

GAME ROOM 3



ART ROOM 5



MEDIA CONSOLE 2



GAME AND STUDY ROOMS 4



STAGE 1

True North Compliance Services, Inc.

PLAN REVIEW APPROVAL

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BY: Mulham Fwaidi DATE: 03/25/2026

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STATE OF CALIFORNIA

CITY OF
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350 Main St, El Segundo, CA 90245

EL SEGUNDO RECREATION PARK PHASE 1 IMPROVEMENT PROJECT

TEEN CENTER AND TEEN PLAZA

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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
	02/09/26	PLAN CHECK RESUBMITTAL #4

Sheet title:

INTERIOR RENDERINGS

Designed by:	PT
Drawn by:	MW
Checked by:	KL
Project number:	124011

A9.01

ABBREVIATIONS (NOT ALL USED)

A	AMPERES
AFF	ABOVE FINISH FLOOR
AHU	AIR HANDLING UNIT
AL	ALUMINUM
ARCH	ARCHITECT
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
BLDG	BUILDING
C	CONDUIT - RACEWAY
CKT	CIRCUIT
CL	CENTER LINE
COL	COLUMN
CU	COPPER
DWG	DRAWING
EC	ELECTRICAL CONTRACTOR
EF	EXHAUST FAN
EM	EMERGENCY
EWC	ELECTRIC WATER COOLER
F	FUSE
FA	FIRE ALARM
FT	FEET
G	GROUND OR GROUNDING
GRSC	GALVANIZED RIGID STEEL CONDUIT
KVA	KILOVOLT AMPERES
KW	KILOWATTS
LTG	LIGHTING
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MCM	THOUSAND CIRCULAR MILS
MISC	MISCELLANEOUS
MLO	MAIN LUGS ONLY
MCP	MOTOR CIRCUIT PROTECTOR
NC	NORMAL CLOSED
NO	NORMAL OPEN
NEC	NATIONAL ELECTRICAL CODE - NFPA 70
NIC	NOT IN CONTRACT
NL	NIGHT LIGHT
NTS	NOT TO SCALE
P	POLES
POS	PROVIDED UNDER OTHER SECTIONS
PNL	PANEL OR PANELBOARD
PWR	POWER
R	EXISTING TO BE REMAIN
RL	EXISTING TO BE RELOCATED
RM	EXISTING TO BE REMOVED
RSC	RIGID STEEL CONDUIT
RTU	ROOF TOP UNIT
SLD	SINGLE LINE DIAGRAM
SP	SPARE
SW	SWITCH
TEL	TELEPHONE
UG	UNDERGROUND
V	VOLT
W	WIRE
WH	WATER HEATER
WP	WEATHERPROOF
XFMR	TRANSFORMER
W/	WITH
U.N.O.	UNLESS NOTED OTHERWISE
P.O.C.	POINT OF CONNECTION
SE	SERVICE ENTRANCE
MC	METAL CLAD

SYMBOLS (NOT ALL USED)

SWITCHES AND CONTROLS

$	MANUAL WALL SWITCH: 20A/120V, WALL MTD AT +48" OR AS NOTED SUBSCRIPT AT SYMBOL INDICATES THE FOLLOWING: 2 - DOUBLE POLE 3 - THREE WAY 4 - FOUR WAY OS - OCCUPANCY SENSOR VS - VACANCY SENSOR K - KEY T - MANUAL TIME SWITCH P - PILOT LIGHT DIM - DIMMER
$M	MOTOR SWITCH
OS	CEILING MOUNTED OCCUPANCY SENSOR
PC	PHOTOCELL
T	THERMOSTAT

POWER RECEPTACLES

	DUPLEX RECEPTACLE: 20A/120V
	FLOOR MOUNTED RECEPTACLE: 20A/120V
	QUAD RECEPTACLE: 20A/120V
	DUPLEX OR QUAD RECEPTACLE W/ HALF CONTROLLED: 20A/120V
	DUPLEX OR QUAD GFCI PROTECTED RECEPTACLE: 20A/120V
	DUPLEX OR QUAD RECEPTACLE: 20A/120V, WALL MTD AT 6" ABOVE COUNTER OR SPLASH
	DUPLEX OR QUAD RECEPTACLE W/ HALF CONTROLLED: 20A/120V, WALL MTD AT 6" ABOVE COUNTER OR SPLASH
	DUPLEX OR QUAD GFCI PROTECTED RECEPTACLE: 20A/120V, WALL MTD AT 6" ABOVE COUNTER OR SPLASH
GF GF	FLUSH MOUNT FLOOR DUPLEX OR QUAD RECEPTACLE: 20A/120V
C C	CEILING MOUNT DUPLEX OR QUAD RECEPTACLE: 20A/120V
	DUPLEX AFCI RECEPTACLE: 20A/120V
	DUPLEX RECEPTACLE W/ USB TYPE A & C CHARGER: 20A/120V
	SPECIAL DEDICATED RECEPTACLE; REFER TO PLAN FOR AMPACITY/VOLTAGE

POWER DISTRIBUTION AND DEVICES

F	FUSED DISCONNECT
X	UNFUSED DISCONNECT
AC DC	JUNCTION BOX AND DRIVER, PER LIGHTING SUPPLIER AND PLANS.
J	JUNCTION BOX / PULL BOX
J	JUNCTION BOX / PULL BOX W/ FLEX
	CIRCUIT HOMERUN 2#12 + 1#12 GND
	CIRCUIT HOMERUN 3#12 + 1#12 GND
	CONDUIT STUB UP
	CONDUIT STUB DOWN
	PANEL BOARD
B	DOOR CHIME
	DOOR BELL
SD	SMOKE DETECTOR
CM	COMBO SMOKE AND CARBON MONOXIDE DETECTOR

SINGLE LINE DIAGRAM

M	METER
	CIRCUIT BREAKER
	FUSED DISCONNECT
	DRY TYPE TRANSFORMER
	GROUND
#	MOTOR, NUMERAL INDICATES HORSEPOWER RATING

LOW VOLTAGE

ADF	LOW VOLTAGE PANEL
	DATA OUTLET
	PHONE OUTLET
	DATA AND PHONE OUTLET
TV	TELEVISION CABLE OUTLET

APPLICABLE CODES

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

SHEET INDEX

NO.	SHEET	DESCRIPTION	SCALE
1	E0.01	NOTES, SYMBOLS, & ABBREVIATIONS	N/A
2	E0.02	SINGLE LINE DIAGRAM & SCHEDULES	N/A
3	E1.01	SITE PLAN - ELECTRICAL	1/8"=1'
4	E1.02P	1ST FLOOR PLAN - ELECTRICAL - POWER	1/8"=1'
5	E1.02L	1ST FLOOR PLAN - ELECTRICAL - LIGHTING	1/8"=1'
6	E1.02PM	1ST FLOOR PLAN - ELECTRICAL - PHOTOMETRICS	1/8"=1'
7	E1.03	ROOF PLAN - ELECTRICAL	1/8"=1'
8	ET24.1	ELECTRICAL T24	N/A
9	ET24.2	ELECTRICAL T24	N/A

SCOPE OF WORK

ELECTRICAL DESIGN FOR TENANT IMPROVEMENT PROJECT OF TEEN CENTER BUILDING LOCATED IN EL SEGUNDO WITH AN APPROXIMATE AREA OF 5,500 SF.

SERVICE FOR BUILDING IS 200A 120/240V 1P 3W THAT IS EXISTING TO REMAIN. PANEL SHALL BE EXISTING WITH NEW CIRCUITRY

OUTSTANDING ITEMS

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).

