WALL S, FLOORS, CEILINGS, OR ANY PART OF THE BUILDING(S) FOR THE PASSAGE OF DUCTWORK OR PIPES, SHALL BE CLOSED & PROTECTED BY THE INSTALLATION OF APPROVED METAL COLLARS & SECURELY FASTENED TO THE ADJOINING STRUCTURE.

31. ALL EQUIPMENT SHALL BE INSTALLED IN A MANNER TO BE ACCESSIBLE FOR INSPECTION, SERVICE, REPAIR & FUTURE REPLACEMENT WITHOUT REMOVING PERMANENT CONSTRUCTION. CONTRACTOR IS RESPONSIBLE TO SCHEDULE INSPECTIONS WITH ALL RELATED GOVERNMENT AGENCIES & OTHER DISCIPLINES PRIOR TO COMPLETING THE WORK.

32. ALL AIR DEVICES, PIPING, ETC. SHALL BE PAINTED BY CONTRACTOR TO MATCH SURROUNDING COLOR AS REQUIRED BY THE ARCHITECT. PAINT BARE EXTERIOR MECHANICAL PIPING & EQUIPMENT WITH EPOXY ENAMEL AS REQUIRED BY ARCHITECT, DEVELOPER, & RELEVANT DISCIPLINES.

MECHANICAL GENERAL NOTES

1. DRAWINGS ARE DIAGRAMMATIC SHOWING THE GENERAL LOCATION, TYPE, LAYOUT, PARTS & EQUIPMENT THAT ARE REQUIRED. (1) REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS & EXACT LOCATIONS (2) REFER TO MANUFACTURER'S STANDARD INSTALLATION DRAWINGS & GUIDELINES FOR EQUIPMENT INSTALLATION & CONNECTIONS.

2. MECHANICAL CONTRACTOR IS RESPONSIBLE TO PREPARE & SUBMIT SHOP DRAWINGS BASED ON STRUCTURAL, PLUMBING, ELECTRICAL & OTHER DRAWINGS FOR LOCATING & ROUTING ALL DUCTWORKS, EQUIPMENT, DAMPERS, & PIPING TO MAKE SURE THERE ARE NO CONFLICTS WITH OTHER DISCIPLINES.

3. CONTRACTOR SHALL APPLY FOR ALL PERMITS & INSPECTION REQUIRED BY LEGAL AUTHORITIES.

4. INSTALLATION OF THE MECHANICAL SYSTEM THAT IS DESIGNED TO PROVIDE HEATING, COOLING, OR VENTILATION IN WHICH ONE OR MORE AIR-HANDLING UNITS ARE USED TO SUPPLY AIR TO A COMMON SPACE OR ARE DRAWING AIR FROM A COMMON PLENUM OR SPACE, SHALL COMPLY WITH CMC CH. 2.

5. FLEXIBLE AIR DUCTS SHALL COMPLY WITH UL181 & BE INSTALLED IN A FULLY EXTENDED CONDITION FREE OF SAGS AND KINKS AS PER CH. 6 OF CMC SECTION 603.5.

6. THE MAXIMUM ALLOWABLE LENGTH OF THE FLEX DUCT SHALL BE 5' FOR NONRESIDENTIAL AREAS AS PER CMC SECTION 603.4.1.

7. FLEX DUCTS SHALL NOT PENETRATE INTO FIRE-RATED ASSEMBLIES AS PER CMC SECTION 603.5.

8. WHERE GYPSUM PRODUCTS ARE EXPOSED IN DUCTS OR PLENUMS, THE AIR TEMPERATURE SHALL BE RESTRICTED TO A RANGE FROM 50°F TO 125°F, & MOISTURE CONTENT SHALL BE CONTROLLED SO THAT THE MATERIAL IS NOT ADVERSELY AFFECTED. ALL GYPSUM PRODUCTS SHALL HAVE A MOLD OR MILDEW RESISTANT SURFACE. FOR THE PURPOSE OF THIS SECTION, GYPSUM PRODUCTS SHALL NOT BE EXPOSED IN SUPPLY DUCTS AS PER CMC SECTION 602.5.

9. ALL FACTORY-MADE AIR DUCTS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF UL 181 AS PER CMC SECTION 602.5 & 603.4.

10. DUCTS SHALL BE SUPPORTED IN ACCORDANCE WITH SMACNA HVAC DUCT CONSTRUCTION STANDARD AS PER CMC SECTIONS 504.1.5.

11. DUCTS SHALL BE SUPPORTED AT EACH CHANGE OF DIRECTION & IN ACCORDANCE WITH SMACNA HVAC DUCT CONSTRUCTION STANDARDS AS PER CMC SECTION 603.3.

12. SUPPORTS FOR RECTANGULAR DUCTS SHALL BE INSTALLED ON TWO OPPOSITE SIDES OF EACH DUCT & SHALL BE RIVETED, BOLTED, OR METAL SCREWED TO EACH SIDE OF THE DUCT AT INTERVALS SPECIFIED AS PER CMC SECTION 603.3.1.

13. HORIZONTAL ROUND DUCTS SHALL BE SUPPORTED AS PER CMC CHAPTER 6, & CMC SECTIONS 603.3.2.1 & 603.3.2.2.

14. SINGLE OR COMBINED MECHANICAL EXHAUST SYSTEMS SHALL BE INDEPENDENT OF OTHER EXHAUST SYSTEMS AS PER CMC SECTION 504.2.

15. ALL MECHANICAL EQUIPMENT SHALL BE ARI & UL LISTED WHERE APPLICABLE & RATED FOR THE REQUIRED SERVICES, SUCH AS PRESSURES & TEMPERATURES.

16. MECHANICAL CONTRACTOR TO COORDINATE WITH ARCHITECT TO LOCATE ALL ACCESS DOORS ON SHOP DRAWINGS. ACCESS DOORS ON FIRE RATED STRUCTURE SHALL BE FIRE RATED.

17. EQUIPMENT REQUIRING ELECTRICAL CONNECTIONS OF MORE THAN 50 VOLTS SHALL HAVE A POSITIVE MEANS OF DISCONNECT ADJACENT TO & IN SIGHT FROM THE EQUIPMENT SERVED OR ACCORDANCE WITH NEC. REFER TO ELECTRICAL PLANS FOR MECHANICAL EQUIPMENT DISCONNECT SWITCH AS PER CMC SECTION 301.4.

18. EXCEPT AS OTHERWISE PERMITTED IN THIS CODE, UNLISTED EQUIPMENT & APPLIANCES SHALL BE APPROVED BY THE AHJ. AS PER CMC SECTION 303.3.

19. WHERE MORE THAN ONE HEATING, COOLING, VENTILATING, OR REFRIGERATING SYSTEM IS INSTALLED ON THE ROOF OF A BUILDING OR WITHIN A BUILDING, IT SHALL BE PERMANENTLY IDENTIFIED AS TO THE AREA OR SPACE SERVED BY THE EQUIPMENT AS PER CMC SECTION 303.6.

20. MECHANICAL CONTRACTOR TO PROVIDE VOLUME DAMPERS ON DUCTWORK BRANCH LINES WHETHER SHOWN ON THE DRAWINGS OR NOT.

21. MECHANICAL CONTRACTOR TO PROVIDE A VOLUME DAMPER FOR BRANCH MAINS SERVING MORE THAN ONE OPENING.

22. VOLUME DAMPERS IN NON-ACCESSIBLE CEILING SHALL HAVE A CONTROL ARM EXTENDED TO AN ACCESSIBLE LOCATION.

23. PROVIDE "YOUNG" REGULATOR OR ELECTRONIC REGULATORS AS MEANS OF CONTROL AND ADJUSTING AIRFLOW. EXACT LOCATION OF CONTROL DEVICES SHALL BE VISIBLE IN FINISHED FLOOR & COORDINATE WITH ARCHITECT AND RELEVANT TRADES.

24. DUCTWORK/DIFFUSER FOR UNITS SHALL BE PROVIDED WITH OBD'S IN LIEU OF BALANCING DAMPERS.

25. PROVIDE ACCESS PANELS TO ALL DAMPERS, CONCEALED VALVES & EQUIPMENT. COORDINATE THE LOCATION OF ACCESS PANELS WITH ARCHITECT AND RELEVANT TRADES TO ENSURE THE EQUIPMENT CAN BE EASILY ACCESSED & ARCHITECTURALLY ACCEPTABLE.

26. PROVIDE SMOKE DETECTORS & AUTOMATIC SHUTOFF BY INTERPRETING POWER SOURCE FOR GARAGE SUPPLY FANS IN EXCESS OF 2,000 CFM AS PER CMC SECTION 608.1.

27. AIR-MOVING SYSTEMS SUPPLYING AIR IN EXCESS OF 2,000 CFM TO ENCLOSED SPACES WITHIN BUILDINGS SHALL BE EQUIPPED WITH AN AUTOMATIC SHUTOFF. AUTOMATIC SHUTOFF SHALL BE ACCOMPLISHED BY INTERRUPTING THE POWER SOURCE OF THE AIR-MOVING EQUIPMENT UPON DETECTION OF SMOKE IN THE MAIN SUPPLY-AIR DUCT SERVED BY SUCH EQUIPMENT AS PER CMC SECTION 608.1.

28. DUCT SMOKE DETECTORS SHALL COMPLY WITH UL 268A. SHALL BE LABELED BY AN APPROVED AGENCY, APPROVED & LISTED BY CALIFORNIA STATE FIRE MARSHAL, AND SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS AS PER CMC SECTION 608.1.

29. THE SMOKE DETECTORS WHICH ARE PART OF THE REQUIRED AUTOMATIC SHUT DOWN FOR THE HVAC UNITS SHALL BE MONITORED BY THE REQUIRED FIRE ALARM SYSTEM.

30. UNLESS SPECIFICALLY SHOWN ON THE MECHANICAL PLAN, DUCT SMOKE DETECTOR SHALL NOT BE THE METHOD FOR ACTUATION OF FIRE SMOKE DAMPERS. REFER TO FIRE CONSULTANT PLAN FOR DETAILS.

REFRIGERANT LINES NOTES

1. REFER TO CHAPTER 11 OF CMC FOR INSTALLATION, CONSTRUCTION OF REFRIGERATION SYSTEMS, EQUIPMENT, REFRIGERANT PIPING, PRESSURE VESSELS, SAFETY DEVICES, REPLACEMENT OF PARTS, ALTERATIONS, & SUBSTITUTION OF DIFFERENT REFRIGERANTS.

2. MECHANICAL CONTRACTOR TO INSTALL REFRIGERANT PIPING BETWEEN INDOOR & OUTDOOR UNITS PER MANUFACTURER RECOMMENDATION, GUIDELINES, & ALL APPLICABLE CODES & REGULATIONS.

3. MECHANICAL CONTRACTOR TO SUBMIT REFRIGERANT PIPE ROUTING SHOP DRAWING TO EOR TO ENSURE IT MEETS MANUFACTURER RECOMMENDATION & GUIDELINES & NOT EXCEEDING TOTAL EQUIVALENT LENGTH.

4. MECHANICAL CONTRACTOR TO COVER THE INSULATION REFRIGERANT LINE SETS WITH A SOLID GUARD THAT PROTECTS AGAINST DAMAGE FROM ULTRAVIOLET RADIATION, MOISTURE, LANDSCAPING OPERATION, EQUIPMENT MAINTENANCE & WIND PER CALGREEN & ALL OTHER CODE REQUIREMENTS.

5. AIR CONDITIONING REFRIGERANT CIRCUIT ACCESS PORTS LOCATED OUTDOORS SHALL BE PROTECTED FROM UNAUTHORIZED ACCESS WITH LOCKING-TYPE TAMPER-RESISTANT CAPS OR IN A MANNER APPROVED BY THE AHJ JURISDICTION AS PER CMC SECTION 1105.11.

6. REFRIGERANT PIPING PLACED UNDERGROUND SHALL BE PROTECTED AGAINST CORROSION. REFRIGERANT PIPING INSTALLED IN CONCRETE FLOORS SHALL BE ENCASED IN A PIPE DUCT. REFRIGERANT PIPING SHALL BE ISOLATED AND SUPPORTED TO PREVENT DAMAGING VIBRATION, STRESS, OR CORROSION AS PER CMC SECTION 1106.5.

7. ALL EXTERIOR REFRIGERANT PIPING INSULATION SHALL BE PROTECTED WITH ALUMINUM JACKETING.

SEISMIC & VIBRATION NOTES

1. ALL MECHANICAL EQUIPMENT SHALL BE ANCHORED & BRACED IN ACCORDANCE WITH LOCAL SEISMIC RESTRAINT REQUIREMENTS.

2. VIBRATION ISOLATION CONNECTORS INSTALLED BETWEEN MECHANICAL EQUIPMENT & METAL DUCTS (OR CASINGS) SHALL BE MADE OF AN APPROVED MATERIAL & SHALL NOT EXCEED 10 INCHES IN LENGTH AS PER CMC SECTION 602.7.

3. APPLIANCES DESIGNED TO BE FIXED IN POSITION SHALL BE SECURELY FASTENED IN PLACE IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS AS PER CMC SECTION 303.4.

4. SUPPORTS FOR APPLIANCES SHALL BE DESIGNED & CONSTRUCTED TO SUSTAIN VERTICAL & HORIZONTAL LOADS WITHIN THE STRESS LIMITATIONS SPECIFIED IN THE BUILDING CODE AS PER CMC SECTION 303.4.

5. SEISMIC RESTRAINTS ARE REQUIRED FOR THE FOLLOWING INSTALLATION. REFER TO CBC SECTION 1613, & SMACNA GUIDELINES FOR ADDITIONAL REQUIREMENTS SUCH AS FLOOR OR ROOF MOUNTED EQUIPMENT WEIGHS 400 LBS. OR GREATER, & SUSPENDED OR WALL MOUNTED EQUIPMENT WEIGHS 20 LBS OR GREATER.

6. ALL VIBRATION ISOLATION SHALL CONFORM TO ASHRAE STANDARDS. SUBMITTALS FOR ALL ISOLATION ARE REQUIRED TO MECHANICAL ENGINEER AND ACOUSTICAL CONSULTANT FOR REVIEW & APPROVAL.

7. GENERAL RECOMMENDATIONS WHICH NEED TO BE REVIEWED & APPROVED BY ACOUSTICAL ENGINEER:

a. USE UNHOUSED SPRINGS.

b. SEPARATE SEISMIC SNUBBERS WHERE NECESSARY

c. EXTERNAL SPRING ISOLATION.

d. FOR INTERNAL SPRING, HOUSING SHOULD BE MOUNTED ON NEOPRENE PADS.

e. ACOUSTICAL VIBRATION ISOLATORS SHALL NOT COMPROMISE SEISMIC CODE REQUIREMENT & VICE VERSA.

f. MAJOR DUCT RISERS SUCH AS GARAGE EXHAUST EXCEEDING 1,500 FPM SHOULD BE ISOLATED FROM STRUCTURE WITH MASON BR MOUNTS.

g. DUCT PENETRATIONS THROUGH SOUND RATED CONSTRUCTIONS SHALL BE OVERSIZED BY 1" & SEALED AIRTIGHT WITH SAFING & ACOUSTICALLY RATED CAULKIN.

MECHANICAL TESTING & BALANCING NOTES

1. HVAC SYSTEMS (INCLUDING HYDRONIC SYSTEMS) SHALL BE BALANCED IN ACCORDANCE WITH ONE OF THE FOLLOWING METHODS PER CMC SECTION 314.1:

a. AABC NATIONAL STANDARDS FOR TOTAL SYSTEM BALANCE

b. ACCA MANUAL B

c. ASHRAE 111

d. NEBB PROCEDURAL STANDARDS FOR TESTING ADJUSTING BALANCING OF ENVIRONMENTAL SYSTEMS SMACNA HVAC SYSTEMS TESTING, ADJUSTING, & BALANCING

1. MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE TO:

a. TEST & BALANCE THE SYSTEM TO ACHIEVE RATES AS SHOWN ON PLANS & SCHEDULES.

b. TEST & BALANCE OF COMMON AREAS SHALL BE PERFORMED BY AN INDEPENDENT T&B CONTRACTOR CERTIFIED BY THE A.A.B.C. &/OR N.E.B.B.

c. THE SUBMITTED TEST & BALANCE REPORT SHALL BE ON OFFICIAL A.A.B.C. OR N.E.B.B. REPORT FORMS.

d. T&B OF ONE COMMON TYPE UNITS AS MODEL FOR SAME UNIT TYPES SHALL BE CONDUCTED BY MECHANICAL CONTRACTOR.

e. TEST REPORTS SHALL BE SUBMITTED TO ARCHITECT, CLIENT & ENGINEER OF RECORDED REVIEW & APPROVAL.

FOR EQUIPMENT

PUMPS

SHOULD BE ISOLATED WITH UNHOUSED SPRINGS OVER CONCRETE INERTIA BASE. ALSO REFER TO MANUFACTURER'S RECOMMENDATION INSTALLATION GUIDELINES.

HORIZONTAL FAN COIL UNITS

SHOULD BE SUSPENDED FROM SPRING & NEOPRENE HANGERS SUCH AS MASON 30N. ALSO REFER TO MANUFACTURER'S RECOMMENDATION INSTALLATION GUIDELINES.

VERTICAL FAN COIL UNITS

SHOULD BE ISOLATED ON NEOPRENE WAFFLE PADS SUCH AS MASON SUPER W WITH HG BUSHINGS. ALSO REFER TO MANUFACTURER'S RECOMMENDATION INSTALLATION GUIDELINES.

ROOFTOP CONDENSERS

SHOULD BE SPRING ISOLATED. USING NEOPRENE ISOLATION IS NOT RECOMMENDED. IT IS RECOMMENDED TO INSTALL ROOFTOP CONDENSERS ON A COMMON FRAME.

FOR ISOLATION DEVICES

UNHOUSED SPRINGS

SLFH

RESTRAINED SPRINGS

LRSO OR SSLFH-X

SPRING CURBS

MASON RSC OR MASON WEST ISC

SEISMIC SNUBBERS

MASON Z-1225

NEOPRENE HANGERS

MASON HD

CAPTIVE NEOPRENE

MASON BR

½" NEOPRENE WAFFLE PADS

MASON SUPER W & MASON HG BUSHINGS AT ALL ANCHOR BOLTS.

GENERAL ELECTRICAL NOTES

1. REFER TO ELECTRICAL DRAWINGS FOR ELECTRICAL COMPLETE POWER CONNECTION OF MECHANICAL EQUIPMENT SUCH AS VOLTAGE, PHASE, DISCONNECT & ETC.

2. REFER TO ELECTRICAL PLANS FOR MECHANICAL EQUIPMENT DISCONNECT SWITCH.

3. COORDINATE WITH ELECTRICAL & RELEVANT CONTRACTORS PRIOR TO INSTALLATION OF ALL MECHANICAL EQUIPMENT.

4. ALL APPLIANCES REQUIRING AN EXTERNAL SOURCE OF ELECTRICAL POWER FOR ITS OPERATION SHALL BE PROVIDED WITH THE FOLLOWING: (1) A READILY ACCESSIBLE ELECTRICAL DISCONNECTING MEANS WITHIN SIGHT OF THE APPLIANCE THAT COMPLETELY DE-ENERGIZES THE APPLIANCE. (2) A 120V AC GROUNDING-TYPE RECEPTACLE OUTLET ON THE ROOF ADJACENT TO THE APPLIANCE ON THE SUPPLY SIDE OF THE DISCONNECT SWITCH AS PER CMC SECTION 303.8.5.

5. ELECTRICAL WIRING IN PLENUMS SHALL COMPLY WITH THE CALIFORNIA ELECTRICAL CODE AS PER CMC SECTION 602.2.1.

MECHANICAL CALGREEN NOTES

1. THE ENTIRE PROJECT SHALL COMPLY WITH CURRENT CALGREEN & BUILDING CODES.

2. CGCBC SECTION 4.508 INDOOR AIR QUALITY & EXHAUST. EACH BATHROOM SHALL BE MECHANICALLY VENTILATED & SHALL COMPLY WITH THE FOLLOWING: (1) FANS SHALL BE ENERGY STAR COMPLIANT & BE DUCTED TO TERMINATE OUTSIDE THE BUILDING. (2) UNLESS FUNCTIONING AS A COMPONENT OF A WHOLE HOUSE VENTILATION SYSTEM FANS MUST BE CONTROLLED BY A HUMIDITY CONTROL. (3A) HUMIDITY CONTROLS SHALL BE CAPABLE OF ADJUSTMENT BETWEEN A RELATIVE HUMIDITY RANGE OF 50 PERCENT TO A MAXIMUM OF 80 PERCENT.

3. CGCBC SECTION 5.410 2.4-FUNCTIONAL PERFORMANCE TESTING. FUNCTIONAL PERFORMANCE TESTS SHALL DEMONSTRATE THE CORRECT INSTALLATION & OPERATION OF EACH COMPONENT, SYSTEM, & SYSTEM-TO-SYSTEM INTERFACE IN ACCORDANCE WITH THE APPROVED PLANS & SPECIFICATIONS. FUNCTIONAL PERFORMANCE TESTING REPORTS SHALL CONTAIN INFORMATION ADDRESSING EACH OF THE BUILDING COMPONENTS TESTED, & TESTING METHODS UTILIZED, & INCLUDE ANY READINGS & ADJUSTMENTS MADE.

4. CGCBC SECTION 5.410 2.5-DOCUMENTATION & TRAINING. A SYSTEM MANUAL & SYSTEMS OPERATIONS TRAINING ARE REQUIRED INCLUDING OCCUPATIONAL SAFETY & HEALTH ACT (OSHA) REQUIREMENTS IN CCR, TITLE 8, SECTION 5142, & OTHER RELATED REGULATIONS.

5. CGCBC SECTION 5.410 4.3.1-HVAC BALANCING. IN ADDITION TO TESTING & ADJUSTING, BEFORE A NEW SPACE-CONDITIONING SYSTEM SERVING A BUILDING OR SPACE IS OPERATED FOR NORMAL USE, BALANCING TESTS SHALL BE CONDUCTED IN ACCORDANCE WITH THE PROCEDURES DEFINED BY THE TESTING ADJUSTING & BALANCING BUREAU NATIONAL STANDARDS, THE NATIONAL ENVIRONMENTAL BALANCING BUREAU PROCEDURAL STANDARDS, ASSOCIATED AIR BALANCE COUNCIL NATIONAL STANDARDS OR AS APPROVED BY THE ENFORCING AGENCY.

6. CGCBC SECTION 5.410 4.4-REPORTING. AFTER COMPLETION OF TESTING, ADJUSTING, & BALANCING, PROVIDE A FINAL REPORT OF TESTING SIGNED BY THE INDIVIDUAL RESPONSIBLE FOR PERFORMING THESE SERVICES.

7. CGCBC SECTION 5.410 4.5-OPERATION & MAINTENANCE (O & M) MANUAL. PROVIDE THE BUILDING OWNER OR REPRESENTATIVE WITH DETAILED OPERATING & MAINTENANCE INSTRUCTIONS & COPIES OF GUARANTEE & WARRANTIES FOR EACH SYSTEM. O & M INSTRUCTIONS SHALL BE CONSISTENT WITH OSHA REQUIREMENTS IN CCR, TITLE 8, SECTION 5142, & OTHER RELATED REGULATIONS.

8. CGCBC SECTION 5.410 4.5.1-INSPECTIONS & REPORTS. INCLUDE A COPY OF ALL INSPECTION VERIFICATIONS & REPORTS REQUIRED BY THE ENFORCING AGENCY.

9. CGCBC SECTION 5.503 3.1-FIREPLACES. INSTALL ONLY A DIRECT-VENT SEALED-COMBUSTION GAS OR SEALED WOOD-BURNING FIREPLACES REFER TO CcRc, TITLE 24, PART 6, SUBCHAPTER 7, SECTION 150.

10. CGCBC SECTION 5.504 3-COVERING OF DUCT OPENINGS & PROTECTION OF MECHANICAL EQUIPMENT DURING CONSTRUCTION. AT THE TIME OF ROUGH INSTALLATION & DURING STORAGE ON THE CONSTRUCTION SITE & UNTIL FINAL STARTUP OF THE HEATING, COOLING & VENTILATING EQUIPMENT, ALL DUCT & OTHER RELATED AIR DISTRIBUTION COMPONENT OPENINGS SHALL BE COVERED WITH TAPE, PLASTIC, SHEET METAL OR OTHER METHODS ACCEPTABLE TO THE ENFORCING AGENCY TO REDUCE THE AMOUNT OF DUST, WATER & DEBRIS WHICH MAY ENTER THE SYSTEM.

11. CGCBC SECTION 5.504 5.3 FILTERS. IN MECHANICALLY VENTILATED BUILDINGS, PROVIDE REGULARLY OCCUPIED AREAS OF THE BUILDING WITH AIR FILTRATION MEDIA FOR OUTSIDE & RETURN AIR THAT PROVIDES AT LEAST A MINIMUM EFFICIENCY REPORTING VALUE OF MERV 13. FILTERS SHALL BE INSTALLED PRIOR TO OCCUPANCY, & RECOMMENDATIONS FOR MAINTENANCE WITH FILTERS OF THE SAME VALUE SHALL BE INCLUDED IN THE OPERATION & MAINTENANCE MANUAL. EXCEPTION: EXISTING MECHANICAL EQUIPMENT.

12. CGCBC SECTION 5.504 5.3.1 LABELING. INSTALLED FILTERS SHALL BE CLEARLY LABELED BY THE MANUFACTURER INDICATING THE MERV RATING.

13. CGCBC SECTION 5.506 1-OUTSIDE AIR DELIVERY. FOR MECHANICALLY OR NATURALLY VENTILATED SPACES IN BUILDINGS, MEET THE MIN. REQUIREMENTS OF SECTION 120.1 OF THE CcRc, OR APPLICABLE LOCAL CODE, WHICHEVER IS MORE STRINGENT, & DIVISION 1, CHAPTER 4 OF CCR, TITLE 8.

14. CGCBC SECTION 5.506 2-CARBON DIOXIDE (CO2) MONITORING. FOR BUILDINGS OR ADDITIONS EQUIPPED WITH DEMAND CONTROL VENTILATION, CO2 SENSORS & VENTILATION CONTROLS SHALL BE SPECIFIED & INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF THE CcRc CODE, SECTION 120(C)(4).

15. CGCBC SECTION 5.508 1.1 CHLOROFLUOROCARBONS (CFCS). INSTALL HVAC, REFRIGERATION & FIRE SUPPRESSION EQUIPMENT THAT DO NOT CONTAIN CFCS.

16. CGCBC SECTION 5.508 2 SUPERMARKET REFRIGERANT LEAK REDUCTION. NEW COMMERCIAL REFRIGERATION SYSTEMS SHALL COMPLY WITH THE PROVISIONS OF THIS SECTION WHEN INSTALLED IN RETAIL FOOD STORES 8,000 SQUARE FEET OR MORE CONDITIONED AREA, & THAT UTILIZE EITHER REFRIGERATED DISPLAY CASES, OR WALK-IN COOLERS OR FREEZERS CONNECTED TO REMOTE COMPRESSOR UNITS OR CONDENSING UNITS. THE LEAK REDUCTION MEASURES APPLY TO REFRIGERATION SYSTEMS CONTAINING HIGH-GLOBAL-WARMING POTENTIAL (HIGH-GWP) REFRIGERANTS WITH A GWP OF 150 OR GREATER. NEW REFRIGERATION SYSTEMS INCLUDE BOTH NEW FACILITIES & THE REPLACEMENT OF EXISTING REFRIGERATION SYSTEMS IN EXISTING FACILITIES.

17. CGCBC SECTION 5.508 1.2 HALONS. INSTALL HVAC, REFRIGERATION & FIRE SUPPRESSION EQUIPMENT THAT DO NOT CONTAIN HALONS.

18. CGCBC SECTION 5.508 2.1 REFRIGERANT PIPING. PIPING COMPLIANT WITH THE CALIFORNIA MECHANICAL CODE SHALL BE INSTALLED TO BE ACCESSIBLE FOR LEAK PROTECTION AND REPAIRS.

19. CGCBC SECTION 702.1 INSTALLER TRAINING. HVAC SYSTEM INSTALLERS SHALL BE TRAINED & CERTIFIED IN THE PROPER INSTALLATION OF HVAC SYSTEMS INCLUDING DUCTS & EQUIPMENT BY A NATIONALLY OR REGIONALLY RECOGNIZED TRAINING OR CERTIFICATION PROGRAM.

20. CGCBC SECTION 45 205.3.7.2 INSULATION. COVER THE INSULATION WITH A SOLID GUARD THAT PROTECTS AGAINST DAMAGE FROM ULTRAVIOLET RADIATION, MOISTURE, LANDSCAPING OPERATION, EQUIPMENT MAINTENANCE & WIND.

[illegible]

	BATHROOM EXHAUST FAN 2 / 4	
 GREENHECK Building More for Air		Cut Sheet - Not for Submittal Printed Date: 04/02/2025 Model: ESF-R Model: USF-4
Model: USF-4-VG Universal Single Width Fan		
Standard Construction Features:		
HOUSING: Class I and under feature Polyma Colu construction on sizes 4 - 48 and continuously welded on sizes 60 - 72 and class II fans. List support angles with mounting holes. Adjustable motor plate. Concealed permanent fasteners. Inlet collar - Collar flange standard on sizes 27 - 72 and all class II fans. Universal floor parts are processed through a multi-stage painting and pre-treatment and then finished with a high performance powder coating. Sizes 27 and less are insulation in 45 deg. increments. Sizes 27 to 42 are available in 90 deg. increments. Sizes greater than 42 and all class II are not available.		
BEARINGS, SHAFT, AND WHEEL: Air handling quality, self-aligning, ball bearing in pillow block housing - Protected, solid steel shafts with rubber rollers - Carbonite wheel		
Selected Options & Accessories:		
Model VFD (without shaft) Constant Protection Control - On for Balancing Switch - NEMA-3R, Toggle For Indoor or Outdoor Use, Mounted & Wired Motor - Var-Green EC Motor, NEMA 3R, Motor Enclosure, For Indoor/Outdoor Use, Galvanized Motor with Class II or Greater Insulation Finish - Coating - Remanufact - Concrete Gray/RAL 7023, Mill Finish on Aluminum Components Terminal - CW Discharge Position - LB Arrangement - A UL-508-1702 - Power Ventilation Inlet Connection, Slip Fit Outlet Flange, Flanged Fasteners - Standard Use Warranty - 1 Year (Standard) California Energy Commission Title 24 Compliance/Exempt		
V-ACE MRP Project#240712-Admin/Mechanical/supplement25-0402 Bathroom Exhaust Fan USF Selector# Segundo Tien Center (91) CAPS 648-338-0000 Generated by: mrm@greenheck.com		Page 2 of 4

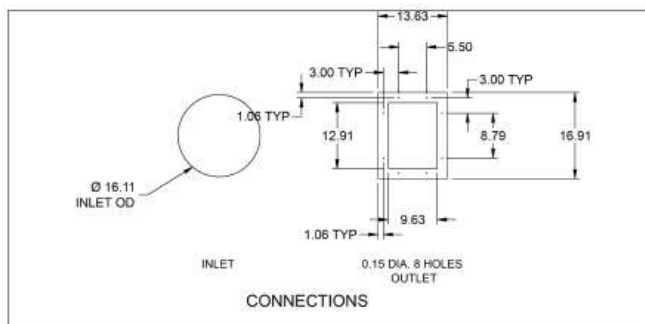
BATHROOM EXHAUST FAN 3 / 4



GREENECH
Building Value in Air

Cut Sheet - Not for Submittal
Printed Date: 04/02/2025
Mark: EF-R
Model: USF-4

Model: USF-4-VG
Universal Single Width Fan



CONNECTIONS

BATROOM EXHAUST FAN 4 / 4	
	Cut Sheet - Not for Submittal Printed Date: 04/02/2025 Mark: EF-R Model: USF-4
	
AMCA Licensed for Air Performance Without Apertures and Accessories. Power rating (BHP@W) does not include transmission losses.	
Greenheck Fan Corporation certifies that the model shown herein is licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA publication 211 and comply with the requirements of the AMCA Certified Ratings Program. The AMCA Certified Ratings Seal applies to air performance ratings only. Performance certified is for installation type B: Free inlet, Ducted outlet. Power rating (BHP@W) does not include transmission losses. Performance ratings do not include the effects of apertures/accessories.	
The AMCA licensed air and sound performance data has been modified for installation, apertures or accessories, etc. not included in the certified data. The modified performance is not AMCA licensed but is provided to aid in selection and applications of the product.	
V:\ACE MEP Projects\2420112-Admin\Mechanical\Equipment\24-0420-Bathroom Exhaust Fan USF Selection\02-Signage Team Center (g) CAPS 4.4-5.1005 Generated by: meang@acemegroup.com Page 4 of 4	

The GEN V is a microcontroller based, auto changeover Universal Gas/Electric or Heat Pump system controller (Part # GEN V). The GEN V controls a zoned 2H/2C Gas/Electric HVAC unit or 3H/2C zoned Heat Pump unit and supports ADR and FDD requirements, along with fan control strategies to insure pre and post building purge and communicates with and supports up to 20 zones, utilizing pressure dependent, modulating dampers.

Standalone units may also be networked in and controlled from one central location using the SATouchX thermostat on each RTU or Split system.

The GEN V gathers information every 60 seconds from each thermostat in the system over a 2-wire data link.

The GEN V is equipped with integrated capacity control and High and Low temperature limits to protect compressors and heat exchanger. Outside air and return Air sensors are also provided. The HVAC unit is staged based on leaving air temperature and time. Auto changeover operation is vote based, predicated on a first call, first served, majority wins on changeover algorithm.

When the current mode callers are satisfied, a four-minute purge cycle is initiated prior to mode change-over.

The GEN V communicates with an EzTouchV HUB thermostat that allows configuration of GEN V controllers along with every zone stat controlling modulating dampers or stand-alone units. From the Hub thermostat you can monitor communications and operations of the entire system. Modify zone thermostat set points individually or globally, set a global or individual schedule per zone and vacation schedules. The system operation meets Title 24 requirements.

Additional control strategies, including variance from setpoint, are also selectable features to initiate changeover.

5622 Engineer Drive / Huntington Beach, CA 92649 / Office (800) 228-2966 / Fax (714) 898-6802
Page 1 of 1

[illegible]

- Universal for G/E or H/P Units
- Fully Modulating Zone Dampers
- Up to 20 Zones Per Unit
- Color Touch Screen Thermostats
- Global or Individual Scheduling
- Vacation Scheduling
- Auto-Changeover Operation
- Selectable Priority
- On-board Capacity Control
- 2-8 Hour Override
- Lock Stats Remotely
- Start Up Diagnostic and Overview
- ADR and FDD Compliant
- Meets Title 24 Requirements
- Simple daisy chain wiring
- No Home Run Wiring
- No Computer Required For Setup

[illegible]

EL SEGUNDO RECREATION
PARK PHASE 1
IMPROVEMENT PROJECT
TEEN CENTER
AND TEEN
PLAZA
405 E Grand Ave.,
El Segundo, CA 90245

[illegible]

Sheet title:

**MECHANICAL
SCHEDULE**

Designed by:	N.E.
Drawn by:	A.K.
Checked by:	N.E.
Project number:	24201

M0.07



350 Main St, El Segundo,
CA 90245

405 E Grand Ave,
El Segundo, CA 90245



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[illegible]

SITE PLAN

Designed by:	N.E.
Drawn by:	A.K.
Checked by:	N.E.
Project number:	2420

M1.01



GENERAL NOTES

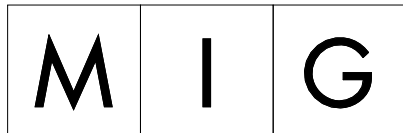
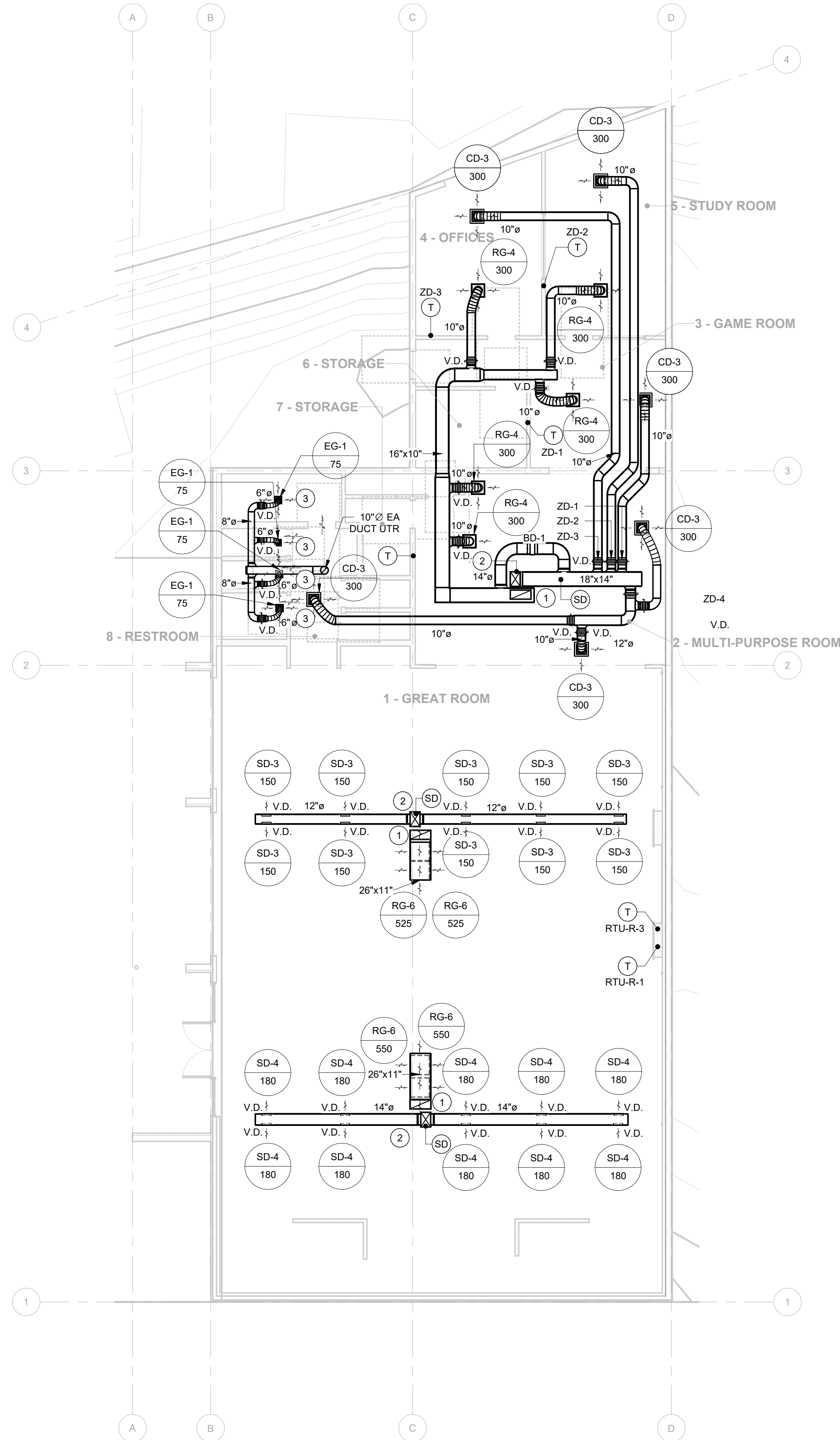
1. REFER TO GENERAL SHEETS FOR GENERAL NOTES, LEGENDS & SYMBOLS.
2. REFER TO SCHEDULE SHEETS FOR EQUIPMENT SCHEDULES.
3. REFER TO MD DRAWING SERIES FOR MECHANICAL DETAILS.
4. GARAGE EXHAUSTS OUTLETS- GARAGE EXHAUSTS OUTLETS SHALL TERMINATE NOT LESS THAN 10 FEET FROM A PROPERTY LINE, 3 FEET FROM EXTERIOR WALLS OR ROOFS, 10 FEET FROM OPENINGS INTO THE BUILDING, AND 10 FEET ABOVE ADJOINING GRADE PER CMG SECTION 602.2.
5. FAN ROOM CONSTRUCTION-FOR FAN ROOMS USED AS A PLENUM, THE FAN ROOM WALLS SHALL BE MADE OF POURED CONCRETE OR CONCRETE BLOCK AND THE FAN ROOM DOOR SHALL BE LINED WITH SHEET METAL.
6. ENCLOSED PARKING GARAGES-REFER TO MANDATORY GARAGE NOTES IN GENERAL SHEETS
7. HEAD HEIGHTS-MECHANICAL EQUIPMENT & DUCTWORK SHALL BE MIN. 7'1" ABOVE FINISH FLOOR & MIN. 8'2" ABOVE ACCESSIBLE DRIVE AISLES.
8. CO SENSORS-CARBON MONOXIDE (CO) SENSORS SHALL BE DISTRIBUTED SO EACH SENSOR COVERS A MAXIMUM AREA OF 5,000 SQUARE FEET. THE SENSORS SHALL BE IN THE AREAS WITH HIGHEST EXPECTED CO CONCENTRATION. PROVIDE AT LEAST TWO SENSORS IN AREAS ISOLATED BY WALLS OR OBSTRUCTIONS.
9. CO SENSOR MOUNTING-NO SENSORS SHALL BE MOUNTED IN STANDARD 4" X4" BOX AT 5 FEET ABOVE FINISHED FLOOR. ALL SENSORS WIRING TO HOME RUN OR DAISY-CHAINED TO CO CONTROL PANEL (COCAP). ALL CONDUITS & BOXES TO BE PROVIDED BY ELECTRICAL OR LOW VOLTAGE CONTRACTOR.
10. OCCUPIED AREAS-ALL OCCUPIED AREAS IN THE GARAGE SHALL BE MAINTAINED AT POSITIVE OR NEUTRAL PRESSURE RELATIVE TO GARAGE SPACE
11. EXHAUST INTAKE-EXHAUST INTAKE SHALL BE LOCATED SO THAT THE HIGHEST ELEVATION IS NO LONGER THAN 12 INCHES BELOW CEILING PER CMG, SECTION 403.7.2.3.
12. VENTILATION RATE-EXHAUST AIR OR EXHAUST AIR FROM EXISTING GARAGES SHALL BE PROVIDED IN ACCORDANCE WITH THE REQUIREMENTS IN TABLE 403.7 OF THE CMG, WHICH IS 0.75 CFM PER SQ. FT. OF THE PARKING GARAGE.
13. DUCT PENETRATIONS-DUCT PENETRATIONS THROUGH RATED FLOOR & FLOOR ASSEMBLIES SHALL BE PROTECTED WITH APPROVED FIRE STOP, FIRE DAMPERS, SMOKE DAMPER, & COMBINATION FIRE SMOKE DAMPERS WHERE REQUIRED.
14. AIR-MOVING SYSTEMS-AIR-MOVING SYSTEMS SUPPLYING AIR IN EXCESS OF 2,000 CUBIC FEET PER MINUTE TO ENCLOSED SPACES WITHIN BUILDINGS SHALL BE EQUIPPED WITH AN AUTOMATIC SHUTOFF PER CMG SECTION 608.1.
15. GARAGE SUPPLY FAN-TOE AND EXHAUSTING SHUT OFF BY INTERRUPTING POWER SOURCE FOR GARAGE SUPPLY FANS PER CMG SECTION 608.1.
16. ELEVATOR MACHINE ROOM-NO AC UNIT SHALL BE LOCATED ABOVE ANY EQUIPMENT IN ELEVATOR MACHINERY ROOM & MINIMUM 7" HEAD CLEARANCE SHALL BE PROVIDED.
17. SHAF ENCLOSURES SHALL HAVE A FIRE-RESISTANCE RATING OF NOT LESS THAN 2 HOURS WHERE CONNECTING FOUR STORIES OR MORE, AND NOT LESS THAN 1 HOUR WHERE CONNECTING LESS THAN FOUR STORIES. THE NUMBER OF STORIES CONNECTED BY THE SHAF ENCLOSURE SHALL INCLUDE ANY BASEMENTS BUT NOT ANY MEZZANINES. SHAF ENCLOSURES SHALL HAVE A FIRE-RESISTANCE RATING NOT LESS THAN THE FLOOR ASSEMBLY PENETRATED BUT NEED NOT EXCEED 2 HOURS. SHAF ENCLOSURES SHALL MEET THE REQUIREMENTS OF SECTION 713.4. REFER TO ARCHITECTURAL SHAF DETAIL SHEETS.