GENERAL NOTES

1. CONTRACTOR SHALL APPLY FOR ALL PERMITS & INSPECTION REQUIRED BY LEGAL AUTHORITIES.
2. WORKS & MATERIALS 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 AHJ.
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 EEOR & ARCHITECT FOR CLARIFICATION OR CORRECTION PRIOR TO CONSTRUCTION.
11. OPENINGS AROUND ELECTRICAL PENETRATIONS THRU FIRE RATED WALLS, PARTITIONS, FLOORS, OR CEILINGS SHALL BE FIRE STOPPED USING APPROVED METHODS AS DETERMINED BY CODE & REGULATIONS.
12. ALL MATERIALS SHALL BE NEW. ANY DAMAGED PARTS & EQUIPMENT SHALL BE REPLACED.
13. ELECTRICAL 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 CUTSHEETS & AN AMOUNT FOR THE SUBSTITUTION FOR APPROVAL PRIOR TO PURCHASE AND INSTALLATION.
16. CONTRACTOR'S SCOPE OF WORK & DELIVERABLES SHALL INCLUDE OTHER TRADES & DISCIPLINES' PLANS, NOTES & SCHEDULES WITH REFERENCE TO ELECTRICAL PLANS.
17. SUBSTITUTION OF ANY MATERIAL OR EQUIPMENT SHALL BE APPROVED BY ARCHITECT & EEOR 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 COORDINATE & VERIFY MECHANICAL & PLUMBING REQUIREMENTS FOR CONTROL AND LOW VOLTAGE WIRING WITH MECHANICAL & PLUMBING CONTRACTORS PRIOR TO CONSTRUCTION.
23. GROUNDING SHALL BE IN FULL COMPLIANCE WITH NATIONAL ELECTRICAL CODE. INCOMING SERVICE SHALL BE PER UTILITY GROUNDING COMPANY REQUIREMENTS & NEC-ART.#250.
24. UNDERGROUND CONDUITS SHALL BE SCHEDULE 40 PVC WITH SCHEDULE 80 PVC BENDS & STEEL RISERS. ALL UNDER-GROUND PVC CONDUITS SHALL CONTAIN A GROUND CONDUCTOR & SHALL BE SIZED PER CODE REQUIREMENT.
25. PANELBOARD SHALL BE BOLT ON TYPE CIRCUIT BREAKERS UNLESS NOTED AS LOAD CENTERS WHICH ARE PLUGIN TYPE BREAKERS.
26. FUSED DISCONNECT SWITCHES SHALL BE FUSED PER NAMEPLATE UNLESS NOTED OTHERWISE.
27. CONTRACTOR SHALL PROVIDE FULL SUBMITTAL AND CATALOG CUTSHEETS ON ALL ELECTRICAL EQUIPMENT PRIOR TO PLACING ORDERS AND PURCHASE.
28. CONDUCTORS SHALL BE COPPER TYPE THW, THHN, THWN, XHHW. 600V INSULATION UNLESS NOTED OTHERWISE.
29. WIRING DEVICES SHALL BE SPECIFICATION GRADE.
30. CONDUIT SHALL COMPLY WITH THE REQUIREMENTS OF UNDERWRITERS' LABORATORIES. CONDUIT(S) SHALL BE GALVANIZED STEEL ABOVE GROUND & PVC UNDERGROUND. CONDUIT(S) SHALL BE SUPPORTED ACCORDING TO APPLICABLE CODE(S). EMPTY CONDUITS SHALL INCLUDE PULL WIRE.
31. FLEXIBLE CONDUIT SHALL BE USED FOR FINAL CONNECTION TO MOTORS AND OTHER VIBRATING EQUIPMENT. EXPANSION COUPLINGS SHALL BE USED AT BUILDING EXPANSION JOINTS.
32. NON-METALLIC BUSHINGS OR INSULATED METALLIC BUSHINGS SHALL BE PROVIDED FOR ALL CONDUIT TERMINATIONS.
33. LIGHTING FIXTURES ARE AS SPECIFIED OR APPROVED EQUAL. CATALOG CUT SHEETS OF SUBSTITUTIONS SHALL BE SUBMITTED TO THE ARCHITECT & EEOR FOR APPROVAL PRIOR TO PURCHASE AND INSTALLATION..
34. VOLTAGE DROP CALCULATIONS IS BASED ON ARCHITECTURAL PLANS. ELECTRICAL CONTRACTOR SHALL VERIFY & PROVIDE THE EEOR THE EXACT ROUTING & ACTUAL LENGTH OF ALL FEEDERS & HOMERUNS FOR ADJUSTMENTS AND CALCULATIONS OF VOLTAGE DROPS.
35. ELECTRICAL WORK NOTED ON HVAC AND PLUMBING DRAWINGS SHALL BE INCLUDED AS PART OF THE ELECTRICAL CONTRACTOR'S SCOPE OF WORK.
36. PERMANENTLY & VISIBLY LABEL ALL PANELS & SWITCHBOARDS WITH THE FOLLOWING:
    - NAME OF THE PANEL &/OR SWITCHBOARD
    - SOURCE OF POWER
    - VOLTAGE & CURRENT RATING
    - PANEL SCHEDULE
38. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION OF ALL LIGHTING EQUIPMENT & CONTROL DEVICES, PRIOR TO ORDERING.
39. LIGHTING SUBMITTALS SHALL INCLUDE PHYSICAL DIMENSIONS, PHOTOMETRICS, BUG-RATING(S), SPECIFIED LAMP TYPE, DRIVER(S), & MOUNTING DETAILS. ALL LIGHTS SHALL BE LISTED BY AN NRTL & COMPLY WITH APPLICABLE ENERGY CODE.
40. COORDINATE EXACT LOCATIONS & MOUNTING REQUIREMENTS OF ALL LIGHTING FIXTURES & CONTROL EQUIPMENT WITH OTHER DISCIPLINES, ARCHITECTURAL, INTERIOR, & LIGHTING DESIGNERS INCLUDING THE DEVELOPER.
41. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN & OTHER ARCHITECTURAL DRAWINGS AS REQUIRED FOR COORDINATION OF LIGHTING WITH MECHANICAL, STRUCTURAL, PLUMBING & OTHER.
42. FINAL AIMING OF ALL ADJUSTABLE LIGHTING EQUIPMENT SHALL BE DONE BY THE ELECTRICAL CONTRACTOR AS DIRECTED BY AND UNDER THE SUPERVISION OF THE LIGHTING CONSULTANT UNLESS NOTED TO THE CONTRARY.
43. LIGHTING COLOR TEMPERATURE SHALL BE AS SPECIFIED BY ARCHITECT & INTERIOR LIGHTING DESIGNER.
44. LIGHT FIXTURES SHALL BE LED WITH APPROVED DRIVERS. ALL LIGHTS SHALL BE LISTED BY AN NRTL & COMPLY WITH APPLICABLE ENERGY CODE.
45. COMPONENTS SHOWN ON THE RISER DIAGRAMS, BUT NOT ON THE PLAN OR VICE VERSA, SHALL BE INCLUDED AS IF SHOWN ON BOTH.
46. EXACT LOCATION OF MECHANICAL & PLUMBING EQUIPMENT THAT REQUIRE ELECTRICAL CONNECTIONS ARE SHOWN ON THE MECHANICAL & PLUMBING DRAWINGS. ELECTRICAL CONTRACTOR SHALL REVIEW PLANS FROM OTHER DISCIPLINES.
47. RACEWAYS RUNNING THROUGH BUILDING EXPANSION JOINTS SHALL BE EQUIPPED WITH EXPANSION FITTINGS.
48. ELECTRICAL CONTRACTOR SHALL COORDINATE ALL ELECTRICAL PANEL LOCATIONS WITH OTHER EQUIPMENT IN ORDER TO MAKE SURE THE PANELS ARE MOUNTED WITH ENOUGH CLEARANCE IN FRONT & STAY CLEAR FROM ADJACENT EQUIPMENT BEFORE ROUGH-IN. NOTIFY ARCHITECT & ENGINEER OF ANY PROBLEM PRIOR TO INSTALLATION.
49. IT IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO VERIFY & COORDINATE THE LOW VOLTAGE POINT OF CONNECTION (POC) TO THE MPOE ROOM.
50. OUTLETS SHALL COMPLY WITH ADA REQUIREMENTS. MIN 18" AFF (TO BOTTOM OF THE OUTLET BOX) UNLESS NOTED OTHERWISE.
51. SWITCHES SHALL BE MOUNTED AT +36" - 48" A.F.F (TO TOP OF THE OUTLET BOX).
52. EQUIPMENT MOUNTING HEIGHT SHALL BE PER HOUSING AND DEVELOPMENT STANDARDS (HUD) AS REQUIRED BY AHJ. CONTRACTOR SHALL INSTALL IN FULL COMPLIANCE WITH DISABILITY REQUIREMENTS.

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Sheet title:

NOTES, SYMBOLS,& ABBREVIATIONS

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

E0.01

LIGHTING FIXTURE SCHEDULE - COMMON AREAS

FIXTURE TYPE	SYMBOL	DESCRIPTION	MANUFACTURE / CAT.#	VOLTAGE / NO. LAMP	LAMP TYPE	TOTAL WATTS	MOUNTING	COMMENT
F-1		TROFFER 2'x2' GAME ROOM, OFFICE, STORAGE ROOM	SYLVANIA / 5AS030UNVD83522UWH, 3500K	120	LED	20W	CEILING	CONFIRM COLOR TEMPERATURE WITH BUILDING
F-1E		TROFFER 2'x2' GAME ROOM, OFFICE, STORAGE ROOM, 90 MINUTE EMERGENCY BATTERY INCLUDED	SYLVANIA / 5AS030UNVD83522UWH, 3500K	120	LED	20W	CEILING	- CONFIRM COLOR TEMPERATURE WITH BUILDING - SAME AS 'F-1' WITH EMERGENCY BATTERY PACK
F2		6" DOWNLIGHT - RECESSED CAN	LITHONIA LIGHTING / LDN6-3500K-AR-LSS-80CRI	120	LED	17.5W	SURFACE	CONFIRM COLOR TEMPERATURE WITH BUILDING
F2E		6" DOWNLIGHT - RECESSED CAN, 90 MINUTE EMERGENCY BATTERY INCLUDED	LITHONIA LIGHTING / LDN6-3500K-AR-LSS-80CRI	120	LED	17.5W	SURFACE	- CONFIRM COLOR TEMPERATURE WITH BUILDING - SAME AS 'F2' WITH EMERGENCY BATTERY PACK
F3		LED STRIP LIGHT	WILLIAMS / SLF-4-L52-90-40-HIA-OCCWS-FS-505-PP-DIM-UNV	120	LED	38W	CEILING	CONFIRM COLOR TEMPERATURE WITH BUILDING
F4		WALL SCONCE MOUNTED AT 8' MIN	LITHONIA LIGHTING / WMCL4 P1 SWW2 A75 MVOLT PE DDBXD M4	120	LED	19W	SURFACE	CONFIRM COLOR TEMPERATURE WITH BUILDING
F4E		WALL SCONCE MOUNTED AT 8' MIN, 90 MINUTE EMERGENCY BATTERY INCLUDED	LITHONIA LIGHTING / WMCL4 P1 SWW2 A75 MVOLT PE E4WC DDBXD M4	120	LED	19W	SURFACE	- CONFIRM COLOR TEMPERATURE WITH BUILDING - SAME AS 'F2' WITH EMERGENCY BATTERY PACK
F5		3" DOWNLIGHT - RECESSED CAN	KETRA / D-3 DOWNLIGHT	120	LED	18W	SURFACE	CONFIRM COLOR TEMPERATURE WITH BUILDING
F6		CONTECH PENDANT HOLOPHANE LIGHT	HOLOPHANE / HOLO1-12000-ADFR-MVOLT-35K-80 CRI	120	LED	70W	SURFACE	CONFIRM COLOR TEMPERATURE WITH BUILDING
F7		LED TRACK LIGHT	OWNER/ARCHITECT	120	LED	4.5W	SURFACE	CONFIRM COLOR TEMPERATURE WITH BUILDING
F8E		BUG EYE LIGHT, 90 MINUTE EMERGENCY BATTERY INCLUDED	LITHONIA LIGHTING / ELM6L	120	LED	8.4W	SURFACE	CONFIRM COLOR TEMPERATURE WITH BUILDING
F9		SECURITY LIGHT	BY OWNER/ARCH	120	LED	-	-	PROVIDE WET LISTING

FIXTURE SCHEDULE NOTES:
1. ALL FIXTURES SHALL BE UL LISTED AND SHALL BE SUITABLE FOR LOCATION WEATHER LISTING REQUIREMENTS.
2. ALL FIXTURES SHALL BE REVIEWED AND APPROVED BY THE ARCHITECT/ OWNER.
3. ALL FIXTURES TRIM COLOR SHALL BE APPROVED BY THE OWNER.
4. LIGHTING MANUFACTURE SELECTION, PHYSICAL APPEARANCE AND PERFORMANCE OF THE FIXTURE SHALL BE BY THE OWNER AND PROJECT ARCHITECT.
5. ALL LIGHT FIXTURES SHALL COMPLY WITH ENERGY CODE AND TITLE 24 REQUIREMENTS.
6. ALL LIGHT FIXTURES SHALL BE HIGH EFFICACY.

ROOF MOUNTED EXHAUST FAN SCHEDULE

MARK	MANUFACTURER MODEL	ELECTRICAL DATA						REMARKS
		V/PH/HZ	AMPS	CONDUIT	FEEDER	GROUND	DISCONNECT MEANS	
		(-)	(AMP)	EMT	COPPER	COPPER	MOTOR SWITCH	
EF R-1	GREENHECK USF-4	208/1/60	4	3/4"	2#12	1#12	15A/2P	1,2

NOTES:

1. PROVIDE LIQUID TIGHT METALLIC FLEXIBLE CONDUIT AT FINAL TERMINATION.
2. PROVIDE CONTROL WIRING, CONDUIT, ETC. FOR A COMPLETE AND FUNCTIONAL SYSTEM.
3. PROVIDE PERMANENT LABEL FOR THE INDOOR FAN COIL UNIT AND OUTDOOR UNIT.
4. CONTRACTOR SHALL VERIFY MODEL NUMBERS AND MATCH WITH INDOOR UNIT PRIOR TO INSTALLATION
5. DISCONNECT SWITCHES/MEANS PROVIDED SHALL NOT CONTAIN FUSES AS LONG AS THE UPSTREAM BREAKER MATCHES THE MOP. IF NOT MATCHED, CONTRACTOR SHALL PROVIDE A FUSED DISCONNECT MATCHING MOP.

ROOF DUCTED HEAT PUMP SYSTEM SCHEDULE

MARK	MANUFACTURER MODEL	ELECTRICAL DATA						REMARKS
		V/PH/HZ	MCA	CONDUIT	FEEDER	GROUND	DISCONNECT MEANS	
		(-)	(AMP)	EMT	COPPER	COPPER	MOTOR SWITCH	
RTU R-1	YORK WQE06A1B1AA5A111A1	230/1/60	36.6	3/4"	2#6	1#10	50A/2P	1,2
RTU R-2	YORK WQE06A1B1AA5A111A1	230/1/60	36.6	3/4"	2#6	1#10	50A/2P	1,2
RTU R-3	YORK WQE04A1B1AA5A111A1	230/1/60	30	3/4"	2#6	1#10	45A/2P	1,2

NOTES:

1. PROVIDE LIQUID TIGHT METALLIC FLEXIBLE CONDUIT AT FINAL TERMINATION.
2. PROVIDE CONTROL WIRING, CONDUIT, ETC. FOR A COMPLETE AND FUNCTIONAL SYSTEM.
3. PROVIDE PERMANENT LABEL FOR THE INDOOR FAN COIL UNIT AND OUTDOOR UNIT.
4. CONTRACTOR SHALL VERIFY MODEL NUMBERS AND MATCH WITH INDOOR UNIT PRIOR TO INSTALLATION
5. DISCONNECT SWITCHES/MEANS PROVIDED SHALL NOT CONTAIN FUSES AS LONG AS THE UPSTREAM BREAKER MATCHES THE MOP. IF NOT MATCHED, CONTRACTOR SHALL PROVIDE A FUSED DISCONNECT MATCHING MOP.

MOUNTING: SURFACE
LOCATION: CLOSET
FED FROM: MSA
VOLTAGE: 120/240V, 1PH, 3W

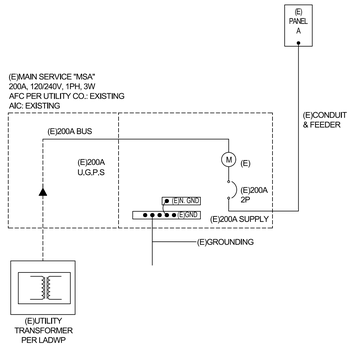
(E) PANEL A

MAIN BUS: 200A
MAIN CB: MLO
KAIC RATING: EXISTING

EQ # / NOTE	DESCRIPTION	VOLT - AMPERES PHASE A	VOLT - AMPERES PHASE B	VOLT - AMPERES PHASE C	POLE	BKR	CIR	CIR	BKR	POLE	VOLT - AMPERES PHASE A	VOLT - AMPERES PHASE B	VOLT - AMPERES PHASE C	DESCRIPTION	EQ # / NOTE
	(N) OFFICE, STUDY RM, GAME RM, STORAGE LIGHTING	408.4			1	20	1	2	20	1	1260			(N) OFFICE RM RECEPTACLE	
	(N) ART RM, GREAT RM LIGHTING		1114.5		1	20	3	4	20	1		900		(N) STUDY RM RECEPTACLE	
	(N) REST RM LIGHTING	194.5			1	20	5	6	20	1	1260			(N) GAME RM, STORAGE RECEPTACLE	
	(N) EXTERIOR LIGHTING		100		1	20	7	8	20	1		1620		(N) ART RM, STORAGE RECEPTACLE	
	(N) RTU R-1	4209			2	50	9	10	20	1	360			(N) REST RM RECEPTACLE	
	---		4209		-	-	11	12	20	1		750		(N) GARBAGE DISPOSAL	
	(N) RTU R-2	4209			2	50	13	14	20	1	1620			(N) GREAT RM RECEPTACLE #1	
	---		4209		-	-	15	16	20	1		540		(N) GREAT RM RECEPTACLE #2	
	(N) RTU R-3	3450			2	45	17	18	20	1	360			(N) ART RM RECEPTACLE #2	
	---		3450		-	-	19	20	20	1		1260		(N) EXTERIOR RECEPTACLE	
1	DWF-1 (INDOOR)	600			1	20	21	22	20	1	540			(N) ART RM COUNTER RECEPTACLE	
1	DWF-1 (OUT DOOR)		600		1	20	23	24	20	1		540		(N) STUDY RM RECEPTACLE #2	
	(N) AV RACK	900			1	20	25	26	25	2	2300			(E) WATER HEATER	
	(N) LOW VOLTAGE RACK 1		360		1	20	27	28	-	-		2300		----	
	(N) LOW VOLTAGE RACK 2	360			1	20	29	30	20	1	540			(N) ROOF RECEPTACLE	
	(N) CEILING PROJECTOR		500		1	20	31	32						SPACE	
	(N) SECURITY LIGHT	35			1	20	33	34	15	2	416			(N) EF-R-1	
	SPACE						35	36	-	-		416		----	
	SPACE						37	38	20	1	700			ROLL UP DOOR #1	
	SPACE						39	40	20	1		700		ROLL UP DOOR #2	
	SPACE						41	42						SPACE	
	VA PER PHASE	14365.9	14543								9356	9026		VA PER PHASE	

LARGEST MOTOR LOAD	8418	x1.25 =	10523	TOTAL VA PER PHASE: 23721.9 / 23568.5
LONG CONTINUOUS LOAD	1852	x1.25 =	2316	TOTAL CONNECTED VA: 47290.4
		+ OTHER =	37020	
		TOTAL LOAD =	39336	164 AMPS @ 120/240V, 1PH, 3W