PLAN NOTES

- | | |
|---|--|
| ① | 26"x11" RA DUCT UP THROUGH ROOF |
| ② | 12"x18" SA DUCT UP THROUGH ROOF |
| ③ | ALL BATHROOM SHALL HAVE 3/4" DOOR UNDERCUT FOR RETURN AIR. |

LEGEND

	SUPPLY DUCT UP
	SUPPLY DUCT DOWN
	EXHAUST DUCT UP
	EXHAUST DUCT DOWN
	RETURN DUCT UP
	RETURN DUCT DOWN
	CEILING SUPPLY DIFFUSER WITH 4-WAY BLOW PATTERN
	CEILING RETURN REGISTER
	CEILING EXHAUST GRILL
	THERMOSTAT



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Issue dates

[illegible]

Sheet title:

FLOOR PLAN

Designed by:	N.E
Drawn by:	A.K
Checked by:	N.E
Project number:	2420

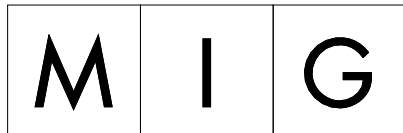
M1.02

GENERAL NOTES

1. REFER TO GENERAL SHEETS FOR GENERAL NOTES, LEGENDS & SYMBOLS.
2. REFER TO SCHEDULE SHEETS FOR EQUIPMENT SCHEDULES.
3. REFER TO MD DRAWING SERIES FOR MECHANICAL DETAILS.
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5. FAN ROOM CONSTRUCTION FOR FAN ROOMS USED AS A PLENUM, THE FAN ROOM WALLS SHALL BE MADE OF POURED CONCRETE OR CONCRETE BLOCK AND THE FAN ROOM DOOR SHALL BE LINED WITH SHEET METAL.
6. ENCLOSED PARKING GARAGES-REFER TO MANDATORY GARAGE NOTES IN GENERAL SHEETS.
7. HEAD HEIGHTS-MECHANICAL EQUIPMENT & DUCTWORK SHALL BE MIN. 7'1" ABOVE FINISH FLOOR & MIN. 8'2" ABOVE ACCESSIBLE DRIVE AISLES.
8. CO SENSORS-CARBON MONOXIDE (CO) SENSORS SHALL BE DISTRIBUTED SO EACH SENSOR COVERS A MAXIMUM AREA OF 9,000 SQUARE FEET. THE SENSORS SHALL BE IN THE AREAS WITH HIGHEST EXPECTED CO CONCENTRATION. PROVIDE AT LEAST TWO SENSORS IN AREAS ISOLATED BY WALLS OR OBSTRUCTIONS.
9. CO SENSOR MOUNTING-CO SENSORS SHALL BE MOUNTED IN STANDARD 4" X4" BOX AT 5 FEET ABOVE FINISHED FLOOR. ALL SENSORS WIRING TO HOME RUN OR DAISY-CHAINED TO CO CONTROL PLANT (CCCP), ALL CONDUITS & BOXES TO BE PROVIDED BY ELECTRICAL CONTRACTOR.
10. OCCUPIED AREAS-ALL OCCUPIED AREAS IN THE GARAGE SHALL BE MAINTAINED AT POSITIVE OR NEUTRAL PRESSURE RELATIVE TO GARAGE SPACE.
11. ELEVATOR SHAFTS-LOCATED SO THAT THE HIGHEST ELEVATOR CAR IS NOT LONGER THAN 10 FEET ABOVE GARAGE FLOOR PER CMC SECTION 403.7.2.3.
12. VENTILATION RATE-EXHAUST AIRFLOW FOR ENCLOSED PARKING GARAGES SHALL BE PROVIDED IN ACCORDANCE WITH THE REQUIREMENTS IN TABLE 403.7 OF THE CMC, WHICH IS 0.75 CFM PER SQ. FT. OF THE PARKING GARAGE.
13. DUCT PENETRATIONS-DUCT PENETRATIONS THROUGH RATED WALLS & FLOOR ASSEMBLIES SHALL BE PROTECTED WITH APPROVED FIRE STOPS, FIRE DAMPERS, SMOKE DAMPERS, & COMBINATION FIRE SMOKE DAMPERS WHERE REQUIRED.
14. EXHAUST SYSTEMS-EXHAUST SYSTEMS SHALL BE PROVIDED WITH EXHAUST EXITS OF 100 CUBIC FEET PER 1,000 SQUARE FEET OF GARAGE AREA, BUT SHALL BE SUPPLIED WITH AN AUTOMATIC SHUTOFF PER CMC SECTION 608.1.
15. GARAGE SUPPLY FAN-PROVIDE SMOKE DETECTORS & AUTOMATIC SHUTOFF BY INTERRUPTING POWER SOURCE FOR GARAGE SUPPLY FANS PER CMC SECTION 608.1.
16. ELEVATOR MACHINE ROOM AC UNIT SHALL BE LOCATED ABOVE ANY EQUIPMENT IN ELEVATOR MACHINERY ROOM & MINIMUM 7' FLOOR CLEARANCE SHALL BE PROVIDED.
17. ELEVATOR ENCLOSURE-ENCLOSURES SHALL BE RATED NOT LESS THAN 2 HOURS WHERE CONNECTING FOUR STORIES OR MORE, AND NOT LESS THAN 1 HOUR WHERE CONNECTING LESS THAN FOUR STORIES. THE NUMBER OF STORIES CONNECTED BY THE SHAFT ENCLOSURE SHALL INCLUDE ANY BASEMENTS BUT NOT ANY MEZZANINES. SHAFT ENCLOSURES SHALL HAVE A FIRE-RESISTANCE RATING NOT LESS THAN THE FLOOR ASSEMBLY PENETRATED BUT NEED NOT EXCEED 2 HOURS. SHAFT ENCLOSURES SHALL MEET THE REQUIREMENTS OF SECTION 713.4. REFER TO ARCHITECTURAL SHAFT DETAIL SHEETS.

PLAN NOTES

- | | |
|---|-----------------------------------|
| 1 | 26"x11" RA DUCT DOWN THROUGH ROOF |
| 2 | 12"x18" SA DUCT DOWN THROUGH ROOF |



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Sheet title:

ROOF PLAN

Designed by:	N.E
Drawn by:	A.K
Checked by:	N.E
Project number:	2420

M1.03

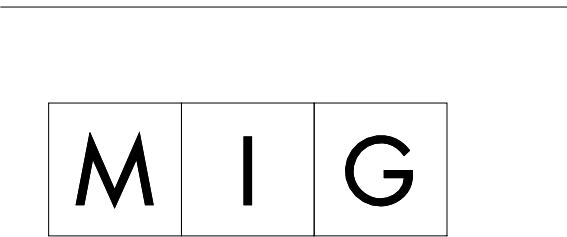
GENERAL NOTES

1. REFER TO GENERAL SHEETS FOR GENERAL NOTES, LEGENDS & SYMBOLS.
 2. REFER TO SCHEDULE SHEETS FOR EQUIPMENT SCHEDULES.
 3. REFER TO MD DRAWING SERIES FOR MECHANICAL DETAILS.
 4. GARAGE EXHAUSTS OUTLETS: GARAGE EXHAUSTS OUTLETS SHALL TERMINATE NOT LESS THAN 10 FEET FROM A PROPERTY LINE, 3 FEET FROM EXTERIOR WALLS OR ROOFS, 10 FEET FROM OPENINGS INTO THE BUILDING, AND 10 FEET ABOVE ADJOINING GRADE PER CMIC SECTION 502.2.2.
 5. FAN ROOM CONSTRUCTION: FAN ROOMS USED AS A PLENUM, THE FAN ROOM WALLS SHALL BE MADE OF POURED CONCRETE OR CONCRETE BLOCK AND THE FAN ROOM DOOR SHALL BE LINED WITH SHEET METAL.
 6. ENCLOSED PARKING GARAGES: REFER TO MANDATORY GARAGE NOTES IN GENERAL SHEETS.
 7. HEAD HEIGHTS-MECHANICAL EQUIPMENT & OUTCROWTH SHALL BE MIN. 7'1" ABOVE FINISH FLOOR & MIN. 8'2" ABOVE ACCESSIBLE DRIVE AISLES.
 8. CO SENSORS-CARBON MONOXIDE (CO) SENSORS SHALL BE DISTRIBUTED SO EACH SENSOR COVERS A MAXIMUM AREA OF 5,000 SQUARE FEET. THE SENSORS SHALL BE IN THE AREAS WITH HIGHEST EXPECTED CO CONCENTRATION. PROVIDE AT LEAST TWO SENSORS IN AREAS ISOLATED BY WALLS OR OBSTRUCTIONS.
 9. CO SENSOR MOUNTING-CO SENSORS SHALL BE MOUNTED IN STANDARD 4" X4" BOX AT 5 FEET ABOVE FINISHED FLOOR. ALL SENSORS WIRING TO HOME RUN OR DAISY-CHAINED TO CO CONTROL PANEL (COCP). ALL CONDUITS & BOXES TO BE PROVIDED BY ELECTRICAL OR LOW VOLTAGE CONTRACTOR.
 10. OCCUPIED AREAS-ALL OCCUPIED AREAS IN THE GARAGE SHALL BE MAINTAINED AT POSITIVE OR NEUTRAL PRESSURE RELATIVE TO GARAGE SPACE.
 11. EXHAUST INLETS-EXHAUST INLETS SHALL BE LOCATED SO THAT THE HIGHEST ELEVATION IS NO LONGER THAN 12 INCHES BELOW CEILING PER CMIC SECTION 403.7.2.3.
 12. VENTILATION RATE-EXHAUST AIRFLOW FOR ENCLOSED PARKING GARAGES SHALL BE PROVIDED IN ACCORDANCE WITH THE REQUIREMENTS IN TABLE 403.7.4 OF THE CMIC, WHICH IS 0.75 CFM PER SQ. FT. OF THE PARKING GARAGE.
 13. DUCT PENETRATIONS-DUCT PENETRATIONS THROUGH RAISED FLOORS & FLOOR ASSEMBLIES SHALL BE PROTECTED WITH APPROVED FIRE STOPS, FIRE DAMPERS, SMOKE DAMPER & COMBINATION FIRE SMOKE DAMPERS WHEN REQUIRED.
 14. AIR-MOVING SYSTEMS-AIR-MOVING SYSTEMS SUPPLYING AIR IN EXCESS OF 2,000 CUBIC FEET PER MINUTE TO ENCLOSED SPACES WITHIN BUILDINGS SHALL BE EQUIPPED WITH AN AUTOMATIC SHUTOFF PER CMIC SECTION 608.1.
 15. GARAGE SUPPLY FAN-PROVIDE SMOKE DETECTORS & AUTOMATIC SHUTOFF BY INTERRUPTING POWER SOURCE FOR GARAGE SUPPLY FANS PER CMIC SECTION 608.1.
 16. EXHAUSTOR MACHINE ROOM-NO AC UNIT SHALL BE INSTALLED ABOVE ANY EQUIPMENT IN ELEVATOR MACHINERY ROOM & MINIMUM 7' HEAD CLEARANCE SHALL BE PROVIDED.
 17. SHAFT ENCLOSURES SHALL HAVE A FIRE-RESISTANCE RATING OF NOT LESS THAN 2 HOURS WHERE CONNECTING FOUR STORIES OR MORE, AND NOT LESS THAN 1 HOUR WHERE CONNECTING LESS THAN FOUR STORIES. THE NUMBER OF STORIES CONNECTED BY THE SHAFT ENCLOSURE SHALL INCLUDE ANY BASEMENTS BUT NOT ANY MEZZANINES. SHAFT ENCLOSURES SHALL HAVE A FIRE-RESISTANCE RATING NOT LESS THAN 2 HOURS. SHAFT ENCLOSURES SHALL MEET THE REQUIREMENTS OF SECTION 713.4. REFER TO ARCHITECTURAL SHAFT DETAIL SHEETS.
- ## PLAN NOTES

PLAN NOTES

- 1 DEMO & REMOVE EXISTING MECHANICAL EQUIPMENT & ALL ASSOCIATED WITH THEM INCLUDING LINE-SETS, INDOOR UNITS, DUCTWORKS, AIR DEVICES & FITTINGS.

ROOF DEMO PLAN - MECHANICAL	1
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CITY OF
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EL SEGUNDO RECREATION PARK PHASE 1 IMPROVEMENT PROJECT TEEN CENTER AND TEEN PLAZA

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[illegible]

Sheet title:

DEMO ROOF PLAN

Designed by:	N.E.
Drawn by:	A.K.
Checked by:	N.E.
Project number:	2420

M1.04

Technical drawing of a roof cross-section showing the following layers and components:

- 1:** Thermal insulation layer (represented by a wavy pattern).
- 2:** Structural concrete slab.
- 3:** Waterproofing layer (represented by a wavy pattern).
- 4:** Drainage channel or slope indicator.
- 5:** Protective layer or drainage layer.
- 6:** Foundation or support structure (indicated by a dashed line).

6	SCALE
	NTS

4	SCALE
	NTS

2	SCALE
	NTS

6	SCALE
	NTS

4	SCALE
	NTS

2	SCALE
	NTS

The diagram illustrates a round-to-round connection. The top part is a side view of a pipe with a flange. Callout 1 points to the pipe body, 2 to the flange face, and 3 to the flange outer edge. The bottom part is a cross-section view of the same assembly. Callout 4 points to the top flange face, 5 to the central bore, 6 to the flange thickness, and 7 to the pipe body. Arrows indicate 'AIR FLOW' direction: upwards through the top flange in the cross-section and horizontally through the pipe in the side view. The diameter of the central bore is labeled 'D'.

METAL HANGER STRAPS	10	SHEET METAL PLENUM BOX WITH SOUND LINING
DUCT	11	SECURE TO PLENUM BOX
	12	DRAWBAND (TYP.)

The diagram illustrates the installation of a duct into a plenum box. Key components and callouts include:

- 1**: Metal hanger straps.
- 2**: Sheet metal plenum box with sound lining.
- 3**: Duct.
- 4**: Duct.
- 5**: Duct.
- 6**: Duct.
- 7**: Duct.
- 8**: Duct.
- 9**: Duct.
- 10**: Sheet metal plenum box with sound lining.
- 11**: Duct.
- 12**: Duct.

Additional labels in the diagram include:

- 3'-0" MAX (TYP.)**: Dimension indicating the maximum length of the duct section.
- DUCT**: Label for the duct component.
- SHEET METAL PLENUM BOX WITH SOUND LINING**: Label for the plenum box component.
- SECURE TO PLENUM BOX**: Label for the connection point.
- DRAWBAND (TYP.)**: Label for the drawband component.

5	SCALE
	NTS

3	SCALE
	NTS

1	SCALE
	NTS

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD						NRCC-PRF-E
Nonresidential Performance Compliance Method						(Page 1 of 12)
Project Name:		24201 - El Segundo Teen Center			Date Prepared:	2025-04-14
A. General Information						
1	Project Name	24201 - El Segundo Teen Center				
2	Run Title	El Segundo Teen Center				
3	Project Location	405 E GRAND AVE				
4	City	EL SEGUNDO		5	Standards Version	Compliance 2022
6	Zip code	90245		7	Compliance Software (version)	CBECC 2022.3.1 (1343)
8	Climate Zone	6		9	Building Orientation (deg)	0
10	Building Type(s)	• Nonresidential		11	Weather File	TORRANCE-MUNI-AP_STYP20.epw
12	Project Scope	• Existing addition and alteration		13	Number of Dwelling Units	0
14	Total Conditioned Floor Area in Scope (ft²)	5141		15	Total # of hotel/motel rooms	0
16	Total Unconditioned Floor Area (ft²)	0		17	Fuel Type	None
18	Nonresidential Conditioned Floor Area	5141		19	Total # of Stories (Habitable Above Grade)	1
20	Residential Conditioned Floor Area	0				

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CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD						NRCC-PRF-E	
Nonresidential Performance Compliance Method						(Page 2 of 12)	
B. PROJECT SUMMARY							
Table B shows which building components are included in the performance calculation. If indicated as not included, the project must show compliance prescriptively if within the permit application.							
Building Components Complying via Performance					Building Components Complying Prescriptively		
Envelope (See Table G)	Nonres	Not Included	Solar Thermal Water Heating (See Table I3)	☐	Performance	The following building components are ONLY eligible for prescriptive compliance and should be documented on the NRCC form listed if within the scope of the permit application (i.e. compliance will not be shown on the NRCC-PRF-E).	
	Multifam	Not Included		☒	Not Included		
Mechanical (See Table H)	Nonres	Performance	Covered Process: Commercial Kitchens (see Table J)	☐	Performance	Indoor Lighting (Unconditioned) 140.6 & 170.2(e)	NRCC-LTI-E is required
	Multifam	Not Included		☒	Not Included	Outdoor Lighting 140.7 & 170.2(e)	NRCC-LTD-E is required
Domestic Hot Water (See Table I)	Nonres	Performance	Covered Process: Laboratory Exhaust (see Table J)	☐	Performance	Sign Lighting 140.8 & 170.2(e)	NRCC-LTS-E is required
	Multifam	Not Included		☒	Not Included	Building Components Complying with Mandatory Measures	
Lighting (Indoor Conditioned, see Table K)	Nonres	Not Included	Photovoltaics (see Table F)	☐	Performance	Electrical power systems, commissioning, solar ready, elevator and escalator requirements are mandatory and should be documented on the NRCC form listed if applicable (i.e. compliance will not be shown on the NRCC-PRF-E.)	
	Multifam	Not Included		☒	Not Included	Electrical Power Distribution 110.11	NRCC-ELC-E is required
				☐	Performance	Commissioning 120.8	NRCC-CM-E is required
				☒	Not Included	Solar and Battery 110.10	NRCC-SAB-E is required

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CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD

NRCC-PRF-E

Nonresidential Performance Compliance Method

(Page 3 of 12)

C1. COMPLIANCE SUMMARY

COMPLIES ²			
	Time Dependent Valuation (TDV)		Source Energy Use
	Efficiency ¹ (kBtu/ft ² - yr)	Total ² (kBtu/ft ² - yr)	Total ² (kBtu/ft ² - yr)
Standard Design	213.37	n/a	n/a
Proposed Design	212.1	n/a	n/a
Compliance Margins	1.27	n/a	n/a
	Pass	n/a	n/a

¹ Efficiency measures include improvements like a better building envelope and more efficient equipment

² Compliance Totals include efficiency, photovoltaics and batteries

³ New Construction, Complete Addition Scope: Building complies when all efficiency and total compliance margins are greater than or equal to zero and unmet load hour limits are not exceeded

Existing, Addition and Alteration Scope: Building complies when efficiency compliance margin is greater than or equal to zero and unmet load hour limits are not exceeded

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CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD				NRCC-PRF-E
Nonresidential Performance Compliance Method				(Page 4 of 12)
C2. TDV ENERGY COMPLIANCE RESULTS FOR PERFORMANCE COMPONENTS (Annual TDV Energy Use, kWh/ft² - yr)				
COMPLIES ¹				
Energy Component	Standard Design (TDV)	Proposed Design (TDV)	Compliance Margin (TDV) ¹	
Space Heating	4.37	1.27	3.1	
Space Cooling	72.94	60.65	12.29	
Indoor Fans	59.38	75.71	-16.33	
Heat Rejection	0	0	0	
Pumps & Misc.	0	0	0	
Domestic Hot Water	5.54	3.33	2.21	
Indoor Lighting	71.14	71.14	0	
Flexibility	----	----	----	
EFFICIENCY COMPLIANCE TOTAL	213.37	212.1	1.27 (0.6%)	
Photovoltaics	----	----	----	
Batteries	----	----	----	
TOTAL COMPLIANCE	213.37	212.1	1.27 (0.6%)	

¹ Notes: This number in parenthesis following the Compliance Margin in column 4, represents the Percent Better than Standard.

¹ Notes: This number in parenthesis following the Compliance Margin in column 4, represents the Percent Better than Standard.

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CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD

NRCC-PRF-E

Nonresidential Performance Compliance Method

(Page 5 of 12)

C3. TDV ENERGY RESULTS FOR NON-REGULATED COMPONENTS¹

Non-Regulated Energy Component	Standard Design (TDV)	Proposed Design (TDV)	Compliance Margin (TDV) ¹
Receptacle	109.01	109.01	---
Process	---	---	---
Other Ltg	---	---	---
Process Motors	---	---	---
TOTAL (TOTAL COMPLIANCE + NON-REGULATED COMPONENTS)	322.38	321.11	1.27 (0.4%)

¹ Notes: This table is not used for Energy Code Compliance.

C6. 'ABOVE CODE' QUALIFICATIONS

☐ This project is pursuing CalGreen Tier 1

☐ This project is pursuing CalGreen Tier 2

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CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD							NRCC-PRF-E
Nonresidential Performance Compliance Method							(Page 6 of 12)
C7. ENERGY USE SUMMARY							
Energy Component	Standard Design Site (MWh)	Proposed Design Site (MWh)	Margin (MWh)	Standard Design Site (MBtu)	Proposed Design Site (MBtu)	Margin (MBtu)	
Space Heating	---	0.2	---	4.2	---	---	
Space Cooling	10.8	8.9	1.9	---	---	---	
Indoor Fans	11.1	14	-2.9	---	---	---	
Heat Rejection	---	---	---	---	---	---	
Pumps & Misc.	---	---	---	---	---	---	
Domestic Hot Water	1.1	0.7	0.4	---	---	---	
Indoor Lighting	12.9	12.9	0	---	---	---	
Flexibility	---	---	---	---	---	---	
EFFICIENCY TOTAL	35.9	36.7	-0.8	4.2	0	4.2	
Photovoltaics	---	---	---	---	---	---	
Batteries	---	---	---	---	---	---	
ENERGY USE SUBTOTAL	35.9	36.7	-0.8	4.2	0	4.2	
Receptacle	19.7	19.7	0	---	---	---	
Process	---	---	---	---	---	---	
Other Ltg	---	---	---	---	---	---	
Process Motors	---	---	---	---	---	---	
ENERGY USE TOTAL	55.6	56.4	-0.8	4.2	0	4.2	

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CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD							NRCC-PRF-E				
Nonresidential Performance Compliance Method							(Page 7 of 12)				
C8. ENERGY USE INTENSITY (EUI)											
	Standard Design (kBtu/ft ² / yr)	Proposed Design (kBtu/ft ² / yr)	Margin (kBtu/ft ² / yr)	Margin Percentage							
GROSS EUI ¹	37.72	37.43	0.29	0.77							
NET EUI ¹	37.72	37.43	0.29	0.77							
¹ Notes: Gross EUI is Energy Use Total (not including PV)/Total Building Area. Net EUI is Energy Use Total (including PV)/Total Building Area.											
H1. DRY SYSTEM EQUIPMENT (FURNACES, AIR HANDLING UNITS, HEAT PUMPS, VRF, ECONOMIZERS ETC.)											
01	02	03	04	05	06	07	08	09	10	11	12
Equipment Name	Equipment Type	Qty	Heating			Total Cooling Output (kBtu/h)	Cooling		Economizer Type (if present)	Status ¹	
			Total Heating Output (kBtu/h)	Supp Heat Output (kBtu/h)	Efficiency Unit		Efficiency	Efficiency Unit			Efficiency
Great Room 5 Ton	Single Zone Air Conditioner (SZAC) Air System	1	54.6	0	COP HSPF2	3.5 6.7	60.8	EER2 SEER2	11.8 14	Fixed DB	N
Great Room 3 Ton	Single Zone Air Conditioner (SZAC) Air System	1	35.9	0	COP HSPF2	3.5 6.7	36.5	EER2 SEER2	12.2 14	Fixed DB	N
Art-Study-Office-5Ton	Single Zone Air Conditioner (SZAC) Air System	1	54.6	0	COP HSPF2	3.5 6.7	60.8	EER2 SEER2	11.8 14	Fixed DB	N
¹ Status: N - New, A - Altered, E - Existing											

¹ Status: N - New, A - Altered, E - Existing

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CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD												NRCC-PRF-E	
Nonresidential Performance Compliance Method												(Page 8 of 12)	
H3. NONRESIDENTIAL / COMMON USE AREA FAN SYSTEMS SUMMARY													
01	02	03	04	05	06	07	08	09	10	11	12	13	
Name or Item Tag	Qty	Design OA CFM	Supply Fan				Return / Relief Fan					Status ¹	
			CFM	Power	Power Units	Control	Fan Type	CFM	Power	Power Units	Control		
Great Room 5 Ton	1	1160	2,000	2.11	InH2O	Constant Vol	N/A	N/A	N/A	N/A	N/A	N	
Great Room 3 Ton	1	530	1,200	3.52	InH2O	Constant Vol	N/A	N/A	N/A	N/A	N/A	N	
Art-Study-Office-5Ton	1	955	2,000	2.11	InH2O	Constant Vol	N/A	N/A	N/A	N/A	N/A	N	
Restroom Exhaust	1	0	300	0.5	InH2O	Constant Vol	N/A	N/A	N/A	N/A	N/A	E	
¹ Status: N - New, A - Altered, E - Existing													
H5. GENERAL EXHAUST FAN SUMMARY													
01	02	03	04	05	06	07	08						
System ID	Zone Name	Qty	CFM	Power	Power Units	Continuous Operation?	Status ¹						
Restroom Exhaust	Art-Study-Office Thermal Zone	1	300	0.5	InH2O	No	E						
¹ Status: N - New, A - Altered, E - Existing													
H8. SYSTEM SPECIAL FEATURES													
01	02	03	04										
System Name	Equipment Type	Interlocks per 140.4(n) ¹	Other Special Features and Controls										
Great Room 5 Ton	Single Zone Air Conditioner (SZAC) Air System	N/A	Zone(s) With CO2 Sensor Vent. Control Fixed DB										
Great Room 3 Ton	Single Zone Air Conditioner (SZAC) Air System	N/A	Zone(s) With CO2 Sensor Vent. Control Fixed DB										
Notes: This table includes controls related to the performance path only. For projects using the prescriptive path, mandatory and prescriptive controls requirements are documented on the NRCC-MCH-E.													
¹ Yes = interlocks are provided, No = interlocks are not provided, NA means no operable openings.													

PIPE MATERIAL SCHEDULE			
DOMESTIC WATER	ABOVE GROUND	WITHIN THE BUILDING	CPVC, HARVEL SDR 11 2" OR LESS. CPVC SCHEDULE 80 GREATER THAN 2". INSTALL AS PER MANUFACTURER'S REQUIREMENTS AND GUIDELINES.
	BELOW GRADE	WITHIN THE BUILDING	CPVC, HARVEL SDR 11 2" OR LESS. CPVC SCHEDULE 80 GREATER THAN 2". INSTALL AS PER MANUFACTURER'S REQUIREMENTS AND GUIDELINES.
SANITARY WASTE & VENT	ABOVE GRADE		HUBLESS, CAST IRON PIPE & FITTING WITH STAINLESS STEEL COUPLINGS AND NEOPRENE SLEEVES.
	BELOW GRADE		SCHEDULE 40 PVC PIPE WITH DWV FITTINGS.
CONDENSATE PIPING & INDIRECT WASTE	ABOVE GRADE		SCHEDULE 40 PVC PIPE WITH DWV FITTINGS.
NOTES:			
1. FOR COMBUSTIBLE PIPING PENETRATING A RATED ASSEMBLY, PIPING SHALL BE FIRE-STOPPED AT EACH PENETRATION.			
2. ALL METALLIC PIPING, FITTINGS BURIED UNDERGROUND SHALL BE PROTECTED BY AT LEAST 6 MILS OF PLASTIC SLEEVE OR EQUIVALENT WRAPPING.			

DRAINAGE & VENT PIPING TABLE									
2022 CPC TABLE 703.2									
SIZE OF PIPE (INCHES)		1 1/4	1 1/2	2	3	4	5	6	8
DRAINAGE PIPING ⁽¹⁾ MAXIMUM UNITS	VERTICAL (DFU)	1	2 ^{2,7}	16 ³	48 ⁴	256	600	1,380	3,600
	HORIZONTAL (DFU) 2% SLOPE (1/8" PER FOOT)	1	1 ⁷	8 ³	35 ⁴	216 ⁵	428 ⁶	720 ⁷	2640 ⁸
	HORIZONTAL (DFU) 1% SLOPE (1/16" PER FOOT)					172	342	576	2,112
DRAINAGE PIPING	MAX. VERTICAL LENGTH (FEET)	45	65	85	212	300	390	510	750
VENT PIPING ⁽⁶⁾ HORIZONTAL & VERTICAL SEE NOTES	MAXIMUM UNITS (DFU)	1	8 ³	24	84	256	600	1380	3,600
	MAXIMUM LENGTH (FEET)	45	60	120	212	300	390	510	750

NOTES:

1. EXCLUDING TRAP ARM.
2. EXCEPT FOR SINKS, URINALS, AND DISHWASHERS - EXCEEDING 1 FIXTURE UNIT.
3. EXCEPT FOR SIX-INCH TRAPS OR WATER CLOSETS.
4. NOT TO EXCEED FIVE WATER CLOSETS OR FIVE SIX-INCH TRAPS.
5. BASED ON 1/4 INCH PER FOOT (20.8 MM) SLOPE FOR 18.0 INCH PER FOOT (4.6 MM) SLOPE, MULTIPLY HORIZONTAL FIXTURE UNITS BY A FACTOR OF 0.8.
6. THE MAXIMUM ALLOWED HORIZONTAL BRANCH LENGTH SHALL NOT BE LESS THAN 1/4 INCH (6.4 MM) FOR EACH CONNECTED FIXTURE UNIT. LOAD VALUES FOR DRAINAGE AND VENT PIPING SHALL BE COMPUTED FROM TABLE 702.2 AND INCH TABLE 702.2. NOT TO EXCEED ONE-THIRD OF THE TOTAL PERMITTED LENGTH OF A VENT SHALL BE PERMITTED TO BE INSTALLED IN A HORIZONTAL POSITION. WHERE VENTS ARE INCREASED ONE PIPE SIZE FOR THEIR ENTIRE LENGTH, THE MAXIMUM LENGTH LIMITATIONS SPECIFIED IN THIS TABLE DO NOT APPLY. THIS TABLE IS IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 901.3.
7. UP TO 2 PUBLIC LAVATORIES ARE PERMITTED TO BE INSTALLED ON A 1 1/2 INCH (40 MM) VERTICAL BRANCH OR HORIZONTAL SANITARY BRANCH SLOPED AT 1/4 INCH PER FOOT (20.8 MM).

CPVC WATER PIPE SIZING TABLE UP TO 2"						MATERIAL		CPVC	
						FRICTION LOSS		2 PSI/100 FEET	
						MAX VELOCITY (CW)		8 FPS	
						MAX VELOCITY (HW)		8 FPS	
BASED ON GEORGE FISCHER HARVEL SDR 11 SYSTEM-WATER PIPE SIZING TABLE (RR-5695)									
NOMINAL PIPE DIAMETER [IN]	OUTER DIAMETER [IN]	INNER DIAMETER [IN]	GPM		FIXTURE UNITS				VELOCITY [FPS]
			COLD WATER	HOT WATER	FLUSH TANK		FLUSH VALVE		
					COLD WATER	HOT WATER	COLD WATER	HOT WATER	COLD WATER
½	0.625	0.489	0	0	0	0	0	0.0	0.0
¾	0.875	0.715	3	3	2	2	0	2.4	2.4
1	1.125	0.921	5	5	6	6	0	2.4	2.4
1½	1.375	1.125	9	9	12	12	0	2.9	2.9
1¾	1.625	1.329	15	15	21	21	0	3.5	3.5
2	2.125	1.739	32	32	58	58	15	4.3	4.3
NOTES:									
1. SDR 11 CPVC CAN BE USED FOR HOT & COLD POTABLE WATER DISTRIBUTION SYSTEMS WITHIN INTERIOR OF RESIDENTIAL & COMMERCIAL BUILDINGS.									
2. CPVC TUBING SHALL NOT BE INSTALLED WHERE THE WATER TEMPERATURE EXCEEDS 180°F.									
3. CPVC TUBING SHALL NOT BE INSTALLED WHERE EXPOSED TO DIRECT SUNLIGHT.									
4. PLUMBING CONTRACTOR TO INSTALL CPVC WATER PIPES PER SECTION OF 605.2 OF CALIFORNIA PLUMBING CODE.									

CPVC WATER PIPE SIZING TABLE OVER 2"						MATERIAL		CPVC	
						FRICTION LOSS		2 PSI/100 FEET	
						MAX VELOCITY (CW)		8 FPS. 5 FPS >6"	
						MAX VELOCITY (HW)		8 FPS. 5 FPS >6"	
BASED ON HARVEL SCHEDULE 80 SYSTEM-WATER PIPE SIZING TABLE (RR-5695)									
NOMINAL PIPE DIAMETER [IN]	OUTER DIAMETER [IN]	INNER DIAMETER [IN]	GPM		FIXTURE UNITS			VELOCITY [FPS]	
			COLD WATER	HOT WATER	FLUSH TANK		FLUSH VALVE		
					COLD WATER	HOT WATER	COLD WATER	HOT WATER	COLD WATER
2.5	2.875	2.323	72	72	236	236	116	5.5	5.5
3	3.5	2.900	135	135	534	534	430	6.6	6.6
4	4.5	3.826	250	250	1,335	1,335	1,335	7.0	7.0
6	6.625	5.761	350	350	2,204	2,204	2,204	4.3	4.3
8	8.625	7.625	600	600	4,480	4,480	4,480	4.2	4.2
10	10.750	9.564	1,000	1,000	8,300	8,300	8,300	4.5	4.5
NOTES:									
1. HARVEL SCHEDULE 80 CAN BE USED FOR HOT & COLD POTABLE WATER DISTRIBUTION SYSTEMS WITHIN INTERIOR OF RESIDENTIAL & COMMERCIAL BUILDINGS.									
2. CPVC TUBING SHALL NOT BE INSTALLED WHERE THE WATER TEMPERATURE EXCEEDS 180°F.									
3. CPVC SYSTEMS ARE SUBJECT TO (1) 175 PSI FOR COLD WATER & (2) 100 PSI FOR HOT WATER SYSTEMS.									
4. CPVC TUBING SHALL NOT BE INSTALLED WHERE EXPOSED TO DIRECT SUNLIGHT.									
5. HARVEL SCHEDULE 80 CPVC SHALL BE LIMITED TO A MAX. FLOW VELOCITY OF 5 FPS FOR PIPING OF 6" & LARGER.									
6. PLUMBING CONTRACTOR TO INSTALL. CPVC WATER PIPES PER SECTION OF 605.2 OF CALIFORNIA PLUMBING CODE.									

INSULATION THICKNESS										
TABLE 120.3 A PIPE INSULATION THICKNESS (2022 BUILDING EFFICIENCY CODE)										
FLUID OPERATING TEMPERATURE RANGE (°F)	INSULATION CONDUCTIVITY			NOMINAL PIPE DIAMETER (IN INCHES)						
	CONDUCTIVITY (IN BTU-IN/H PER FT ² °F)	MEAN RATING TEMPERATURE (°F)		<1	1 TO <1.5	1.5 TO <4	4 TO <8	8 & LARGER		
				INSULATION THICKNESS REQUIRED (IN INCHES)						
SPACE HEATING, SERVICE WATER HEATING SYSTEM (STEAM, STEAM CONDENSATE, REFRIGERANT, SPACE HEATING, SERVICE HOT WATER)			MIN. PIPE INSULATION REQUIRED (THICKNESS, IN INCH OR R-value)							
ABOVE 350	0.32-0.34	250	INCHES	4.5	5.0	5.0	5.0	5.0		
			R-VALUE	R37	R41	R37	R27	R23		
251-350	0.29-0.32	200	INCHES	3.0	4.0	4.5	4.5	4.5		
			R-VALUE	R24	R34	R35	R26	R22		
201-250	0.27-0.30	150	INCHES	2.5	2.5	2.5	3.0	3.0		
			R-VALUE	R21	R20	R17.5	R17	R14.5		
141-200	0.25-0.29	125	INCHES	1.5	1.5	2.0	2.0	2.0		
			R-VALUE	R11.5	R11	R14	R11	R10		
105-140	0.22-0.28	100	INCHES	1.0	1.5	1.5	1.5	1.5		
			R-VALUE	R7.7	R12.5	R11	R9	R8		
SPACE COOLING SYSTEMS (CHILLED WATER, REFRIGERANT & BRINE)			NOMINAL PIPE DIAMETER (IN INCHES)							
			<1	1 TO <1.5	1.5 TO <4	4 TO <8	8 & LARGER			
40-60	0.21-0.27	75	INCHES	NONRES 0.5	RES 0.75	NONRES 0.5	RES 0.75	1.0	1.0	1.0
			R-VALUE	NONRES R3	RES R6	NONRES R3	RES R5	R7	R6	R5
BELOW 40	0.20-0.26	50	INCHES	1.0		1.5	1.5	1.5	1.5	
			R-VALUE	R8.5		R14	R12	R10	R9	
FOOTNOTE TO TABLE 120.3-A: 1. THESE THICKNESS ARE BASED ON ENERGY EFFICIENCY CONSIDERATIONS ONLY. ISSUES SUCH AS WATER VAPOR PERMEABILITY OR SURFACE CONDENSATION SOMETIMES REQUIRE VAPOR RETARDERS OR ADDITIONAL INSULATION.										

PLUMBING FIXTURE SCHEDULE												
MARK	FIXTURE TYPE	MANUFACTURER	MODEL	WATER FIXTURE UNIT (WFSU)			ROUGH-IN SIZE				STORM DRAIN	DESCRIPTION/REMARKS
				COLD WATER	HOT WATER	TOTAL WATER DEMAND	MIN. TRAP	W	V	CW		
WASTE DRAINS												
WC-1	WATER CLOSET	TBD	TBD	10	0	10.0	4"	4"	2"	2"	-	TBD, MAX. 1.28 GPF.
WC-2	WATER CLOSET (ADA)	TBD	TBD	10	0	10.0	4"	4"	2"	2"	-	TBD, MAX 1.28 GPF.
UR-1	URINAL	TBD	TBD	10	0	11.0	2"	2"	2"	1"	-	TBD, MAX 0.125 GPF.
LAV-1	LAVATORY (ADA)	TBD	TBD	0.75	0.75	1.0	1-1/4"	2"	1-1/2"	3/4"	3/4"	TBD, MAX 0.5 GPM @ 60 PSI.
SK-1	SINK	TBD	TBD	1.5	1.5	2.0	1-1/2"	2"	1-1/2"	3/4"	3/4"	TBD, MAX 0.5 GPM @ 60 PSI.
FD-1	FLOOR DRAIN	WADE	100	-	-	-	2"	2"	-	-	-	WADE (1109)-FLOOR DRAIN WITH ROUND ADJUSTABLE TOP-PERFORATED GRATE -BRONZE TOP, ASME LOAD RATING = L.D. (LIGHT DUTY) UNDER 2,000 LBS. PROVIDE 1/2" TRAP PRIMER CONNECTION.
DWF-1	DRINKING FOUNTAIN	ELKAY	LZSTL8WSSP	0.5	-	-	2"	1-1/2"	3/4"	-	-	BOTTLE FILLER & BI-LEVEL ADA COOLER REFRIGERATED STAINLESS HIGH CAPACITY LEAD DROP DOWN WRAPPER.
TRAP PRIMERS												
TP-1	TRAP PRIMER	PPP	PR-500	1/2"	-	-	-	-	-	-	REFER TO PLAN	PRESSURE ACTIVATED TRAP PRIMER TO BE INSTALLED AS PER MANUFACTURER GUIDELINES.

EXISTING HEAT PUMP WATER HEATER SCHEDULE																
MANUFACTURER MODEL	TYPE	LOCATION	RATED NOMINAL CAPACITY	FIRST HOUR RATING	RECOVERY @ 90°F RISE	UNIFORM ENERGY FACTOR	ELEMENT WATTS	OPERATING TEMP.	SET POINT TEMP.	WATER CONNECTION	PHYSICAL		ELECTRICAL			REMARKS
			(GAL.)	(GAL.)	(GPH)	(-)	(WATTS)	(°F)	(°F)	(IN)	(LBS)	(INCHES)	(V/PH/Hz)	(FLA)	(OCP)	
(EXISTING) BRADFORD WHITE REZHSS10-1NCTT (VERTICAL)	HYBRID ELECTRIC	ATTIC	50	65	24	3.44	4000(2)	120	140	3/4	570	21-3/4" x 60-3/4"	208/1/60	14.0	25	ALL
NOTES:																
1. HEAT PUMP WATER HEATER TO BE MOUNTED ON A ROOF PLATFORM HOUSEKEEPING PAD WITH SEISMIC SPRING ISOLATION.																
2. PROVIDE BALANCING VALVES ON HOT WATER RETURN PIPE																

FIXTURE UNIT CALCULATIONS (CPC TABLE A103.1 & TABLE 702.1)										
LEVEL 01 - BUILDING COMMON AREA										
FIXTURE	NOTE(S)	WATER SUPPLY FIXTURE UNIT							DRAINAGE FIXTURE UNIT	
		COLD	HOT	TOTAL	FIXTURE QUANTITY	COLD	HOT	TOTAL	DFU	TOTAL
LAVATORY		0.75	0.75	1	3	2.25	2.25	3	1	3
URINAL	0.125 GPF FLUSH VALVE	4		4	1	4	0	4	2	2
SINKS	GENERAL USE	1.5	1.5	2	1	1.5	1.5	2	2	2
WATER CLOSET	1.28 GPF FLUSH VALVE	5	0	5	6	30	0	30	4	24
DRINKING FOUNTAIN		0.5	0	0.5	2	1	0	1	1	2
FLOOR DRAIN						0	0	0	2	2
TOTAL WATER SUPPLY FIXTURE UNITS						38.75	3.75	40		35
TOTAL FLOW IN GPM (HUNTER'S CURVE)						45.0	3.8	46.0		
NOTES:										
1. THE SEPARATE COLD WATER & HOT WATER FIXTURE UNIT VALUE SHALL BE PERMITTED TO BE THREE-QUARTERS OF THE LISTED TOTAL VALUE OF THE FIXTURE.										

EXISTING HEAT PUMP WATER HEATER
FOR REFERENCE ONLY

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405 E Grand Ave,
El Segundo, CA 90245

[illegible]

Sheet title:
**PLUMBING SIZING
TABLES,
SCHEDULES &
CALCULATIONS**

Designed by:	AE
Drawn by:	Y
Checked by:	JZ
Project number:	12401



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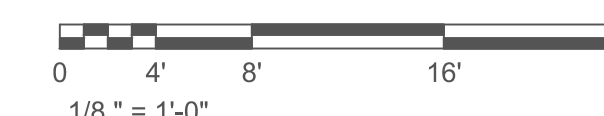
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Sheet title:

SITE PLAN

Designed by:	A
Drawn by:	Y
Checked by:	J
Project number:	12401

P1.00



GENERAL NOTES

1.

REFER TO GENERAL SHEETS FOR GENERAL NOTES, LEGENDS & SYMBOLS.

2.

REFER TO SCHEDULE SHEETS FOR EQUIPMENT SCHEDULES.

3.

REFER TO PD DRAWING SERIES FOR PLUMBING DETAILS.

4.

REFER TO RD DRAWING SERIES FOR PLUMBING RISERS.

5.

WATER HAMMER ARRESTOR SHALL BE PROVIDED TO ABSORBS HIGH PRESSURES RESULTING FROM QUICK CLOSING OF THESE VALVES. WATER HAMMER ARRESTORS SHALL BE APPROVED MECHANICAL DEVICES THAT COMPLY WITH ASSE 1010 OR PDI-WH201 & SHALL BE INSTALLED AS CLOSE AS POSSIBLE TO QUICK-ACTING VALVES (2019 CPC SECTION 609.10)

6.

FIRE SEAL ALL PIPE PENETRATIONS PER CODE.

7.

ALL PENETRATIONS IN FIRE RATED CONSTRUCTION SHALL BE CAULKED OR SLEEVED.

8.

FAUCET CONTROLS SHALL BE OPERABLE WITH ONE HAND & SHALL NOT REQUIRE TIGHT GRASPING, PINCHING, OR TWISTING OF WRIST. THE FORCE REQUIRED TO ACTIVATE CONTROLS SHALL NOT BE GREATER THAN 5 LB. FT.

9.

ALL FAUCET SHALL BE METERED.

10.

EACH PLUMBING FIXTURE SHALL BE SEPARATELY TRAPPED BY AN APPROVED TYPE OF WATER SEAL TRAP.

11.

HOT WATER PIPING SHALL BE INSULATED PER CPC 609.11 & CALIFORNIA ENERGY CODE TABLE 120.3-A.

12.

NO VENTS SYSTEM SHALL TERMINATE LESS THAN 3 FEET ABOVE ANY FORCED AIR INLET LOCATED WITHIN 10', OR LESS THAN 4' FROM ANY PROPERTY LINE EXCEPT A PUBLIC WAY.

13.

NO VENT FROM INDIRECT WASTE PIPING SHALL BE COMBINED WITH ANY SEWER CONNECTED VENT & IT SHALL EXTEND SEPARATELY TO THE OUTSIDE AIR.

14.

HOT WATER &/OR STEAM DRAINAGE REQUIRES AN INDIRECT WASTE LINE.

15.

BUILDING SEWER SHALL BE TESTED TO COMPLY WITH CPC 732.

16.

PLUMBING CONTRACTOR SHALL (1) CAP ALL UNUSED SEWER LINES, (2) DEAD END ARE PROHIBITED, & CLEANOUTS EXTENSIONS & FIXTURE DRAINAGE PIPING SHALL NOT BE CONSIDERED AS DEAD ENDS.

PLAN NOTES

1

THE FIXTURES TO BE DEMOLISHED.

2

EXISTING GAS METER TO REMAIN.

3

EXISTING ELECTRIC METER TO REMAIN.

4

EXISTING SCUPPER ABOVE TO REMAIN.