NOTES:
1. PROVIDE GFCI BREAKER



SINGLE LINE DIAGRAM GENERAL NOTES

1. CONTRACTOR SHALL NOT USE THE LENGTHS OF THE FEEDERS SHOWN ON FEEDER SCHEDULE & SINGLE LINE DIAGRAMS FOR PRICING PURPOSES. CONTRACTOR SHALL REVIEW THE FIELD CONDITION OF THE FEEDER ROUTING & DETERMINE THE LENGTH OF ALL THE FEEDERS & MODIFY THE FEEDERS' LENGTHS AS NEEDED TO MEET THE VOLTAGE DROP REQUIREMENTS AS PER CEC, NEC, & ALL APPLICABLE CODES & REGULATIONS.
2. ALL CONDUCTORS SHALL BE 600V. RATED THIN / THICK INSULATION AT 75 DEGREES CELSIUS.
3. OVERSIZE FEEDER(S) THAT HAVE BEEN ADJUSTED IN SIZE TO MEET THE VOLTAGE DROP REQUIREMENTS SHALL BE PROVIDED WITH ADAPTER LUGS OR SPLICE BOX. CONTRACTOR SHALL INSTALL AS PER CEC, NEC, & ALL APPLICABLE CODES & REGULATIONS.
4. PROVIDE GROUNDING SYSTEM AS REQUIRED PER C.E.C. 250.52(A)(1)-(8) & 250.104(A), (B) & (C).
5. AVAILABLE FAULT CURRENT FROM UTILITY COMPANY SHALL BE VERIFIED BY CONTRACTOR AND ENTIRE DISTRIBUTION SHALL COMPLY WITH NEC AND ANY LOCAL CODE PER AVAILABLE AIC RATING VALUES AND FAULT CURRENT.
6. PROVIDE PERMANENT IDENTIFICATION LABELS "CAUTION LINE SIDE CONDUCTOR CONNECT TO CONTROL PANEL.
7. ALL ELECTRICAL EQUIPMENT BUS SHALL BE COPPER & ALL WIRES SHALL BE COPPER, THWN/THHN. ALUMINUM CAN BE USED; HOWEVER, FEEDERS & BUSES SHALL BE SIZED PER VOLTAGE DROP REQUIREMENTS.
8. THE MAIN SWITCHBOARD, DISTRIBUTION BOARDS & PANEL BOARDS SHALL BE BY ONE MANUFACTURER WITH DOCUMENTED SERIES RATING DEVICES.
9. ALL FUSED DISCONNECTS SHALL BE PROVIDED WITH REJECTION CLIPS.
10. ALL ELECTRICAL SYSTEMS SHALL BE INSTALLED FOR FINAL INSPECTIONS.
11. PROVIDE BONDING FOR ALL CATV & TELEPHONE SYSTEMS WITH 1#6AWG. VERIFY LOCATION.
12. PROVIDE NEUTRAL FAULT TEST & PROOF OF TORQUE DURING FINAL INSPECTION FOR ALL UNITS.
13. ALL CONDUCTORS SHALL BE 600V. RATED WITH THHN/THWN INSULATION AT 75° CELSIUS UNLESS NOTED OTHERWISE.
14. ALL CIRCUIT BREAKER TERMINALS IN SWITCHBOARDS & PANELBOARDS SHALL BE U.L LISTED & APPROVED FOR USE COPPER 60/75° CELSIUS CONDUCTORS.
15. ALL FINAL TERMINATIONS OF CONDUCTORS TO ELECTRICAL EQUIPMENT & DEVICES SHALL BE TORQUE WRENCH TIGHTENED TO THE MANUFACTURER'S RECOMMENDED SPECIFICATION, NO EXCEPTION.
16. MINIMUM AIC SHALL BE MINIMUM 10,000 FOR 208/120 VOLT EQUIPMENT UNLESS NOTED.
17. AS REQUIRED ALL OVERSIZED FEEDERS THAT WERE ADJUSTED IN SIZE TO COMPENSATE FOR VOLTAGE DROP SHALL BE PROVIDED WITH ADAPTER LUGS OR SPLICE BOX. ADAPTER LUGS SHALL BE PROVIDED IF SIZE IS AVAILABLE. OTHERWISE PROVIDE CABLE SPLICES IN THE SPLICE BOX TO REDUCE CABLES TO THE MAXIMUM SIZE THAT THE BREAKER LUGS CAN ACCOMMODATE.
18. CABLE LENGTH SHOWN ON DRAWINGS ARE FOR VOLTAGE DROP & FAULT CURRENT CALCULATIONS. CONTRACTOR SHALL VERIFY EXACT ROUTING OF FEEDERS & DETERMINE THE ACTUAL LENGTH FOR PRICING.
19. DESIGN OF DISTRIBUTION FEEDERS ARE BASED ON COPPER CABLE. ALUMINUM IS ACCEPTABLE ONLY WHERE ALLOWED IN CODES & LOCAL JURISDICTIONS. WHERE ALUMINUM FEEDERS ARE BEING SUBMITTED IN LIEU OF COPPER, CONTRACTOR SHALL SUBMIT A REVISED FEEDER SCHEDULE INDICATING PROPOSED SIZES, FOR REVIEW BY EOR. COST INCURRED BY EOR FOR REVIEWING REVISED SCHEDULE SHALL BE BILLABLE.
20. ALL SERVICES SHALL BE GROUNDED & BONDED TO THE DOMESTIC COLD-WATER LINE, WITHIN 60 INCHES OF WATER LINES ENTRY TO THE BUILDING. THIS IS IN ADDITION TO A UFER OR SECOND GROUND CONNECTION AS INDICATED ON THE SINGLE LINE DIAGRAM.
21. SIZES OF BREAKERS, SWITCHES, FUSES & FEEDERS ARE BASED ON DESIGNED EQUIPMENT SIZES. THESE SIZES SHALL BE ADJUSTED TO SATISFY REQUIREMENTS OF ACTUAL INSTALLED OR SUBSTITUTE EQUIPMENT. UP SIZING OR DOWNSIZING OF FEEDERS SHALL BE PROVIDED WITHOUT ADDITIONAL COST TO THE OWNER.
22. CONTRACTOR SHALL COORDINATE SIZES OF CIRCUIT BREAKERS, FUSES, SWITCHES & FEEDERS WITH THE EQUIPMENT SCHEDULES SHOWN ON THE MECHANICAL DRAWING & OTHER TRADES WHERE APPLICABLE. THE MORE RESTRICTIVE REQUIREMENTS SHALL GOVERN WHERE THERE ARE DISCREPANCIES BETWEEN INFORMATION SHOWN ON THE ELECTRICAL DRAWINGS & OTHER TRADES.
23. NO PIPING, DUCTS, LEAK PROTECTION APPARATUS, OR EQUIPMENT FOREIGN TO ELECTRICAL EQUIPMENT SHALL BE PERMITTED TO BE LOCATED WITHIN THE DEDICATED SPACE ABOVE THE ELECTRICAL EQUIPMENTS. THE SPACE EQUAL TO THE WIDTH & DEPTH OF THE EQUIPMENT & EXTENDING FROM THE FLOOR TO A HEIGHT OF 6FT ABOVE THE EQUIPMENT OR TO THE STRUCTURAL CEILING, WHICHEVER IS LOWER, SHALL BE DEDICATED TO THE ELECTRICAL INSTALLATION C.E.C. 110.26(E).
24. THE ELECTRICAL ROOM EXIT SHALL BE OPEN IN THE DIRECTION OF EGRESS & BE PROVIDED WITH APPROVED PANIC BARS FOR ALL ROOMS WITH ELECTRICAL EQUIPMENT RATED 1200 AMP OR MORE. CEC-110.26. C.2.
25. ELECTRICAL EQUIPMENT SHALL BE LISTED BY A CITY RECOGNIZED ELECTRICAL TESTING LABORATORY OR APPROVED BY THE DEPARTMENT OF BUILDING & SAFTETY & OTHER RELEVANT DEPARTMENTS.

SINGLE LINE DIAGRAM KEYED NOTES

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ELECTRICAL
STATE OF CALIFORNIA

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

Issue dates

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	08/20/25	90% CD SUBMITTAL
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	11/14/25	PLAN CHECK RESUBMITTAL #2
	01/16/26	PLAN CHECK RESUBMITTAL #3
	02/09/26	PLAN CHECK RESUBMITTAL #4

Sheet title:

SINGLE LINE DIAGRAM & SCHEDULES

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

E0.02

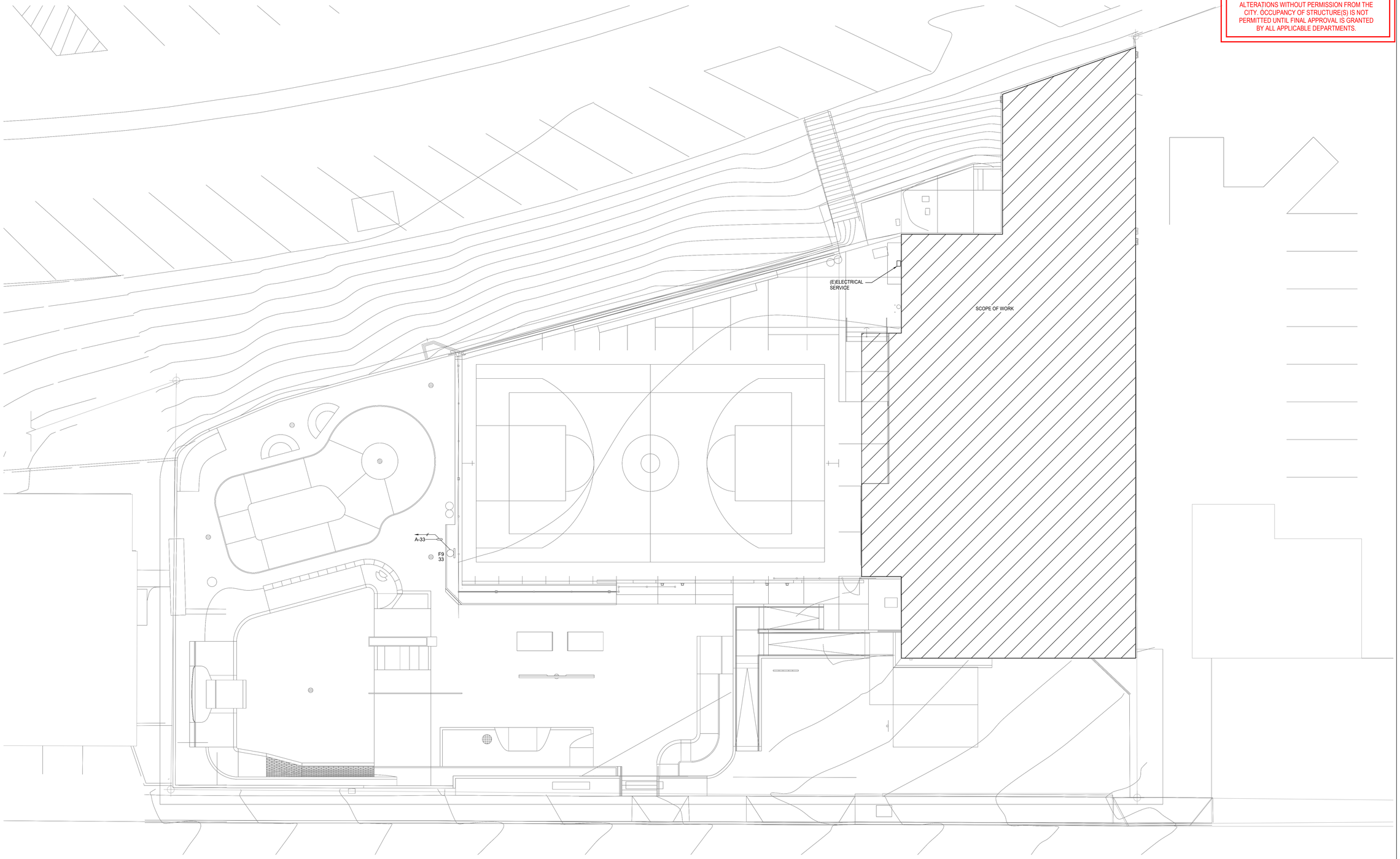
True North Compliance Services, Inc.

PLAN REVIEW APPROVAL

THESE PLANS/DOCUMENTS HAVE BEEN REVIEWED FOR COMPLIANCE WITH THE APPLICABLE CALIFORNIA BUILDING STANDARDS CODES AS ADOPTED BY THE STATE OF CALIFORNIA AND AMENDED BY THE JURISDICTION. PLAN REVIEW ACCEPTANCE OF DOCUMENTS DOES NOT AUTHORIZE CONSTRUCTION TO PROCEED IN VIOLATION OF ANY FEDERAL, STATE, NOR LOCAL REGULATION.

BY: Mulham Hweidi DATE: 03/25/2026

THIS SET OF THE PLANS AND SPECIFICATIONS MUST BE KEPT ON THE JOB SITE AT ALL TIMES AND IT IS UNLAWFUL TO MAKE ANY CHANGES OR ALTERATIONS WITHOUT PERMISSION FROM THE CITY. OCCUPANCY OF STRUCTURE(S) IS NOT PERMITTED UNTIL FINAL APPROVAL IS GRANTED BY ALL APPLICABLE DEPARTMENTS.



0 4' 8' 16' 24'
1/8 " = 1'-0"

SITE PLAN - ELECTRICAL | 1

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PLAN REVIEW APPROVAL

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	02/09/26	PLAN CHECK RESUBMITTAL #4

Sheet title:

SITE PLAN - ELECTRICAL

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

E1.01

FEBRUARY 9, 2026 - PLAN CHECK RESUBMITTAL #4

GENERAL NOTES

SOME NOTES LISTED BELOW MAY NOT PERTAIN TO THIS SHEET.

1. COORDINATE EXACT LOCATION OF HVAC & PLUMBING EQUIPMENT WITH MECHANICAL/PLUMBING CONTRACTOR.
2. INSTALLATION OF THE MECHANICAL & PLUMBING EQUIPMENT SHALL COMPLY WITH ALL CODES & REGULATIONS ALONG WITH MANUFACTURER RECOMMENDATIONS & GUIDELINES.
3. PROVIDE POWER OUTLETS WITHIN 25' RADIUS OF THE MECHANICAL EQUIPMENT.
4. CONTRACTOR SHALL COORDINATE THE CONDUIT RUNS WITH RELEVANT TRADES PRIOR TO PURCHASE & INSTALLATION OF THE CONDUITS & CABLES. THIS DRAWING IS DIAGRAMMATIC & SHALL NOT BE USED FOR PRICING.
5. CONTRACTOR SHALL PROVIDE COMPLETE MEASUREMENT OF THE CONDUIT RUNS & PROVIDE LIST OF ALL CONDUIT LENGTHS TO ACE & EOR FOR VERIFICATION OF THE VOLTAGE DROP.
6. CONTRACTOR SHALL COORDINATE EXACT LOCATION OF ALL EQUIPMENT & INSTALL EQUIPMENT AS PER MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATION. FURNISH AND INSTALL NEW BRANCH CIRCUITRY AS SHOWN PER PLANS & AS PER ALL APPLICABLE CODES & REGULATIONS.
7. PRIOR TO BEGINNING OF THE ROUGH IN OF THE ELECTRICAL INSTALLATION, THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE LOCAL AUTHORITIES AND VERIFY PERMISSIBLE WIRING METHODS AND TYPES. WHERE THERE ARE DISCREPANCIES OR QUESTIONS REGARDING THESE METHODS, THE ELECTRICAL CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER PRIOR TO THE COMMENCEMENT OF WORK FOR FURTHER DIRECTION.
8. WHERE SE FEEDERS OR MC FEEDERS ARE ROUTED PARALLEL TO EACH OTHER, A MINIMUM OF ONE CABLE DIAMETER MUST BE PROVIDED BETWEEN CABLES TO ASSURE PROPER HEAT DISSIPATION OF THE CONDUCTORS. CABLES SHALL BE PERMITTED TO BE RACKED PROVIDED.
9. ALL EXPOSED WIRING METHODS SHALL BE COMPLETED UTILIZING METALLIC RACEWAYS. CONTRACTOR SHALL PROVIDE APPROVED PROTECTION METHODS FROM PHYSICAL DAMAGE AND CONFIRM WITH INSPECTOR PRIOR TO PURCHASE & INSTALLATION.
10. ALL EXPOSED WIRING METHODS, THAT ARE EXPOSED TO POSSIBLE PHYSICAL DAMAGE, SHALL BE EITHER GALVANIZED RIGID CONDUIT OR INTERMEDIATE RIGID CONDUIT.
11. ALL PENETRATIONS OF RATED WALL OR FLOOR ASSEMBLIES SHALL UTILIZE LISTED & APPROVED FIRE STOPPING METHODS.
12. CONTRACTOR SHALL PROVIDE ALL REQUIRED LOW VOLTAGE CONDUIT & WIRING FOR TELEPHONE/DATA, CCTV, INTERCOM SYSTEM ETC. CONTRACTOR TO REQUEST FOR THE MOST CURRENT SET OF LOW VOLTAGE PLAN PRIOR TO INSTALLATION OF THE CONDUITS & WIRING OF THE LOW VOLTAGE PANELS AND DEVICES.
13. MAINTAIN SEPARATION BETWEEN ELECTRICAL AND LOW VOLTAGE CONDUITS.
14. PROVIDE UNSWITCHED POWER CONNECTION TO SMOKE DETECTORS IN ELEVATOR HOISTWAYS.
15. ELEVATOR PIT LIGHT SHALL NOT BE CONNECTED ON THE LOAD SIDE OF THE GFCI DEVICE.

SYMBOLS (NOT ALL USED)

SWITCHES AND CONTROLS

$	MANUAL WALL SWITCH: 20A/120V, WALL MTD AT +48" OR AS NOTED SUBSCRIPT AT SYMBOL INDICATES THE FOLLOWING: 2 - DOUBLE POLE K - KEY 3 - THREE WAY T - MANUAL TIME SWITCH 4 - FOUR WAY P - PILOT LIGHT OS - OCCUPANCY SENSOR DIM - DIMMER VS - VACANCY SENSOR
$M	MOTOR SWITCH
OS	CEILING MOUNTED OCCUPANCY SENSOR
PC	PHOTOCELL
T	THERMOSTAT

POWER RECEPTACLES

	DUPLEX RECEPTACLE: 20A/120V
	FLOOR MOUNTED RECEPTACLE: 20A/120V
	QUAD RECEPTACLE: 20A/120V
	DUPLEX OR QUAD RECEPTACLE W/ HALF CONTROLLED: 20A/120V
	DUPLEX OR QUAD GFCI PROTECTED RECEPTACLE: 20A/120V
	DUPLEX OR QUAD RECEPTACLE: 20A/120V, WALL MTD AT 6" ABOVE COUNTER OR SPLASH
	DUPLEX OR QUAD RECEPTACLE W/ HALF CONTROLLED: 20A/120V, WALL MTD AT 6" ABOVE COUNTER OR SPLASH
	DUPLEX OR QUAD GFCI PROTECTED RECEPTACLE: 20A/120V, WALL MTD AT 6" ABOVE COUNTER OR SPLASH
F	FLUSH MOUNT FLOOR DUPLEX OR QUAD RECEPTACLE: 20A/120V
C	CEILING MOUNT DUPLEX OR QUAD RECEPTACLE: 20A/120V
	DUPLEX AFCI RECEPTACLE: 20A/120V
	DUPLEX RECEPTACLE W/ USB TYPE A & C CHARGER: 20A/120V
	SPECIAL DEDICATED RECEPTACLE; REFER TO PLAN FOR AMPACITY/VOLTAGE

POWER DISTRIBUTION AND DEVICES

F	FUSED DISCONNECT
X	UNFUSED DISCONNECT
AC DC	JUNCTION BOX AND DRIVER, PER LIGHTING SUPPLIER AND PLANS.
J	JUNCTION BOX / PULL BOX
J	JUNCTION BOX / PULL BOX W/ FLEX
	CIRCUIT HOMERUN 2#12 + 1#12 GND
	CIRCUIT HOMERUN 3#12 + 1#12 GND
	CONDUIT STUB UP
	CONDUIT STUB DOWN
	PANEL BOARD
B	DOOR CHIME
	DOOR BELL
SD	SMOKE DETECTOR
CM	COMBO SMOKE AND CARBON MONOXIDE DETECTOR