5

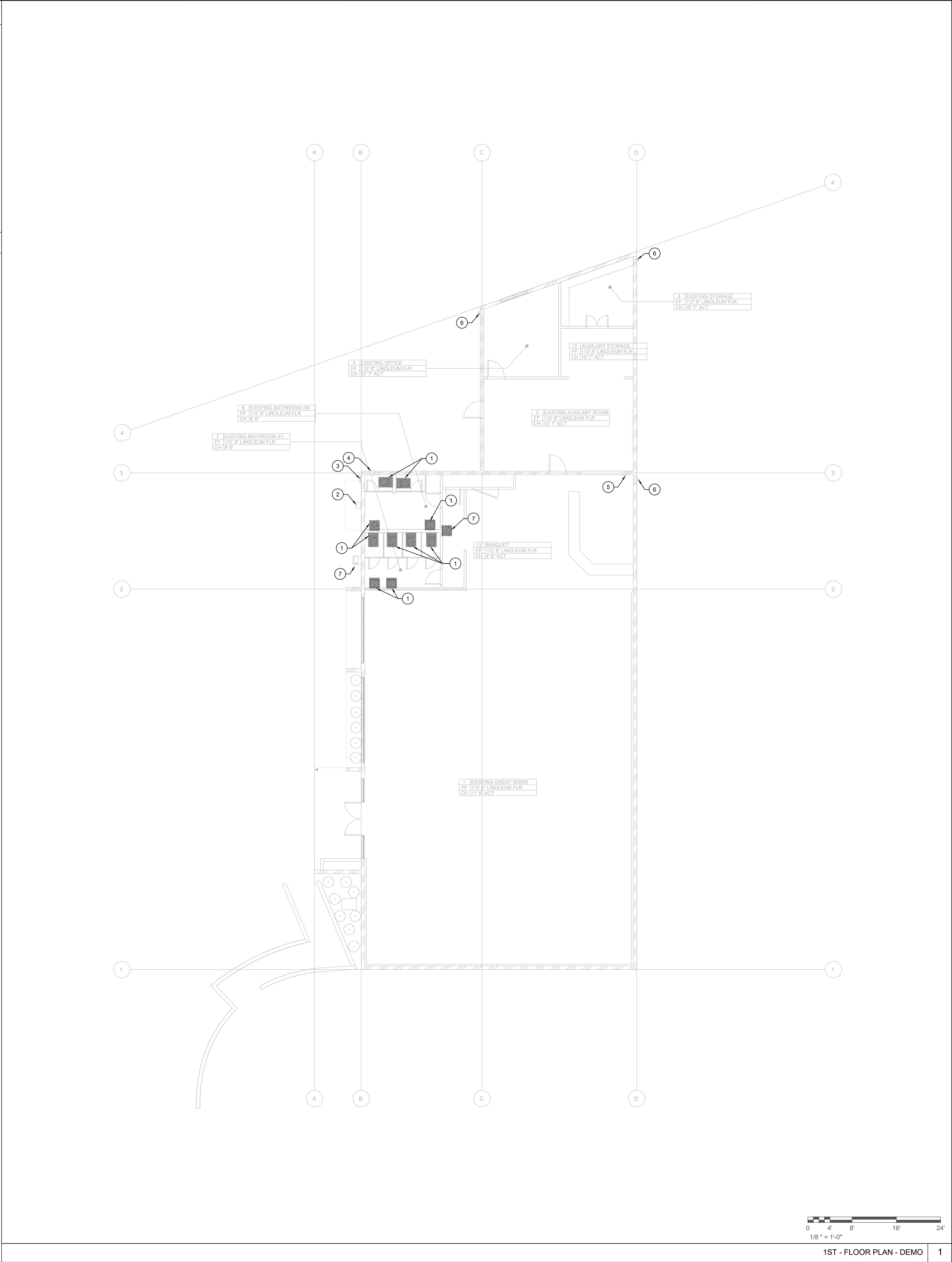
EXISTING SCUPPER ABOVE TO REMAIN.

6

EXISTING DOWNSPOUT TO REMAIN.

7

EXISTING PLUMBING FIXTURE TO BE REPLACED WITH NEW FIXTURE.



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Issue dates		
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01/15/25	50% DD	SUBMITTAL
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06/06/25	50% CD	SUBMITTAL
08/20/25	90% CD	SUBMITTAL
10/28/25	PLAN CHECK	RESUBMITTAL #1
11/14/25	PLAN CHECK	RESUBMITTAL #2
01/16/26	PLAN CHECK	RESUBMITTAL #3
02/12/26	BID PACKAGE	

Sheet title:

1ST - FLOOR PLAN - DEMO

Designed by: AB

Drawn by: YY

Checked by: JZ

Project number: 124011

P1.01

1

FEBRUARY 12, 2026 - BID PACKAGE

GENERAL NOTES	
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1. REFER TO GENERAL SHEETS FOR GENERAL NOTES, LEGENDS & SYMBOLS.
2. REFER TO SCHEDULE SHEETS FOR EQUIPMENT SCHEDULES.
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6. FIRE SEAL ALL PIPE PENETRATIONS PER CODE.
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14. HOT WATER &/OR STEAM DRAINAGE REQUIRES AN INDIRECT WASTE LINE.
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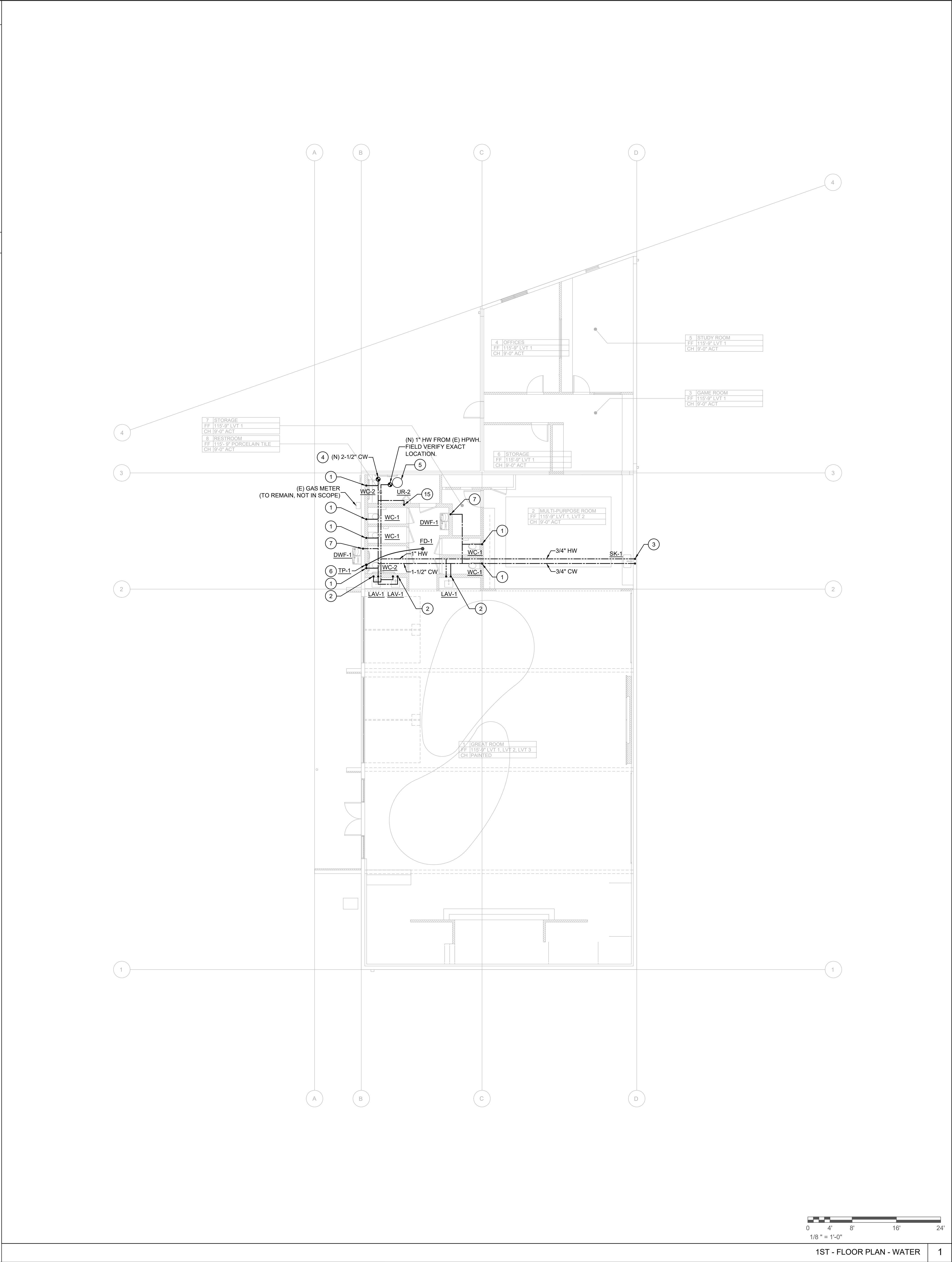
PLAN NOTES

- ① INSTALL WATER CLOSET ROUGH IN - 4" W & 2" V.
- ② INSTALL LAVATORY ROUGH IN - 2" W & 1-1/2" V.
- ③ INSTALL KITCHEN SINK ROUGH IN - 2" W & 1-1/2" V.
- ④ 3" VENT UP.
- ⑤ 3/4" PRIMARY CONDENSATE DRAIN FROM EQUIPMENT.
- ⑥ EXISTING GAS METER TO REMAIN.
- ⑦ EXISTING ELECTRIC METER TO REMAIN.
- ⑧ EXISTING DOWNSPOUT.
- ⑨ PRIMARY CONDENSATE DRAIN TO DISCHARGE TO LAVATORY TAILPIECE.
- ⑩ INSTALL FLOOR DRAIN ROUGH IN - 2" W & 2" V.
- ⑪ 2" VENT UP.
- ⑫ 4" WASTE POINT OF CONNECTION TO EXISTING SANITARY WASTE. FIELD VERIFY EXACT LOCATION & ELEVATION OF EXISTING WASTE.
- ⑬ INSTALL DRINKING FOUNTAINS ROUGH IN - 2" W & 1/2" V.
- ⑭ EXISTING 50 GAL. HEAT PUMP WATER HEATER IN ATTIC TO REMAIN. FIELD VERIFY EXACT LOCATION.
- ⑮ INSTALL URINAL ROUGH IN - 2" W & 1-1/2" V.

FEBRUARY 12, 2026 - BID PACKAGE

GENERAL NOTES
1. REFER TO GENERAL SHEETS FOR GENERAL NOTES, LEGENDS & SYMBOLS. 2. REFER TO SCHEDULE SHEETS FOR EQUIPMENT SCHEDULES. 3. REFER TO PD DRAWING SERIES FOR PLUMBING DETAILS. 4. REFER TO RD DRAWING SERIES FOR PLUMBING RISERS. 5. WATER HAMMER ARRESTOR SHALL BE PROVIDED TO ABSORBS HIGH PRESSURES RESULTING FROM QUICK CLOSING OF THESE VALVES. WATER HAMMER ARRESTORS SHALL BE APPROVED MECHANICAL DEVICES THAT COMPLY WITH ASSE 1010 OR PDI-WH201 & SHALL BE INSTALLED AS CLOSE AS POSSIBLE TO QUICK-ACTING VALVES (2019 CPC SECTION 609.10) 6. FIRE SEAL ALL PIPE PENETRATIONS PER CODE. 7. ALL PENETRATIONS IN FIRE RATED CONSTRUCTION SHALL BE CAULKED OR SLEEVED. 8. FAUCET CONTROLS SHALL BE OPERABLE WITH ONE HAND & SHALL NOT REQUIRE TIGHT GRASPING, PINCHING, OR TWISTING OF WRIST. THE FORCE REQUIRED TO ACTIVATE CONTROLS SHALL NOT BE GREATER THAN 5 LB. FT. 9. ALL FAUCET SHALL BE METERED. 10. EACH PLUMBING FIXTURE SHALL BE SEPARATELY TRAPPED BY AN APPROVED TYPE OF WATER SEAL TRAP. 11. HOT WATER PIPING SHALL BE INSULATED PER CPC 609.11 & CALIFORNIA ENERGY CODE TABLE 120.3-A. 12. NO VENTS SYSTEM SHALL TERMINATE LESS THAN 3 FEET ABOVE ANY FORCED AIR INLET LOCATED WITHIN 10', OR LESS THAN 4' FROM ANY PROPERTY LINE EXCEPT A PUBLIC WAY. 13. NO VENT FROM INDIRECT WASTE PIPING SHALL BE COMBINED WITH ANY SEWER CONNECTED VENT & IT SHALL EXTEND SEPARATELY TO THE OUTSIDE AIR. 14. HOT WATER &/OR STEAM DRAINAGE REQUIRES AN INDIRECT WASTE LINE. 15. BUILDING SEWER SHALL BE TESTED TO COMPLY WITH CPC 732. 16. PLUMBING CONTRACTOR SHALL (1) CAP ALL UNUSED SEWER LINES, (2) DEAD END ARE PROHIBITED, & CLEANOUTS EXTENSIONS & FIXTURE DRAINAGE PIPING SHALL NOT BE CONSIDERED AS DEAD ENDS.

PLAN NOTES
1. INSTALL WATER CLOSET ROUGH IN - 2" CW TO WATER CLOSET. 2. INSTALL LAVATORY ROUGH IN - 3/4" HW & CW TO LAVATORY. 3. INSTALL KITCHEN SINK ROUGH IN - 3/4" HW & CW TO KITCHEN SINK. 4. CONNECT NEW COLD WATER FROM EXISTING COLD WATER IN CEILING. FIELD VERIFY EXACT LOCATION. 5. EXISTING 50 GAL. HEAT PUMP WATER HEATER (HPWH) IN ATTIC TO REMAIN. FIELD VERIFY EXACT LOCATION OF WATER HEATER AND WATER SUPPLY LINES. HOT WATER SUPPLY FROM (E) HPWH TO BE SIZED PER RISER DIAGRAM. 6. INSTALL TRAP PRIMER, PROVIDE 1/2" CW AND ROUTE 1/2" PRIMER LINE TO RECEPTOR DRAIN FD-1. 7. INSTALL DRINKING FOUNTAINS ROUGH IN - 3/4" CW TO DRINKING FOUNTAINS. 8. INSTALL URINAL ROUGH IN - 1" CW TO URINAL.



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Issue dates

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01/15/25	50% DD	SUBMITTAL
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06/06/25	50% CD	SUBMITTAL
08/20/25	90% CD	SUBMITTAL
10/28/25	PLAN CHECK	RESUBMITTAL #1
11/14/25	PLAN CHECK	RESUBMITTAL #2
01/16/26	PLAN CHECK	RESUBMITTAL #3
02/12/26	BID PACKAGE	

Sheet title:

1ST - FLOOR PLAN - WATER

Designed by: AB
Drawn by: YY
Checked by: JZ
Project number: 124011

P1.02-2

FEBRUARY 12, 2026 - BID PACKAGE

GENERAL NOTES

1.

REFER TO GENERAL SHEETS FOR GENERAL NOTES, LEGENDS & SYMBOLS.

2.

REFER TO SCHEDULE SHEETS FOR EQUIPMENT SCHEDULES.

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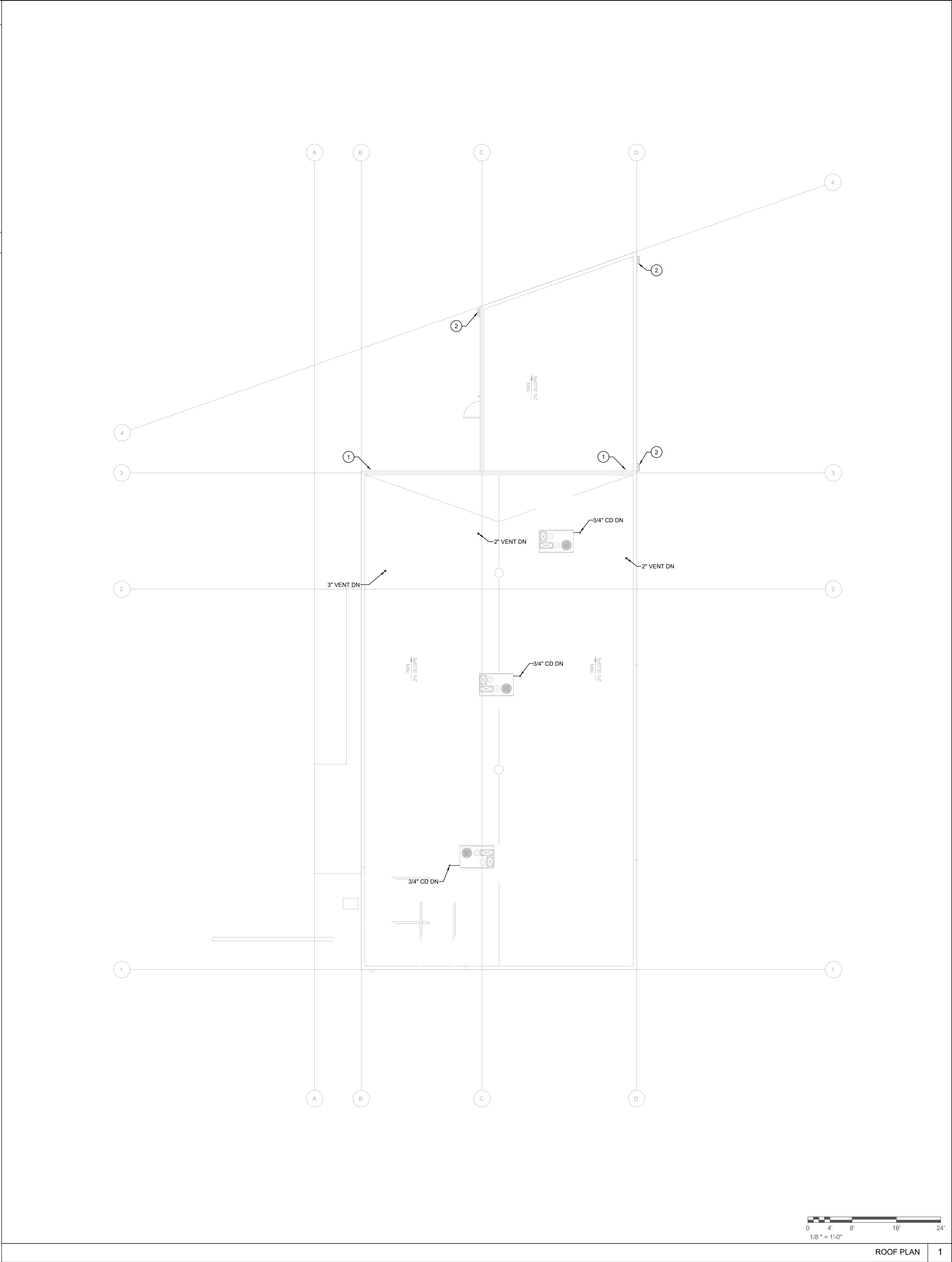
PLAN NOTES

1

EXISTING SCUPPER.

2

EXISTING DOWNSPOUT.



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Issue dates

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01/15/25	50% DD	SUBMITTAL
04/18/25	100% DD	SUBMITTAL
06/06/25	50% CD	SUBMITTAL
08/20/25	90% CD	SUBMITTAL
10/28/25	PLAN CHECK	RESUBMITTAL #1
11/14/25	PLAN CHECK	RESUBMITTAL #2
01/16/26	PLAN CHECK	RESUBMITTAL #3
02/12/26		BID PACKAGE

Sheet title:

ROOF PLAN

Designed by: AB
Drawn by: YY
Checked by: JZ
Project number: 124011

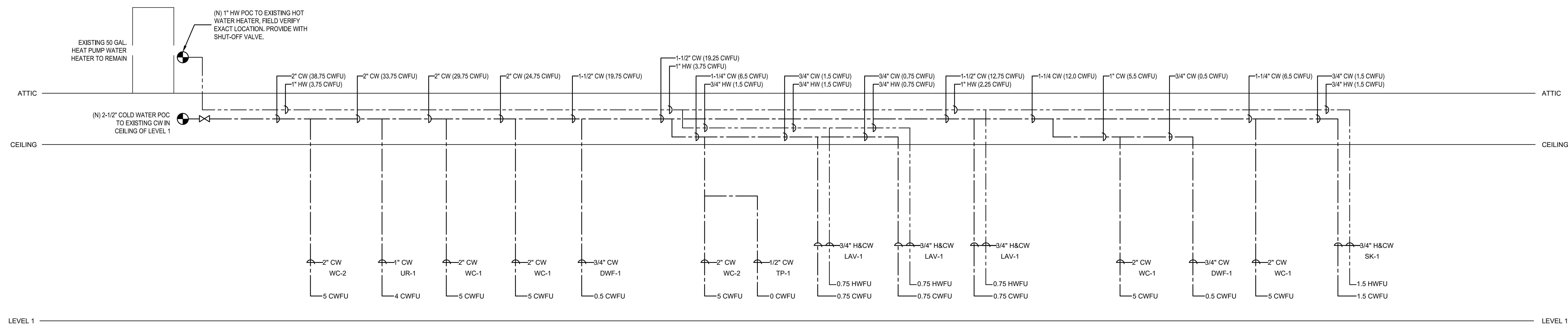
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FEBRUARY 12, 2026 - BID PACKAGE



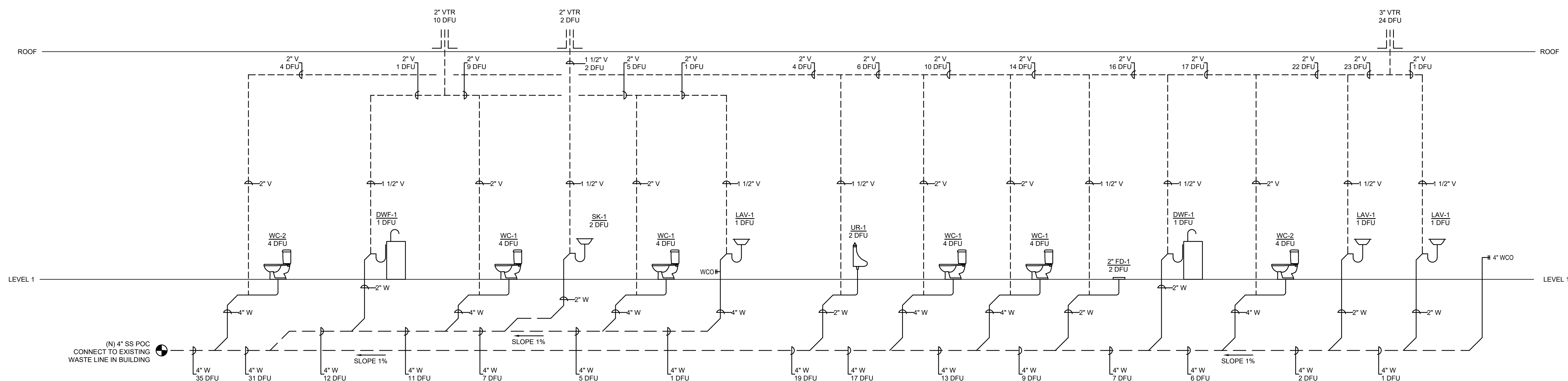
350 Main St, El Segundo,
CA 90245

EL SEGUNDO RECREATION
PARK PHASE 1
IMPROVEMENT PROJECT
**TEEN CENTER
AND TEEN
PLAZA**
405 E Grand Ave,
El Segundo, CA 90245



WATER RISER DIAGRAM	2
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WASTE & VENT RISER DIAGRAM

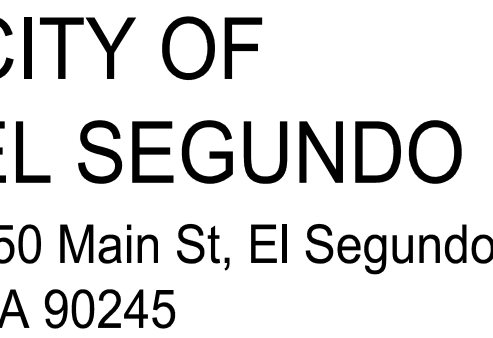
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Sheet title:

PLUMBING RISER DIAGRAMS

Designed by:	AE
Drawn by:	Y
Checked by:	J
Project number:	12401

PR0.1



SEGUNDO RECREATION
PHASE 1
IMPROVEMENT PROJECT
TEEN CENTER
AND TEEN
LAZA
5 E Grand Ave,
Segundo, CA 90245

sheet title:

PLUMBING DETAILS

Designed by:	
Drawn by:	
Checked by:	
Project number:	1240

PD0.1

The diagram illustrates a cross-section of a Flat Ceiling Unit (FCU) drain pan. The components are numbered as follows:

- 1: Drain pan assembly
- 2: FCU drain pan section
- 3: Drain pipe
- 4: Drain pipe connection
- 5: Drain pan
- 6: Drain pan
- 7: Drain pan
- 8: Drain pan

Dimensions are indicated as 2-1/4" MIN. and 4" MIN.

A schematic diagram of a two-part mold assembly. The assembly consists of two main rectangular blocks, labeled 1 and 2, which form the upper and lower halves of the mold. These blocks are joined by a central horizontal band, labeled 3, which appears to be a hinge or a clamping mechanism. The inner surfaces of blocks 1 and 2 are lined with a material, labeled 4, which has a wavy, textured pattern. The entire assembly is shown in a cross-sectional view, with a central cavity. A small, dark, rectangular object, labeled 5, is positioned within this cavity. A line, labeled 6, points to the top surface of block 1.

NOT USED

9	SCALE
	NTS

CONDENSATE DRAIN TRAP DETAIL

6	SCALE
	NTS

PIPE SLEEVE THRU CONCRETE WALL DETAIL

3	SCALE
	NTS

EXPANSION LOOP LENGTH (L), INCHES FOR 100°F TEMPERATURE CHANGE						
CPVC PIPE OVER 2"						
NOMINAL PIPE DIAMETER [IN]	LENGTH OF RUN IN FEET					
	OD [IN]	20'	40'	60'	80'	100'
3	3.500	32"	45"	55"	63"	71"
4	4.500	36"	51"	62"	72"	80"
6	6.625	44"	62"	76"	87"	87"
6	8.625	50"	70"	86"	100"	100"

NOTES:
 (1) REFERENCED FROM DESIGN & ENGINEERING DATA OF CHARLOTTE PIPE & FOUNDRY COMPANY. PLASTIC TECHNICAL MANUAL. (2)
 THE CALCULATION IS BASED ON EXPANSION LOOP FORMULA BASED ON MODULES OF ELASTICITY OF CPVC @ 100°F (385,000 PSI).
 WORKING STRESS OF CPVC @ 100°F (1,640 PSI) & COEFFICIENTS OF LINEAR EXPANSION OF CPVC (0.408 IN/10°F/100 FT).

EXAMPLE: TUBING SIZE = 4" LENGTH OF RUN = 60' L = 67" (FROM TABLE)

The diagram illustrates three configurations for an expansion loop in CPVC pipe:

- Simple Loop:** A horizontal run of length $L/5$ (13.4') is followed by a vertical loop of length L (67"). The total length is $2L/5$ (26.8').
- Offset Loop:** A horizontal run of length $L/5$ (13.4') is followed by a vertical offset of length $L/2$ (33.5'). The total length is $L/2$ (33.5').
- Change in Direction:** A horizontal run of length $L/4$ (16.75') is followed by a vertical loop of length L (67"). The total length is $L/4$ (16.75').

Legend:
 □ = SUPPORT GUIDE
 ■ = RESTRAINT

Diagram illustrating the connection of a floor drain to a sink. The diagram shows a sink (1) connected to a vertical pipe (2) that leads down to a floor drain (4). The floor drain is connected to a horizontal pipe (5) that runs along the floor. This horizontal pipe then connects to a vertical pipe (6) that leads up to the ceiling. The floor drain is labeled 'FINISHED FLOOR'.

- ① CAULKING
- ② FLASHING FITTING
- ③ FLASH WITH SIX-POUND LEAD-ALL JOINTS BURNED
- ④ ROOF
- ⑤ FLASHING TO FOLLOW CONTOUR OF ROOF
- ⑥ PIPE PENETRATING @ ROOF

A schematic diagram of a vertical double-slit interferometer. At the top, a light source (represented by a shaded circle) emits a beam that passes through a double-slit (1). The beam is then reflected by a mirror (2) and passes through a lens (3) before being focused onto a detector (4). A scale (5) is indicated on the left side of the apparatus.

EXPANSION LOOP FOR CPVC OVER 2"

8	SCALE
	NTS

CONDENSATE TO TAILPIECE DETAIL

5	SCALE
	NTS

VENT THRU ROOF DETAIL

2	SCALE
	NTS

EXPANSION LOOP LENGTH (L), INCHES FOR 100°F TEMPERATURE CHANGE						
CPVC PIPE UP TO 2"						
LENGTH OF RUN IN FEET						
NOMINAL PIPE DIAMETER [IN]	20'	40'	60'	80'	100'	
1/2	16"	23"	28"	32"	36"	
3/4	19"	29"	33"	38"	43"	
1	22"	31"	38"	44"	49"	
1 1/4	24"	34"	42"	48"	54"	
1 1/2	26"	37"	45"	52"	59"	
2	30"	42"	52"	60"	67"	

NOTES:
 REFERENCED FROM DESIGN & ENGINEERING DATA OF CHARLOTTE PIPE & FOUNDRY COMPANY, PLASTIC TECHNICAL MANUAL.

EXAMPLE: TUBING SIZE = 1 1/4" LENGTH OF RUN = 60' L = 42" (FROM TABLE)

Diagram illustrating the expansion loop configuration for a 1 1/4" tubing size, 60' length of run, and L = 42" (from table).

The diagram shows the tubing layout with the following dimensions and components:

- Loop Size: 1 1/4"
- Length of Run: 60'
- L = 42" (from table)
- Dimensions: L/5 (8.40'), L/4 (10.90'), L/2 (21.0'), L (42')
- Components: SUPPORT GUIDE, RESTRAINT
- Change in Direction: 30' RUN

Figure 1 consists of two schematic diagrams of the proposed device. The top diagram is a cross-sectional view showing a central vertical tube (1) with a flange (2) at the top. A horizontal tube (3) is connected to the side of the central tube. A vertical tube (4) is connected to the bottom of the central tube. A horizontal tube (5) is connected to the side of the central tube. The bottom diagram is a side view showing a horizontal tube (6) with a vertical tube (7) connected to its top. A horizontal tube (8) is connected to the side of the vertical tube. A horizontal tube (9) is connected to the side of the vertical tube. A horizontal tube (10) is connected to the side of the vertical tube. A flow direction arrow labeled 'FLOW' is shown at the bottom right.

EXPANSION LOOP FOR CPVC UP TO 2"

7	SCALE
	NTS

PIPE SUPPORT DETAIL

4	SCALE
	NTS

CLEANOUT DETAIL

1	SCALE
	NTS



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 I Segundo, CA 90245

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PLUMBING DETAILS

Designed by:	AB
Drawn by:	YY
Checked by:	JZ
Project number:	124011

PD0.2



CITY OF EL SEGUNDO

350 Main St, El Segundo,
CA 90245

EL SEGUNDO RECREATION PARK PHASE 1 IMPROVEMENT PROJECT TEEN CENTER AND TEEN PLAZA

405 E Grand Ave,
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TIGHE

Issue dates

#	Date	Description
	01/15/25	50% DD SUBMITTAL
	04/18/25	100% DD SUBMITTAL
	06/06/25	50% CD SUBMITTAL
	08/20/25	90% CD SUBMITTAL
	10/28/25	PLAN CHECK RESUBMITTAL #1
	11/14/25	PLAN CHECK RESUBMITTAL #2
	01/16/26	PLAN CHECK RESUBMITTAL #3
	02/12/26	BID PACKAGE

Sheet title:

GENERAL NOTES

Designed by: MLZ
Drawn by: SG
Checked by: DDZ
Project number: 124011

CONCRETE MASONRY UNITS (CMU)

- ALL MASONRY SHALL BE MANUFACTURED AND PLACED IN ACCORDANCE WITH TMS 402, "BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES"; AND TMS 602 "SPECIFICATION FOR MASONRY STRUCTURES".
- MASONRY UNITS AND COMPONENTS THAT ARE DAMAGED ARE NOT TO BE INSTALLED IN THIS PROJECT. REINFORCEMENTS AND ACCESSORIES ARE NOT TO BE STORED ON THE GROUND AND ARE TO BE PROTECTED FROM CORROSION/REINFORCEMENT DEGRADATION.
- WHEN THE AMBIENT AIR TEMPERATURE IS BELOW 40°F, THE COLD WEATHER PROCEDURES FROM TMS 602, ARTICLE 1.8C ARE TO BE IMPLEMENTED. WHEN THE AMBIENT AIR TEMPERATURE IS ABOVE 90°F, THE HOT WEATHER PROCEDURES FROM TMS 602, ARTICLE 1.8D ARE TO BE IMPLEMENTED.
- CONCRETE BLOCK UNITS SHALL CONFORM TO ASTM C90. Tm SHALL BE VERIFIED IN ACCORDANCE WITH TMS 602, ARTICLE 1.4 B.2. CONCRETE BLOCK UNITS SHALL BE MEDIUM WEIGHT LIGHTWEIGHT. ALL MASONRY CONSTRUCTION IS TO BE GROUTED SOLID.
- MORTAR SHALL BE TYPE S PER ASTM C270.
- GROUT SHALL CONFORM TO ASTM C476. THE CONTRACTOR IS TO DETERMINE THE PROPER APPLICATION OF FINE GROUT OR COARSE GROUT BASED ON THE GROUT POUR HEIGHT USED AND THE CLEAR GROUT POUR HEIGHT (SEE THE CONSTRUCTION) OR CLEAR GROUT SPACE DIMENSIONS IN ACCORDANCE WITH TMS 402 TABLE 3.2.1. GROUT SHALL BE PROPORTIONED TO ATTAIN A 28 DAY COMPRESSIVE STRENGTH EQUAL 1500 PSI. VALUE NOTED ABOVE. NOT MORE THAN 5% OF THE PEAK GRAVITY SHALL PASS THE NO. 30 SIEVE AND 100% SHALL PASS THE 3/8" SIEVE. WHEN REQUIRED, GROUT STRENGTH SHALL BE VERIFIED IN ACCORDANCE WITH ASTM C1019. GROUT MIX SHALL HAVE APPROXIMATELY 1 LB OF SIKAGROUT AID, OR APPROVED EQUAL, PER 100 LBS OF CEMENTITIOUS MATERIAL.
- REINFORCING STEEL SHALL CONFORM TO ASTM A615 GRADE 60. UNO. REINFORCING STEEL TO BE WELDED SHALL CONFORM TO ASTM A706 GRADE 60. CONTRACTOR SHALL SUBMIT REBAR MILL CERTIFICATES.
- PLACE ALL HORIZONTAL BARS IN BOND BEAM UNITS. WHEN 2 BARS ARE USED, STAGGER LAPS MINIMUM OF 5'-0".
- MINIMUM REBAR CLEARANCE TO FACE SHELL IS ONE BAR DIAMETER OR 1/2", WHICHEVER IS GREATER. WHERE WALLS ARE EXPOSED TO EARTH OR WEATHER, A MINIMUM COVER FOR THE REINFORCING BARS OF 2" SHALL BE MAINTAINED.
- CONCRETE BLOCK MASONRY SHALL BE BUILT TO PRESERVE THE UNOBSTRUCTED VERTICAL CONTINUITY OF THE CELLS. ALL HEAD AND END JOINTS SHALL BE SOLIDLY FILLED WITH MORTAR FOR A DISTANCE IN FROM THE FACE OF THE WALL OR UNIT NOT LESS THAN THE THICKNESS OF THE LONGITUDINAL FACE SHELLS. BOND SHALL BE PROVIDED BY LAPPING SUCCESSIVE COURSES OR BY EQUIVALENT MECHANICAL ANCHORAGE.
- VERTICAL CELLS SHALL HAVE VERTICAL ALIGNMENT SUFFICIENT TO MAINTAIN A CLEAR UNOBSTRUCTED CONTINUOUS VERTICAL CELL.
- GROUT PLACEMENT SHALL CONFORM TO TMS 602 SECTION 3.5.
- CLEAN OUT OPENINGS SHALL BE PROVIDED AT THE BOTTOMS OF ALL CELLS TO BE FILLED AT EACH LIFT OR POUR OF GROUT WHERE SUCH LIFT OR POUR OF GROUT IS IN EXCESS OF 5'-4" IN HEIGHT, IN ACCORDANCE WITH TMS 602 SECTION 3.2F. ANY OVERHANGING MORTAR OR OTHER OBSTRUCTION OR DEBRIS SHALL BE REMOVED FROM INSIDE OF SUCH CELLS. THE CLEANOUTS SHALL BE SEALED AFTER INSPECTION AND BEFORE GROUTING. MECHANICALLY VIBRATE ALL GROUT POURS.
- REINFORCEMENT IS TO BE SUPPORTED IN PLACE TO PREVENT DISPLACEMENT CAUSED BY PLACEMENT OF GROUT AND MORTAR OR BY CONSTRUCTION LOADS.
- THOROUGHLY CLEAN ALL CELLS AND BOND BEAMS OF MORTAR BEFORE GROUTING.
- ALL CELLS SHALL BE FILLED SOLIDLY WITH GROUT. ALL GROUTING SHALL BE DONE UNDER THE OBSERVATION OF A QUALIFIED INSPECTOR. REFER TO SPECIAL STRUCTURAL INSPECTION SECTION OF THESE NOTES FOR FREQUENCY OF GROUTING INSPECTION.
- WHEN GROUTING IS STOPPED FOR ONE HOUR OR LONGER, HORIZONTAL CONSTRUCTION JOINTS, OR KEYS, SHALL BE FORMED BY STOPPING THE POUR OF GROUT 1'-1/2" BELOW THE TOP OF THE UPPERMOST UNIT.
- EVERY VERTICAL BAR IN WALLS SHALL BE LAPPED PER THE TABLE BELOW WITH A DOWEL OF THE SAME SIZE AND TYPE. CENTER-TO-CENTER DISTANCE SHALL BE 12" ON TOP OF THE WALL. AT THE BOTTOM OF THE FOUNDATION AND TERMINATE WITH 90 DEGREE HOOK. DOWELS SHALL BE STRAIGHT AND PLUMB.
- ALL EMBEDDED ITEMS (BOLTS, STRAPS, ETC.) SHALL BE SECURED IN PLACE PRIOR TO GROUTING. CUT A HOLE IN THE FACE SHELL TO ATTAIN A MINIMUM OF 1/2" GROUT ALL AROUND EMBEDDED ITEMS AT THE FACE SHELL. WITHIN THE CELL OF THE UNIT, PROVIDE MINIMUM OF 8" OF GROUT AROUND EMBEDDED ITEMS. AT HORIZONTAL ANCHOR INSTALLATIONS, MAINTAIN A MINIMUM CLEAR DISTANCE OF 1/2" BETWEEN END OF ANCHOR AND FACE SHELL OF UNIT.
- SINGLE CONDUITS (3/4" MAX) MAY BE PLACED IN VERTICAL CELLS NOT CONTAINING VERTICAL REBAR. NO HORIZONTAL CONDUITS ALLOWED IN WALL CONSTRUCTION.
- ANCHOR BOLTS CAST IN MASONRY SHALL BE HEADED WITH 1/2" TREADS CONFORMING TO ASTM F1554 GRADE 36, OR ASTM A307 GRADE A, UNO. BENT BAR ANCHOR BOLTS ARE NOT PERMITTED.
- USE OPEN END BLOCK FOR ALL CONSTRUCTION NOT LAID IN RUNNING BOND.
- ALL REBAR SHALL BE LAP SPLICED AND DEVELOPED AS FOLLOWS (UNO), WHERE EPOXY COATED REBAR IS USED, MULTIPLY LAP LENGTHS BY 1.5. BARS LARGER THAN #6 ARE TO BE LAPPED WITH MECHANICAL SPLICES THAT DEVELOP AT LEAST 125 PERCENT OF THE YIELD STRENGTH OF THE BAR.