SINGLE LINE DIAGRAM

M	METER
	CIRCUIT BREAKER
	FUSED DISCONNECT
	DRY TYPE TRANSFORMER
	GROUND
#	MOTOR, NUMERAL INDICATES HORSEPOWER RATING

LOW VOLTAGE

ADF	LOW VOLTAGE PANEL
	DATA OUTLET
	PHONE OUTLET
	DATA AND PHONE OUTLET
TV	TELEVISION CABLE OUTLET

PLAN NOTES

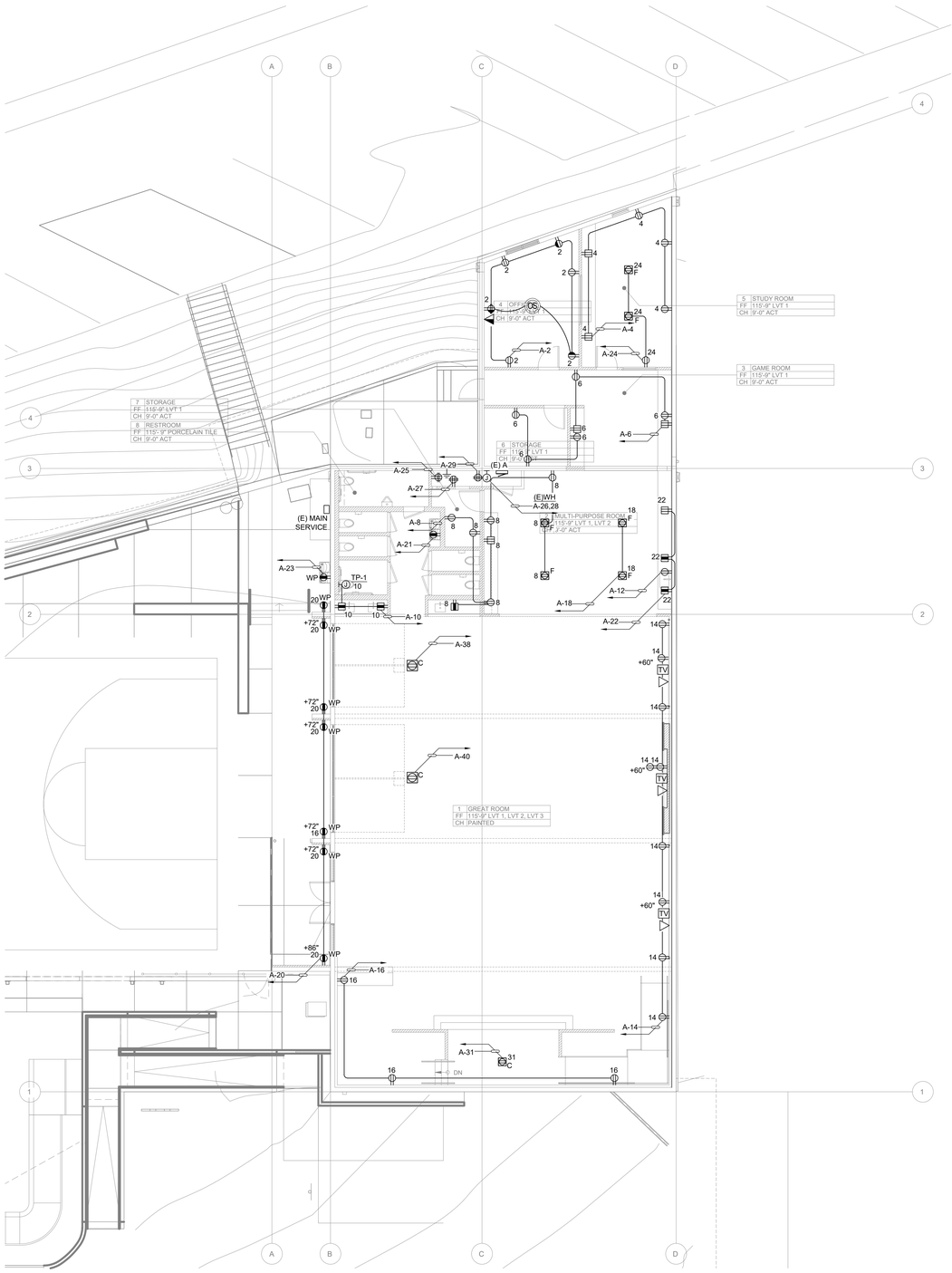
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BY: Mutham Hweidi DATE: 03/25/2026

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1/8 " = 1'-0"

1ST FLOOR PLAN - ELECTRICAL - POWER | 1

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	02/09/26	PLAN CHECK RESUBMITTAL #4

Sheet title:

1ST FLOOR PLAN - ELECTRICAL - POWER

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

E1.02P

GENERAL NOTES

SOME NOTES LISTED BELOW MAY NOT PERTAIN TO THIS SHEET.

1. CONTRACTOR SHALL COORDINATE THE CONDUIT RUNS WITH RELEVANT TRADES PRIOR TO PURCHASE & INSTALLATION OF THE CONDUITS & CABLES. THIS DRAWING IS DIAGRAMMATIC & SHALL NOT BE USED FOR PRICING.
2. CONTRACTOR SHALL PROVIDE COMPLETE MEASUREMENT OF THE CONDUIT RUNS & PROVIDE LIST OF ALL CONDUIT LENGTHS TO ACE & EOR FOR VERIFICATION OF THE VOLTAGE DROP.
3. REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATION & ELEVATION OF ALL LIGHTING FIXTURE & ALL DEVICES.
4. CONFIRM WITH ARCHITECT, DEVELOPER, LIGHTING DESIGNER, INTERIOR DESIGNER, & ANY RELEVANT TRADES FOR LIGHTING CONTROL REQUIREMENTS.
5. PRIOR TO BEGINNING OF THE ROUGH IN OF THE ELECTRICAL INSTALLATION, THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE LOCAL AUTHORITIES AND VERIFY PERMISSIBLE WIRING METHODS AND TYPES. WHERE THERE ARE DISCREPANCIES OR QUESTIONS REGARDING THESE METHODS, THE ELECTRICAL CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER PRIOR TO THE COMMENCEMENT OF WORK FOR FURTHER DIRECTION.
6. WHERE SE FEEDERS OR MC FEEDERS ARE ROUTED PARALLEL TO EACH OTHER, A MINIMUM OF ONE CABLE DIAMETER MUST BE PROVIDED BETWEEN CABLES TO ASSURE PROPER HEAT DISSIPATION OF THE CONDUCTORS. CABLES SHALL BE PERMITTED TO BE RACKED PROVIDED.
7. ALL EXPOSED WIRING METHODS SHALL BE COMPLETED UTILIZING METALLIC RACEWAYS. CONTRACTOR SHALL PROVIDE APPROVED PROTECTION METHODS FROM PHYSICAL DAMAGE AND CONFIRM WITH INSPECTOR PRIOR TO PURCHASE & INSTALLATION.
8. ALL EXPOSED WIRING METHODS, THAT ARE EXPOSED TO POSSIBLE PHYSICAL DAMAGE, SHALL BE EITHER GALVANIZED RIGID CONDUIT OR INTERMEDIATE RIGID CONDUIT.
9. ALL PENETRATIONS OF RATED WALL OR FLOOR ASSEMBLIES SHALL UTILIZE LISTED & APPROVED FIRE STOPPING METHODS.

SYMBOLS (NOT ALL USED)

SWITCHES AND CONTROLS

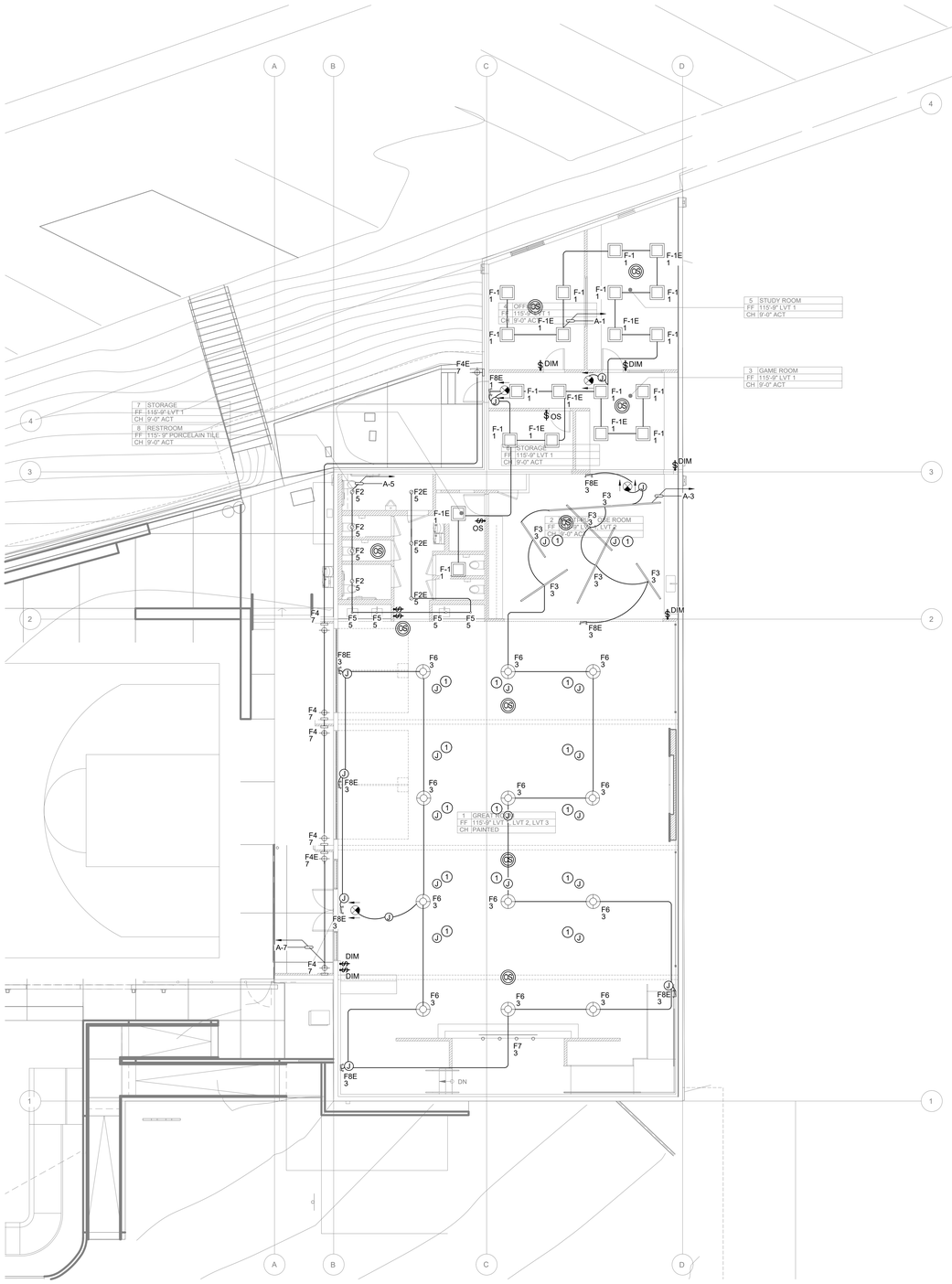
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$M	MOTOR SWITCH
OS	CEILING MOUNTED OCCUPANCY SENSOR
PC	PHOTOCELL
T	THERMOSTAT