CMU SPLICE & DEVELOPMENT LENGTHS (f'm = 1500 PSI)											
BAR SIZE	fy (KSI)	y	6" CMU		8" CMU		10" CMU		12" CMU		
			CENTER	EF	CENTER	EF	CENTER	EF	CENTER	EF	EF
#3	60	1.0	12"	-	12"	14"	12"	13"	12"	12"	
#4	60	1.0	18"	-	13"	24"	13"	22"	13"	21"	
#5	60	1.0	28"	-	20"	37"	20"	35"	20"	33"	
#6	60	1.3	53"	-	38"	-	38"	-	38"	-	
#7	60	1.3	-	-	52"	-	52"	-	52"	-	

STATEMENT OF STRUCTURAL SPECIAL INSPECTIONS AND TESTING

- SPECIAL INSPECTIONS AND TESTING SHALL BE PROVIDED BY A TESTING AND INSPECTION AGENCY, EMPLOYED BY THE OWNER (OR OWNER'S AUTHORIZED AGENT), AND APPROVED BY THE BUILDING OFFICIAL TO PROVIDE SPECIAL INSPECTIONS AND TESTING FOR THE PARTICULAR TYPE OF CONSTRUCTION.
- TABLES OF SPECIAL INSPECTIONS AND TESTING ARE DERIVED FROM THE STRUCTURAL PROVISIONS OF THE CBC AND REFERENCED STANDARDS AND ARE FOR REFERENCE ONLY. THE INCLUDED TABLES ARE PROVIDED FOR THE INFORMATION OF THE TESTING AGENCY, TESTING AGENCY AND CONTRACTOR IN DEVELOPING THE SCOPE OF WORK FOR REQUIRED TESTING AND INSPECTION OF STRUCTURAL MATERIALS AND COMPONENTS. FINAL DEFINITION OF THIS SCOPE OF WORK IS TO BE DETERMINED BY THE TESTING AGENCY AND THE OWNER (OR OWNER'S AUTHORIZED AGENT).
- FREQUENCY OF SPECIAL INSPECTIONS AND TESTING SHALL BE, AT A MINIMUM, AS NOTED FOR THE INDIVIDUAL ELEMENTS WITHIN THE TABLES BELOW. THE CONTRACTOR SHALL COORDINATE TIMING OF SPECIAL INSPECTIONS AND TESTING WITH THE SPECIAL INSPECTION AND TESTING AGENCY.
- PRIOR TO THE START OF CONSTRUCTION, THE TESTING AND INSPECTION AGENCY SHALL PROVIDE DOCUMENTATION TO THE BUILDING OFFICIAL DEMONSTRATING COMPETENCE AND RELEVANT EXPERIENCE OR TRAINING OF THE SPECIAL INSPECTORS WHO WILL PERFORM THE SPECIAL INSPECTIONS AND TESTS DURING CONSTRUCTION, IN ACCORDANCE WITH CBC SECTION 1704.2.1.
- THE TESTING AND INSPECTION AGENCY SHALL SUBMIT REPORTS OF SPECIAL INSPECTIONS AND TESTS TO THE BUILDING OFFICIAL, STRUCTURAL ENGINEER OF RECORD AND THE CONTRACTOR, PER CBC SECTION 1704.2.4. THE REPORTS SHALL INDICATE WHETHER WORK INSPECTED OR TESTED CONFORMED TO THE APPROVED CONSTRUCTION DOCUMENTS, ANY DISCREPANCIES SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE CONTRACTOR FOR CORRECTION. IF DISCREPANCIES ARE NOT CORRECTED, THEY SHALL BE BROUGHT TO THE ATTENTION OF THE BUILDING OFFICIAL AND THE STRUCTURAL ENGINEER OF RECORD.
- SPECIAL INSPECTION AND TESTING RECORDS SHALL BE RETAINED BY THE CONTRACTOR ON SITE UNTIL COMPLETION OF CONSTRUCTION.
- THE CONTRACTOR SHALL SUBMIT A WRITTEN STATEMENT TO THE BUILDING OFFICIAL ACKNOWLEDGING RESPONSIBILITY FOR CONSTRUCTION OF THE MAIN LATERAL-FORCE RESISTING SYSTEM PRIOR TO COMMENCEMENT OF THAT WORK AS REQUIRED BY CBC SECTION 1704.4.
- THE OWNER OR THE OWNER'S AUTHORIZED AGENT SHALL SUBMIT TO THE BUILDING OFFICIAL, A FINAL REPORT DOCUMENTING SPECIAL INSPECTIONS AND TESTS PER CBC SECTION 1704.2.4, AND REPORTS AND CERTIFICATES PER CBC SECTION 1704.5.
- SPECIAL INSPECTION IS REQUIRED FOR ALL SHOP FABRICATED MEMBERS OR ASSEMBLIES UNLESS WAIVED PER THE EXCEPTIONS IN CBC SECTION 1704.2.5.
- DEFINITIONS:
 - CONTINUOUS - SPECIAL INSPECTION BY THE SPECIAL INSPECTOR WHO IS CONTINUOUSLY PRESENT WHEN AND WHERE THE WORK TO BE INSPECTED IS BEING PERFORMED.
 - PERIODIC - SPECIAL INSPECTION BY THE SPECIAL INSPECTOR WHO IS INTERMITTENTLY PRESENT WHERE THE WORK TO BE INSPECTED HAS BEEN OR IS BEING PERFORMED.
 - QUALITY ASSURANCE (QA) - MONITORING AND INSPECTION TASKS PERFORMED BY AN AGENCY OR FIRM OTHER THAN THE FABRICATOR OR ERECTOR TO ENSURE THAT THE MATERIAL PROVIDED AND WORK PERFORMED BY THE FABRICATOR AND ERECTOR MEET THE REQUIREMENTS OF THE APPROVED CONSTRUCTION DOCUMENTS AND REFERENCED STANDARDS. QUALITY ASSURANCE INCLUDES THOSE TASKS DESIGNATED 'SPECIAL INSPECTION' BY THE APPLICABLE CODE.
 - QUALITY CONTROL (QC) - CONTROLS AND INSPECTIONS IMPLEMENTED BY THE FABRICATOR OR ERECTOR, AS APPLICABLE, TO ENSURE THAT THE MATERIALS PROVIDED AND WORK PERFORMED MEET THE REQUIREMENTS OF THE APPROVED CONSTRUCTION DOCUMENTS AND REFERENCED STANDARDS.
 - OBSERVE (O) - OBSERVE THESE ITEMS ON A RANDOM BASIS (DAILY FOR LFRS). OPERATIONS NEED NOT BE DELAYED PENDING THESE INSPECTIONS.
 - PERFORM (P) - PERFORM THOSE TASKS PRIOR TO FINAL ACCEPTANCE FOR EACH ITEM OR ELEMENT.
 - DOCUMENT (D) - THE INSPECTOR SHALL PREPARE REPORTS INDICATING THAT THE WORK HAS BEEN PERFORMED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. THE REPORT NEED NOT PROVIDE DETAILED MEASUREMENTS FOR JOINT FIT-UP, WPS SETTINGS, COMPLIANCE WITH INDIVIDUAL ITEMS LISTED IN THE TABLES. FOR SHOP FABRICATION, THE REPORT SHALL INDICATE THE PIECE MARK OF THE PIECE INSPECTED. FOR FIELD WORK, THE REPORT SHALL INDICATE THE REFERENCE GRID LINES AND FLOOR OR ELEVATION INSPECTED. WORK NOT IN COMPLIANCE WITH THE CONTRACT DOCUMENTS AND WHETHER THE NONCOMPLIANCE HAS BEEN SATISFACTORILY REPAIRED SHALL BE NOTED IN THE INSPECTION REPORT.
- SPECIAL INSPECTIONS AND TESTING SHALL BE PERFORMED DURING CONSTRUCTION ON THE WORK SHOWN IN THE CONSTRUCTION DOCUMENTS AS REQUIRED BY CBC CHAPTER 17, THE TABLES LISTED BELOW, AND THE JURISDICTION'S SPECIAL INSPECTION AND TESTING FORM. IF DISCREPANCIES ARE NOTED, CONTACT THE SEOR. ALL EXCEPTIONS INCLUDED IN CBC CHAPTER 17 ARE PERMITTED TO BE USED.
 - MASONRY INFILL OF EXISTING HOLES
 - STEEL CONSTRUCTION-WELDING INSPECTION
 - STEEL CONSTRUCTION-WELDING

STEEL CONSTRUCTION -WELDING- REQUIRED SPECIAL INSPECTIONS AISC360 TABLE N5.4.1, N5.4.2, N5.4.3			
INSPECTION TASKS PRIOR TO WELDING		QC	QA
WELDER QUALIFICATION RECORDS AND CONTINUITY RECORDS		P	P
WPS AVAILABLE		P	P
MANUFACTURER CERTIFICATIONS FOR WELDING CONSUMABLES AVAILABLE		P	P
MATERIAL IDENTIFICATION (TYPE/GRADE)		O	O
FIT-UP OF FILLET WELDS			
- DIMENSIONS (ALIGNMENT, ROOT OPENING, ROOT FACE, BEVEL) - CLEANLINESS (CONDITION OF STEEL SURFACES) - TACKING (TACK WELD QUALITY AND LOCATION)		O	O
CHECK WELDING EQUIPMENT		O	-
INSPECTION TASKS DURING WELDING		QC	QA
CONTROL AND HANDLING OF WELDED CONSUMABLES	- PACKAGING - EXPOSURE CONTROL	O	O
ENVIRONMENTAL CONDITIONS	- WIND SPEED WITHIN LIMITS - PRECIPITATION AND TEMPERATURE	O	O
WPS FOLLOWED	- SETTINGS ON WELDING EQUIPMENT - TRAVEL SPEED - SELECTED WELDING MATERIALS - SHIELDING GAS TYPE/FLOW RATE - PREHEAT APPLIED - INTERPASS TEMPERATURE MAINTAINED (MIN./MAX.) - PROPER POSITION (F, V, H, OH)	O	O
WELDING TECHNIQUES	- INTERPASS AND FINAL CLEANING - EACH PASS WITHIN PROFILE LIMITATIONS - EACH PASS MEETS QUALITY REQUIREMENTS	O	O
PLACEMENT AND INSTALLATION OF STEEL HEADED STUD ANCHORS		P	P
INSPECTION TASKS AFTER WELDING		QC	QA
WELDS CLEANED		O	O
SIZE, LENGTH AND LOCATION OF WELDS		P	P
WELDS MEET VISUAL ACCEPTANCE CRITERIA	- CRACK PROHIBITION - WELD/BASE-METAL FUSION - CRATER CROSS SECTION - WELD PROFILES - WELD SIZE - UNDERCUT - POROSITY	P	P

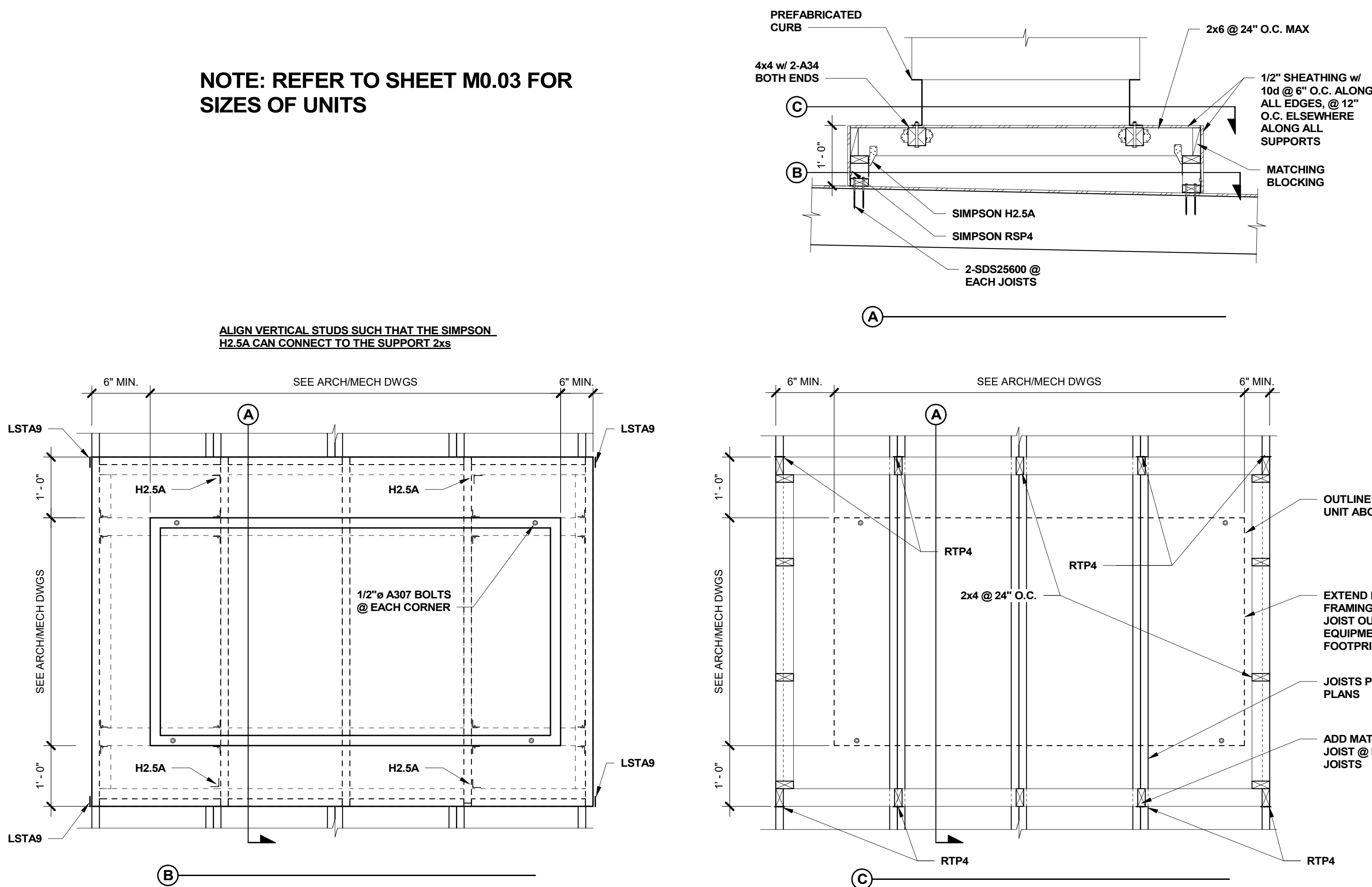
- THE FABRICATOR OR ERECTOR, AS APPLICABLE, SHALL MAINTAIN A SYSTEM BY WHICH A WELDER WHO HAS WELDED A JOINT OR MEMBER CAN BE IDENTIFIED. STAMPS, IF USED, SHALL BE THE LOW-STRESS TYPE.
- WHEN WELDING OF DOUBLER PLATES, CONTINUITY PLATES OR STIFFENERS HAS BEEN PERFORMED IN THE K-AREA, VISUALLY INSPECT THE WEB K-AREA FOR CRACKS WITHIN 1. (75MM) OF THE WELD.
- AFTER ROLLED HEAVY SHAPES (SEE SECTION A3.1C) AND BUILT-UP HEAVY SHAPES (SEE SECTION A3.1D) ARE WELDED, VISUALLY INSPECT THE WELD ACCESS HOLE FOR CRACKS.

STEEL CONSTRUCTION -BOLTING- REQUIRED SPECIAL INSPECTIONS AISC360 TABLE N5.6.1, N5.6.2, N5.6.3			
INSPECTION TASKS PRIOR TO BOLTING		QC	QA
MANUFACTURER CERTIFICATIONS AVAILABLE FOR FASTENER MATERIALS		O	P
FASTENERS MARKED IN ACCORDANCE WITH ASTM REQUIREMENTS		O	O
CORRECT FASTENERS SELECTED FOR THE JOINT DETAIL (GRADE, TYPE, BOLT LENGTH IF THREADS ARE TO BE EXCLUDED FROM THE SHEAR PLANE)		O	O
CORRECT BOLTING PROCEDURE SELECTED FOR JOINT DETAIL		O	O
PROPER STORAGE PROVIDED FOR BOLTS, NUTS, WASHERS AND OTHER FASTENER COMPONENTS		O	O
INSPECTION TASKS DURING BOLTING		QC	QA
FASTENER ASSEMBLIES PLACED IN ALL HOLES AND WASHERS AND NUTS ARE POSITIONED AS REQUIRED		O	O

WOOD

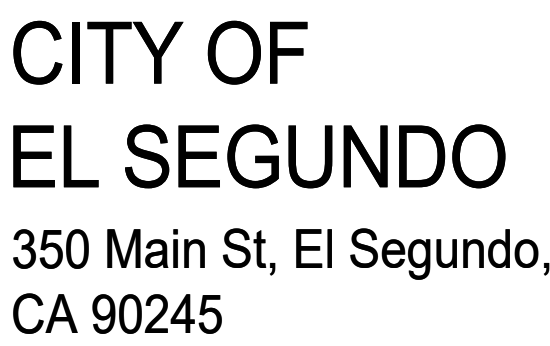
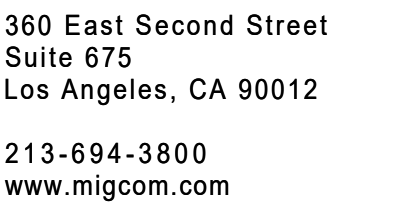
- ALL STRUCTURAL WOOD SHALL CONFORM WITH THE FOLLOWING SPECIFICATIONS: DOUGLAS FIR - COSTAL REGION - WCLB GRADING RULES #17 OR WMPA STANDARD GRADING RULES FOR WESTERN LUMBER: #1 UNO.
- ALL WOOD IN DIRECT CONTACT WITH CONCRETE SHALL BE PRESSURE TREATED, EXCEPT LEDGERS, WHICH DO NOT NEED TO BE PRESSURE TREATED.
- FIELD CUTS AND BOLT HOLES IN PRESSURE TREATED WOOD SHALL BE PROTECTED IN ACCORDANCE WITH AWPA STANDARD M4.
- BEARING AND SHEAR WALLS SHALL HAVE DOUBLE TOP PLATES, LAPPED AT WALL AND PARTITION INTERSECTION WITH 3-16D NAILS. SPLICE UPPER AND LOWER PLATES AS IN "TYPICAL STUD WALL & OPENING FRAMING DETAIL" ON TYPICAL DETAIL SHEET.
- PROVIDE SOLID BLOCKING BETWEEN JOISTS AND RAFTERS AT ALL SUPPORTS.
- PROVIDE BLOCKING AT ALL CEILING LEVELS.
- JOISTS UNDER AND PARALLEL TO PARTITIONS SHALL BE DOUBLED AND NAILED TOGETHER.
- THE MOST LESSEST CONTROLS AT TIME OF INITIAL USE SHALL BE LESS THAN 19%.
- THE MOISTURE CONTENT OF LUMBER 3X AND LARGER AT TIME OF INITIAL USE SHALL BE LESS THAN 30% UNO. HOLES FOR BOLTS IN WOOD SHALL BE BORED WITH A BIT OF THE SAME NOMINAL DIAMETER AS THE BOLT PLUS 1/16".
- HOLDERS FOR LAG SCREWS SHALL BE FIRST BORED TO THE SAME DIAMETER AND DEPTH AS THE UNTHREADED SHANK. THE THREADED PORTION SHALL BE DRILLED TO 50% OF THE SHANK DIAMETER UNLESS NOTED OTHERWISE IN THE SPECIFICATIONS.
- LAG SCREWS AND WOOD SCREWS SHALL BE SCREWED AND NOT DRIVEN INTO PLACE. SOAP MAY BE USED TO LUBRICATE SCREWS.
- ALL BOLTS AND LAG SCREWS SHALL BE TIGHTENED ON INSTALLATION AND RETIGHTENED BEFORE CLOSING IN OR AT COMPLETION OF JOB.
- ALL BOLTS SHALL BE FULL NOMINAL DIMENSION @ UNTHREADED PORTION. NO UPSET THREADED BOLTS ALLOWED.
- ALL FASTENERS EXCEPT LAG SCREWS & BOLTS SHALL BE HOT-DIPPED GALVANIZED OR STAINLESS STEEL WHERE IN CONTACT W/ PRESSURE TREATED OR FIRE RETARDANT MATERIAL. SCREWS & ANCHOR BOLTS MAY BE ELECTRO GALVANIZED. BOLTS MAY BE UNCOATED.
- USE OF MACHINE NAILING IS SUBJECT TO SATISFACTORY REVIEW FOR EACH PROJECT AND SUBJECT TO APPROVAL BY THE GOVERNING AGENCY. THE APPROVAL IS SUBJECT TO CONTINUED SATISFACTORY PERFORMANCE. MACHINE NAILING WILL NOT BE APPROVED IN 5/16" SHEATHING. IF NAIL HEADS PENETRATE THE OUTER PLY BY MORE THAN WOULD BE NORMAL FOR A HAMMER OR IF MINIMUM ALLOWABLE EDGE DISTANCES ARE NOT MAINTAINED, THE PERFORMANCE WILL BE DEEMED UNSATISFACTORY.
- BLOCK SHG JOINTS WITH 2X4 FLAT BLOCKING WHERE NOTED ON ROOF OR FLOOR FRAMING PLANS AND WITH BLOCKING SAME SIZE AS STUDS AT WALLS. USE PLYCLIPS AT MIDSPAN OF UNSUPPORTED ROOF SHEATHING EDGES.
- FRAMING HARDWARE SHOWN ON THE PLANS IS SIMPSON STRONG-TIE. USE FRAMING HARDWARE AS MANUFACTURED BY SIMPSON COMPANY OR EQUIVALENT. PRIOR TO INSTALLATION OF ANY NON-SIMPSON HARDWARE, THE CONTRACTOR SHALL SUBMIT A LIST OF ALL DETAIL REFERENCES WHERE A HARDWARE SUBSTITUTION IS PROPOSED, THE DESIGNATION FOR THE SIMPSON ITEM AND NON-SIMPSON PROPOSED EQUIVALENT AND AN ICC REPORT FOR EACH SUBSTITUTION ITEM.
- LAY ALL STRUCTURAL SHEATHING ON ROOF AND FLOORS WITH LONG DIMENSION PERPENDICULAR TO SUPPORTS UNLESS NOTED OTHERWISE.
- NOTIFY STRUCTURAL ENGINEER AFTER WALL, FLOOR, AND ROOF SHG NAILING HAS BEEN COMPLETED AND A MINIMUM OF 48 HOURS PRIOR TO CONCEALING NAILING.
- ALL FASTENERS USED IN FIRE-RETARDANT TREATED WOOD SHALL BE HOT-DIPPED GALVANIZED OR STAINLESS STEEL.
- ANCHOR BOLTS IN CONTACT WITH PRESSURE TREATED SILL PLATES SHALL BE OF HOT-DIPPED ZINC-COATED GALVANIZED STEEL, STAINLESS STEEL, SILICON BRONZE OR COPPER.
- FOUNDATION ANCHOR BOLTS SHALL INCLUDE A 0.229"X3X3 STEEL PLATE WASHERS.

NOTE: REFER TO SHEET M0.03 FOR SIZES OF UNITS



- MECHANICAL EQUIPMENT PAD ON WOOD FRAMED ROOF
3/4" = 1'-0"

⑩ CEILING SEISMIC WIRE ATTACHMENT
1 1/2" = 1'-0"



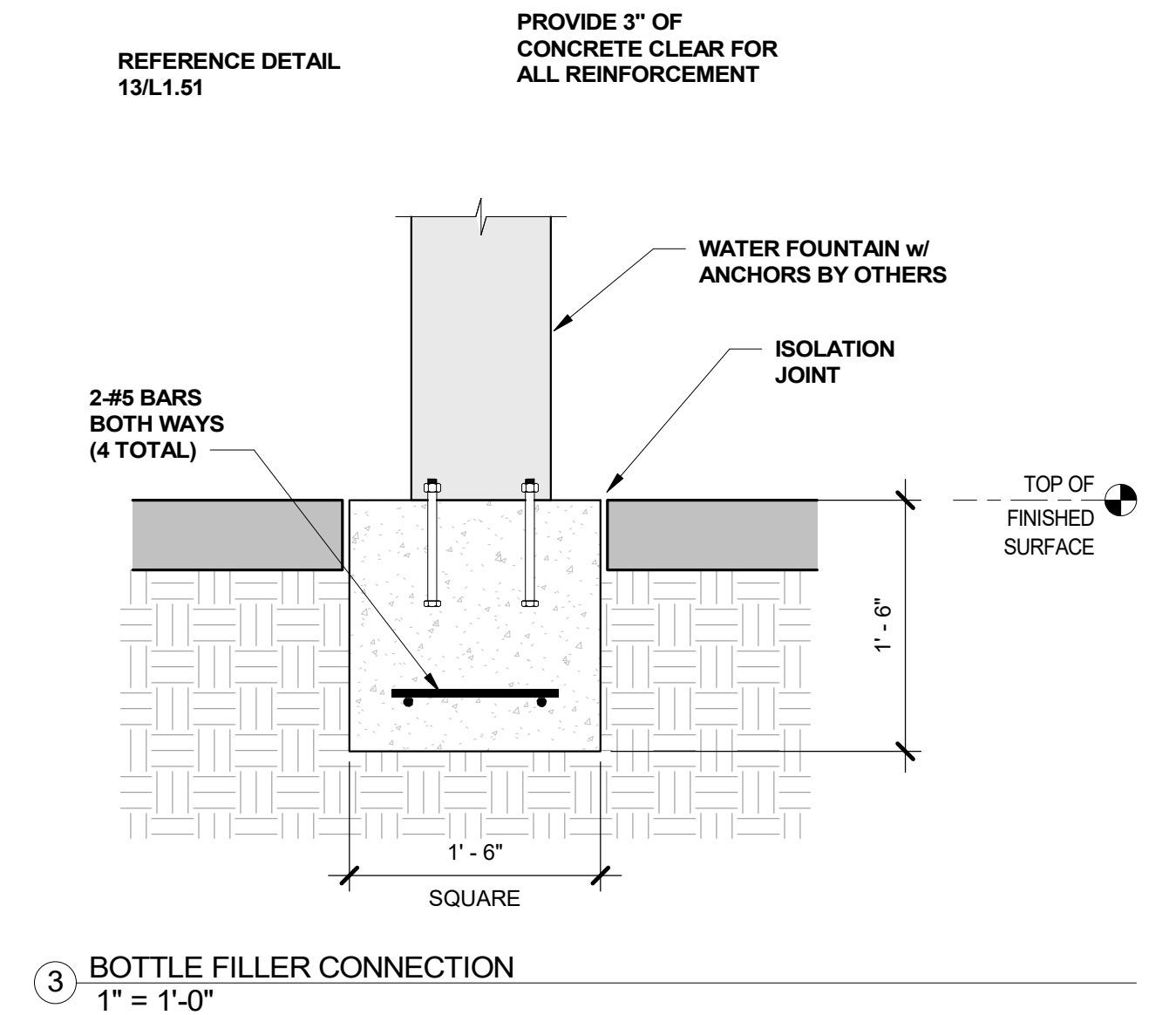
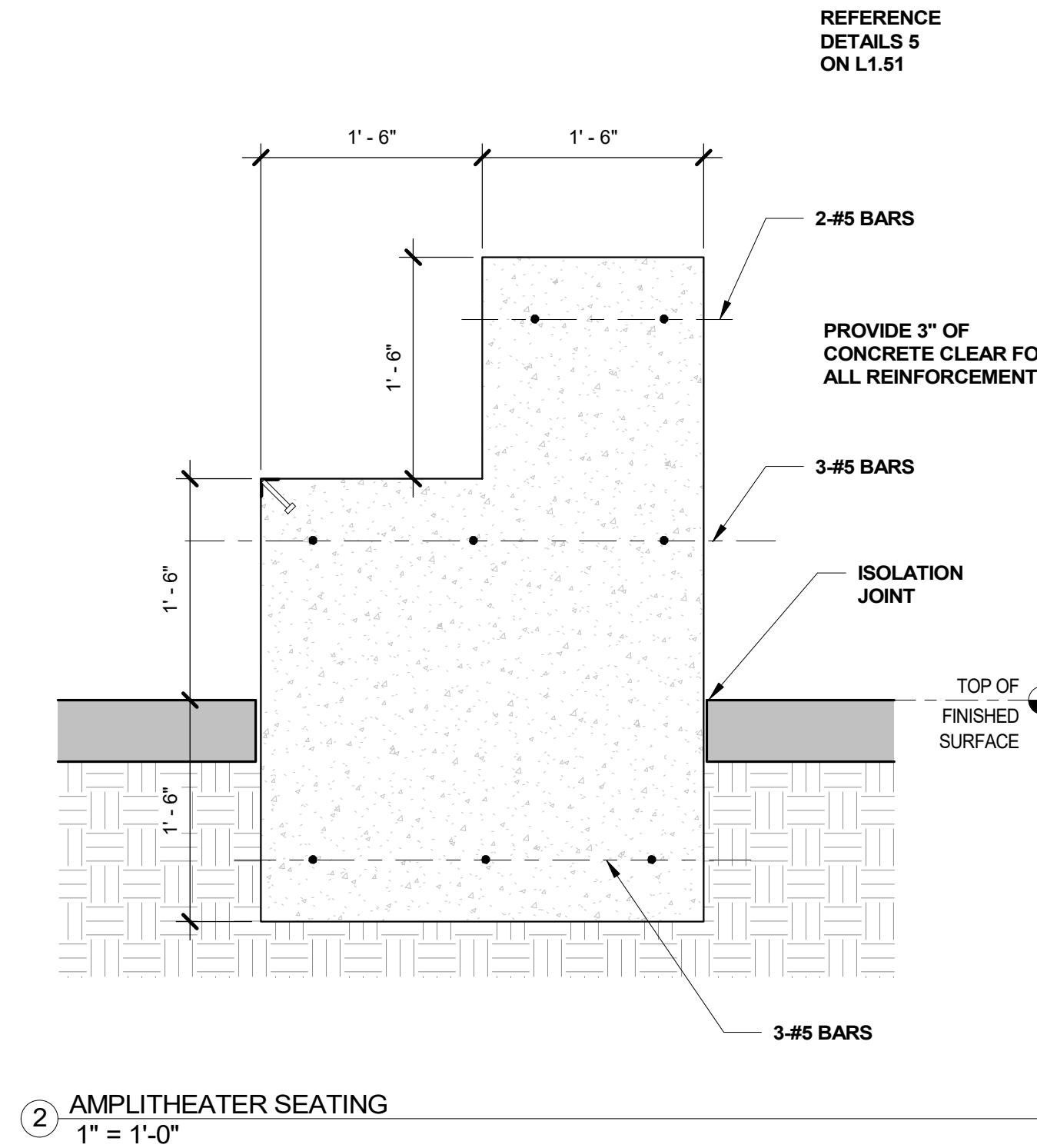
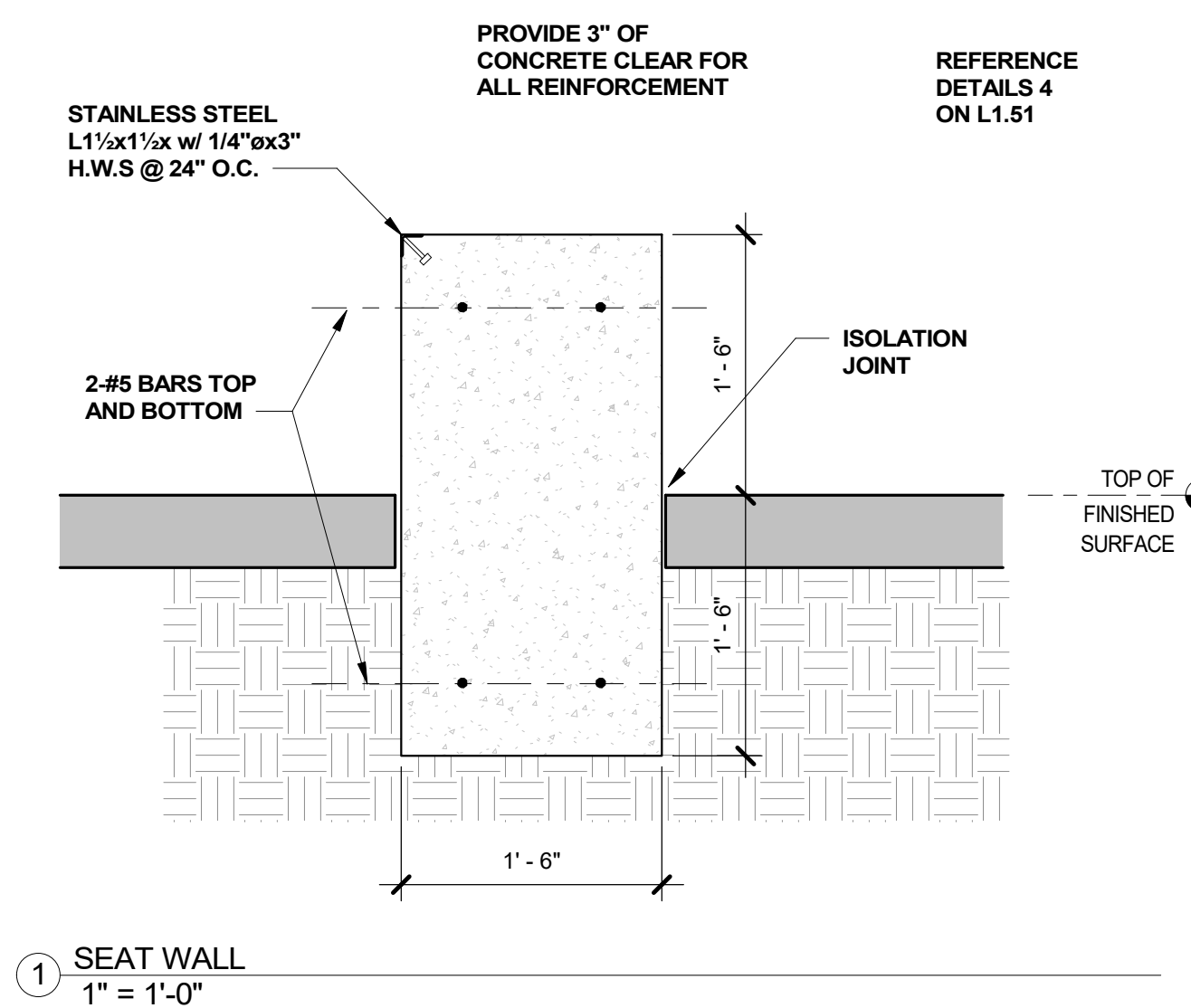
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Designed by:	ML
Drawn by:	St
Checked by:	DD
Project number:	12401

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Plotted by: kayla.wagner_nticons

ACCESS CONTROL AND INTERCOM SYMBOL LEGEND

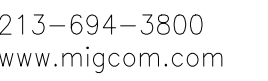
CCTV SYMBOL LEGEND

LEGEND NOTES

- ## GENERAL NOTES FOR SYMBOL LEGENDS

- ## RESPONSIBILITY MATRIX

CABLING CONTRACTOR TO PROVIDE	SECURITY CONTRACTOR TO PROVIDE	ELECTRICAL CONTRACTOR TO PROVIDE
• CATEGORY CABLES • CATEGORY JACKS • FACEPLATES • PATCH PANELS • EQUIPMENT RACKS • WIRE MANAGERS • COMPRESSION CONNECTORS • FIRE STOPPING • J-HOOKS • MISCELLANEOUS: PANELS, RACKS, MOUNTING HARDWARE, SOFTWARE, JACKS, LADDER RACKS, ETC., AND ANY OTHER RELATED COMPONENTS TO DELIVER A COMPLETE SYSTEM TO THE CLIENT.	• DOOR CATCHES (AS NEEDED) • NETWORK VIDEO RECORDERS • ACCESS CONTROL SYSTEM ALL CABLES FOR ACCESS CONTROL SYSTEM • CCTV CAMERAS • CCTV CAMERA MOUNTS • ACCESS CONTROL PDE SWITCHES • TAMPER SWITCHES • MISCELLANEOUS: PANELS, JACKS, MOUNTING HARDWARE, SOFTWARE, ETC., AND ANY OTHER RELATED COMPONENTS TO DELIVER A COMPLETE ACCESS CONTROL SYSTEM TO THE CLIENT. • WEATHERPROOF HOUSING FOR ANY CCTV CAMERA EXPOSED TO WEATHER	• 4X4 BACK BOXES • 4X4 SINGLE GANG MUD RINGS • CONDUITS • SLEEVES • PULL STRINGS • KNOX BOXES • POWER SYSTEMS • GROUNDING SYSTEMS • MISCELLANEOUS: CONDUIT LABELS, HANG HOLES, SITE CONDUIT, VERTICAL CONDUITS, ETC., AND ANY OTHER RELATED COMPONENTS TO DELIVER A COMPLETE PATHWAY SYSTEM TO THE CLIENT.
NOTE: CONFIRM ALL RESPONSIBILITIES WITH THE GENERAL CONTRACTOR AND/OR OWNER REPRESENTATIVES.		



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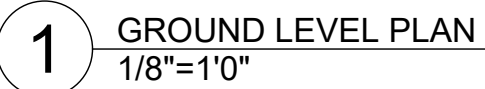
GROUND LEVEL PLAN

Designed by:	KW
Drawn by:	KW
Checked by:	IR
Project number:	12401

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HOMERUN ALL CABLES TO DATA CENTER, THIS LEVEL.

1. RE-USE EXISTING CABLE AND PROVIDE NEW CAMERA. TESTING SHALL TAKE PLACE FOR THESE CABLES. IF TESTING FAILS CABLES SHALL BE REMOVED & NEW CABLE PULLED.
2. PROVIDE NEW CAMERA & NEW CABLE.
3. PROVIDE DEDUCT ALTERNATE FOR COAXIAL CABLE. CONFIRM WITH SERVICE PROVIDER IF REQUIRED.
4. PROVIDE (1") 110 CONDUIT OR SLEEVE UP TO ACCESSIBLE CEILING SPACE CONTIGUOUS TO DESTINATION MDF.
5. LARGE TV WALL. COORDINATE NETWORK REQUIREMENTS WITH TV WALL PROVIDER.
6. PROVIDE LONG-RANGE WIDE-ANGLE CAMERA TO EFFECTIVELY CAPTURE THE BASKETBALL COURT.
7. PROVIDE LONG-RANGE WIDE-ANGLE CAMERA TO EFFECTIVELY CAPTURE THE GREAT ROOM.



2025-12-11 PLAN

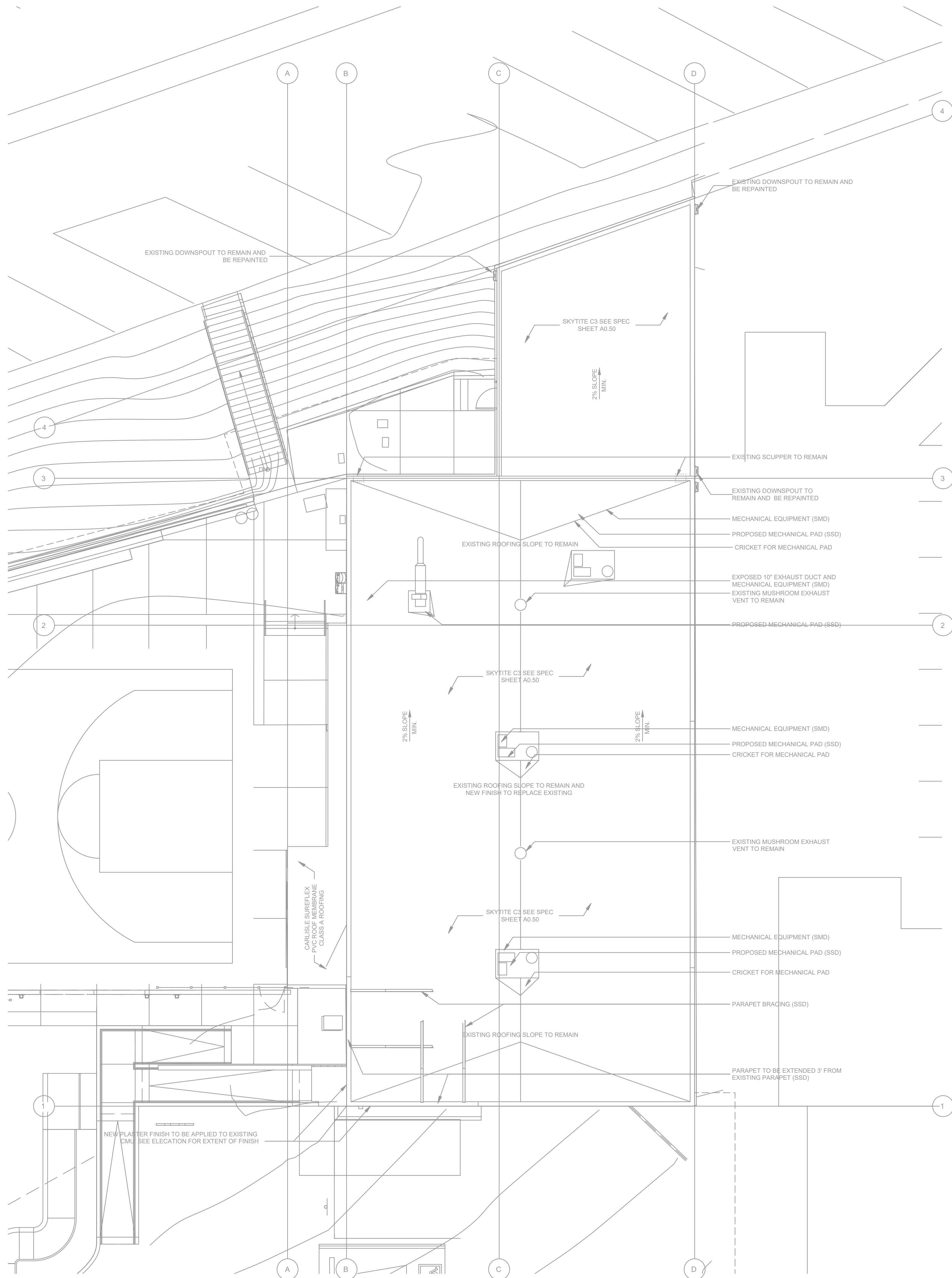
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ROOF LEVEL PLAN

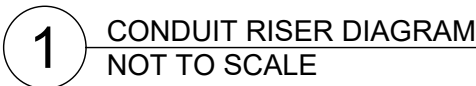
Designed by:	KW
Drawn by:	KW
Checked by:	IR
Project number:	124011

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1 ROOF LEVEL PLAN
1/8"=1'0"

2025-12-11 | PLAN

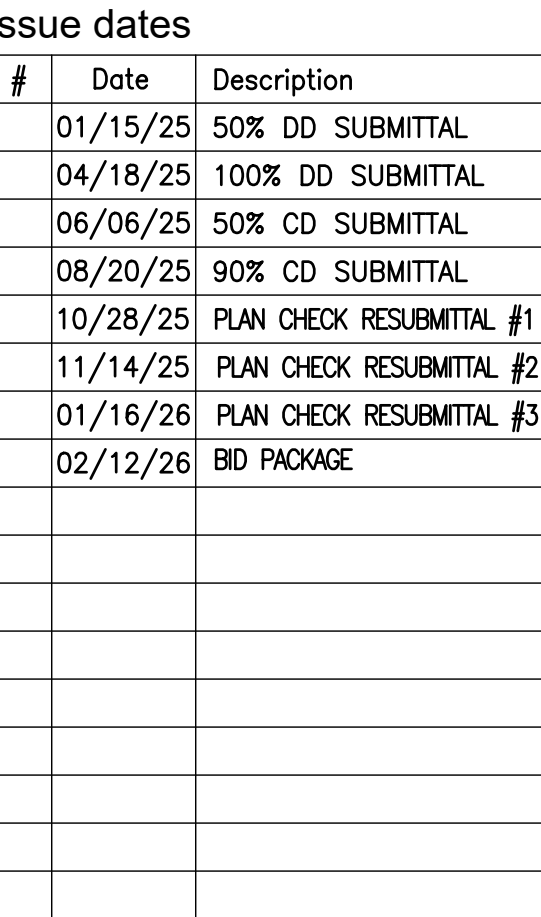


1. CONDUIT RUNS SHALL CONTAIN NO MORE THAN TWO (2) 90 DEGREE BENDS AND HAVE AN AGGREGATE BEND OF NO MORE THAN 180 DEGREES WITHIN A PULL BOX. PULL BOXES SHALL BE INSTALLED IN STRAIGHT CONDUIT SECTIONS ONLY.
2. ALL CONDUIT STUBS SHALL BE REAMED AND BUSHED.
3. ALL CONDUITS SHALL CONTAIN PULL STRING.
4. ALL INTRA-BUILDING CONDUITS SHALL BE ROUTED OVERHEAD: NOT UNDERGROUND OR BELOW GROUND FLOOR SLAB - EXCEPT FOR INCOMING SERVICE CONDUITS AND DEMARC EXTENSION.
5. LABEL ALL CONDUIT ENDS WITH DESTINATION.
6. ALL CONDUITS STUBS FOR OUTLET BOXES SHALL STUB TO ACCESSIBLE CEILING SPACE CONTIGUOUS TO DESTINATION CLOSET.
7. ALL BELOW GRADE INTER-BUILDING AND SERVICE ENTRANCE CONDUITS SHALL BE SCHEDULE 40 PVC.
8. INCOMING SERVICE AND OTHER BELOW GRADE CONDUITS SHALL HAVE A MINIMUM SEPARATION FROM ADJACENT CONDUITS AND SHALL STUB 4" AFF.



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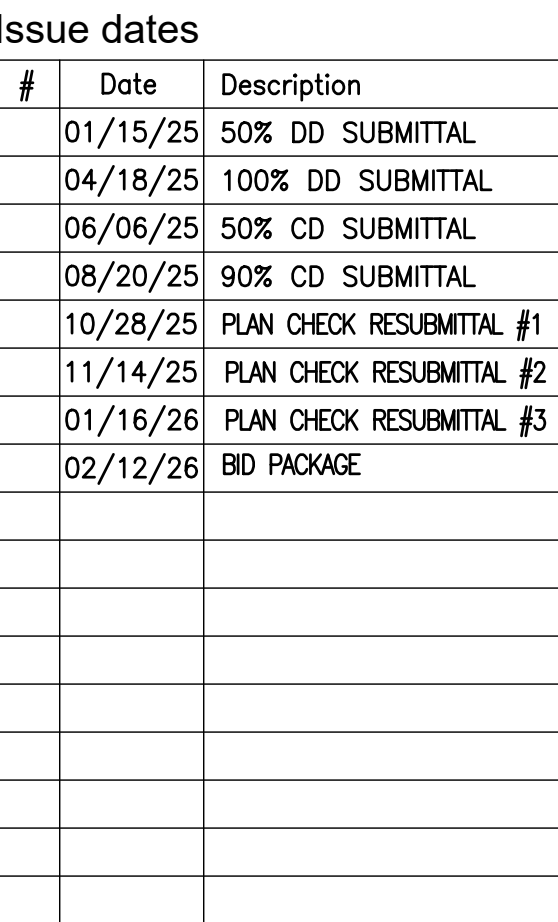
CONDUIT RISER DIAGRAM

Designed by:	KW
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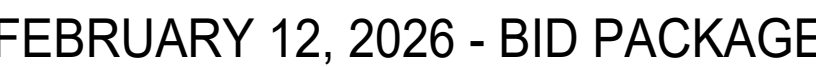
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T7.02



SHOWN FOR REFERENCE ONLY.
VERIFY FINAL GROUNDING
SYSTEM DESIGN WITH
ELECTRICAL ENGINEER.



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TEEN CENTER AND TEEN PLAZA

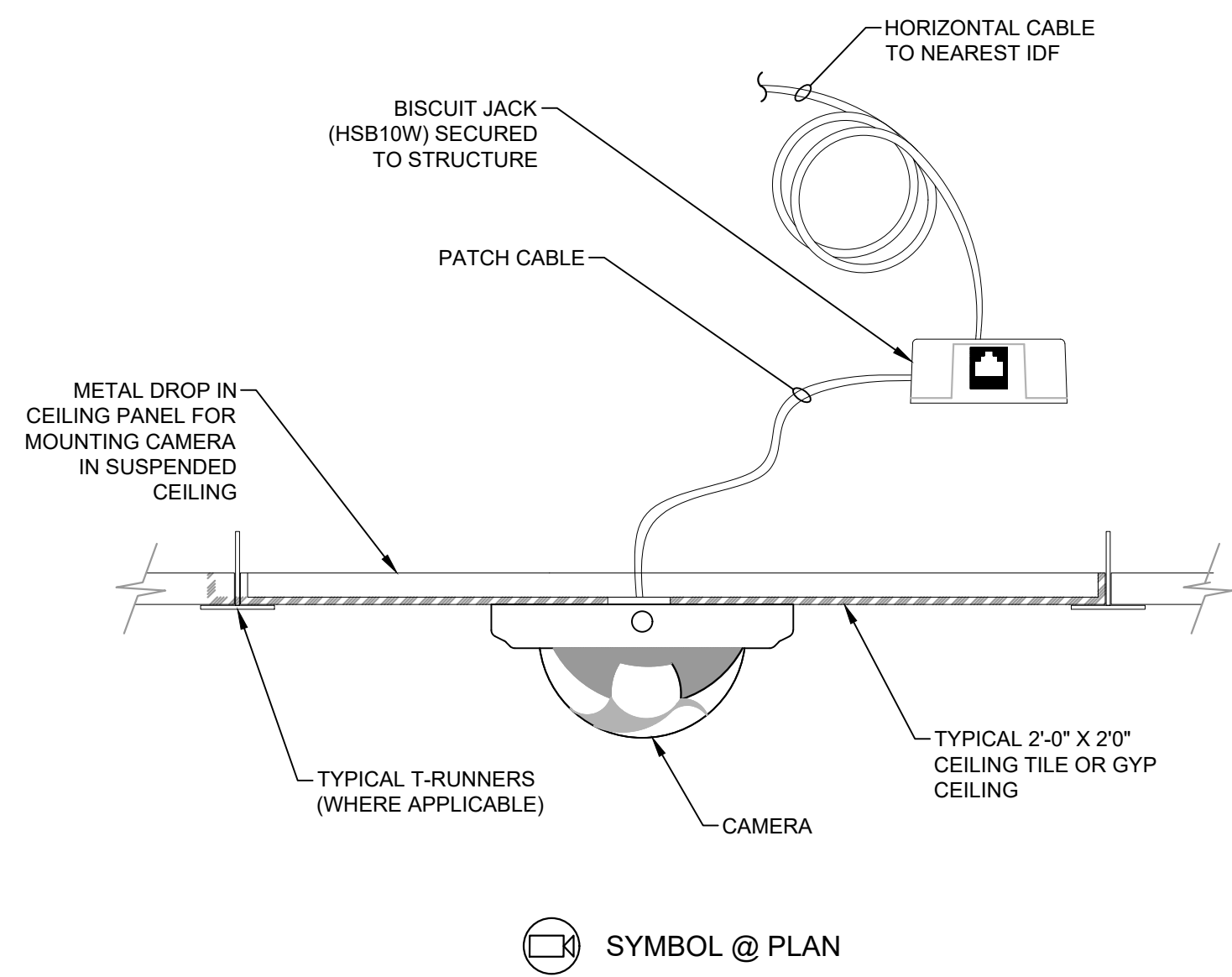
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SECURITY INSTALLATION DETAILS

Designed by:	KW
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CCTV SYSTEM COMPONENTS SCHEDULE			
DESCRIPTION	MANUFACTURER	PART NUMBER	COMMENTS
VIDEO MANAGEMENT SOFTWARE	AXIS	CAMERA STATION	
NVR, 32-CH, 16TB	AXIS	S1232 (QUANTITY AS REQUIRED)	
WORK STATION / TERMINAL	AXIS	S9302	
HIGH RESOLUTION COLOR MONITORS	SAMSUNG	27" (ITEMIZE PRICE FOR ADDITIONAL MONITORS)	
CAMERAS - FIXED INDOOR MINI DOME	AXIS	M3085-V	
CAMERAS - OUTDOOR - FIXED	AXIS	M3215-LVE	
POE NETWORK SWITCH	AXIS	T8516	
SURGE PROTECTION	AXIS	T8061	

1. PROVIDE SHOP DRAWINGS PRIOR ANY INSTALLATION OR PURCHASE ACTIVITIES. COMPONENT SPECIFICATION SHEET ABOVE IS INTENDED FOR REFERENCE. ALTERNATE SOLUTIONS OR MANUFACTURES PRODUCTS MAY BE PROPOSED. CUT SHEETS MUST BE SUBMITTED FOR ALL PRODUCTS PROPOSED, PRIOR TO PURCHASING ANY EQUIPMENT. SUBMIT A SINGLE-LEAF NETWORK DIAGRAM DEPICTING ALL CAMERAS, NETWORK SWITCHES, ETC., ALL COMPONENTS OF THE NETWORK FOR REVIEW AND APPROVAL BY THE NETWORK DESIGNER. THE NETWORK ALL LABELING INFORMATION FOR CAMERAS AND INFORMATION REGARDING IP ADDRESSING AND LICENSING REQUIREMENTS.
2. INSTALLER TO PROVIDE AND INSTALL ALL COMPONENTS FOR COMPLETE SYSTEM, INCLUDING ALL CABELING, NETWORK PATCH PANELS, NETWORK SWITCHES, CAMERAS, RECORDERS, VIDEO STORAGE AND VIDEO MANAGEMENT SOFTWARE.
3. CCTV SYSTEM TO HAVE COMPLETE SEPARATE DEDICATED NETWORK, ALL NETWORK EDGE SWITCHES AND CORE SWITCH TO BE PROVIDED AND INSTALLED AS PART OF SYSTEM, AND SHALL BE POWERED VIA UPS UNITS.
4. CAMERAS TO BE CONFIGURED TO RECORD ON MOTION - RECORD AT MINIMUM OF 15FPS AND MINIMUM RESOLUTION OF 20IR-704X240 30FPS. PROVIDE STORAGE CAPACITY FOR MINIMUM OF 30 DAYS OF VIDEO.
5. VIDEO MANAGEMENT SOFTWARE MUST INCLUDE "SMART PHONE" VIEWER APP CAPABILITY TO ALLOW FOR PASSWORD PROTECTED REMOTE VIEWING OF CAMERAS AND PLAYBACK ARCHIVED VIDEO FROM SMART PHONES & TABLETS. (IOS AND ANDROID COMPATIBLE).
6. PROVIDE A MINIMUM OF (2) HIGH RES MONITORS IN SECURITY ROOM OR WORK ROOM. CONFIGURE TO PROVIDE OVERALL VIEWING AND "POP UP" IMAGES TRIGGERED BY MOTION DETECTION.

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C	PROJECT REQUIREMENTS
1)	THE EQUIPMENT LISTED HAS BEEN APPROVED FOR USE IN THIS PROJECT. ANY SUBSTITUTIONS FOR THE EQUIPMENT LISTED SHALL BE SUBMITTED IN WRITING AND APPROVAL GIVEN BEFORE ITEM WILL BE USED AS PART OF THE DESIGN. ALL REQUEST FOR INFORMATION (RFI) WILL BE SUBMITTED IN WRITING. THE AV CONTRACTOR SHALL ADVISE THE INTEGRATOR AND WILL BE ANSWERED THROUGH THE SAME PARTY.
2)	EQUIPMENT SHOULD BE ORDERED RELATIVE TO THE INSTALLATION DATES TO ENSURE THAT THE CUSTOMER RECEIVES THEIR MAXIMUM WARRANTY COVERAGE AND TO PREVENT ADDITIONAL CHARGES FOR STORAGE.
3)	IF A SIGNIFICANT AMOUNT OF TIME HAS PAST BETWEEN PROPOSAL ACCEPTANCE AND EQUIPMENT ORDERING, THE CONTRACTOR SHALL REVIEW THE EQUIPMENT FOR PRICE DECREASES, DISCONTINUED EQUIPMENT, OR OTHER ITEMS THAT MIGHT AFFECT THE FINAL EQUIPMENT PURCHASED. A LIST OF ALL CHANGES SHALL BE SUBMITTED TO THE OWNER AND CONSULTANT FOR REVIEW PRIOR TO ORDERING EQUIPMENT.
4)	ALL EQUIPMENT SHALL BE PROVIDED BY AN AUTHORIZED DEALER OF THE EQUIPMENT WITH FULL WARRANTY AND SERVICE GUARANTEES APPLICABLE.
5)	EQUIPMENT INSTALLER SHALL HAVE ALL CERTIFICATIONS PERTAINING TO PROGRAMMING, INSTALLATION, AND OPERATION OF THE EQUIPMENT PER THE EQUIPMENT MANUFACTURERS RECOMMENDATION.
6)	EQUIPMENT PROVIDER SHALL BE ABLE TO PROVIDE RESPONSE TIME WITHIN ONE BUSINESS DAY FOR ANY ISSUES RELATING TO THE INSTALLATION, SERVICE, PERFORMANCE, OR MALFUNCTION WITH THE INSTALLED SYSTEM.
7)	ALL COST ASSOCIATED WITH THE PREPARATION OF THIS PROPOSAL WILL BE THE RESPONSIBILITY OF THE PROPOSING INTEGRATOR.
8)	INSTALLATION PROCEDURES SHALL FOLLOW BEST PRACTICE STANDARDS SET ASIDE BY INFOCOMM INTERNATIONAL, NSCA, BICSI, NEC, ISO/IEC OR OTHER RELATED ORGANIZATIONS THAT PERTAIN TO THE INSTALLED SYSTEMS. ANY RELATED STANDARDS INCLUDING LOCAL CODES AND REGULATIONS ARE THE RESPONSIBILITY OF THE AV INTEGRATOR, TO DISCOVER AND FOLLOW AS RELATED TO THIS PROJECT.
9)	ALL TERMS OF THE CONTRACT SHALL BE DETERMINED BY THE G.C. AND THE PROJECT TEAM. NO OTHER AGREEMENTS SHALL BE FOLLOWED AS PART OF THIS PACKAGE.
10)	ALL EQUIPMENT TYPES, EQUIPMENT COUNTS, CONNECTIVITY AND SPECIFICATIONS ARE CONTAINED WITHIN THIS PACKAGE. IT IS THE RESPONSIBILITY OF THE EQUIPMENT PROVIDER AND INTEGRATOR TO VERIFY ALL COUNTS, CONNECTIVITY, AND FUNCTIONALITY. ANY QUESTIONS RELATED TO THIS DESIGN PACKAGE SHALL BE DIRECTED THROUGH THE PRIMARY CONTRACTOR.
11)	AV CONTRACTOR SHALL ABIDE BY ALL RULES AND REGULATIONS SET ASIDE BY THE OWNERS POLICY, SAFETY, INSURANCE, BONDING, SITE REGULATIONS AND OTHER RELATED POLICIES REGARDING THIS PROJECT.
12)	THE INTEGRATION TEAM SHALL MAINTAIN A CLEAN WORK AREA AT ALL TIMES. THIS INCLUDES BUT IT NOT LIMITED TO, SWEEPING UP, THE REMOVAL OF ALL TRASH ITEMS, NEAT STORAGE OF EQUIPMENT, TOOLS, BOXES, WIRES, AND ANY RELATED MATERIALS.
13)	A CLEAN PROFESSIONAL APPEARANCE AND WORK ATMOSPHERE IS ALSO REQUIRED. CLOTHING MUST BE CLEAN AND APPROPRIATE. THE INSTALLERS, WITH CONVERSATIONS SHALL BE DONE WITH RESPECT TO THE WORK ENVIRONMENT AND THOSE AROUND THE FACILITY.
14)	ARRANGEMENTS FOR ON-SITE STORAGE OF EQUIPMENT, TOOLS, OR OTHER RELATED MATERIALS SHOULD BE COORDINATED WITH THE GC OR APPROPRIATE ON-SITE GROUP RESPONSIBLE FOR THE SITE.

	PROJECT CONTRACTOR NOTES
1)	TWO SETS OF SHOP DRAWINGS SHALL BE SUBMITTED TO THE OWNERSHIP AND THE CONSULTANT PRIOR TO WORK STARTING. TO CONVEY THE UNDERSTANDING OF THE DESIGN AND THE EXPECTATION OF THE CONTRACTOR AS IT RELATES TO THEIR SCOPE. INCLUDED WITH THE SHOP DRAWINGS SHALL BE: A) A COMPLETE SET OF DRAWINGS SHOWING THE SPECIFIC CONFIGURATION AND CONNECTIVITY OF THE SYSTEMS REPRESENTED IN THIS SCOPE OF WORK. B) DRAWINGS SHALL BE SUBMITTED EITHER ELECTRONICALLY USING DWGISOFT/ OR SIMILAR INDUSTRY STANDARD, OR HARD COPY ON DRAWING SHEETS MATCHING THE PROJECT STANDARD SIZE. C) WIRING, RACK PLACEMENT, CONNECTIVITY, WALL & FLOOR PENETRATIONS, BLOCK DIAGRAMS, AND SIMILARLY RELATED INFORMATION SHALL BE CONVEYED WITH IN THE SHOP DRAWINGS SUBMITTED. D) ANY CONTROL SYSTEM INTERFACE UNITS SHALL HAVE A GUI OR ENGRAVING INSTRUCTION DEVELOPED BY THE INSTALLING CONTRACTOR AND WILL BE SUBMITTED FOR REVIEW & COMMENT BY THE DESIGN TEAM AND OWNERSHIP BEFORE FINAL SYSTEM WILL BE ACCEPTED. E) ANY EQUIPMENT SUCH AS SPEAKERS, PROJECTORS, LIFTS, OR SIMILAR PRODUCTS THAT REQUIRE SPECIAL INFORMATION FOR INSTALLATION SHALL BE DETAILED FOR INSTALLATION REFERENCE.
2)	TESTING SHALL BE DONE BASED ON BEST PRACTICES RECOMMENDATIONS WITH PERTINENT TESTING. A COMPLETE LIST OF THE TEST EXPECTED TO BE DONE SHALL BE INCLUDED WITH THE PROPOSAL. A FINAL REPORT OF THE TEST RESULTS SHALL BE INCLUDED AS A PART OF THE FINAL CLOSE-OUT PACKAGE.
3)	TWO SETS OF A FINAL CLOSEOUT PACKAGE SHALL BE PROVIDED TO THE OWNER AND THE CONSULTANT, UPON COMPLETION OF THE PROJECT. THIS PACKAGE SHALL INCLUDE THE SET OF AS-BUILT DRAWINGS, A CONNECTIVITY SHEET (LAMINATED) AND PLACED WITH THE EQUIPMENT RACK PROGRAMMING INFORMATION. THIS SHOULD BE PLACED WITH THE VERSIONS USED FOR PROGRAMMING AS WELL AS A USABLE COPY OF THE FINAL PROGRAMMING DONE FOR EACH PIECE OF PROGRAMMABLE EQUIPMENT. A LIST OF FINAL SETTINGS SHALL ALSO BE PROVIDED FOR REFERENCE. A COPY OF ALL RELATED MANUALS AND WARRANTIES SHALL ALSO BE PROVIDED. THIS INFORMATION SHALL BE PLACED IN A THREE(3) RING BINDER.
4)	ALSO INCLUDED WITH THE FINAL CLOSEOUT PACKAGE SHOULD BE A BASIC OPERATIONAL LAMINATE THAT PROVIDES A QUICK REFERENCE TO BASIC SYSTEMS OPERATIONS. THIS SHOULD BE PLACED WITH THE CONNECTIVITY SHEET LAMINATE AT THE EQUIPMENT RACK LOCATION.
5)	AS-BUILT DRAWINGS ARE REQUIRED FOR THIS INSTALLATION. ALL AS-BUILT DRAWINGS SHALL INDICATE EQUIPMENT, CONNECTIVITY, LABELING, AND RELATED INFORMATION.
6)	UPON COMPLETION OF THE PROJECT AND A FINAL INSPECTION BY THE CONSULTANT, A FINAL TRAINING SHALL BE ARRANGED BY THE PRIMARY CONTRACTOR TO OFFER COMPLETE TRAINING ON ALL REQUIRED SYSTEMS.
7)	ALL CURRENT NETWORK & AUDIO VIDEO PROTOCOLS, STANDARDS, AND GUIDELINES SHALL BE FOLLOWED WHEN MAKING CONNECTIONS, PROGRAMMING, AND LABELING THE SYSTEMS.
8)	CAD FILES OF THE CONSULTANTS DRAWINGS SHALL NOT BE PROVIDED AND SHALL NOT BE USED WITH THE POSSIBLE EXCEPTION OF A COMBINED RCP & FLOOR PLAN DRAWING THAT COULD BE MADE AVAILABLE WITH A SIGNED RELEASE FORM. IT IS INTENDED THAT ALL REFERENCES INDICATED IN THIS PACKAGE ARE TO BE PROVIDED BY THE AV INTEGRATOR AND DONE WITH THEIR OWN DRAWINGS AND FORMATS. BACKGROUND DRAWINGS IN CAD FORM SHOULD BE REQUESTED FROM THE ARCHITECT TO BE MADE AVAILABLE FOR USE.
J	JUNCTION BOX & CONDUIT NOTES
1)	ALL CONDUIT IS TO BE 3/4" UNLESS OTHERWISE NOTED.
2)	ONE JUNCTION PULL BOX APPROX. EVERY 100' OF STRAIGHT CONDUIT RUNS. ALSO LOCATE ONE JUNCTION PULL BOX FOR EVERY TWO NINETY DEGREE BENDS OR SIMILAR ANGLES. ACCESS TO THE PULL BOX LOCATIONS SHOULD BE COORDINATED WITH THE DESIGN TEAM.
3)	THE JUNCTION BOX LOCATIONS ARE GIVEN FOR COORDINATION PURPOSES ONLY. THE PATHWAY OF THE RELATED CONDUIT WILL BE DETERMINED BY THE MEP FIRM AND FIELD CONDITIONS.
4)	EACH JUNCTION BOX SHALL HAVE A PULL STRING PROVIDED FOR FUTURE CABLE INSTALLATIONS. ALL CABLE INSTALLATIONS WILL INCLUDE A REPLACEMENT PULL STRING. ALL CONDUIT RUNS SHALL BE LABELED ON BOTH ENDS.
5)	ALL CONDUIT PATHWAYS TO BE STUBBED TO ACCESSIBLE CEILING AREA CONTIGUOUS TO CABLE DESTINATION ROOM. TO PROVIDE FULLY ACCESSIBLE CABLE PATHWAY.
6)	ALL CONDUIT SHALL BE CLEARLY MARKED ON EACH END WITH TAPE, LABEL, OR PAINT AS TO DESIGNATE IT SPECIFICALLY FOR AUDIOVISUAL USE ONLY.
K	ELECTRICAL AND MECHANICAL NOTES
1)	ANY ELECTRICAL DEVICE LOCATIONS ARE MEANT FOR THE INCORPORATION INTO THE PROJECT ELECTRICAL DRAWINGS FOR INCLUSION INTO THE ELECTRICAL SYSTEMS.
2)	POWER RECEPTACLES ARE SHOWN FOR REFERENCE ONLY. THEY ARE SHOWN FOR THE INCORPORATION BY THE ELECTRICAL ENGINEER INTO THEIR STAMPED DRAWINGS.
3)	DO NOT RUN ELECTRICAL FEEDS PARALLEL TO ANY AUDIO/ VIDEO/ OR CONTROL CABLE WHEN EVER POSSIBLE. ALL CABLE CROSSING SHOULD BE DONE AT A NINETY DEGREE ANGLE. A MINIMUM OF FOUR FEET OF SEPARATION SHOULD BE MAINTAINED FOR ANY PARALLEL RUNS.
4)	DETAILS RELATED TO ELECTRICAL REQUIREMENTS AND HEAT LOADS ARE PROVIDED FOR IN THE DETAILS SECTION OF THE DRAWINGS. OUTLET LOCATIONS ARE CALLED OUT FOR ON BOTH THE DRAWINGS AND THE DETAIL SECTIONS.
5)	CABLE TRAYS ARE EXPECTED TO BE IN THE DOMAIN OF THE ELECTRICAL CONTRACTOR AND THE GC. J-HOOKS AND RELATED SUPPORT FOR OTHER CABLES NEEDS SHALL BE PROVIDED BY THE AV INTEGRATOR UNLESS STRUCTURAL REQUIREMENTS DICTATE OTHERWISE.
6)	THE ELECTRICAL CONTRACTOR WILL INSTALL ALL FLOOR MOUNT AND OUTLET BOXES. CABLING CONTRACTOR TO FURNISH AND INSTALL VOICE AND DATA CABLING, FACEPLATES AND JACKS AS DETAILED ON DRAWINGS.
L	NETWORK CONFIGURATION
1)	AT SOME RACK LOCATIONS THERE ARE TWO DATA DROPS INDICATED. ONE DROP IS RECOMMENDED TO BE CONNECTED TO THE ADMINISTRATIVE NETWORK. THE SECOND DROP IS TO BE COORDINATED WITH THE HIGH SPEED INTERNET SERVICE PROVIDER FOR AN OUTSIDE ACCESS IP ADDRESS FOR USE WITH THE BACKGROUND MUSIC SYSTEMS. (WHERE APPLICABLE) IF ONLY ONE DATA DROP IS INDICATED THEN THE ADMINISTRATIVE NETWORK IS THE DEFAULT CONNECTION.
2)	IF ACCESS TO THE FACILITIES LAN IS NOT AVAILABLE, IT IS THE RESPONSIBILITY OF THE INTEGRATOR TO CREATE A SUB-NETWORK FOR THESE SYSTEMS TO RESIDE ON AND INTERACT WITH. A VLAN SHOULD FOLLOW ALL FACILITY AND INDUSTRY STANDARDS FOR CONFIGURATION.

P	GENERAL TESTING REQUIREMENTS
1)	VERIFY ALL CABLE IS DEFECT FREE, WITH NO SHORTS AND/OR OPENS PRIOR TO CONNECTION TO ANY HEAD END OR FIELD DEVICES. USE AN OHM METER TO VERIFY THIS.
2)	VERIFY THAT ALL IMPEDANCE SWEEPS MATCH THE MANUFACTURES SPECIFICATIONS AND INTENDED DESIGN LEVELS.
3)	VERIFY THAT THE POLARITY OF ALL MICROPHONE INPUTS, LINE LEVEL INPUTS AND SPEAKER CABLES IS CORRECT.
4)	CONFIGURE ALL GAIN LEVELS, AND SIGNALS FOR OPTIMAL HEADROOM AND STRUCTURE. ALL SIGNALS SHOULD PEAK SIMULTANEOUSLY FOR OPTIMAL PERFORMANCE.
5)	OUTLET LEVELS ON ALL AMPLIFIERS SHOULD BE BALANCED TO MEET PERFORMANCE REQUIREMENTS OF THE SPACE AND TO KEEP NOISE LEVELS AT A MINIMUM.
6)	ENSURE THAT THE VIDEO IMAGE IS FREE FROM DEFECTS SUCH AS HUMBAR, BLOOMING, GHOSTING, OR RELATED DEGRADATION OF SIGNAL QUALITY.
7)	VERIFY THAT ALL CABLES, CONNECTIONS, PATCHES, HEAD-END, FIELD, AND MISCELLANEOUS EQUIPMENT IS CONNECTED PROPERLY AND IN GOOD WORKING CONDITION.
8)	TEST ALL OUTLETS PERTAINING TO THE AV SYSTEMS FOR CORRECT POLARITY AND VOLTAGE LEVELS. REPORT ANY DISCREPANCY TO THE ELECTRICAL CONTRACTOR.
9)	THE AUDIO COVERAGE UNIFORMITY STANDARD (ACU) ANSI/INFOCOMM 10-2009 SHALL BE FOLLOWED FOR TESTING OF AUDIO UNIFORMITY IN ALL SPACES USING OVERHEAD CEILING SPACES IN AN ENCLOSED ROOM.
10)	PROVIDE DOCUMENTATION OF ALL TEST PERFORMED AND THE RESULTS. THIS SHALL INCLUDE POLARITY AND CONTINUITY TESTS, IMPEDANCE SWEEPS OF INSTALLED SPEAKERS, AND OUTLET TEST RESULTS.
11)	PROVIDE DOCUMENTATION OF ALL FINAL GAIN AND LEVEL SETTINGS OF ALL HEAD-END EQUIPMENT AS WELL AS ANY CORRESPONDING SETTINGS OF FIELD EQUIPMENT THAT HAS ADJUSTABLE LEVELS.
12)	A COPY OF ALL TEST PERFORMED, TEST POINTS, AND RESULTS SHALL BE PROVIDED TO THE CONSULTANT DURING FINAL INSPECTION AND WILL BE INCLUDED IN THE FINAL CLOSEOUT PACKAGE.
13)	ALL CATEGORY 6 (OR RELATED) HORIZONTAL RUNS MUST BE TESTED PER THE LATEST EDITION OF TIA/EIA 568C FOR COMPLIANCE TO CATEGORY 6 (OR RELATED) SPECIFICATIONS. TESTERS MUST BE LEVEL III RATED. ALL TESTING MUST BE REVIEWED BY CUSTOMER REPRESENTATIVE PRIOR TO ACCEPTANCE OF CABLING SYSTEM. TEST WILL BE CONDUCTED PER THE MOST RECENTLY AVAILABLE VERSION OF SOFTWARE AND HARDWARE. TEST RESULTS MUST BE SUBMITTED IN DISK FORMAT. A PRINTED VERSION IN BRIEF FORMAT MAY BE REQUIRED.
14)	ALL MULTI-MODE FIBER OPTIC TESTS SHALL BE PERFORMED AT THE 850 nm and 1300 nm WINDOWS IN BOTH DIRECTIONS. SINGLE-MODE FIBER OPTIC TESTS SHALL BE PERFORMED AT THE 1310 nm AND 1550 nm WINDOWS IN BOTH DIRECTIONS (IF APPLICABLE).
15)	ALL CONNECTORS SHALL BE TESTED AND THE LOSS MEASURED IN DB. CONNECTORS MUST HAVE A LOSS OF 0.5 DB OR LESS PER MATED PAIR TO BE ACCEPTED.
16)	ALL FIBER OPTIC LINKS SHALL BE TESTED AND LOSS MEASURED IN DB/CM. ALL FIBER TO BE TERMINATED WITH "SC" STYLE CONNECTORS.
17)	A HARD COPY OF ALL TEST RESULTS INCLUDING LINK LENGTHS, SHALL BE PROVIDED BY THE CONTRACTOR TO THE OWNER. ALL EVENTS ON THE LINK, INCLUDING RETURN LOSS, SHALL BE MEASURED AND COMPLY WITH TIA/EIA 568C REQUIREMENTS.
Q	SYSTEMS TRAINING REQUIREMENTS
1)	UPON COMPLETION OF THE SYSTEMS INSTALLATION, CONFIGURATION, AND TESTING, A TRAINING EFFORT SHALL BE SET UP FOR KEY PERSONNEL THAT INTERFACE WITH THE TECHNOLOGY.
2)	A PLAN SHOULD BE SUBMITTED TO THE OWNER/OWNER REPRESENTATIVE, CONSULTANT, AND DESIGN TEAM THAT REPRESENTS THE TOPICS THAT WILL BE COVERED.
3)	THE TRAINING SHALL INCLUDE BASIC OPERATION, SYSTEMS CAPABILITIES, WORKING WITH INTERFACES, AND VERY BASIC TROUBLE SHOOTING CONCEPT.
4)	THIS EFFORT SHOULD INCLUDE AT LEAST TWO TRAINING CLASS TIMES. THIS SHOULD BE VERIFIED WITH OWNERSHIP. ALL ARRANGEMENTS SHOULD BE HANDLED WITH OWNERSHIP AND INTEGRATOR.
5)	TRAINING SHOULD INCLUDE ACCESSING PROJECT CLOSEOUT DOCUMENTS AND A REVIEW OF WHERE EACH DOCUMENT TYPE IS LOCATED.
R	SYSTEMS WARRANTY
1)	FULL WARRANTY FOR ALL EQUIPMENT SHALL BEGIN UPON THE SIGN OFF OF COMPLETION. A MINIMUM OF ONE YEAR ON-SITE SERVICE SHALL BE PROVIDED ON ALL INSTALLATION AND INSTALLATION RELATED MATERIALS. THE MANUFACTURES WARRANTY SHALL BE FULLY SUPPORTED ON-SITE DURING THAT FIRST YEAR.
2)	AN OPTIONAL ADDITIONAL SERVICE AND WARRANTY PLAN SHOULD BE SUBMITTED FOR ADDITIONAL SUPPORT BEYOND THE ONE YEAR SUPPORT INDICATED ABOVE.
3)	ALL WARRANTY SUPPORT WILL BE DONE DIRECTLY BY THE SUBMITTER OF THIS PROPOSAL. FULL CONTACT INFORMATION INCLUDING EMAIL, PHONE, NAME, AND RELATED INFORMATION SHALL BE PROVIDED AS PART OF THE CLOSE-OUT DOCUMENTATION.
4)	ALL WARRANTY WORK SHALL BE DONE BY FACTORY AUTHORIZED FIRMS OR IN ACCORDANCE WITH THE MANUFACTURES ESTABLISHED METHODS OF WARRANTY SUPPORT.
5)	ANY PRODUCT THAT IS BEING PURCHASED THROUGH A SECOND PARTY AND THEREFORE RISKING THE LOSS OF WARRANTY SUPPORT SHOULD BE NOTED IN FULL IN THE PROPOSAL DOCUMENTATION FOR FURTHER CONSIDERATIONS.

S	PACKAGE INCLUSIONS
	1) A COMPLETE SET AV INFRASTRUCTURE, CABLING, EQUIPMENT, CONNECTIVITY, PROGRAMMING, AND INSTALLATION DRAWINGS. SPECIFICATIONS ARE INCLUDED IN THE DRAWING SET. 2) ADDITIONAL REQUIREMENTS FOR THE SYSTEM AS PROVIDED BY OTHERS. 3) FULL BIDDABLE PACKAGE FOR ALL AV SYSTEM REQUIREMENTS.

Sheet List Table	
	2025-01-20
Sheet Number	Sheet Title
TA0.00	SPECIFICATIONS
TA0.01	SYMBOLS & LEGENDS
TA1.10	GROUND LEVEL PLAN
TA2.10	GROUND LEVEL REFLECTED CEILING PLAN
TA7.01	EQUIPMENT & CONNECTIVITY SHEET
TA9.01	INSTALLATION DETAILS
	TOTAL NUMBER OF SHEETS = 6

EL SEGUNDO RECREATION
PARK PHASE 1
IMPROVEMENT PROJECT
TEEN CENTER
AND TEEN
PLAZA
405 E Grand Ave,
El Segundo, CA 90245

[illegible]

SPECIFICATIONS

Designed by:	KW
Drawn by:	KW
Checked by:	IR
Project number:	12401

TA0.00

M	I	G
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SYMBOLS / DESCRIPTIONS / INFRASTRUCTURE / EQUIPMENT

[illegible]

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network technologies, inc.

www.nticonsultants.com
TEL 404-878-4503
#25D00762

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ABBREVIATIONS & TERMS	
SYMBOL	DESCRIPTION
LC / SC	FIBER OPTIC TERMINATION (INDIVIDUALLY SPECIFIED)
RJ - XX	DATA TYPE CABLE TERMINATION(RJ-11/RJ-45)
RCA	STANDARD AUDIO/VIDEO CONNECTOR TYPE (M/F)
MINI	1/8" AUDIO CONNECTOR TYPE (M/F)(MONO/STEREO)
XLR	THREE PIN BALANCED AUDIO CONNECTOR TYPE (M/F)
SPDIF	COAXIAL RCA DIGITAL AUDIO CONNECTOR TYPE (M/F)
1/4"	1/4" AUDIO CONNECTOR TYPE (M/F)(MONO/STEREO)
PHOENIX	PHOENIX STYLE CONNECTOR
SP/ON	SPEAK ON TYPE CONNECTION (M/F)
15-PIN	15-PIN CONNECTION TYPE (TYPICAL COMPUTER CONNECTION)
RGBHV	FIVE BNC TYPE CONNECTORS (TYPICAL COMPUTER CONNECTION)
DVI	MULTI-PIN DIGITAL CONNECTOR (TYPICALLY FOR DIGITAL VIDEO)
HDMI	MULTI-PIN DIGITAL CONNECTOR (DIGITAL VIDEO, AUDIO, & CONTROL)
HDCP	HIGH-BANDWIDTH DIGITAL CONTENT PROTECTION
RS-232	9-PIN SERIAL CONTROL CABLE
RG-XX	COAXIAL CABLE CONNECTOR (M/F)
SSH	STANDARD SWITCH HEIGHT FOR THE PROJECT (TYPICALLY 48" ON CENTER)
SOH	STANDARD OUTLET HEIGHT FOR THE PROJECT (TYPICALLY 18" ON CENTER)
AFF	ABOVE FINISHED FLOOR
AFC	ABOVE FINISHED CEILING
BFC	BELOW FINISHED CEILING
FP	FLOOR PLAN
RCP	REFLECTIVE CEILING PLAN
UOS	UNLESS OTHERWISE SPECIFIED

TYPICAL FLOOR PLAN EQUIPMENT LOCATION:

Diagram illustrating typical floor plan equipment location for a speaker. The equipment is represented by a rectangular box labeled "AA.X". Labels "DEVICE TYPE" and "UNIT TYPE" point to the box. Below the box, "ZONE-X" is labeled, with "SPEAKER ZONE" and "BEING CONTROLLED (GP-X UNITS ONLY)" pointing to it.

TYPICAL RCP CEILING SPEAKER LOCATION:

Diagram illustrating typical RCP ceiling speaker location. Two circles labeled "SX" are connected by a curved line labeled "CONNECTION PATHWAY". The left "SX" is connected to "DEVICE TYPE" and "UNIT TYPE". The right "SX" is connected to "HOMERUN TO [SPECIFY IDF] ZONE-X" and "SPEAKER ZONE".

TYPICAL RCP PROJECTOR LOCATION:

Diagram illustrating typical RCP projector location. A circle labeled "PX" is connected to "HOMERUN TO [SPECIFY IDF]". Above it, "12\" AFC" is connected to "POWER TYPE". To the left, "12\" AFC" is connected to "POWER TYPE". Below "PX", "PROJECTOR LENS DIRECTION" is indicated. "PX" is also connected to "DEVICE TYPE" and "UNIT TYPE".

TYPICAL RCP SCREEN LOCATION:

Diagram illustrating typical RCP screen location. A rectangle labeled "ST.X" is connected to "HOMERUN TO [SPECIFY IDF]". Above it, "12\" AFC" is connected to "POWER TYPE". To the left, "12\" AFC" is connected to "POWER TYPE". Below "ST.X", "SYMBOL" is indicated. "ST.X" is also connected to "DEVICE TYPE" and "UNIT TYPE".

TYPICAL LINE DRAWING TAB INDICATOR:

Diagram illustrating typical line drawing tab indicator. Two boxes labeled "OUT ID-XXX" and "IN ID-XXX" are connected by a line labeled "LINE IDENTIFIER". Below them, "TAX.XX" is connected to "OUT ID-XXX" and "IN ID-XXX". "TAX.XX" is also connected to "LINE IDENTIFIER" and "SHEET REFERENCE FOR LINE MATCH".

SYMBOL	DESCRIPTION
	INTERIOR ELEVATION INDICATOR
	EXTERIOR ELEVATION INDICATOR
	DETAIL INDICATOR
	TITLE BLOCK

[illegible][illegible]

SYMBOLS & LEGENDS

TA0.01

FEBRUARY 12, 2026 - BID PACKAGE

HOMERUN ALL CABLES ON THIS LEVEL TO AV/DV RACK IN DATA CENTER
THIS LEVEL.

360 East Second Street
Suite 675
Los Angeles, CA 90012

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CA 90245

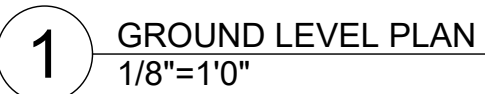
IMPROVEMENT PROJECT

405 E Grand Ave,
El Segundo, CA 90245

Sheet title:

Designed by:	KW
Drawn by:	KW
Checked by:	IR
Project number:	12401

FEBRUARY 12, 2026 - BID PACKAGE



2025-12-11 PLAN

350 Main St, El Segundo,
CA 90245

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El Segundo, CA 90245

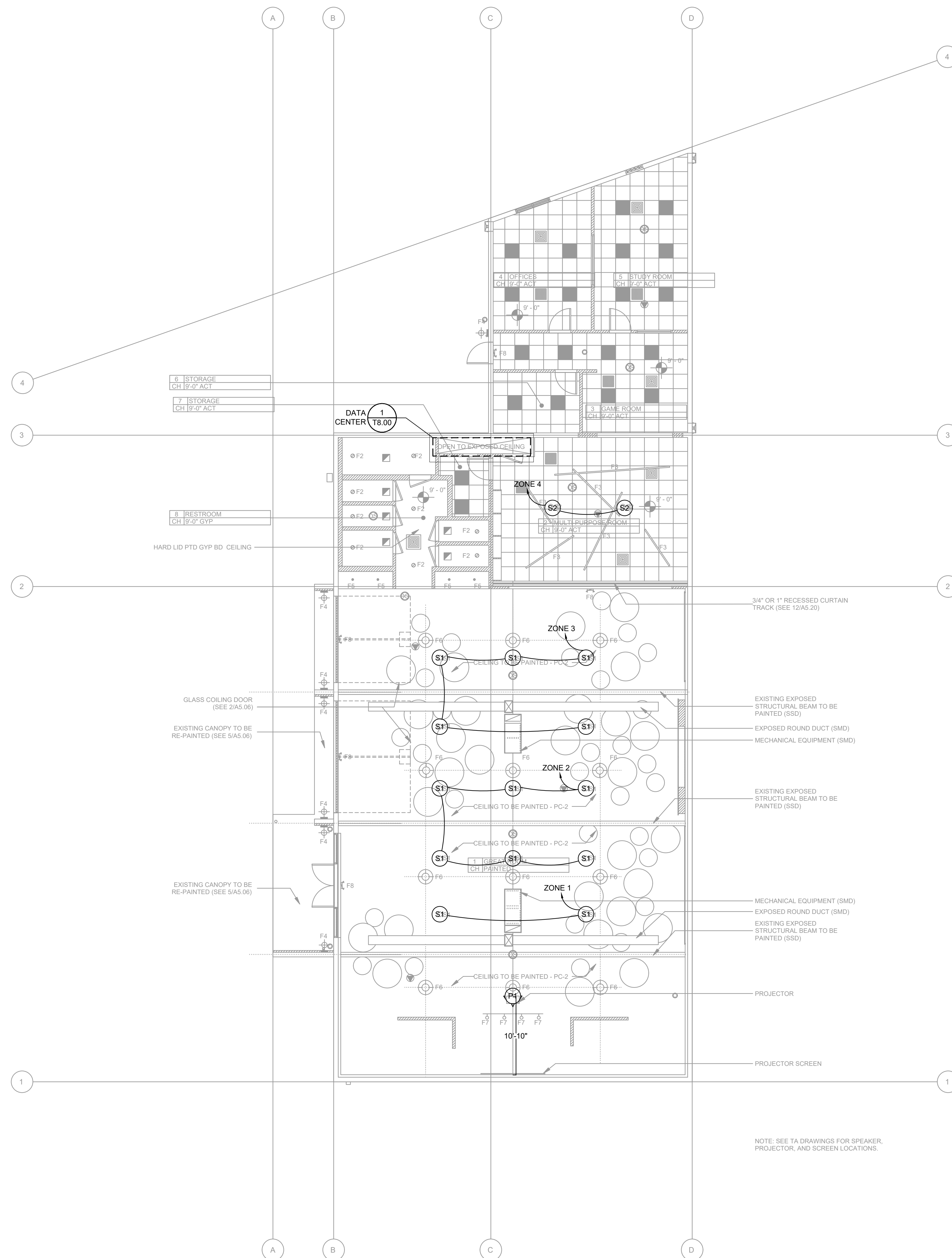
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Sheet title:

GROUND LEVEL
REFLECTED
CEILING PLAN

Designed by:	KW
Drawn by:	KW
Checked by:	IR
Project number:	12401

TA2.10



1 GROUND LEVEL REFLECTED CEILING PLAN
1/8"=1'0"

2025-12-11 PLAN

THE AV RACK REPRESENTS THE EQUIPMENT AND QUANTITIES OF ALL THE EQUIPMENT SHOWN IN THE CENTER SECTION OF THE FLOW DIAGRAM BELOW. ITEMS SUCH AS PATCH CABLES, MOUNTING EQUIPMENT, CABLE ORGANIZERS, AND RELATED RACK EQUIPMENT ARE EXPECTED TO BE INCLUDED IN THE FINAL PACKAGE. PROVIDE PROPER COOLING, AND AIR CIRCULATION FOR EQUIPMENT. AMBIENT TEMPERATURE SHALL NOT EXCEED 85 DEGREES F. PROVIDE CUSTOM SHELVES FOR ALL NON-RACK MOUNT EQUIPMENT INCLUDED IN THE RACK. PROVIDE RACK BLANKS AS NEEDED. APPROX. HEAT LOAD **4,000 BTU/RACK**. PROVIDE APPROPRIATE POWER STRIPS & CONDITIONING AS NEEDED.

SEE SHEET T8.00 FOR MORE
DETAILS.

Designed by:	KW
Drawn by:	KW
Checked by:	IR
Project number:	12401

FEBRUARY 12, 2026 - BID PACKAGE





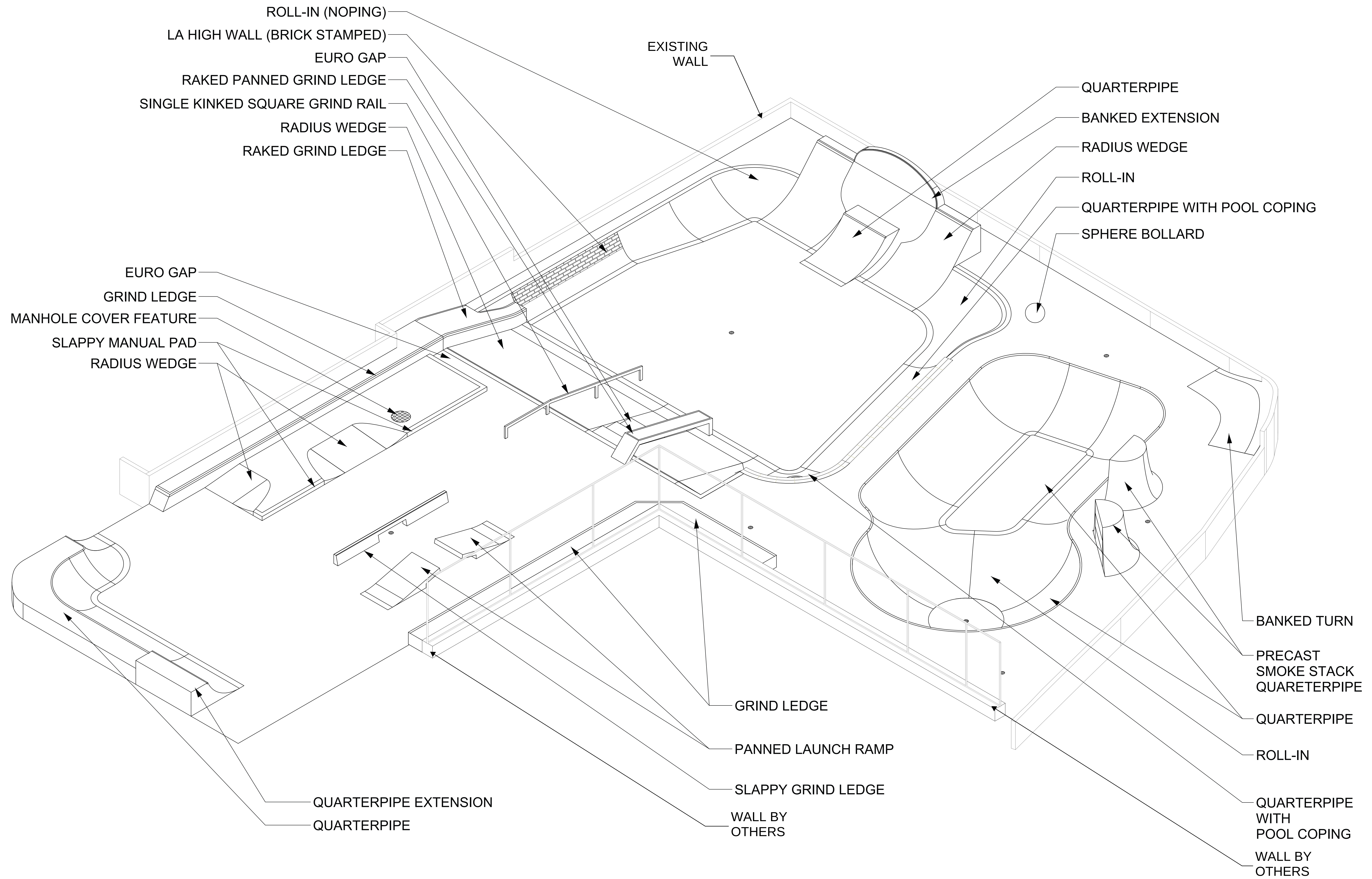
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RECREATION PARK
PHASE 1 IMPROVEMENT
PROJECT
TEEN CENTER
AND TEEN
PLAZA
15 E Grand Ave,
Segundo, CA 90245

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Sheet title:
D PERSPECTIVE

signed by:	
drawn by:	
checked by:	
object number:	124011

SK1.0





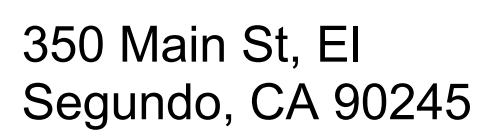
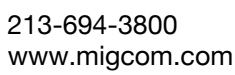
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PHASE 1 IMPROVEMENT
PROJECT
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PLAZA**
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El Segundo, CA 90245

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Sheet title:
3D PERSPECTIVE

Designed by: _____
 Drawn by: _____
 Checked by: _____
 Project number: 124011

SK1.1



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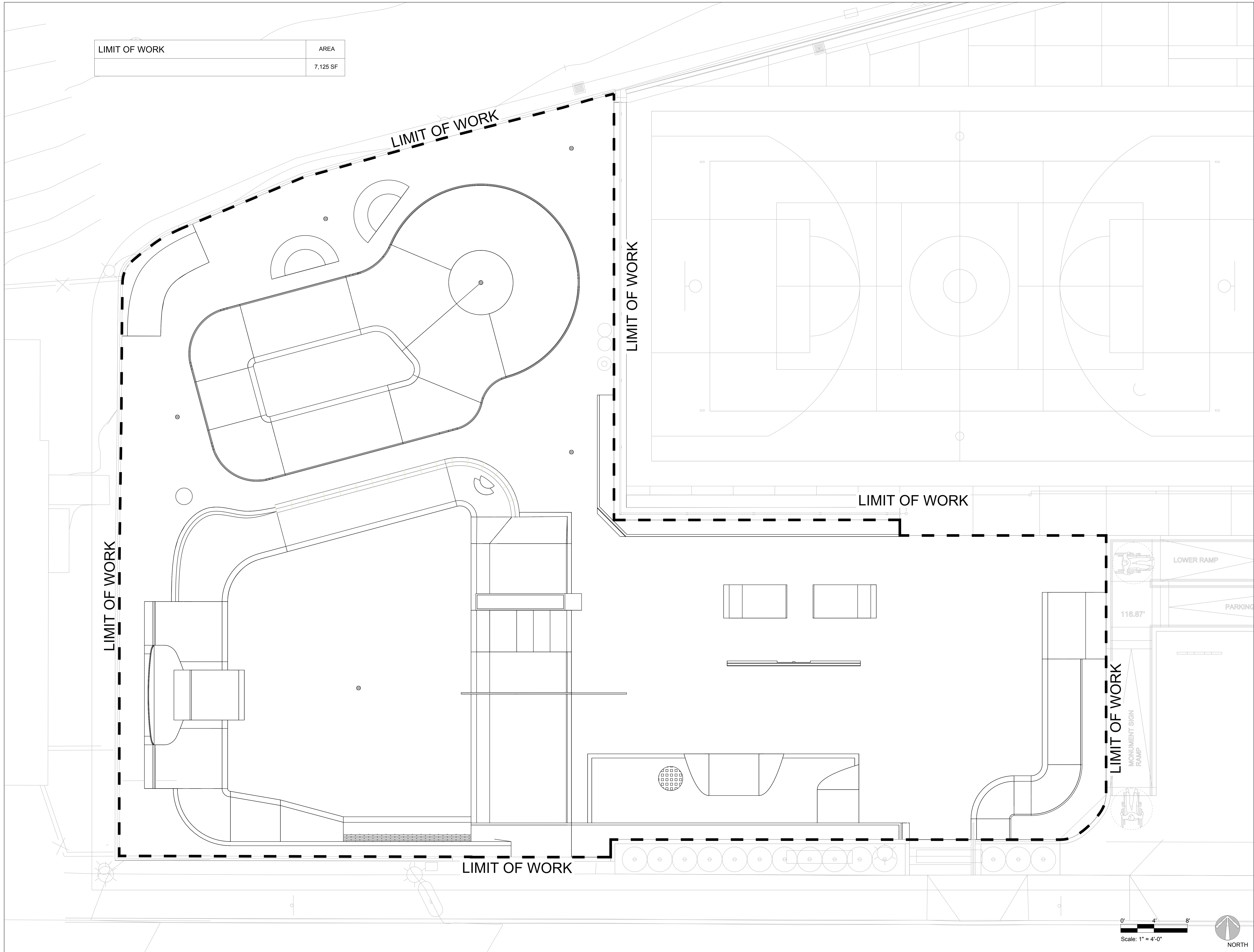


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	04/18/25	100% DD SUBMITTAL
	06/06/25	50% CD SUBMITTAL
	08/20/25	90% CD SUBMITTAL
	10/28/25	PLAN CHECK RESUBMITTAL #1
	11/14/25	PLAN CHECK RESUBMITTAL #2
	01/16/26	PLAN CHECK RESUBMITTAL #3
	02/12/26	BID PACKAGE

Sheet title:
SITE PLAN

Designed by:	
Drawn by:	
Checked by:	
Project number:	124011

SK2.0





CODE	DESCRIPTION	DETAIL
H-01	EXPANSION JOINT EJ EJ EJ	5/SK9.0
H-02	COLD JOINT OR KEY JOINT CJ-KJ CJ-KJ	7/SK9.0
H-03	SAWCUT JOINT 	6/SK9.0
H-04	TURNDOWN EDGE AT FINISH SURFACE 	3/SK9.0
H-05	SC OR CJ - FIELD DETERMINED SC-CJ SC-CJ	6,7/SK9.0

JOINTING NOTES:

1. JOINTING LAYOUT PLAN HAS BEEN DEVELOPED TO PROVIDE GUIDANCE TO THE CONTRACTOR FOR THE USE OF SAWCUTS, COLD + EXPANSION JOINTS. ACTUAL FIELD VARIANCES MAY BE NECESSARY AND WILL TAKE PRECEDENCE OVER THIS GUIDE. A CONTRACTOR SHALL CUT/JOINT CONCRETE AS NEEDED TO HELP MINIMIZE CRACKING AND ENHANCE SHALTEABILITY.