POWER DISTRIBUTION AND DEVICES

J	JUNCTION BOX / PULL BOX
J	JUNCTION BOX / PULL BOX W/ FLEX
	CIRCUIT HOMERUN 2#12 + 1#12 GND
	CIRCUIT HOMERUN 3#12 + 1#12 GND

PLAN NOTES

1. DENOTES JUNCTION BOX FOR CEILING SPEAKER. CONTRACTOR TO COORDINATE WITH LOW VOLTAGE CONTRACTOR FOR ALL POWER REQUIREMENTS.



0 4' 8' 16' 24'
1/8 " = 1'-0"

1ST FLOOR PLAN - ELECTRICAL - LIGHTING | 1

True North Compliance Services, Inc.

PLAN REVIEW APPROVAL

THESE PLANS/DOCUMENTS HAVE BEEN REVIEWED FOR COMPLIANCE WITH THE APPLICABLE CALIFORNIA BUILDING STANDARDS CODES AS ADOPTED BY THE STATE OF CALIFORNIA AND AMENDED BY THE JURISDICTION. PLAN REVIEW ACCEPTANCE OF DOCUMENTS DOES NOT AUTHORIZE CONSTRUCTION TO PROCEED IN VIOLATION OF ANY FEDERAL, STATE, NOR LOCAL REGULATION.

BY: Mulham Hweidi DATE: 03/25/2026

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MIG

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Suite 675
Los Angeles, CA 90012

213-694-3800
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LICENSED PROFESSIONAL ENGINEER
ALEX BENHAM ENTEMAN
E 23803
EXP. 12/31/27
ELECTRICAL
STATE OF CALIFORNIA

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

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
	02/09/26	PLAN CHECK RESUBMITTAL #4

Sheet title:

1ST FLOOR PLAN - ELECTRICAL - LIGHTING

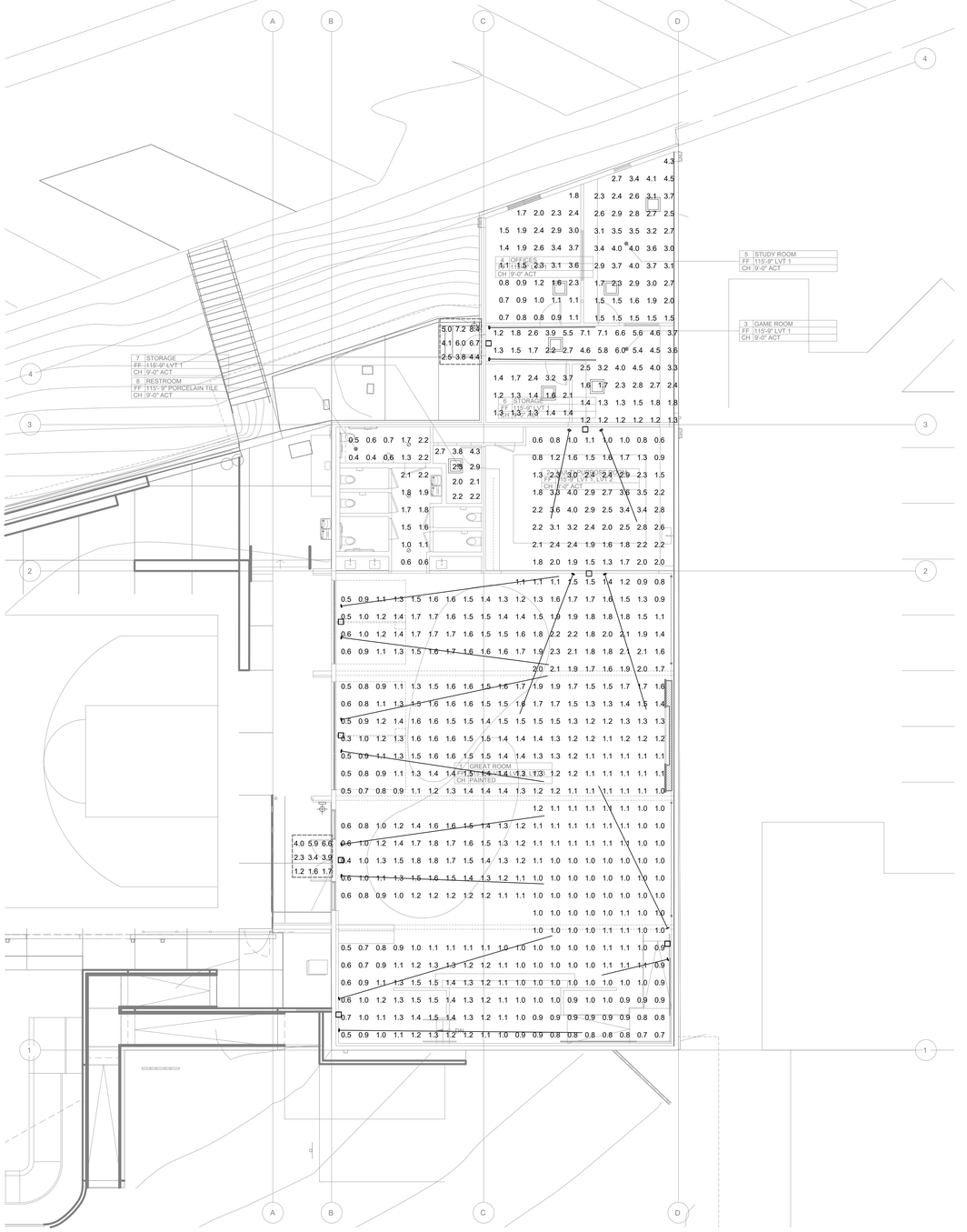
Designed by:	AB
Drawn by:	YY
Checked by:	JZ
Project number:	124011

E1.02L

Statistics					
Description	Avg	Max	Min	Max/Min	Avg/Min
EXTERIOR GAME ROOM	5.3 fc	8.4 fc	2.5 fc	3.4:1	2.1:1
EXTERIOR GREAT ROOM	3.4 fc	6.6 fc	1.2 fc	5.5:1	2.8:1
GAME ROOM	3.1 fc	7.1 fc	1.2 fc	5.9:1	2.6:1
GREAT ROOM	1.2 fc	2.3 fc	0.3 fc	7.7:1	4.0:1
OFFICE	1.8 fc	3.7 fc	0.7 fc	5.3:1	2.6:1
REST ROOM	1.3 fc	2.2 fc	0.4 fc	5.5:1	3.3:1
STORAGE #1	1.8 fc	3.7 fc	1.2 fc	3.1:1	1.5:1
STORAGE #2	2.7 fc	4.3 fc	2.0 fc	2.2:1	1.4:1
STUDY ROOM	2.8 fc	4.5 fc	1.5 fc	3.0:1	1.9:1
ART ROOM	2.1 fc	4.0 fc	0.6 fc	6.7:1	3.5:1

Schedule

Symbol	Label	QTY	Manufacturer	Catalog	Description	Number Lamps	Lamp Output	LLF	Input Power
	F-1E	7	Signify North America Corp.	521385 EvoKit CLKE 2x2 32L 25W 835 UNV SR	LED Retrofit	1	3137	0.7	23.5
	F2E	3	WAC Lighting	FM-05RN	Surface-mounted Luminaires	1	1050	0.7	12.8
	F4E	2	Lithonia Lighting	WMCL4 P1 SWW2 A75 MVOLT PE E4WC DDBXD M4	Wall scone	1	2442	0.7	19
	F8E	8	Lithonia Lighting	ELM6L	ELM6L SP1100L	1	564	0.7	8.4



0 4' 8' 16' 24'

1/8 " = 1'-0"

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Sheet title:

PHOTOMETRIC FOR EMERGENCY LIGHT LEVEL 1

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

E1.02PM

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BY: Mulham Nweidi DATE: 03/25/2026

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GENERAL NOTES

SOME NOTES LISTED BELOW MAY NOT PERTAIN TO THIS SHEET.