2. ALIGN SAWCUTS WITH EXPANSION AND COLD JOINTS AND START FROM CORNERS WHERE POSSIBLE TO HELP MINIMIZE CRACKING. SAWCUTS SHOULD BE APPROXIMATELY 10'x12" AND/OR APPROXIMATELY 120 SQUARE FEET WITH ROUGHLY A 2:1 ASPECT RATIO BETWEEN SAWCUTS AND COLD OR EXPANSION JOINTS.

3. ALL HORIZONTAL SAWCUTS TO BE FILLED WITH SELF-LEVELING POLYURETHANE BASED ELASTOMERIC SEALANT AND TOOLED FLAT. EXPANSION JOINTS AND VERTICAL SAWCUTS TO BE FILLED WITH POLYURETHANE BASED NONSAGGING ELASTOMERIC SEALANT AND TOOLED FLAT. COLOR OF JOINT SEALANT SHOULD RESEMBLE NATURAL COLOR OF CONCRETE (ALUMINUM GRAY / LIMESTONE, OR SIMILAR)

4. ALL JOINTS TO BE FILLED WITH SEALANT, SEE TYPICAL DETAILS FOR MORE INFORMATION.

GENERAL NOTES:

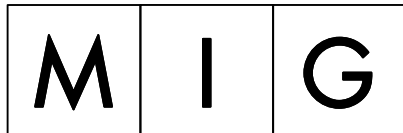
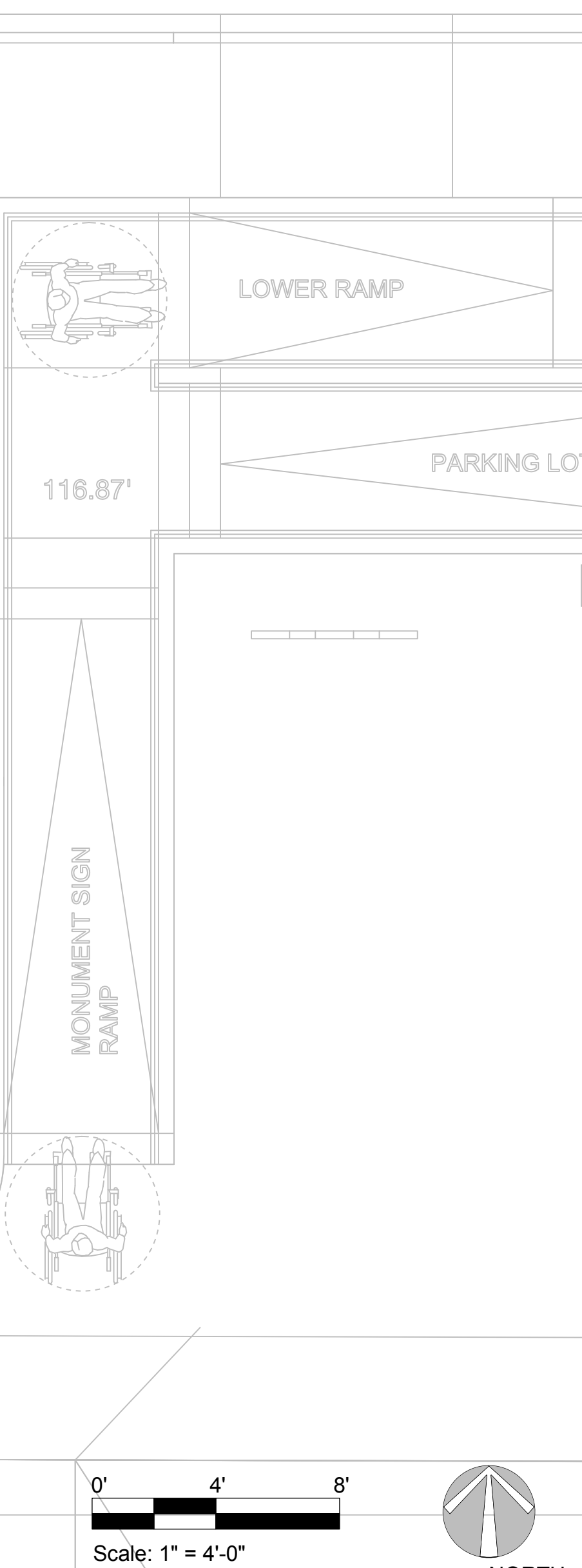
1.SEE SHEET SK4.0 FOR COLOR PLAN.

2.THE SLAB CONFIGURATION, NOTES, LOCATION OF EXPANSION JOINTS, COLD JOINT SAW CUTS, DETAIL REFERENCES, AND APPLICABLE DETAILS HAVE BEEN INCLUDED FOR CLARITY. JOINTS AND DETAILS SHOWN ARE FOR THE SKATEPARK ONLY. REFER TO THE LANDSCAPE PLANS FOR SCOPES BEYOND THE SKATEPARK.

3. SUGGESTED ORDER OF CONSTRUCTION FOR CONCRETE ELEMENTS WITHIN THE SKATEPARK FOOTPRINT:

- A. SUBSURFACE DRAINAGE
- B. SUBGRADE PREP - GRADE, MOISTURE CONDITION, AND COMPACT SKATEPARK FOOTPRINT TO +/- .1' OF SPECIFIED SUBGRADE ELEVATIONS.
- C. FINE GRADING
- D. LEDGES AND MANUAL PADS
- E. BANKS AND TRANSITIONS
- F. GRIND RAIL FOOTING INSTALLATION
- G. FLOOR SLAB/FLATWORK

4. ALL EXPOSED CONCRETE AND SHOTCRETE SURFACES TO BE NATURAL GRAY IN COLOR WITH HARD STEEL TROWEL FINISH UNLESS OTHERWISE SPECIFIED.



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Issue dates

[illegible]

Sheet title:

INFORMATION PLAN

Designed by:	
Drawn by:	
Checked by:	
Project number:	124011

SK3.0

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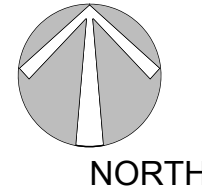
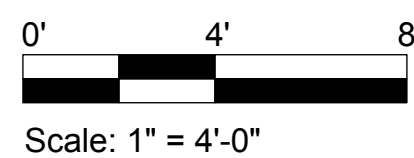
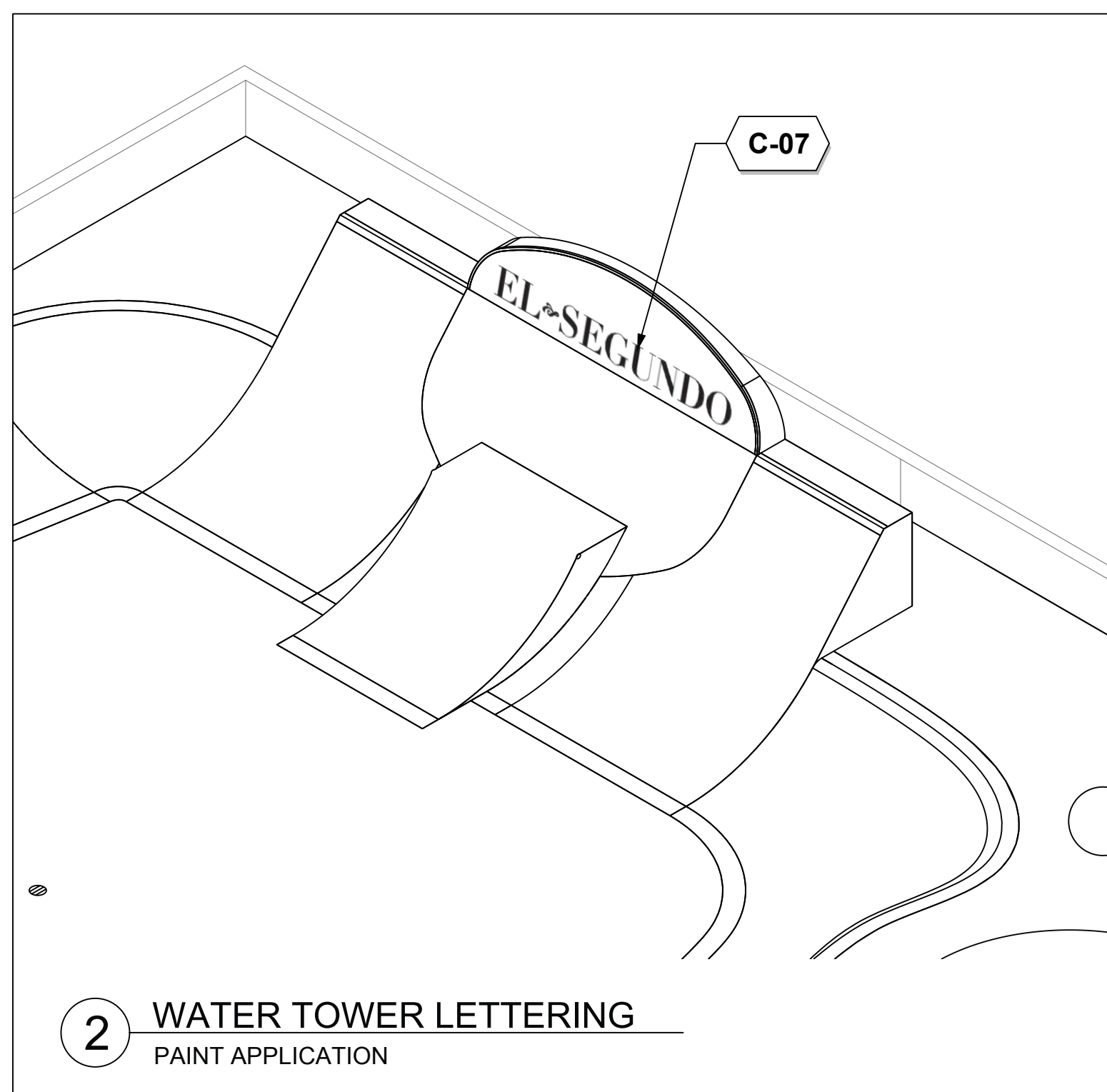
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COLOR PLAN

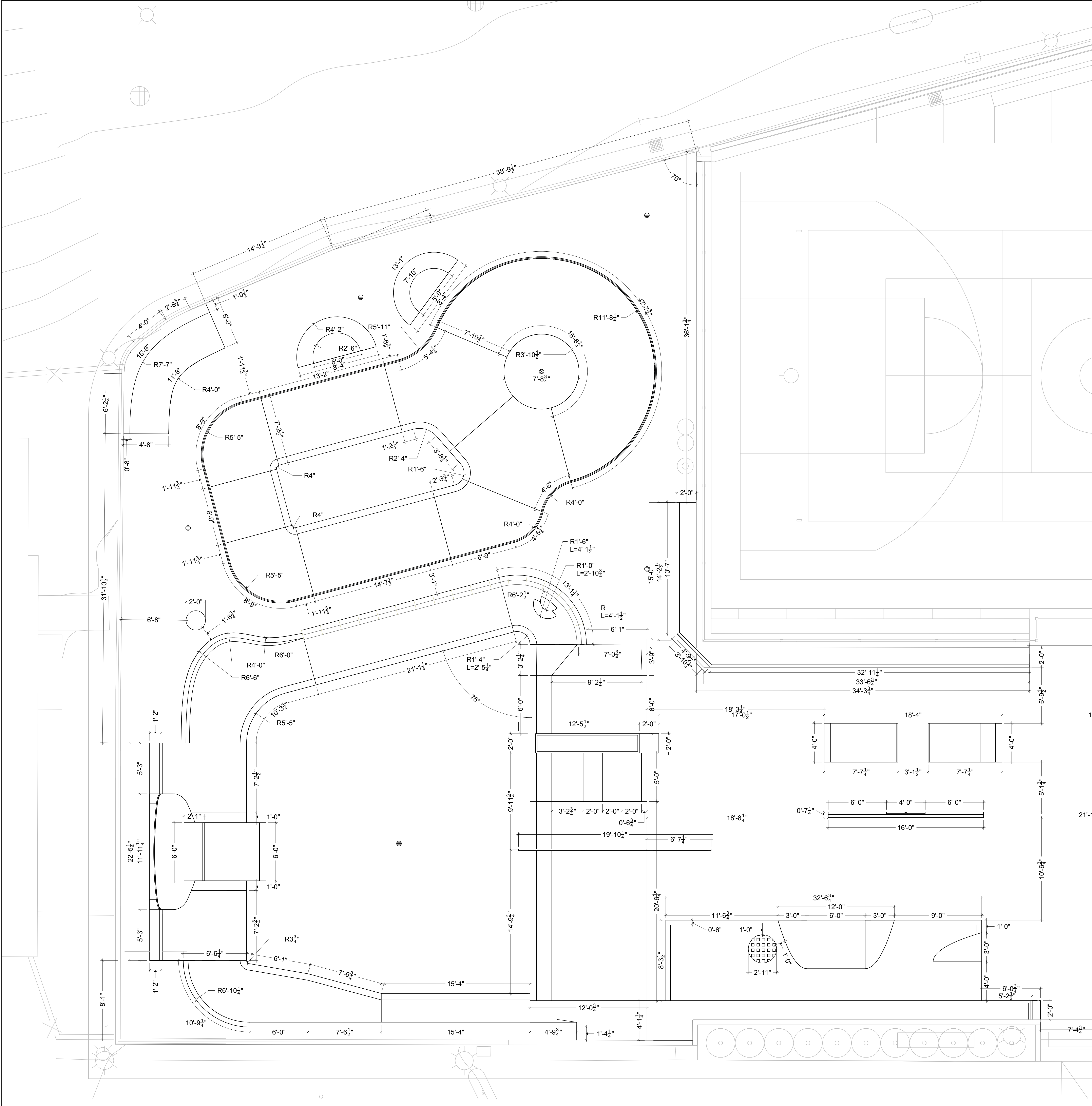
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Drawn by:	
Checked by:	
Project number:	124011

FEBRUARY 12, 2026 - BID PACKAGE

COLOR NOTES:

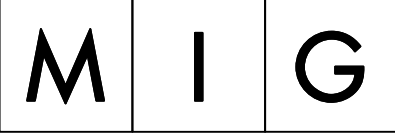
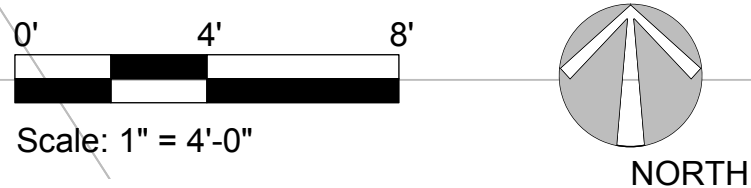
1. CONCRETE COLOR AVAILABLE FROM INCRETE COLOR SYSTEMS OR APPROVED EQUAL.
2. FINISH: ALL EXPOSED CONCRETE SURFACES ARE TO BE HARD STEEL TROWEL FINISH UNLESS OTHERWISE NOTED. TROWEL UNTIL ALL VISIBLE PORES ARE CLOSED. CEASE TROWELING BEFORE SURFACE BECOMES GLOSSY. DO NOT BROOM FINISH AND DO NOT TROWEL BURN SURFACE.
3. REFER TO STEEL PLAN ON SHEET SK7.0 FOR STEEL FINISH.





CONSTRUCTION NOTES:

1. ALL MATERIAL AND WORKMANSHIP SHALL CONFORM TO ALL APPLICABLE GOVERNING CODES AND ORDINANCES.
2. ALL FORMS AND ALIGNMENTS OF PAVING, LAYOUT, AND SPECIAL PAVING AREAS SHALL BE REVIEWED AND APPROVED BY THE OWNER'S REPRESENTATIVE PRIOR TO POURING (GIVE A MINIMUM OF 24 HOURS NOTICE).
3. CONTRACTOR SHALL VERIFY THE LOCATION OF ALL PUBLIC IMPROVEMENTS, INCLUDING UNDERGROUND UTILITIES PRIOR TO THE START OF CONSTRUCTION. CONTRACTOR SHALL REPAIR AND/OR REPLACE IN-KIND ALL PUBLIC IMPROVEMENTS DAMAGED, BROKEN, OR REMOVED DURING CONSTRUCTION.
4. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI AT 28 DAYS (UNLESS OTHERWISE NOTED).
5. ALL REBAR CROSSINGS TO BE TIED.
6. ALL CONSTRUCTION TO BE PLUMB AND TRUE, UNLESS OTHERWISE NOTED OR INDICATED.
7. THE CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS AND CONDITIONS AT THE JOB SITE. ALL DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE SKATE PARK DESIGNER, OWNER/BUILDER OR OWNER'S REPRESENTATIVE. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ALL CONSTRUCTION METHODS AND FOR SAFETY CONDITIONS AT THE WORK SITE.
8. ALL BRACING, TEMPORARY SUPPORTS, SHORING, ETC., ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
9. OWNER OBSERVATION VISITS TO THE JOB SITE BY THE SKATE PARK DESIGNER OR OWNER, DO NOT INCLUDE INSPECTION OF CONSTRUCTION PROCEDURES. THE VISIT SHALL NOT BE CONSTRUED AS CONTINUOUS AND DETAILED INSPECTIONS.
10. CONDITIONS NOT SPECIFICALLY SHOWN SHALL BE CONSTRUCTED SIMILAR TO THE DETAILS FOR THE RESPECTIVE MATERIALS.
11. THE DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED CONSTRUCTION PRODUCT. THESE DOCUMENTS, ALTHOUGH PREPARED WITH CARE AND DILIGENCE, MAY CONTAIN ERRORS, OMISSIONS, CONTRADICTIONS, ETC. THE CONTRACTOR SHALL REVIEW ALL DOCUMENTS THOROUGHLY AND SHALL NOTIFY THE SKATE PARK DESIGNER IMMEDIATELY UPON ANY SUCH DISCOVERY OR DISCREPANCY. GOVERNING CODES SHALL THEN APPLY.
12. ALL SCALE DIMENSIONS ARE APPROXIMATE. WRITTEN DIMENSIONS AND DETAILS TAKE PRECEDENCE OVER SCALED DIMENSIONS. THE CONTRACTOR SHALL CHECK AND VERIFY ALL SITE DIMENSIONS PRIOR TO PROCEEDING WITH WORK AND SHALL CLARIFY WITH SKATE PARK DESIGNER, OWNER IF NECESSARY.
13. DESIGN, MATERIAL, EQUIPMENT AND PRODUCTS OTHER THAN THOSE DESCRIBED OR INDICATED ON DRAWINGS MAY BE CONSIDERED FOR USE. APPROVAL FOR SUBSTITUTIONS SHALL BE OBTAINED FROM THE SKATE PARK DESIGNER.
14. SHOP DRAWINGS SHALL BE SUBMITTED BY THE CONTRACTOR FOR THE CLARIFICATION OF DESIGN CONCEPT DETAILS & SUBSTITUTIONS.
15. DURING WORK AND THROUGH ITS COMPLETION, THE CONTRACTOR SHALL KEEP THE SITE CLEAN TO THE SATISFACTION OF THE OWNER.
16. FINAL MATERIAL, FINISHES AND COLOR SHALL BE APPROVED BY OWNER AND SKATE PARK DESIGNER PRIOR TO INSTALLATION.
17. CLEAN-UP SHALL TAKE PLACE ON A DAILY BASIS.
18. REFER TO SPECIFICATIONS FOR ANY ADDITIONAL INFORMATION.



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Issue dates

#	Date	Description
01/15/25	50% DD	SUBMITTAL
04/18/25	100% DD	SUBMITTAL
06/06/25	50% CD	SUBMITTAL
08/20/25	90% CD	SUBMITTAL
10/28/25	PLAN CHECK	RESUBMITTAL #1
11/14/25	PLAN CHECK	RESUBMITTAL #2
01/16/26	PLAN CHECK	RESUBMITTAL #3
02/12/26		BID PACKAGE

Sheet title:

LAYOUT PLAN

Designed by:
Drawn by:
Checked by:
Project number: 124011

SK5.0

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EL SEGUNDO350 Main St, El
Segundo, CA 90245EL SEGUNDO
RECREATION PARK
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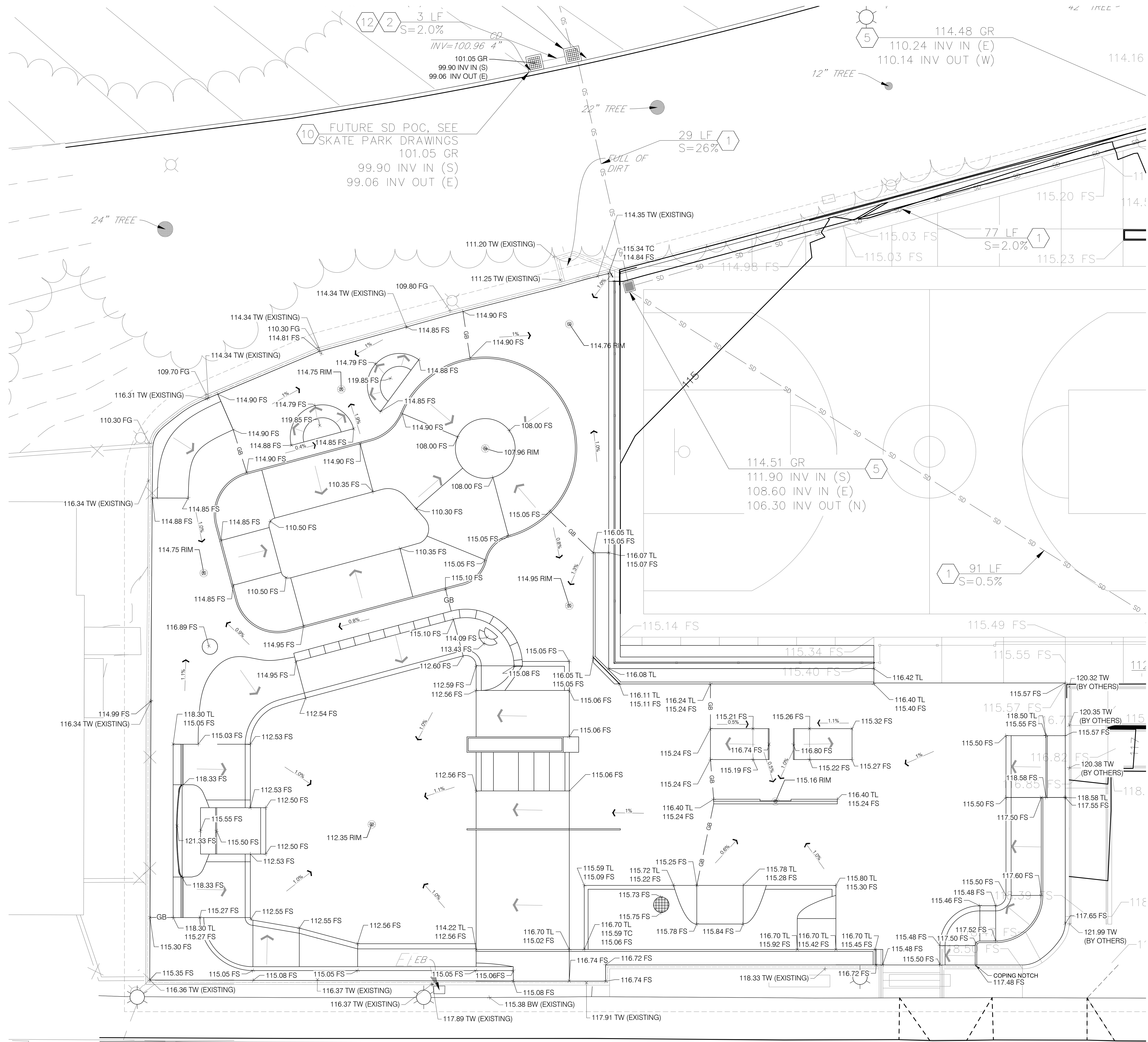
Issue dates

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04/18/25	100% DD SUBMITTAL	
06/06/25	50% CD SUBMITTAL	
08/20/25	90% CD SUBMITTAL	
10/28/25	PLAN CHECK RESUBMITTAL #1	
11/14/25	PLAN CHECK RESUBMITTAL #2	
01/16/26	PLAN CHECK RESUBMITTAL #3	
02/12/26	BID PACKAGE	

Sheet title:

GRADING &
DRAINAGE PLANDesigned by:
Drawn by:
Checked by:
Project number: 124011

SK6.0



DRAINAGE SCHEDULE

CODE	DESCRIPTION	QTY
L-01	AREA DRAIN	7
L-02	4" SDR 35 DRAIN LINE	235 LF

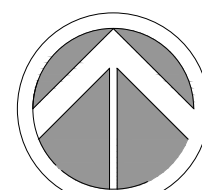
GRADING NOTES

- ALL GRADING SHALL BE IN ACCORDANCE WITH THE LOCAL GRADING CODE AND ANY SPECIAL REQUIREMENTS OF THE GRADING PERMIT.
- CONTRACTOR TO VERIFY GRADES AND NOTIFY OWNER'S CONSTRUCTION ADMINISTRATOR PRIOR TO START OF GRADING WORK.
- SLOPES SHALL BE NO STEEPER THAN 3' HORIZONTAL TO 1' VERTICAL (3:1) AND SHALL HAVE NOT LESS THAN 90% COMPACTION OUT TO THEIR FINISH SURFACES.
- ALL PAVED AREAS SHALL SLOPE AS SHOWN ON PLANS WITH A 2% MAXIMUM FALL. PLANTED AREAS SHALL HAVE A MINIMUM 2% FALL.
- FINISH GRADE SHALL HAVE A UNIFORM SURFACE, FREE OF LUMPS, BUMPS AND DEPRESSIONS AND ANY OBJECTS THAT MAY PREVENT A POSITIVE FLOW TO DRAIN.
- ALL PROPOSED PAVING SURFACES SHALL MEET EXISTING PAVING SURFACES WITH SMOOTH AND CONTINUOUS TRANSITIONS AND FLUSH ALONG ENTIRE EDGE.
- CONCRETE WALKS TO HAVE A MAXIMUM CROSS SLOPE OF 2% AND SHALL MEET ALL CITY AND COUNTY REQUIREMENTS.
- PRIOR TO CONSTRUCTION, CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS, EXISTING DRAINAGE STRUCTURES, PARKING LOT IMPROVEMENTS, AND FINISH FLOOR ELEVATIONS. NOTIFY THE OWNER'S CONSTRUCTION ADMINISTRATOR IMMEDIATELY UPON NOTING ANY DISCREPANCIES.
- FINISH GRADE AT TURF AREAS SHALL BE ONE INCH BELOW FINISH SURFACE OF SIDEWALKS, CURBS OR PAVED AREAS. PLANTING AREA FINISH GRADE SHALL BE 2" BELOW SAME UNLESS OTHERWISE SPECIFIED.
- ALL CONSTRUCTION AREAS SHALL BE FREE OF ROCK, DEBRIS, ETC. ALL EXISTING WEEDS SHALL BE REMOVED.
- CONTRACTOR SHALL MEET EXISTING GRADE AT GRADING LIMITS WITH A SMOOTH AND CONTINUOUS TRANSITION.

GRADING LEGEND:

---	EXISTING CONTOURS
---	PROPOSED CONTOURS
GB	PROPOSED GRADE BREAK
XXX.XX FS	PROPOSED ELEVATIONS
→	PROPOSED FLOW DIRECTION

BS	BOTTOM OF STEP
FG	FINISH GRADE
FS	FINISH SURFACE
HP	HIGH POINT
INV	INVERT ELEVATION (MAY CHANGE IN FIELD)
PA	PLANTING AREA
TD	TOP OF DRAIN
TL	TOP OF LEDGE
TP	TOP OF PAD
TR	TOP OF RAIL
TS	TOP OF STEP

XXX.XX
EXISTING ELEVATION
(VERIFY IN FIELD)0' 1' 5' 10'
Scale: 3/16" = 1'-0"

CITY OF
EL SEGUNDO350 Main St, El
Segundo, CA 90245EL SEGUNDO
RECREATION PARK
PHASE 1 IMPROVEMENT
PROJECTTEEN CENTER
AND TEEN
PLAZA405 E Grand Ave,
El Segundo, CA 902456824 S Centinela Ave.
Los Angeles, CA 90230info@spohnranch.com
www.spohnranch.com
Tel: 626-330-5803
Fax: 626-330-5503

Issue dates

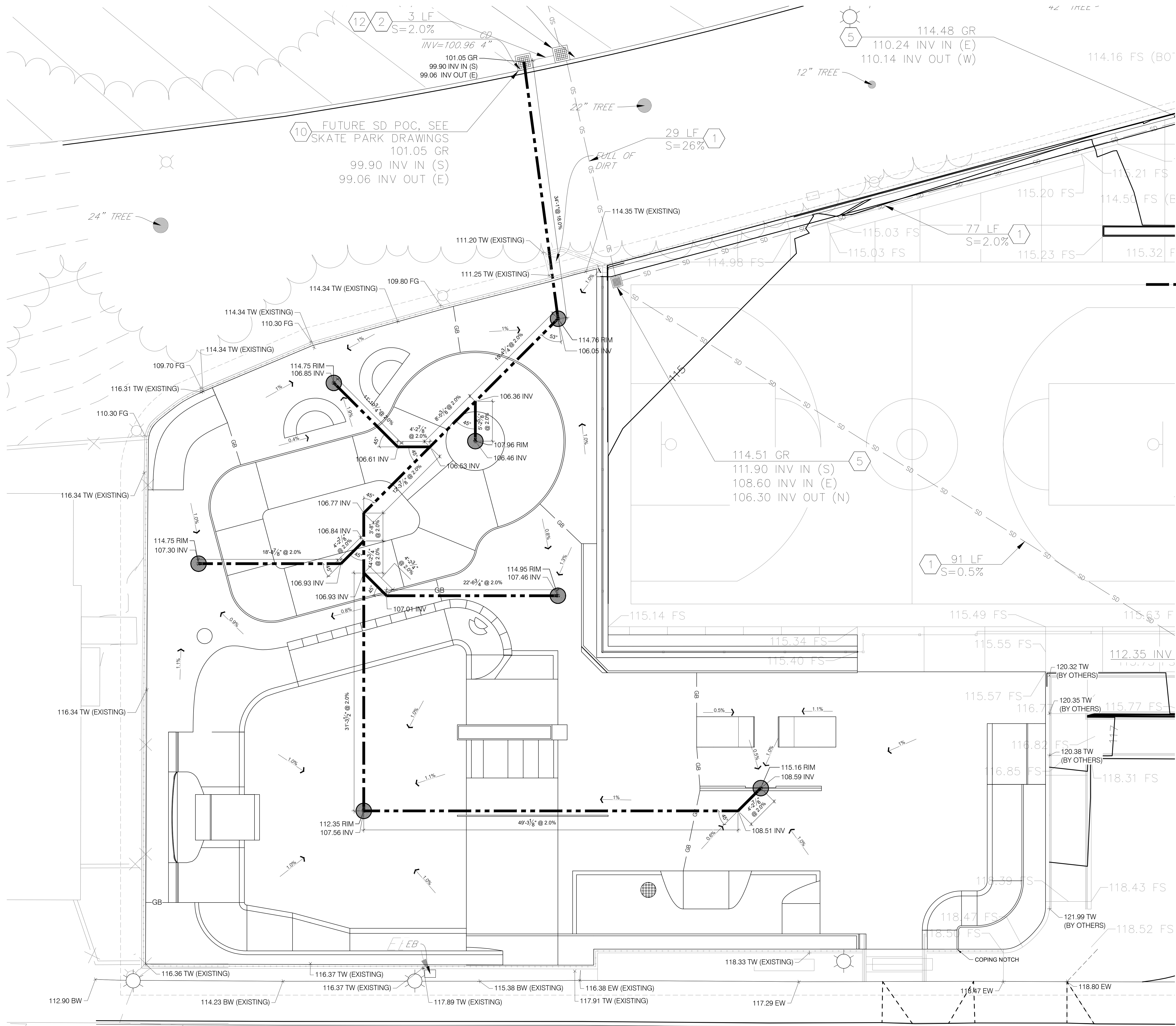
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04/18/25	04/18/25	100% DD SUBMITTAL
06/06/25	06/06/25	50% CD SUBMITTAL
08/20/25	08/20/25	90% CD SUBMITTAL
10/28/25	10/28/25	PLAN CHECK RESUBMITTAL #1
11/14/25	11/14/25	PLAN CHECK RESUBMITTAL #2
01/16/26	01/16/26	PLAN CHECK RESUBMITTAL #3
02/12/26	02/12/26	BID PACKAGE

Sheet title:

GRADING &
DRAINAGE PLANDesigned by:
Drawn by:
Checked by:
Project number: 124011

SK6.1

FEBRUARY 12, 2026 - BID PACKAGE



DRAINAGE SCHEDULE

CODE	DESCRIPTION	QTY
L-01	AREA DRAIN	7
L-02	4" SDR 35 DRAIN LINE	235 LF

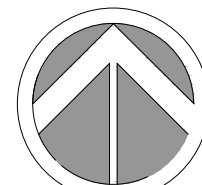
GRADING NOTES

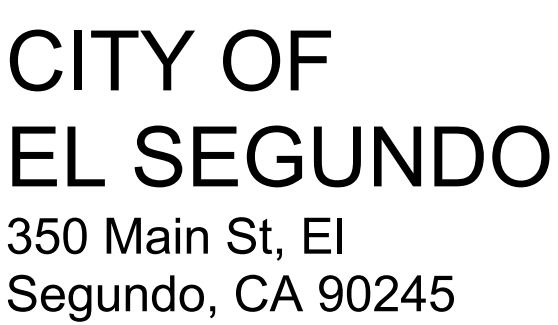
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---	EXISTING CONTOURS
---	PROPOSED CONTOURS
GB	PROPOSED GRADE BREAK
XXX.XX FS	PROPOSED ELEVATIONS
→	PROPOSED FLOW DIRECTION

BS	BOTTOM OF STEP
FG	FINISH GRADE
FS	FINISH SURFACE
HP	HIGH POINT
INV	INVERT ELEVATION (MAY CHANGE IN FIELD)
PA	PLANTING AREA
TD	TOP OF DRAIN
TL	TOP OF LEDGE
TP	TOP OF PAD
TR	TOP OF RAIL
TS	TOP OF STEP
TC	TOP OF CURB
TW	TOP OF WALL
EW	EXISTING WALL

EXISTING ELEVATION
(VERIFY IN FIELD)0' 1' 5' 10'
Scale: 3/16" = 1'-0"



EL SEGUNDO
RECREATION PARK
PHASE 1 IMPROVEMENT
PROJECT
**TEEN CENTER
AND TEEN
PLAZA**
405 E Grand Ave,
El Segundo, CA 90245

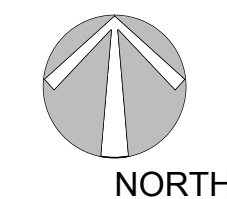
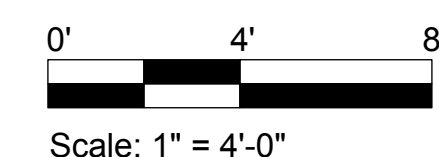


Sheet title:
STEEL PLAN

SK7.0

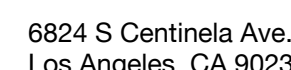
STEEL NOTES:

1. STEEL FINISH TO BE HOT DIPPED GALVANIZED OR POWDER COATED RAL #5015 (SKY BLUE) AS INDICATED IN LEGEND FINISH.
2. FINISH MUST OCCUR AFTER ALL WELDING IS COMPLETE.
3. CAP ALL EXPOSED TUBE OR PIPE ENDS AND ROUND ALL SHARP EDGES.
4. ALL WELDS TO BE ALL AROUND.
5. GRIND ALL WELDS SMOOTH BEFORE FINISHING.
6. FABRICATE STEEL GRIND EDGES IN LONG SECTIONS THAT WILL WORK FOR SHIPPING AND REDUCE THE NUMBER OF WELDS IN THE FIELD.
7. CLEAN METAL EDGES AFTER PLACEMENT OF CONCRETE.
8. POWDER COATING REPAIR - USE AN APPROPRIATELY COLOR MATCHED POWDER COAT TOUCH-UP SPRAY PAINT ON WELDED OR DAMAGED POWDER COATED SURFACES.
9. HOT DIPPED GALVANIZE REPAIR - FIELD WELDS SHALL BE GROUND SMOOTH AND TREATED WITH COLD GALVANIZING SPRAY.
10. SEE SECTION 05 50 00 - METAL FABRICATIONS OF SPECBOOK FOR SKATEPARKS FOR ALL STEEL SPECIFICATIONS.





EL SEGUNDO
RECREATION PARK
PHASE 1 IMPROVEMENT
PROJECT
TEEN CENTER
AND TEEN
PLAZA
405 E Grand Ave,
El Segundo, CA 90245

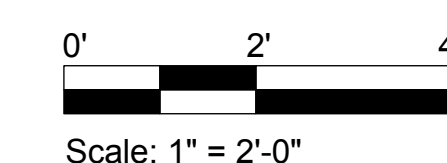


SPOHN RANCH
SKATE PARKS

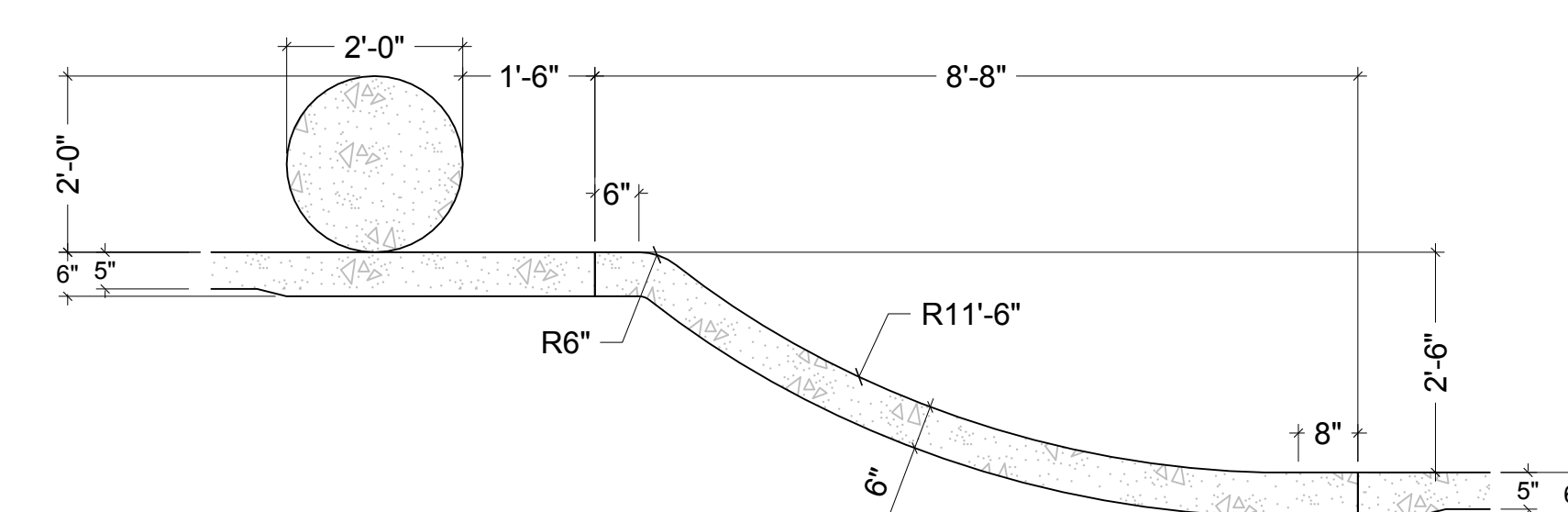
Sheet title:
SECTIONS

Designed by: _____
 Drawn by: _____
 Checked by: _____
 Project number: 124011

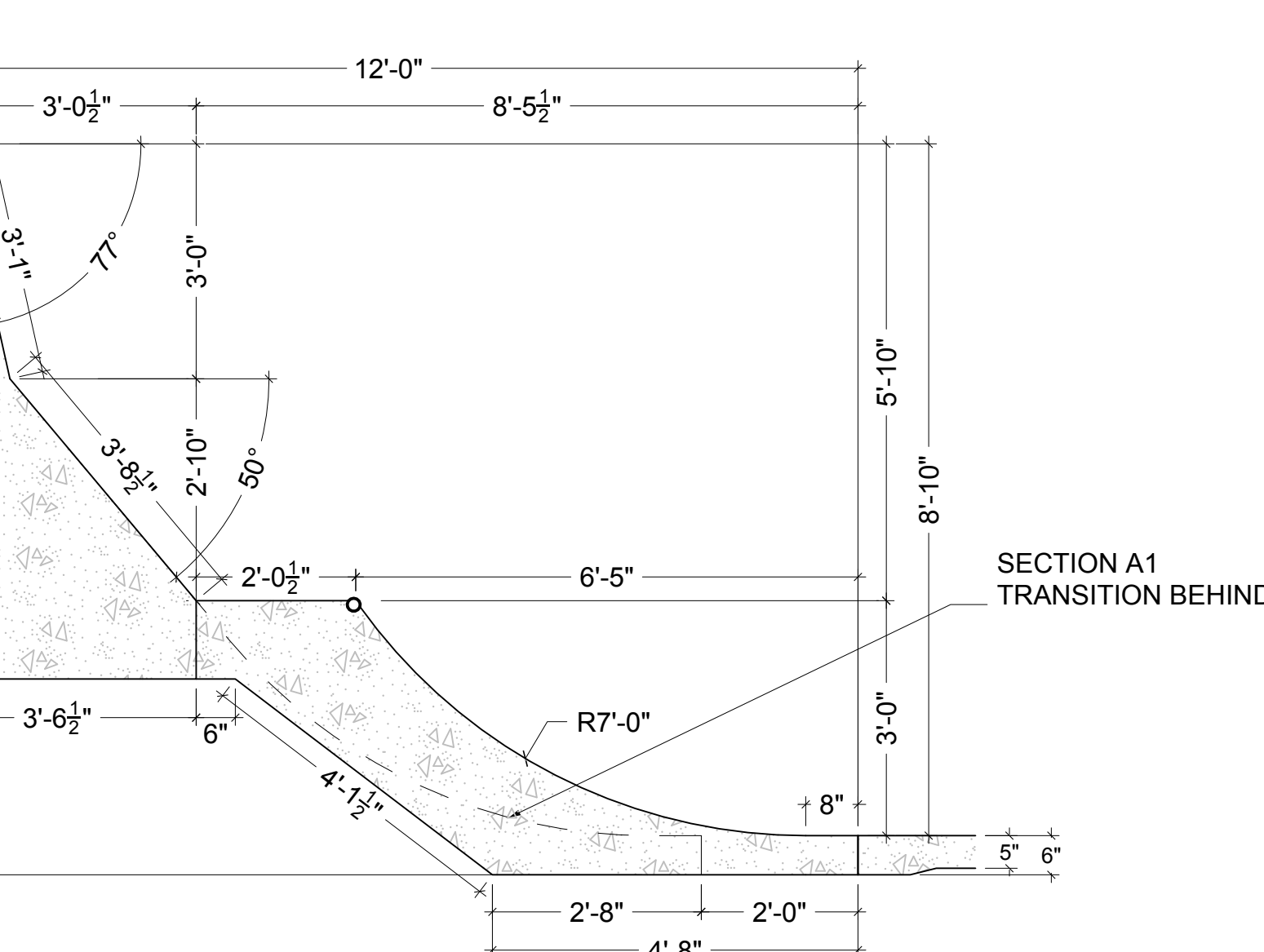
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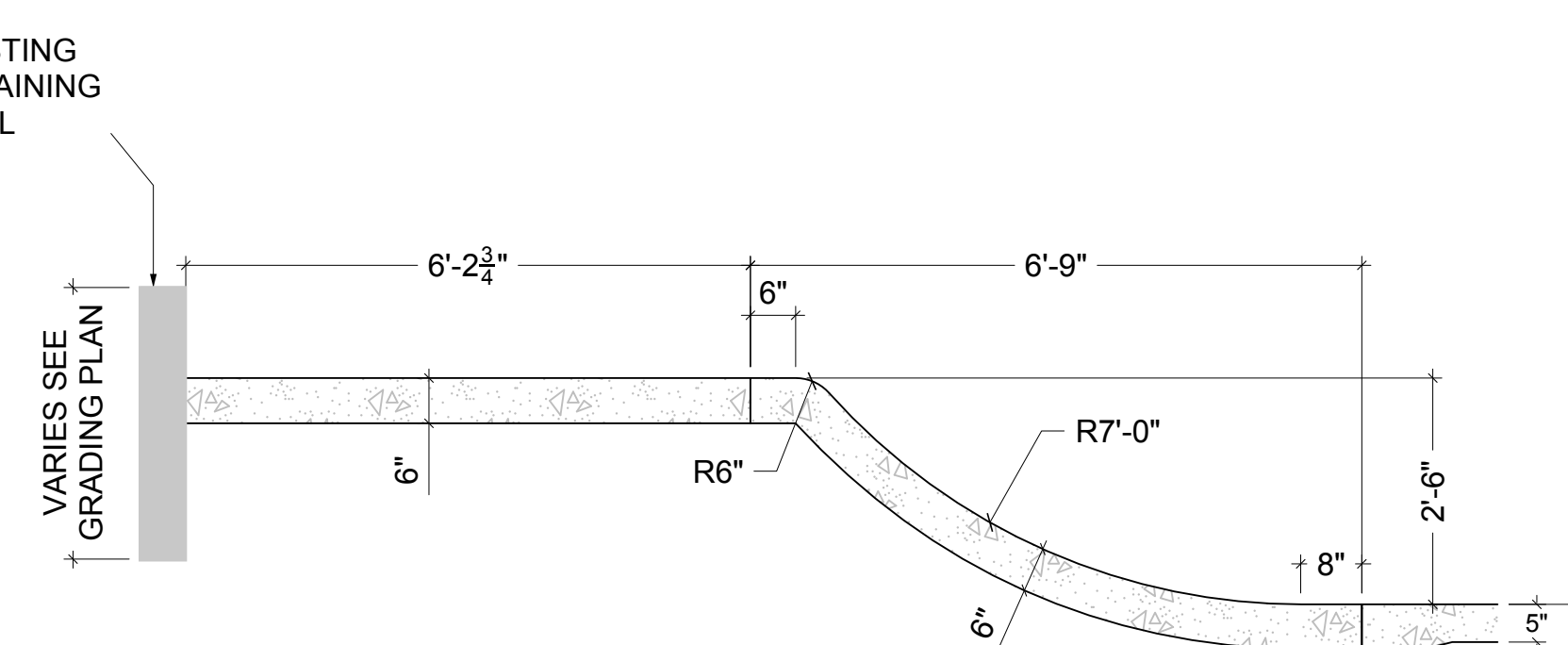
FEBRUARY 12, 2026 - BID PACKAGE



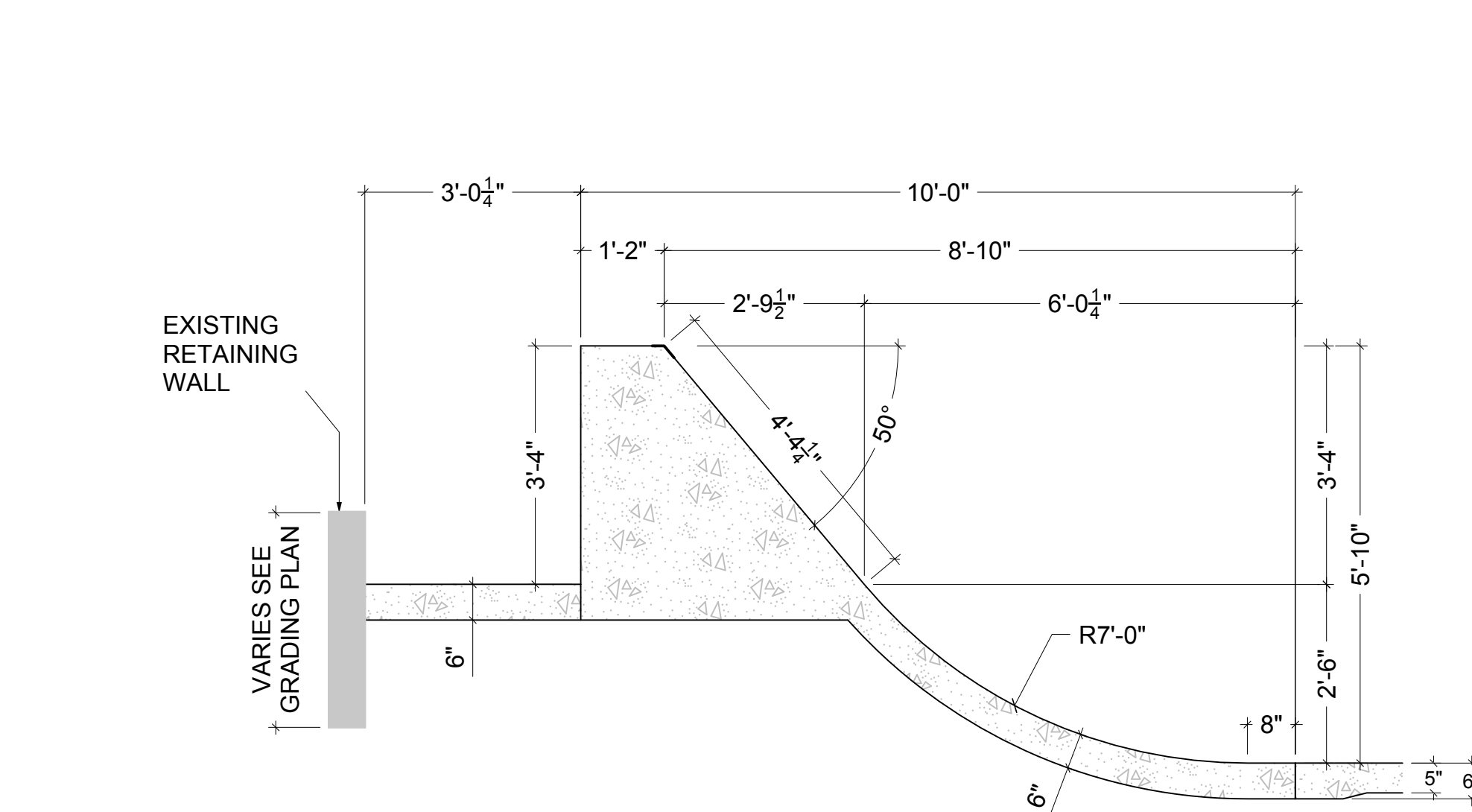
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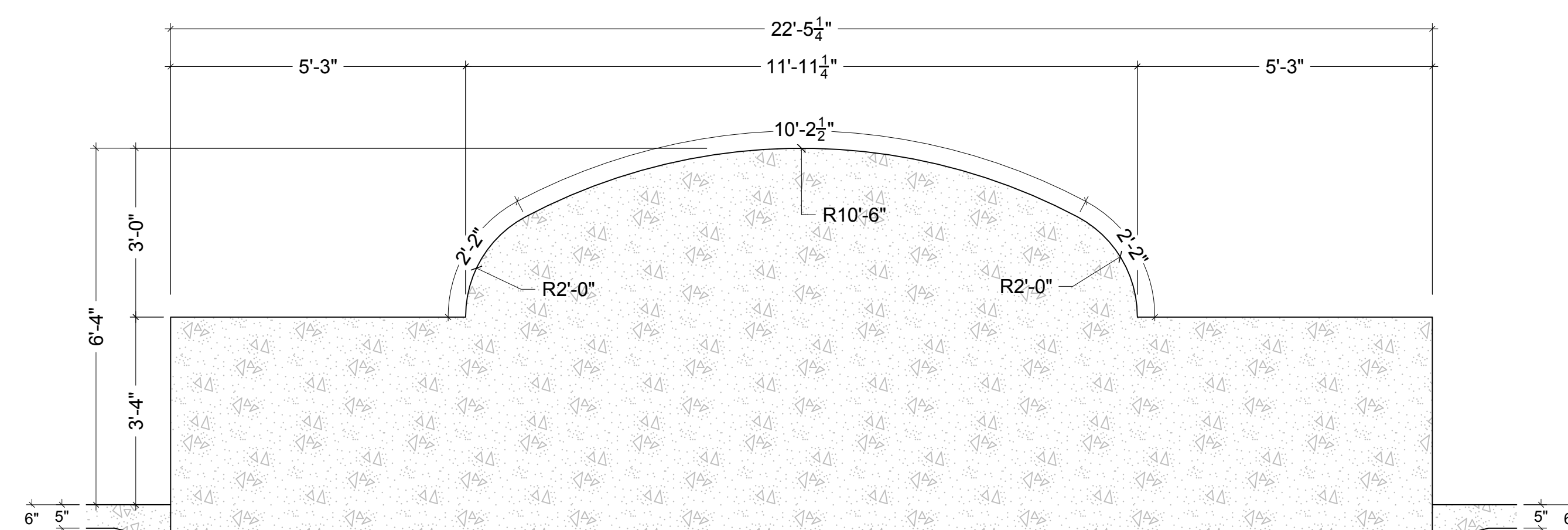
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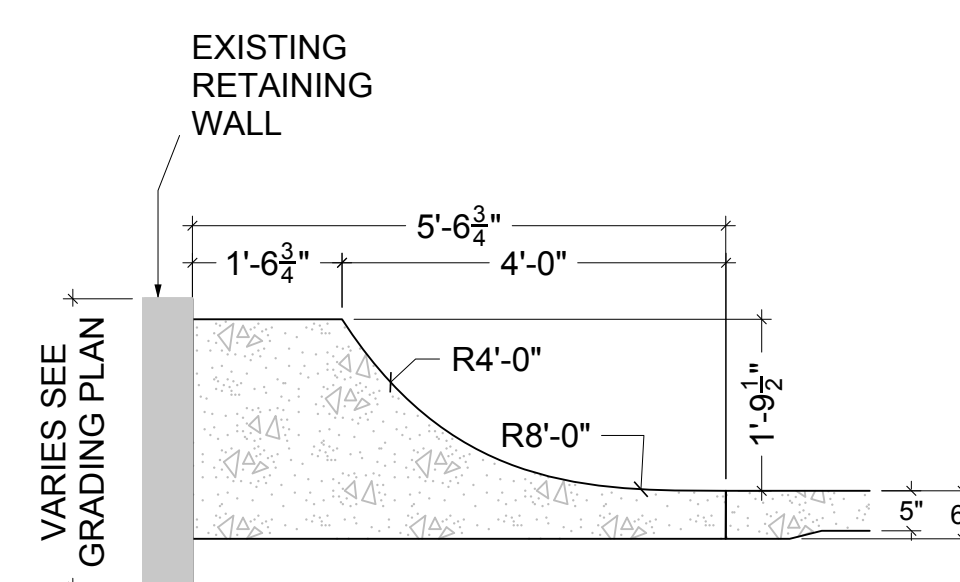
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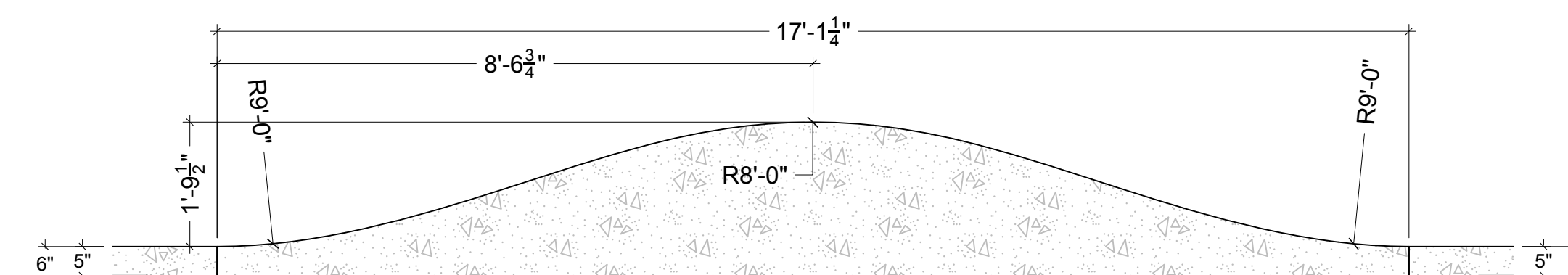
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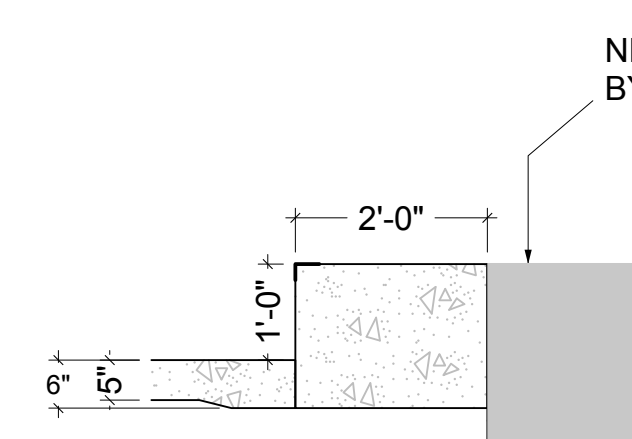
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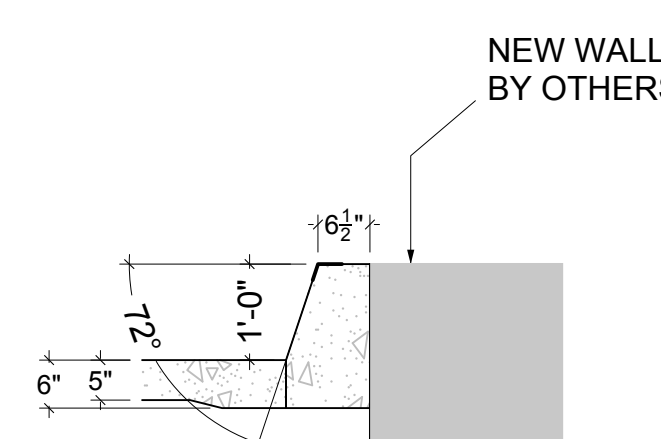
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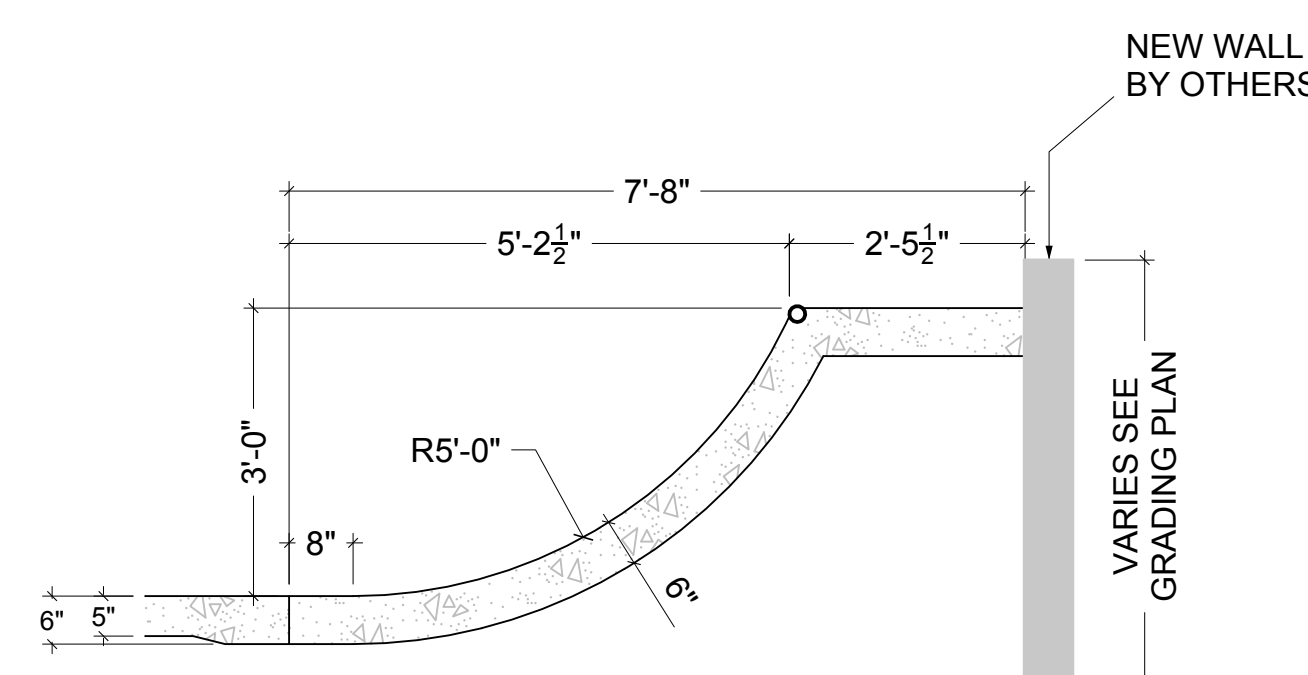
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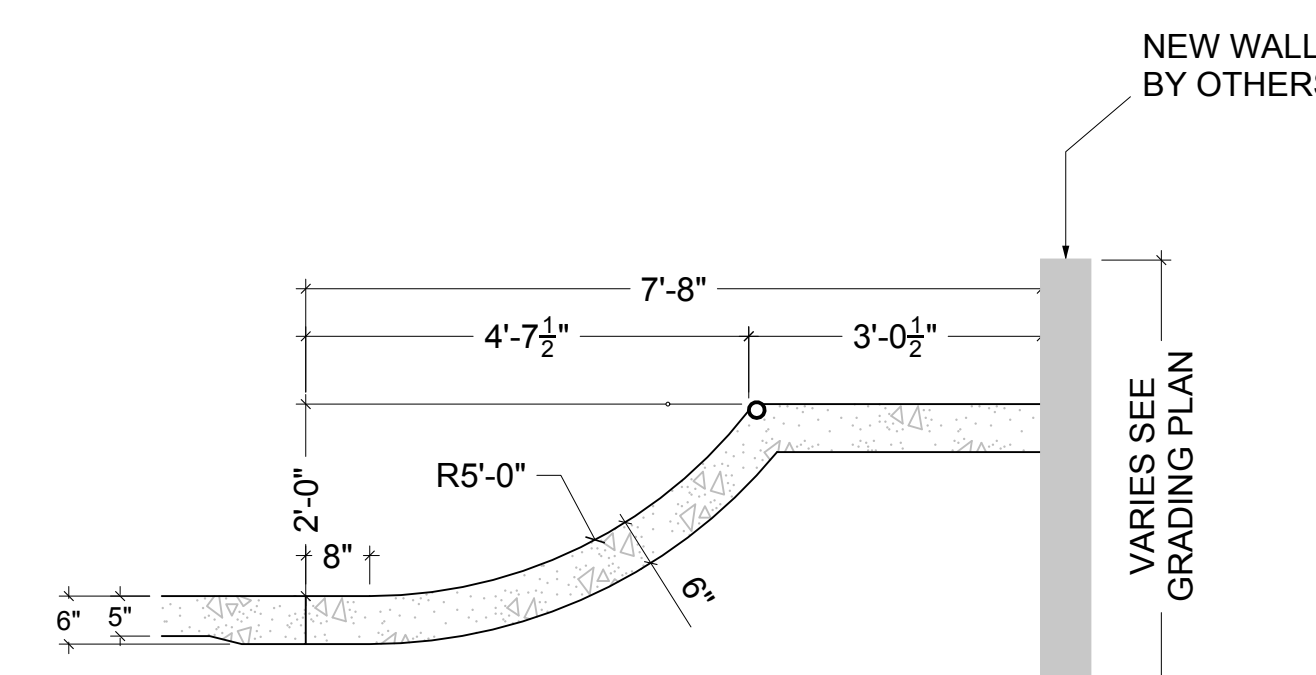
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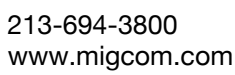
SECTION G



SECTION H



SECTION I



SECTION J1

SECTION J2

SECTION J3

SECTION J4

SECTION K

SECTION L

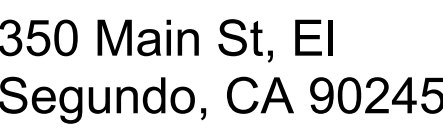
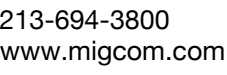
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SECTION M2

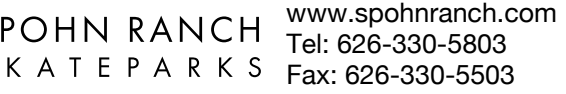
SECTION N

SECTION O

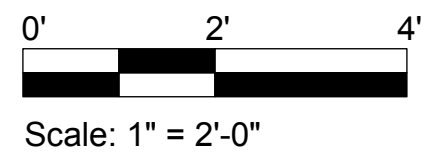
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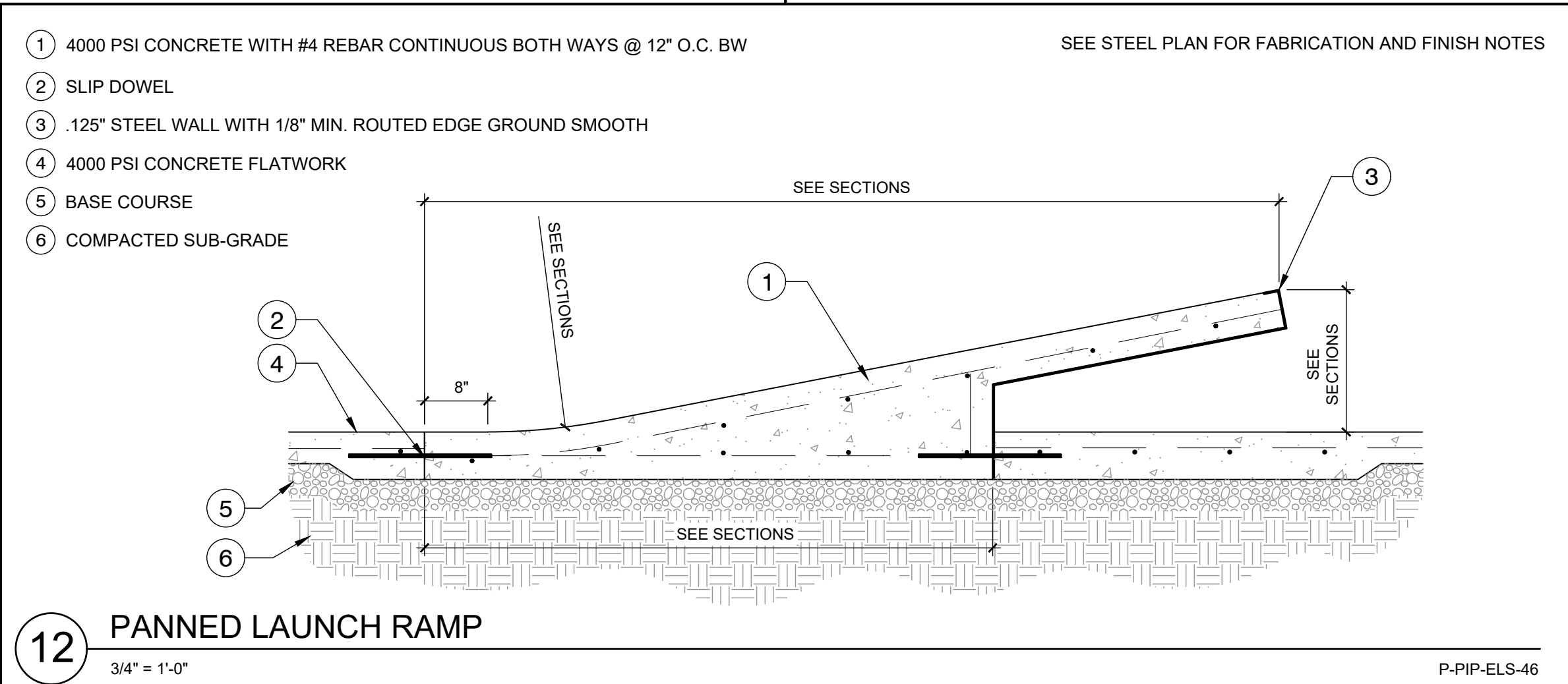


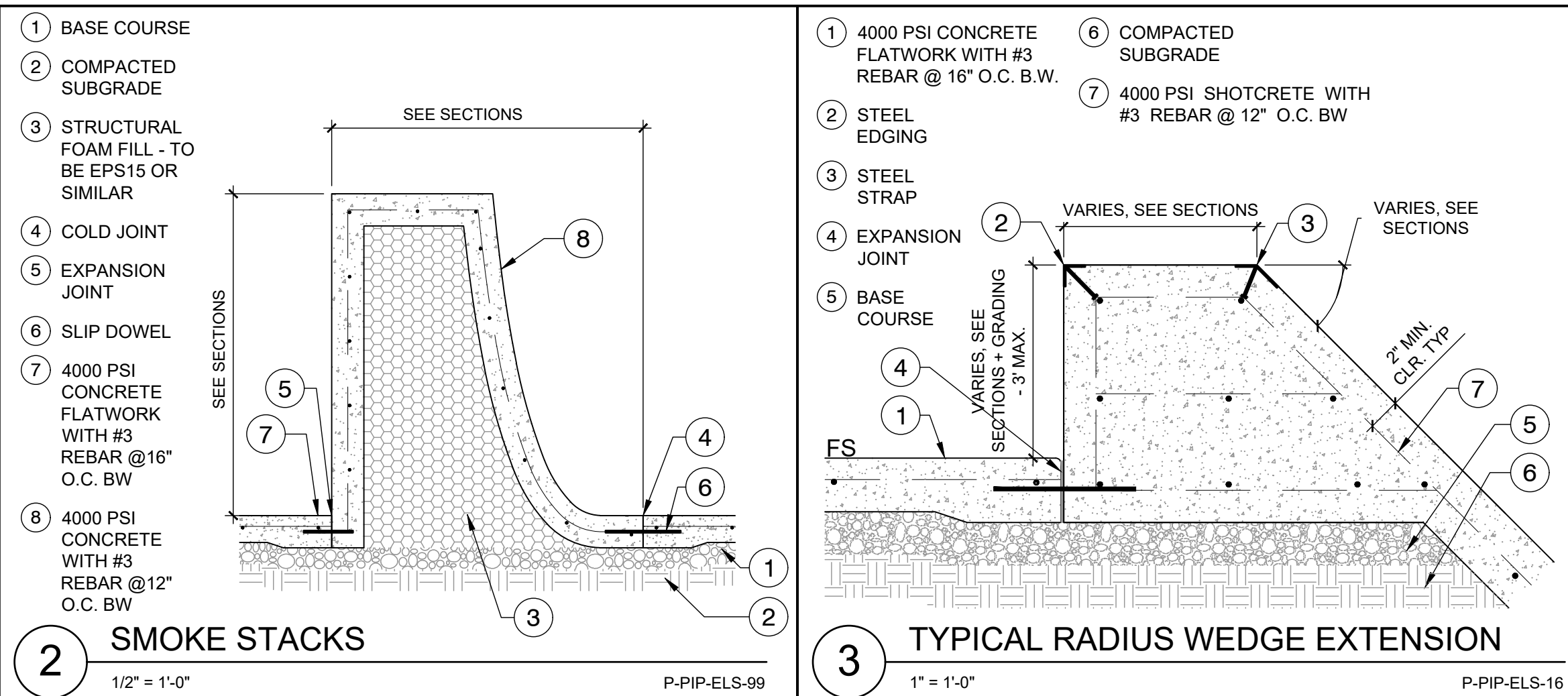
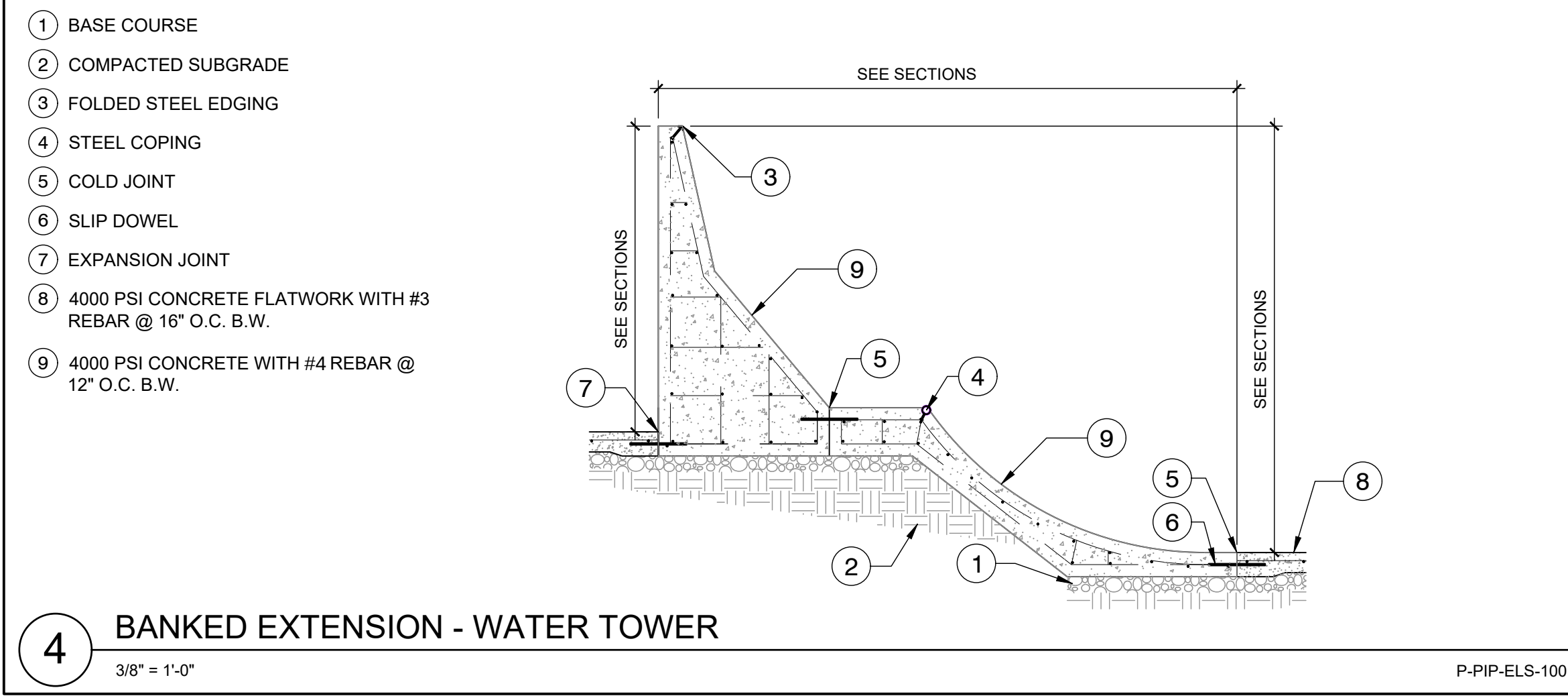
05 E Grand Ave,
El Segundo, CA 90245



SK8.2



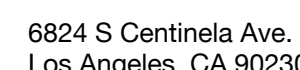
FEBRUARY 12, 2026 - BID PACKAGE



350 Main St, El
Segundo, CA 90245

TEEN CENTER
AND TEEN
PLAZA

405 E Grand Ave,
El Segundo, CA 90245



SPOHN RANCH
SKATEPARKS

info@spohnranch.com
 www.spohnranch.com
 Tel: 626-330-5803
 Fax: 626-330-5503

#	Date	Description
	01/15/25	50% DD SUBMITTAL
	04/18/25	100% DD SUBMITTAL
	06/06/25	50% CD SUBMITTAL
	08/20/25	90% CD SUBMITTAL
	10/28/25	PLAN CHECK RESUBMITTAL #1
	11/14/25	PLAN CHECK RESUBMITTAL #2
	01/16/26	PLAN CHECK RESUBMITTAL #3
	02/12/26	BID PACKAGE

CONSTRUCTION DETAILS

Designed by:	
Drawn by:	
Checked by:	
Project number:	124011

FEBRUARY 12, 2026 - BID PACKAGE

 STANDARD PAINT TO BE "WHITE"

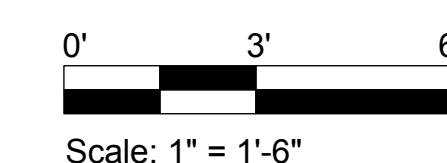
1" = 1'-6"



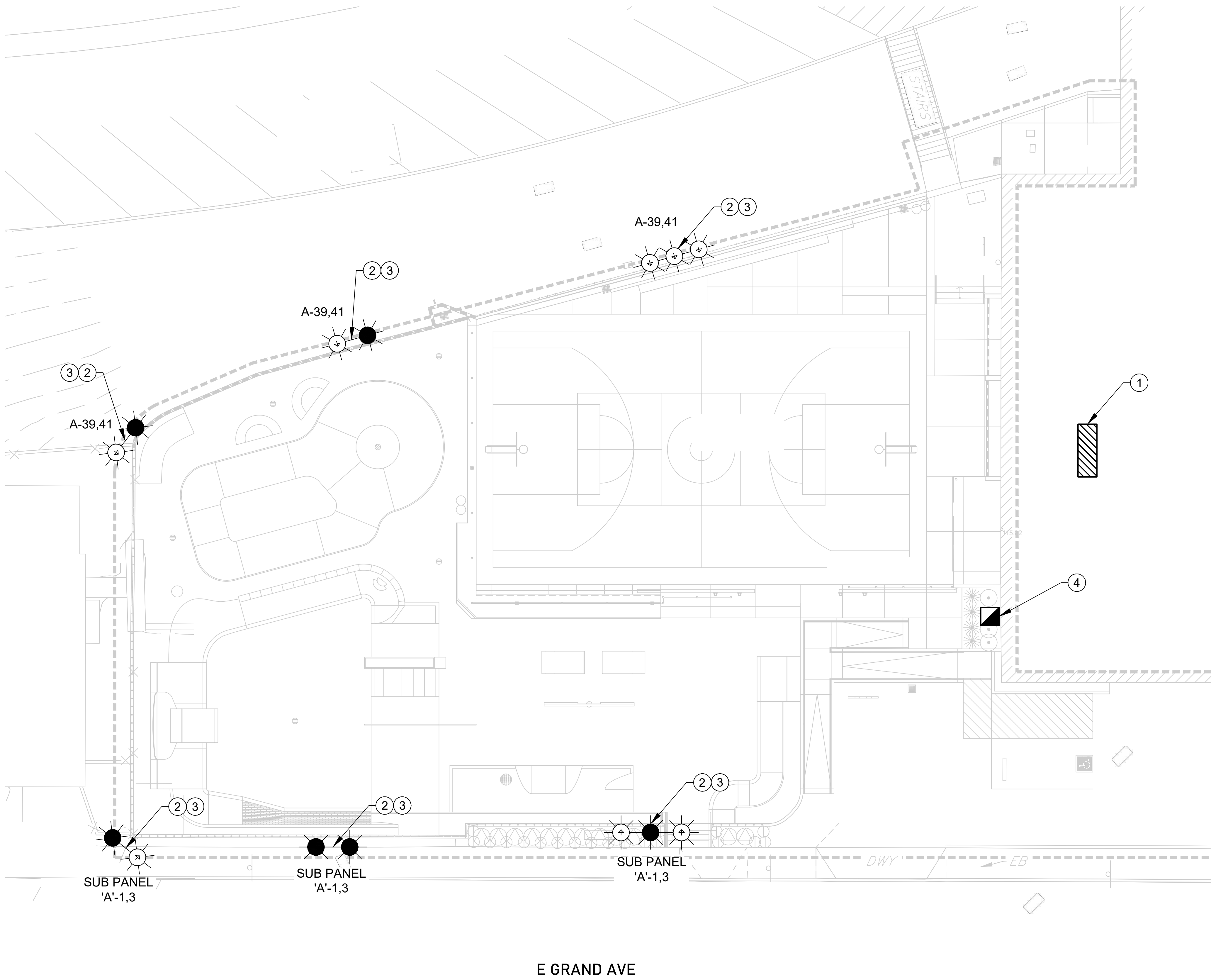
1" = 1'-6"



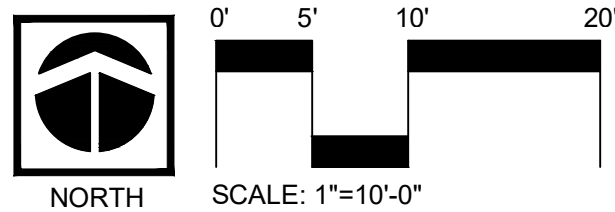
"EL SEGUNDO" TYPEFACE IS BODONI BOLD. LETTERS @ 12" TALL


$$1'' = 1'-6''$$


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Plotted by: lbruns
Dec. 17, 2025 03:12 PM



ELECTRICAL PLAN



PLAN NOTES

- EXISTING 120/240V, 200A, 1 PHASE, 3 WIRE ELECTRICAL BUILDING PANEL 'A'. VERIFY EXACT LOCATION. SEE DETAIL E/EL1.04.
- EXISTING POLE AND LIGHT FIXTURES. REMOVE AND RETURN TO THE CITY FOR DISPOSAL. PATCH EXISTING POLE PENETRATIONS AND PAINT TO MATCH. (TYP. ALL)
- INSTALL NEW LIGHT FIXTURES PER LUMINAIRE SCHEDULE. CONTRACTOR TO FIELD VERIFY REQUIRED POLE ADAPTERS PRIOR TO ORDERING.
CONTRACTOR SHALL PERFORM NIGHT-TIME ADJUSTMENT OF FLOOD LIGHTS. SEE SHEET EL1.03 FOR AIMING VECTORS.
- EXISTING 120/240V, 200A, 1 PHASE, 3 WIRE ELECTRICAL SUB PANEL 'A'. VERIFY EXACT LOCATION. SEE DETAIL F/EL1.04.

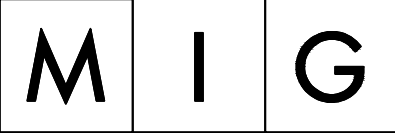
NOTE TO PLAN REVIEWER:

TOTAL WATTAGE FOR EXISTING SKATE PARK CIRCUIT, SOUTH SIDE OF PARK, SUB PANEL A-1,3 = 1,000W. EXISTING CIRCUIT BREAKER IS 2/P 40A. 1,000W @ 240V = 4.17A. THEREFORE, EXISTING CIRCUIT BREAKER IS ACCEPTABLE.

TOTAL WATTAGE FOR BASKETBALL COURT CIRCUIT, NORTH SIDE OF PARK, BUILDING PANEL A-39,41 = 1,000W. EXISTING CIRCUIT BREAKER IS 2/P 40A. 1,000W @ 240V = 4.17A. THEREFORE, EXISTING CIRCUIT BREAKER IS ACCEPTABLE.

NOTE TO PLAN CONTRACTOR:

CONTRACTOR TO FIELD VERIFY AS-BUILT SYSTEM.



360 East Second
Street
Suite 675
Los Angeles, CA
90012

213-694-3800
www.migcom.com



CITY OF
EL SEGUNDO

350 Main St, El Segundo,
CA 90245

EL SEGUNDO RECREATION
PARK PHASE 1
IMPROVEMENT PROJECT
TEEN CENTER
AND TEEN
PLAZA

405 E Grand Ave,
El Segundo, CA 90245



4858 Mercury St. Ste. 210 San Diego CA 92111
858-278-4503 | www.visualconcepts-inc.com

Issue dates

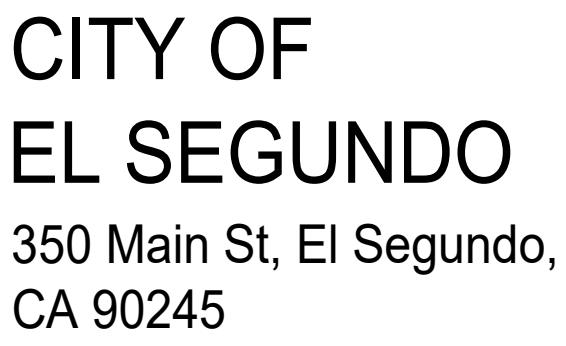
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04/18/25	100% DD	SUBMITTAL
06/06/25	50% CD	SUBMITTAL
08/20/25	90% CD	SUBMITTAL
10/28/25	PLAN CHECK	RESUBMITTAL #1
11/14/25	PLAN CHECK	RESUBMITTAL #2
01/16/26	PLAN CHECK	RESUBMITTAL #3
02/12/26		BID PACKAGE

Sheet title:

LIGHTING PLAN

Designed by: CA
Drawn by: KAB
Checked by: KP JR
Project number: 124011

EL1.02

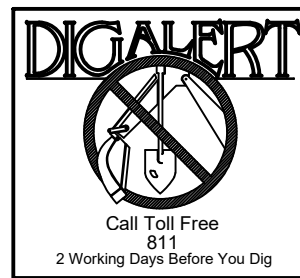


4858 Mercury St. Ste. 210 San Diego CA 92116
619-278-4503 | www.visualconcepts-inc.com

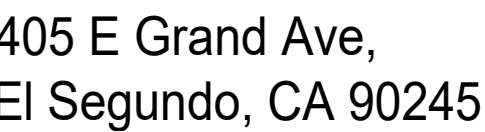
Sheet title:

Designed by:	CA
Drawn by:	KAI
Checked by:	KP JF
Project number:	12401

FEBRUARY 12, 2026 - BID PACKAGE



Luminaire Schedule									
Symbol	Qty	Label	Arrangement	Description	Tag	LLF	Luminaire Lumens	Luminaire Watts	Total Watts
	6	Bolt 60 deg 5k	Single	Bolt Mini Series_ 200W_ 5000K(CRI75)_ 60deg	60	0.920	25525	200	1200
	8	Bolt 30 Deg 5k	Single	Bolt Mini Series_ 200W_ 5000K(CRI75)_ 30deg	30	0.920	26892	200	1600



Designed by:	CA
Drawn by:	KAR
Checked by:	KP JF
Project number:	12401



EL SEGUNDO RECREATION PARK NEW POLES

EL SEGUNDO, CA

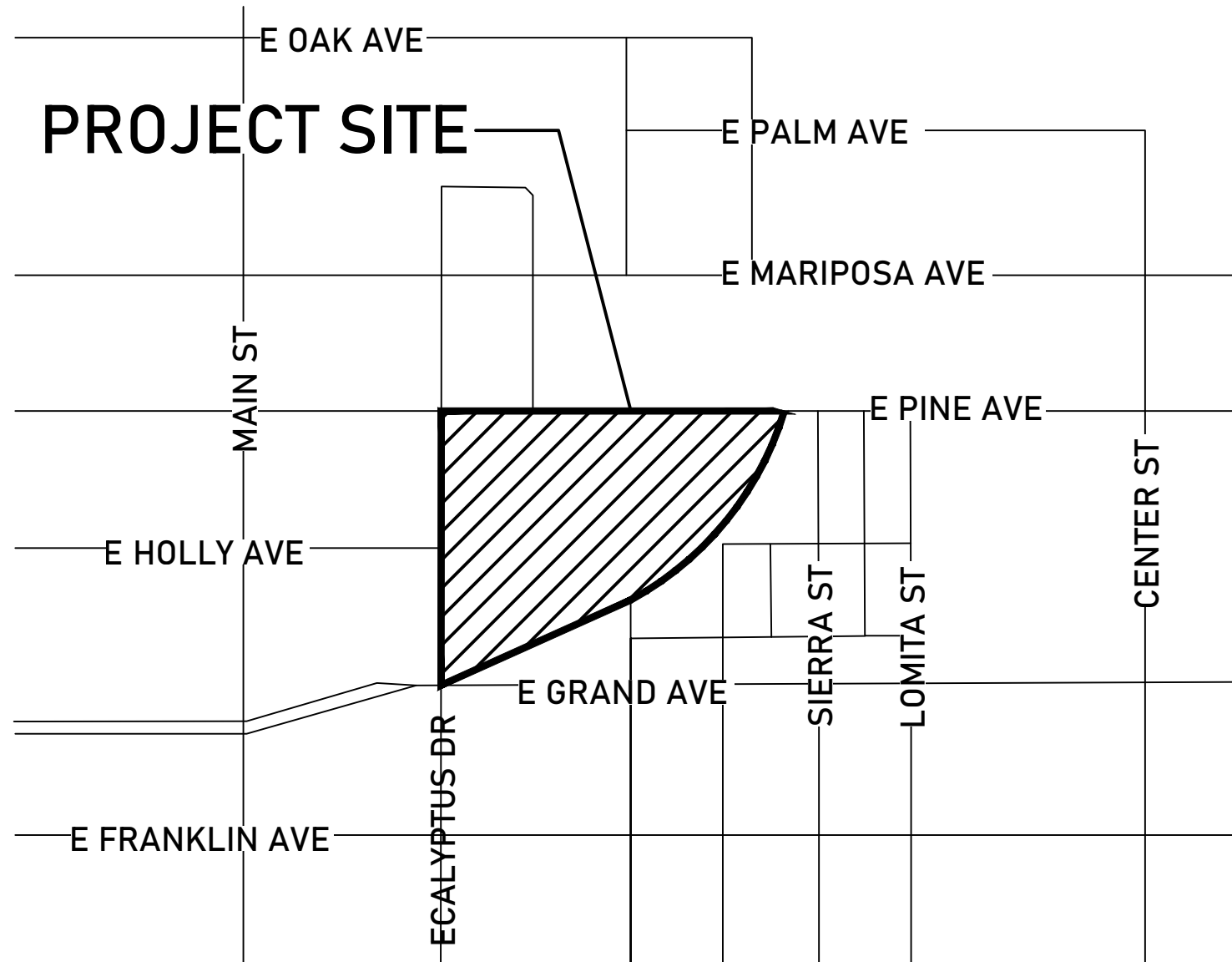
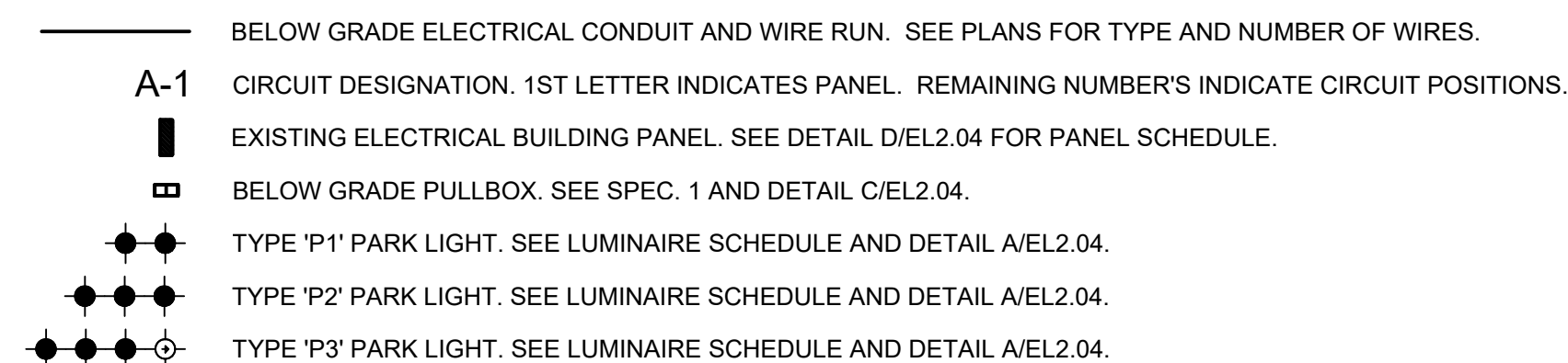
ELECTRICAL CONSTRUCTION NOTES

1. THE GENERAL CONDITIONS AND SUPPLEMENTARY GENERAL CONDITIONS SHALL BE CONSIDERED AS PART OF THE SPECIFICATION.
2. FURNISH ALL LABOR, MATERIALS, EQUIPMENT AND TOOLS TO PERFORM ELECTRICAL WORK SHOWN, NOTED OR SCHEDULED FOR A COMPLETE AND FINISHED INSTALLATION.
 - A. ALL MATERIALS AND EQUIPMENT SHALL BE COMMERCIAL AND SHALL CARRY A U.L. LABEL.
 - B. MATERIALS, PRODUCTS AND EQUIPMENT, INCLUDING ALL COMPONENTS THEREOF, SHALL BE NEW AND SUCH AS APPEAR ON THE UNDERWRITER'S LABORATORIES LIST OF APPROVED ITEMS AND SHALL MEET REQUIREMENTS OF ASTM, IEEE, 2022 NEC, NEMA, AND OTHER RECOGNIZED STANDARDS AND SHALL BE SIZED IN CONFORMITY WITH REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE AND OTHER APPLICABLE CODES, WHICHEVER ARE MORE STRINGENT.
3. THE WORD "PROVIDE" AS USED HEREIN MEANS TO FURNISH AND INSTALL COMPLETE.
4. THIS CONTRACT SHALL COMPLY WITH THE 2022 CALIFORNIA BUILDING, MECHANICAL, PLUMBING, ELECTRICAL, CODES, CALIFORNIA GREEN BUILDING STANDARDS CODE, AND ENERGY CODE (I.E. 2021 IBC, UMC, UPC, AND 2020 NEC, AS AMENDED BY THE STATE OF CALIFORNIA)
5. SECURE AND PAY FOR ALL REQUIRED PERMITS AND INSPECTION CERTIFICATES.
6. ABOVE GRADE CONDUIT SHALL BE STANDARD RIGID STEEL ACCORDING TO CODE REQUIREMENTS. CONDUIT SHALL BE CONCEALED IN FINISHED AREAS, EXCEPT AS OTHERWISE APPROVED BY ARCHITECT. RIGID CONNECTIONS SHALL BE COMPRESSION TYPE. UNDERGROUND CONDUIT SHALL BE SCHEDULE 40 OR 80 PVC BURIED A MINIMUM OF 24".
7. WIRE SHALL BE SINGLE CONDUCTOR COPPER WITH 60 VOLTS INSULATION. ALUMINUM CONDUCTORS ARE NOT PERMITTED. #12 AND SMALLER WIRE SHALL BE 90°C, #10 AND LARGER SHALL BE STRANDED. MINIMUM WIRE SIZE SHALL BE #12. ALL WIRE AND CABLE SHALL BE NEW AND SHALL BE BROUGHT TO THE SITE IN UNBROKEN PACKAGES. ALL WIRING OF ANY TYPE SHALL BE IN CONDUIT.
8. A. GENERAL WIRING SHALL BE THWN OR THHN.
9. ABOVE GRADE WIRE CONNECTORS SHALL BE BY "SCOTCHLOCK" OR EQUAL FOR #8 OR SMALLER AND T&B "LOCK-TITE" FOR #6 AND LARGER.
10. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CHANGING, PATCHING AND PATCHING REQUIRED FOR ANY WORK WITHIN THIS DIVISION. ANY CUTTING SHALL HAVE PRIOR APPROVAL OF THE OWNER.
11. PROVIDE SAFETY AND DISCONNECT SWITCHES. SHALL BE FUSED OR NON-FUSED AS CALLED FOR ON DRAWINGS AND AS REQUIRED BY CODE. SWITCHES SHALL BE HEAVY DUTY, LOAD AND HORSEPOWER RATED AS MANUFACTURED BY SQUARE D, GENERAL ELECTRIC OR EQUAL.
12. JUNCTION, PULL BOXES AND COVERS WITHIN BUILDING SHALL BE GALVANIZED STEEL, CODE GAUGE SIZE AND ACCESSIBLE.
13. ELECTRICAL CONTRACTOR SHALL RECORD ALL HIS WORK AS THE JOB PROGRESSES, AND UPON COMPLETION SHALL TURN OVER TO THE OWNER A "RECORD" SET OF PRINTS SHOWING THE CHANGES.
14. ALL ELECTRIC WORK SHALL BE INSTALLED SO AS TO BE READILY ACCESSIBLE FOR OPERATING, SERVICING MAINTAINING AND REPAIRING. HANGERS SHALL INCLUDE ALL MISCELLANEOUS STEEL, SUCH AS CHANNELS, RODS, ETC., NECESSARY FOR THE INSTALLATION OF WORK AND SHALL BE FASTENED TO STEEL, CONCRETE OR MASONRY, BUT NOT TO PIPING. ALL CONDUIT SHALL BE CONCEALED WHERE POSSIBLE. EXPOSED CONDUIT SHALL BE CONCEALED BY PASSED THROUGH WALLS OR UNDER FLOORING. ALL WIRING SHALL BE RUN IN A MANNER TO BE PROTECTED FROM WATER LINES WHEREVER THEY RUN ALONGSIDE OR ACROSS SUCH LINES. CONDUCTORS SHALL BE ON CONDUIT, DUCTS, OR APPROVED RACEWAYS.
14. ALL 90 DEGREE ELBOWS TO BE FACTORY MADE BENDS.
15. PRIVATE LIGHTING SYSTEM SHALL NOT BE JOINT TRENCH WITH PUBLIC UTILITY SYSTEM.
16. CONTRACTOR TO MAINTAIN PROPER SEPARATION AS REQUIRED BY THE UTILITY COMPANIES.
17. CONTRACTOR SHALL BE RESPONSIBLE FOR CALLING FOR ANY AND ALL UTILITY AND CITY INSPECTIONS.
18. ALL GROUND CONDUCTORS SHALL BE SPLICED THROUGH WITH APPROVED CONNECTOR AT PULL BOXES AND CONNECTED TO GROUND LUG INSIDE POLD.
19. SEE IMPROVEMENT PLANS FOR SITE, SEWER AND WATER (ETC.) IMPROVEMENTS PRIOR TO START OF CONSTRUCTION.
20. CONTRACTOR SHALL CONTACT "DIG ALERT" FOR MARK-OUT PRIOR TO TRENCHING AS REQUIRED.
21. THESE PLANS ARE SCHEMATIC AND ARE FOR THE PURPOSE OF SHOWING HOW TO CONNECT THE ELECTRICAL SYSTEM, WHILE THE DRAWING IS AT A SCALE, AND NOT TO BE USED FOR CONSTRUCTION, AND NOT, AND MAY APPEAR TO SHOW THE EQUIPMENT IN PLACES NOT INTENDED. THE CONTRACTOR IS TO FIELD VERIFY ALL UTILITY COMPANY SERVICE POINTS/METER LOCATIONS, POLES, PULL BOXES BUILDING LIGHT LOCATIONS, SERVICE EQUIPMENT LOCATIONS AND OTHER ELECTRICAL APPURTENANCES PRIOR TO START OF CONSTRUCTION. ANY DISCREPANCIES ARE TO BE ADDRESSED TO THE CLIENT BY MEANS OF A "REQUEST FOR INFORMATION" (RFI). CONTRACTOR IS TO VERIFY ALL LIGHT LOCATIONS WITH THE ARCHITECT PRIOR TO START OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE THE LIGHT STANDARDS DETAIL FOR STANDARDS.
22. CONTRACTOR SHALL CONTACT "DIG ALERT" FOR MARK-OUT PRIOR TO TRENCHING AS REQUIRED.
23. PANEL CIRCUIT DIRECTORY TO COMPLY WITH SECTION 408.4, CEC.
23. NATIVE SOIL SHALL BE ACCEPTABLE FOR TRENCH BACK FILL PROVIDED THAT THE FILL MATERIAL USED SHALL PASS THROUGH A 1" SIEVE (CITY STANDARDS). SEE DETAIL BIEL04.
24. CONTRACTOR SHALL LABEL EACH CIRCUIT WITH PHENOLIC PLASTIC LABEL TAGS IN ANY DEVICE THAT HAS ACCESS. THIS SHALL INCLUDE LIGHT PULL BOXES, PANELS, AND ETCETERA. PANEL CIRCUIT NUMBER AND VOLTAGE SHALL BE IDENTIFIED. TAGS SHALL BE AFFIXED WITH NYLON ZIP-TIES.

SPECIFICATIONS

1. BELOW GRADE PULL BOXES TO BE "OLDCASTLE" MODEL FL127 (OR EQUAL) WITH BOLT DOWN COVER MARKED "ELECTRICAL". LEAVE 2" SLACK OF CONDUCTORS IN PULLBOX. SIZE PER SECTION 314-28. CEE. SEE DETAIL C1/2.04.
2. ALL CONDUIT BELOW GRADE TO BE MINIMUM 3/4" SCHEDULE 40 PVC, UNLESS OTHERWISE NOTED.
3. ALL CONDUIT EXPOSED ABOVE GRADE TO BE MINIMUM 1/2" EMT.
4. ALL SPLICES BELOW GRADE SHALL BE MADE IN APPROVED PULL BOXES AND SHALL BE WATERTIGHT. USE ONLY EPOXY ENCAPSULATED TYPE 3M BAGS OR EQUAL.
5. ALL BELOW GRADE CONDUIT SHALL BE SEALED UPON COMPLETION OF INSTALLATION.
6. ALL ELECTRICIANS TO HAVE PROOF OF CALIFORNIA ELECTRICIANS CERTIFICATE/CREDENTIALS.

LEGEND



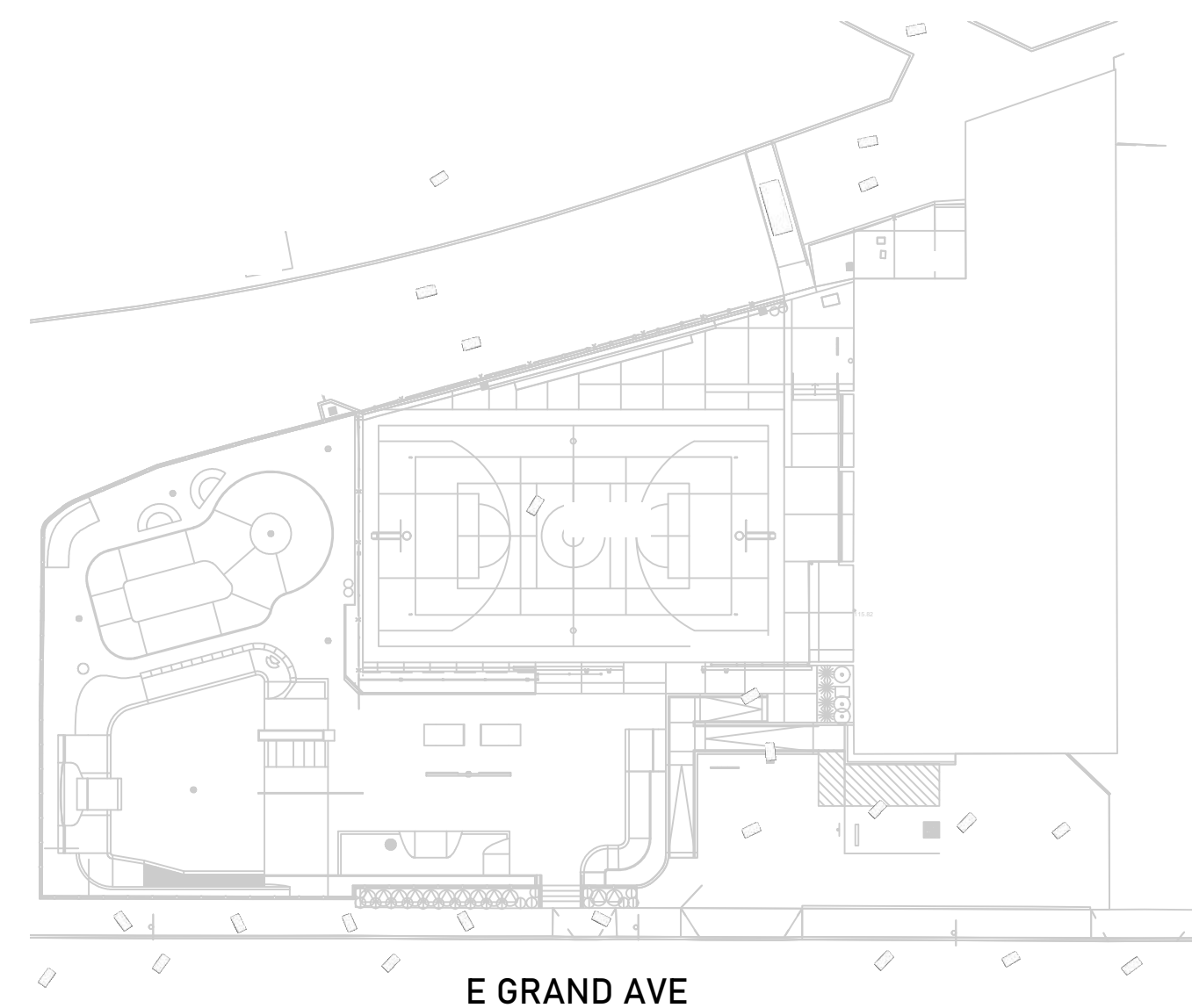
VICINITY MAP

N.T.S.



SCOPE OF WORK

INSTALL NEW LED SPORTS LIGHTS. SEE LUMINAIRE SCHEDULE FOR FIXTURE AND POLE TYPES.
LIGHTS SHALL BE CONTROLLED BY A MASTER PHOTOCELL/TIMECLOCK LOCATED IN THE ELECTRICAL ROOM.



KEY MAP

N.T.S.



SHEET INDEX

SHEET #	DESCRIPTION
EL2.01	TITLE SHEET
EL2.02	LIGHTING PLAN
EL2.03	PHOTOMETRIC STUDY
EL2.04	DETAILS

NOTE TO CONTRACTOR

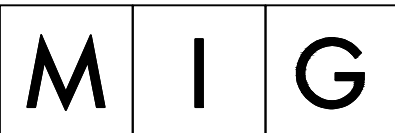
ANY CHANGE OR DEVIATION FROM THE LIGHTING SPECIFICATIONS ON PLAN SHALL NEED TO BE APPROVED BY THE ENGINEER OF RECORD. ALL ASSOCIATED COSTS INCURRED FOR HAVING TO RE-RUN PHOTOMETRIC LIGHTING STUDIES, REVISE ELECTRICAL PLANS AND CIRCUITRY, REVISE ELECTRICAL PANEL SCHEDULES, REVISE LUMINAIRE SCHEDULES, RE-CALCULATE TITLE-24 MANDATORY MEASURES, AND RESUBMIT TO THE BUILDING PLAN CHECK DEPARTMENT SHALL BE PAID BACK TO THE ENGINEER OF RECORD BY THE CONTRACTOR AND ELECTRICAL DISTRIBUTOR. NO REQUEST FOR SUBSTITUTIONS SHALL BE SUBMITTED WITHOUT FIRST HAVING BEEN REQUESTED BY THE PROJECT DEVELOPER. CONTRACTOR SHALL PROVIDE ENGINEER OF RECORD SUBMITTALS FOR APPROVAL FOR ALL LIGHTING PRODUCT SHOWN IN SCHEDULE BELOW PRIOR TO PROCUREMENT.

LUMINAIRE SCHEDULE -EL SEGUNDO RECREATION PARK

SPECIFIED BY: VISUAL CONCEPTS LIGHTING INC. PH: 858-278-4503

TYPE		SYMBOL	FIXTURE												VOLTS				LAMPS		MOUNTING					DESCRIPTION	MFR & CATALOG NO.	
	QTY		LUMENS	CDGP	KELVIN	FLOUR	INDUC	LED	LPS	MH	HPS	12	120	208	240	277	480	NO.	TYPE	WATTS	WEEL	SURF	SPECIAL	WALL	POLE			
P1	6		(1/2)26295		5000														1	MULTI LED	(2) 200						METEOR LIGHTING COLT MINI SEE DETAIL A/E/L2-4	(2): BLTM-200-507-UNV-STV-60-BLK-GSV-SLP-OUT POLE: RSS-H-30-6-C-TA-UDP-BLT-RBC POLE TOP BRACKET: SSB-21-M50
P2	2		(3/2)26295		5000														1	MULTI LED	(3) 200						METEOR LIGHTING COLT MINI SEE DETAIL D/E/L-4	(3): BLTM-200-507-UNV-STV-60-BLK-GSV-SLP-OUT POLE: RSS-H-30-6-C-TA-UDP-BLT-RBC POLE TOP BRACKET: SSB-31-M50
P3	1		(1/3)26295		5000														1	MULTI LED	(4) 200						METEOR LIGHTING COLT MINI SEE DETAIL D/E/L-4	(3): BLTM-200-507-UNV-STV-60-BLK-GSV-SLP-OUT (1): BLTM-200-507-UNV-STV-30-BLK-GSV-SLP-OUT POLE: RSS-H-30-6-C-TA-UDP-BLT-RBC POLE TOP BRACKET: SSB-41-M50

FOR ABOVE SPECIFIED PRODUCT, CONTACT ANNIE MITCHEL WITH OCS LIGHTING & CONTROLS @ 858.514.4000 || ANNIE@OCSLTG.COM



360 East Second
Street
Suite 675
Los Angeles, CA
90012

213-694-3800
www.migcom.com



CITY OF
EL SEGUNDO

350 Main St, El Segundo,
CA 90245

EL SEGUNDO RECREATION
PARK PHASE 1
IMPROVEMENT PROJECT
**TEEN CENTER
AND TEEN
PLAZA**

405 E Grand Ave,
El Segundo, CA 90245



Visual Concepts Lighting

4858 Mercury St. Ste. 210 San Diego CA 921
858-278-4503 | www.visualconcepts-inc.co

Issue dates

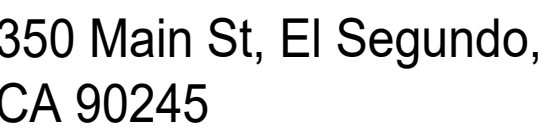
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	06/06/25	50% CD SUBMITTAL
	08/20/25	90% CD SUBMITTAL
	10/28/25	PLAN CHECK RESUBMITTAL #1
	11/14/25	PLAN CHECK RESUBMITTAL #2
	01/16/26	PLAN CHECK RESUBMITTAL #3
	02/12/26	BID PACKAGE

Sheet title:

TITLE SHEET
ALTERNATE A

Designed by:	CA
Drawn by:	KAR
Checked by:	KR
Project number:	12401

EL2.01



05 E Grand Ave,
El Segundo, CA 90245



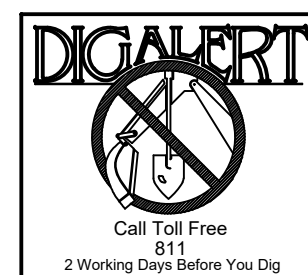
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	01/16/26	PLAN CHECK RESUBMITTAL #3
	02/12/26	BID PACKAGE

LIGHTING PLAN

ALTERNATE A

Designed by:	CA
Drawn by:	KAE
Checked by:	KP
Project number:	124011

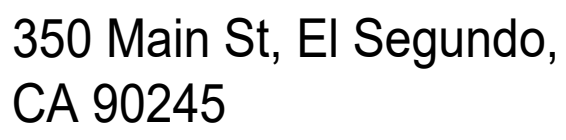
FEBRUARY 12, 2026 - BID PACKAGE



- 1 EXISTING ELECTRICAL BUILDING PANEL 'A'. VERIFY EXACT LOCATION. SEE DETAIL EL2.04.
- 2 PROVIDE 1" C-486, 1#10 GND. ROUTE TO SUB-PANEL 'A' AS REQUIRED. ABOVE GRADE, USE EMT. BELOW GRADE USE SCH. 40 PVC. BURY 24" BELOW GRADE.

CONNECT TO EXISTING SUB-PANEL CIRCUITS A-1,3 & A-5,7. REPLACE EXISTING CIRCUIT BREAKERS WITH 2PO 30A OF SAME LIKE AND KIND.

CONTRACTOR TO INSTALL PHOTOCELL AND TIMECLOCK AND ROUTE CIRCUITS A-1,3 & A-5,7 THROUGH LIGHTING CONTROLS. COORDINATE HOURS OF OPERATION WITH RECREATION CENTER STAFF.
- 3 PROVIDE 1" C-486, 1#10, GND. BURY 24" BELOW GRADE.
- 4 EXISTING 120/240V, 20A, 1 PHASE, 3 WIRE ELECTRICAL SUB PANEL 'A'. VERIFY EXACT LOCATION. SEE DETAIL F1.02.4.
- 5 CONTRACTOR SHALL PERFORM A NIGHT-TIME ADJUSTMENT OF THE FLOOD LIGHTS. SEE AIMING VECTORS SHEET EL2.03.
- 6 PROVIDE 1" C-286, 1#10, GND. BURY 24" BELOW GRADE.



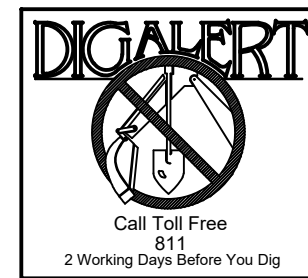
405 E Grand Ave,
El Segundo, CA 90245

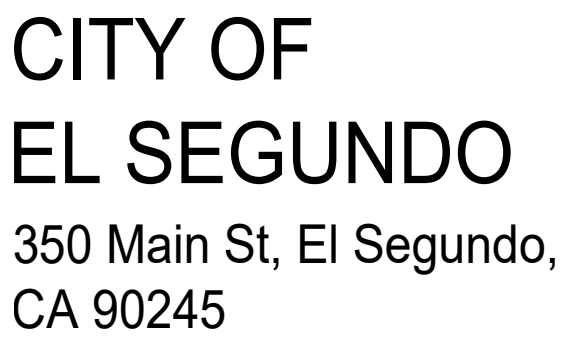


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	02/12/26	BID PACKAGE

PHOTOMETRIC STUDY ALTERNATE A

EL2.03





EL SEGUNDO RECREATION
PARK PHASE 1
IMPROVEMENT PROJECT
TEEN CENTER
AND TEEN
PLAZA
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El Segundo, CA 90245



Sheet title:

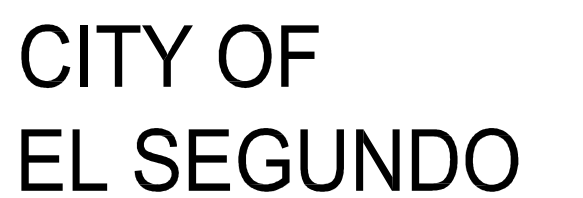
Designed by:	CA
Drawn by:	KAR
Checked by:	KR
Project number:	12401

FEBRUARY 12, 2026 - BID PACKAGE



NOTE: IF PULLBOX IS
INSTALLED IN CONCRETE, TOP
OF PULLBOX TO BE FLUSH
WITH GRADE. IF INSTALLED IN
SOFTSCAPE, INSTALL 3" ABOVE
GRADE.





350 Main St, El Segundo,
CA 90245

EL SEGUNDO RECREATION
PARK PHASE 1
IMPROVEMENT PROJECT
TEEN CENTER
AND TEEN
PLAZA

405 E Grand Ave,
El Segundo, CA 90245

Sheet title:

LANDSCAPE
CONSTRUCTION
PLAN-ADD
ALTERNATE A

Designed by:	AB
Drawn by:	YY
Checked by:	JZ
Project number:	124011

L1.11A

FEBRUARY 12, 2026 - BID PACKAGE

1. SCORE JOINT.
2. RAMP.

1. SCORE JOINT.
2. RAMP.

CIVIL REFERENCES:

61. ASPHALT.
62. STORM DRAIN DROP INLET.
63. CURB.
64. ADA PARKING SPACE.
65. TRUNCATED DOME.

SKATE PARK:

91. BANKED TURN
92. ALL AGES BOWL.
93. RANKED PANNED GRIND EDGE.
94. GRIND LEDGE.
95. SLAPY MANUAL PAD.
96. STEEL SPIDY GRIND LEDGE.
97. RADIUS WEDGE EXTENSION.
98. EUROCAP.
99. QUARTERPIPE.
100. RADIUS WEDGE.
101. RAKED GRIND LEDGE.
102. QUARTERPIPE WITH POOL COPING.
103. SMOKE STACKS.
104. BOLLARD SPHERE.
105. LA-HIGH WALL.
106. STEEL MANHOLE COVER.
107. ROLL-IN.
108. SINGLE KINKED SQUARE GRIND RAIL.

LANDSCAPE CONSTRUCTION SCHEDULE
SCHEDULE:

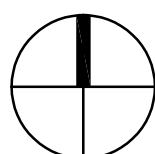
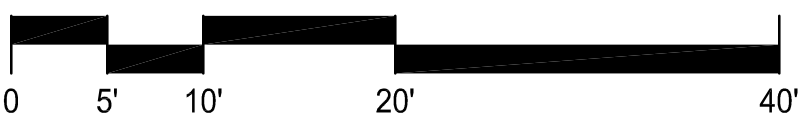
KEY	ITEM / DESCRIPTION
L-01	CONCRETE PAVING
L-02	DECORATIVE COBBLE 2"-3" /NAPILI COBBLE
L-03A	SPORT COURT STRIPING / SB-150 COOL COATING BY STREETBOND
L-03B	SPORT COURT STRIPING / SB-150 COOL COATING BY STREETBOND
L-04A	SPORT COURT SURFACE / SB-150 COOL COATING BY STREETBOND
L-04B	SPORT COURT SURFACE / SB-150 COOL COATING BY STREETBOND
L-04C	SPORT COURT SURFACE / SB-150 COOL COATING BY STREETBOND
L-04D	SPORT COURT SURFACE / SB-150 COOL COATING BY STREETBOND
L-05	CAST-IN-PLACE CONCRETE STEPS
L-06	6" WIDE CAST-IN-PLACE CONCRETE CURB/LOW WALL
L-07	18" WIDE CAST-IN-PLACE CONCRETE SEATWALL
L-08	52" WIDE 18" HIGH CAST-IN-PLACE CONCRETE SEATWALL
L-09	CAST-IN-PLACE CONCRETE AMPHITHEATER SEATWALL
L-10	42" HIGH CAST-IN-PLACE RAMP WALL
L-11	42" HIGH CAST-IN-PLACE CONCRETE MONUMENT SIGN
L-12	48" HIGH PERIMETER FENCE ON EXISTING WALL
L-13	SINGLE PEDESTRIAN GATE
L-14A	8'-0" HIGH FENCE ON MULTI-SPORT COURT
L-14B	8'-0" HIGH PRIMETER FENCE
L-14C	10'-0" HIGH FENCE ON SEATWALL
L-15	8'-0" HIGH 15' WIDE DOUBLE-SLIDING GATE
L-16	WALL MOUNT STAINLESS STEEL HANDRAIL
L-17	FREE STANDING STAINLESS STEEL HANDRAIL
L-18	BASKETBALL POST / THOR PLANTINUM
L-19	SECURITY LIGHT
L-20	LITTER + RECYCLING / ROCKFORD
L-21	BIKE RACK / "HEAVY DUTY WINDER" SINGLE-BIKE
L-22	BIKE RACK / "HEAVY DUTY WINDER" 7-BIKE
L-23	NOT USED
L-24	VOLLEYBALL POST SLEEVE (3.5") /SKU: POP-SLEEVE

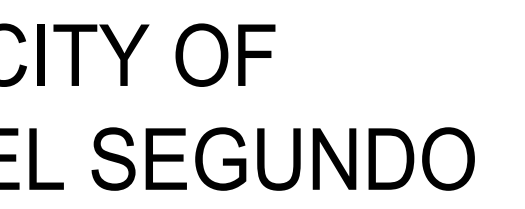
LANDSCAPE LIGHTING SCHEDULE
ADD ALTERNATE A:

	KEY	ITEM / DESCRIPTION
	P-01	METEOR POLE LIGHTING WITH 2 LUMENS
	P-02	METEOR POLE LIGHTING WITH 3 LUMENS
	P-03	METEOR POLE LIGHTING WITH 4 LUMENS

SEE SHEET L1.00 FOR COMPLETE SCHEDULE

SCALE: 1" = 10'



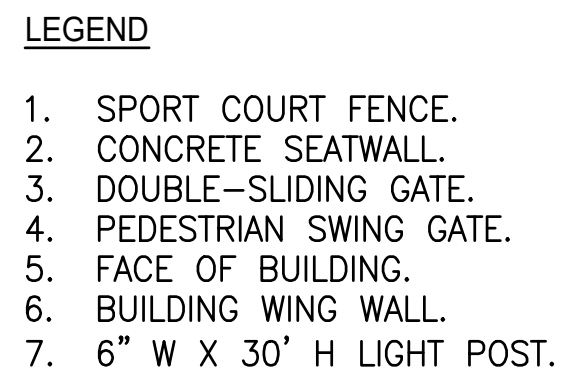


EL SEGUNDO RECREATION
 PARK PHASE 1
 IMPROVEMENT PROJECT
 TEEN CENTER
 AND TEEN
 LAZA
 15 E Grand Ave,
 Segundo, CA 90245

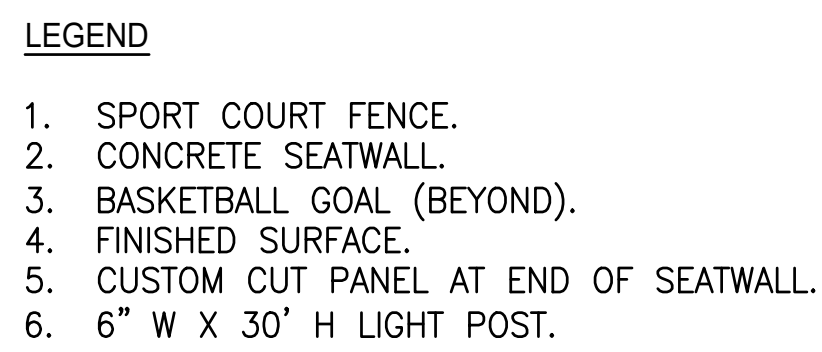
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Designed by:	Al
Drawn by:	Y
Checked by:	J
Project number:	12401

FEBRUARY 12, 2026 - BID PACKAGE

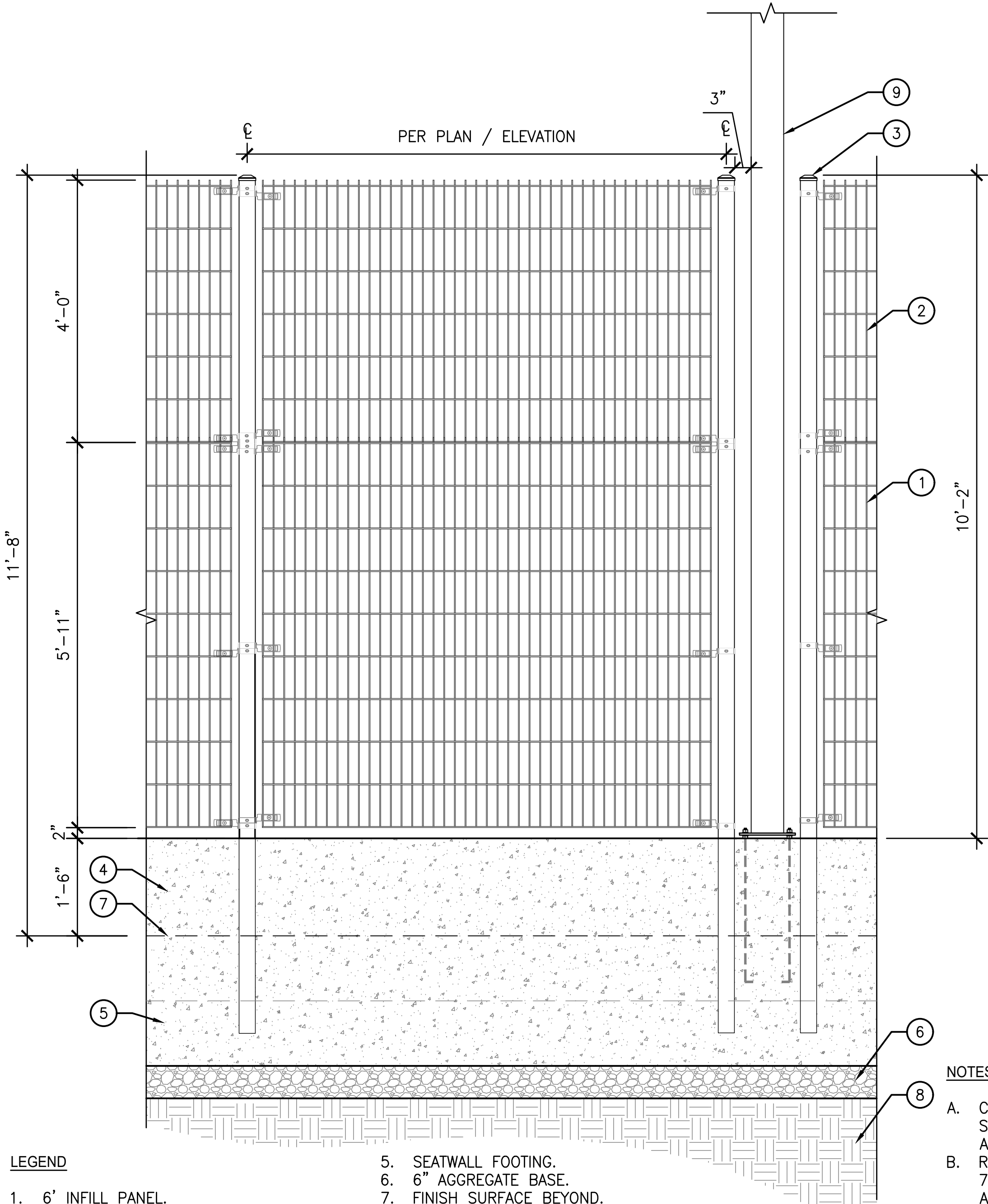


SOUTH ELEVATION
SCALE: 3/8" = 1'-0"



WEST ELEVATION
SCALE: 3/8" = 1'-0"

Plotted by: abertolini Feb. 06, 2026 03:08 PM Z:\Shared\Los Angeles\Production\2024\124011\CA01\24011.L1.53 B.dwg

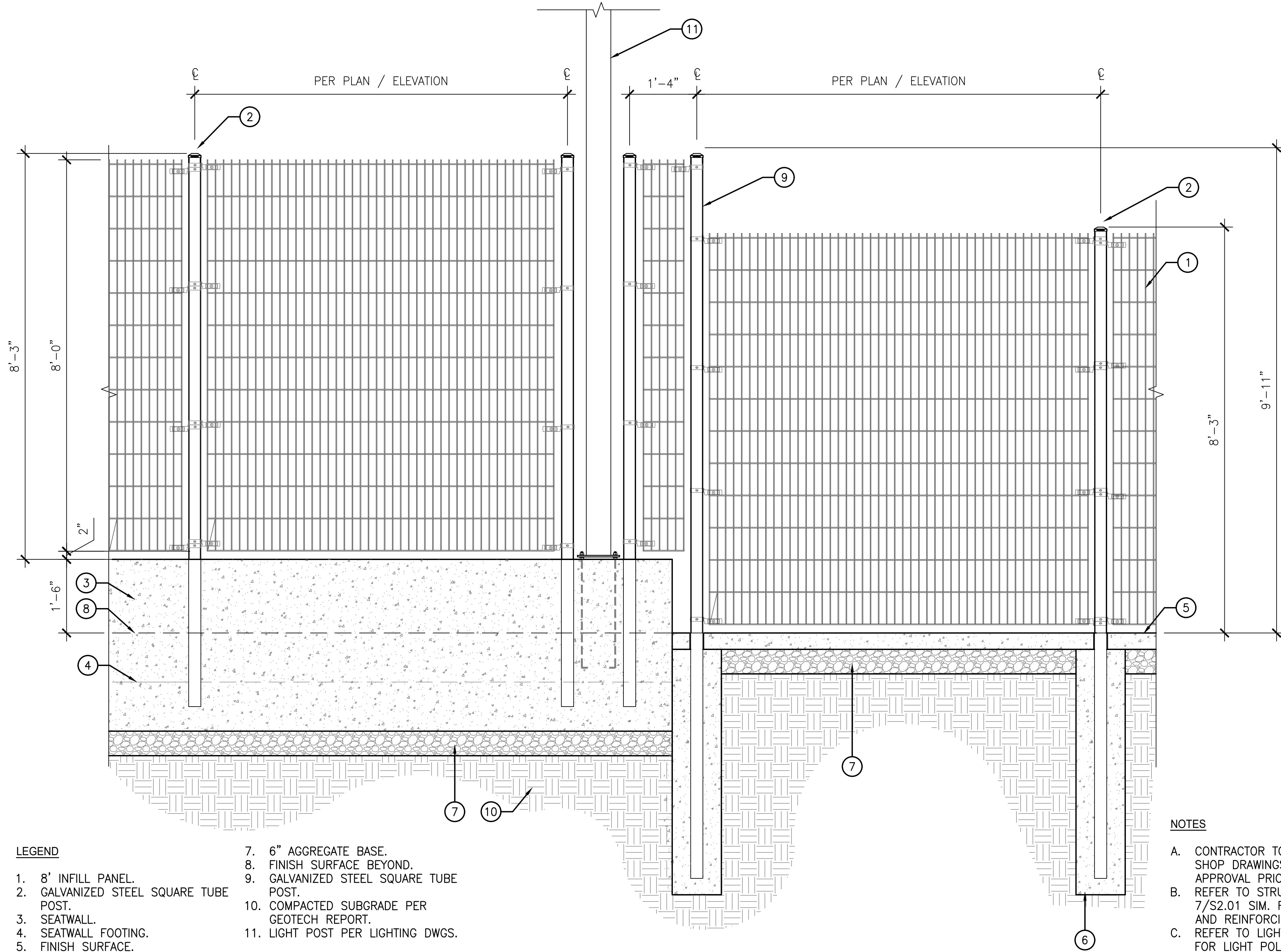


- LEGEND**
1. 6" INFILL PANEL.
 2. 4" INFILL PANEL.
 3. GALVANIZED STEEL SQUARE TUBE POST.
 4. SEATWALL.
 5. SEATWALL FOOTING.
 6. 6" AGGREGATE BASE.
 7. FINISH SURFACE BEYOND.
 8. COMPACTED SUB GRADE PER GEOTECH REPORT.
 9. LIGHT POLE PER LIGHTING DWGS.

NOTES

- A. CONTRACTOR TO SUBMIT COMPLETE SHOP DRAWINGS FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.
- B. REFER TO STRUCTURAL DETAIL 7/S2.01 SIM. FOR FENCE FOOTINGS AND REINFORCING.
- C. REFER TO LIGHTING DETAIL A/EL2.04 FOR LIGHT POLE FOOTING & REINFORCING.

15 10' HIGHT OMEGA FENCE-ADD ALTERNATE A
SCALE: 3/4" = 1'-0"



LEGEND

1. 8' INFILL PANEL.
2. GALVANIZED STEEL SQUARE TUBE POST.
3. SEATWALL.
4. SEATWALL FOOTING.
5. FINISH SURFACE.
6. POST FOOTING PER STRUCT.
7. 6" AGGREGATE BASE.
8. FINISH SURFACE BEYOND.
9. GALVANIZED STEEL SQUARE TUBE POST.
10. COMPACTED SUBGRADE PER GEOTECH REPORT.
11. LIGHT POST PER LIGHTING DWGS.

NOTES

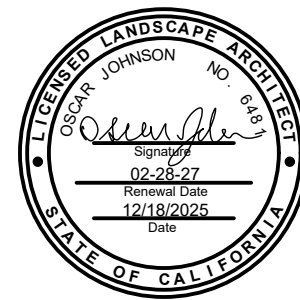
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- B. REFER TO STRUCTURAL DETAIL 7/S2.01 SIM. FOR FENCE FOOTINGS AND REINFORCING.
- C. REFER TO LIGHTING DETAIL A/EL2.04 FOR LIGHT POLE FOOTING & REINFORCING.

9 OMEGA FENCE ON SEATWALL-ADD ALTERNATE A
SCALE: 3/4" = 1'-0"

M I G

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Los Angeles, CA 90012

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EL SEGUNDO**

350 Main St, El Segundo,
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**EL SEGUNDO RECREATION
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El Segundo, CA 90245

Issue dates

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01/16/26	PLAN CHECK RESUBMITTAL #3	
02/12/26	BID PACKAGE	

Sheet title:

**LANDSCAPE
CONSTRUCTION
DETAILS - ADD
ALTERNATE A**

Designed by: AB
Drawn by: YY
Checked by: JZ
Project number: 124011

L1.53A

350 Main St, El
Segundo, CA 90245

TEEN CENTER AND TEEN PLAZA

 6824 S Centinela Ave.
Los Angeles, CA 90231
info@spohnranch.com
www.spohnranch.com
Tel: 626-330-5803
Fax: 626-330-5503

Sheet title:
CONSTRUCTION
DETAILS
ADD
ALTERNATE B
WATER TOWER
INTEGRAL COLOR

SK9.3B