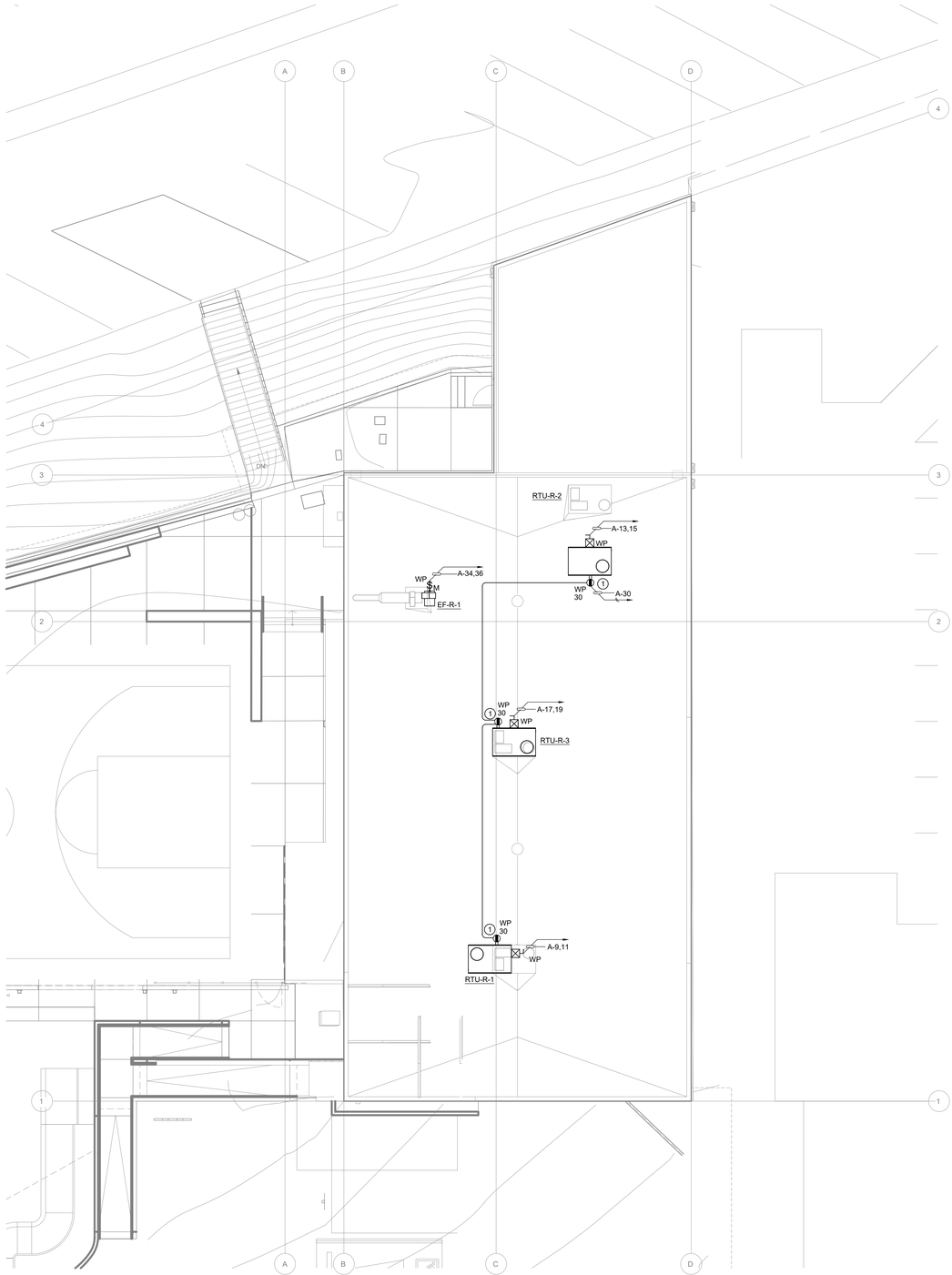
1. COORDINATE EXACT LOCATION OF HVAC & PLUMBING EQUIPMENT WITH MECHANICAL/PLUMBING CONTRACTOR.
2. INSTALLATION OF THE MECHANICAL & PLUMBING EQUIPMENT SHALL COMPLY WITH ALL CODES & REGULATIONS ALONG WITH MANUFACTURER RECOMMENDATIONS & GUIDELINES.
3. ALL ELECTRICAL EQUIPMENT & DEVICES MOUNTED OUTSIDE SHALL BE WEATHERPROOF NEMA 3R.
4. ALL EXPOSE CONDUIT RUN ON THE ROOF, PROVIDE 4"MIN SLEEPER TO SUPPORT CONDUITS.
5. PROVIDE POWER OUTLETS WITHIN 25' RADIUS OF THE MECHANICAL EQUIPMENT.
6. CONTRACTOR SHALL COORDINATE THE CONDUIT RUNS WITH RELEVANT TRADES PRIOR TO PURCHASE & INSTALLATION OF THE CONDUITS & CABLES. THIS DRAWING IS DIAGRAMMATIC & SHALL NOT BE USED FOR PRICING.
7. CONTRACTOR SHALL PROVIDE COMPLETE MEASUREMENT OF THE CONDUIT RUNS & PROVIDE LIST OF ALL CONDUIT LENGTHS TO ACE & EOR FOR VERIFICATION OF THE VOLTAGE DROP.
8. CONTRACTOR SHALL COORDINATE EXACT LOCATION OF ALL EQUIPMENT & INSTALL EQUIPMENT AS PER MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATION. FURNISH AND INSTALL NEW BRANCH CIRCUITRY AS SHOWN PER PLANS & AS PER ALL APPLICABLE CODES & REGULATIONS.
9. PRIOR TO BEGINNING OF THE ROUGH IN OF THE ELECTRICAL INSTALLATION, THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE LOCAL AUTHORITIES AND VERIFY PERMISSIBLE WIRING METHODS AND TYPES. WHERE THERE ARE DISCREPANCIES OR QUESTIONS REGARDING THESE METHODS, THE ELECTRICAL CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER PRIOR TO THE COMMENCEMENT OF WORK FOR FURTHER DIRECTION.
10. WHERE SE FEEDERS OR MC FEEDERS ARE ROUTED PARALLEL TO EACH OTHER, A MINIMUM OF ONE CABLE DIAMETER MUST BE PROVIDED BETWEEN CABLES TO ASSURE PROPER HEAT DISSIPATION OF THE CONDUCTORS. CABLES SHALL BE PERMITTED TO BE RACKED PROVIDED.
11. ALL EXPOSED WIRING METHODS SHALL BE COMPLETED UTILIZING METALLIC RACEWAYS. CONTRACTOR SHALL PROVIDE APPROVED PROTECTION METHODS FROM PHYSICAL DAMAGE AND CONFIRM WITH INSPECTOR PRIOR TO PURCHASE & INSTALLATION.
12. ALL EXPOSED WIRING METHODS, THAT ARE EXPOSED TO POSSIBLE PHYSICAL DAMAGE, SHALL BE EITHER GALVANIZED RIGID CONDUIT OR INTERMEDIATE RIGID CONDUIT.
13. ALL PENETRATIONS OF RATED WALL OR FLOOR ASSEMBLIES SHALL UTILIZE LISTED & APPROVED FIRE STOPPING METHODS.

MOTOR EQUIPMENT NOTES

1. INSTALLATION OF ALL MECHANICAL EQUIPMENT SHALL COMPLY WITH ALL CODES AND REGULATIONS AND SHALL BE COMPLETELY INSTALLED AS PER MANUFACTURER RECOMMENDATIONS AND GUIDELINES
2. INSTALLATION OF THE POWER CONNECTION OF THE ALL ROOF MOUNTED EQUIPMENT SHALL COMPLY WITH ALL CODES AND REGULATION
3. REFER TO MECHANICAL, PLUMBING, AND ALL OTHER TRADES PLANS FOR EXACT LOCATION AND INSTALLATION REQUIREMENT FOR POWER CONNECTION OF THE ROOF EQUIPMENT
4. PROVIDE OUTDOOR RATED POWER OUTLET WITHIN 25' RADIUS OF ALL MECHANICAL & PLUMBING EQUIPMENT
5. ALL ELECTRICAL EQUIPMENT MOUNTED OUTDOORS SHALL BE OUTDOOR-RATED & WEATHERPROOF, NEMA 3R
6. CONTRACTOR IS RESPONSIBLE TO PROVIDE ANY CODE REQUIRED CONTROL DEVICES/EQUIPMENT'S SUCH AS VFD, MOTOR CONTROL, FUSE, DISCONNECT SWITCH, STARTER, CONTROL PANEL & BREAKER FOR ROOF ALL MOUNTED EQUIPMENT
7. FEEDER SIZE AND LENGTH SHOWN ON THIS DRAWING IS DIAGRAMMATIC AND FOR THE PURPOSE OF DESIGN AND COORDINATION ONLY. THE FEEDER SIZING AND LENGTHS SHALL NOT BE USED FOR PRICING PURPOSES. CONTRACTOR SHALL VERIFY THE EXACT LENGTH AND SIZE OF THE FEEDER AND PRICE ACCORDINGLY.
8. COORDINATE WITH ARCHITECT, DEVELOPER, OTHER CONSULTANT FOR EXACT LOCATION OF THE ROOF MOUNTED EQUIPMENT PRIOR TO INSTALLATION.
9. CONTRACTOR IS RESPONSIBLE TO VERIFY ALL EQUIPMENT LOCATIONS AND INSTALL POWER CONNECTION PER CODE AND PLANS ACCORDINGLY. CONTRACTOR IS ALSO RESPONSIBLE TO VERIFY ALL LOCATION AND PRICE ACCORDINGLY.

PLAN NOTES

① CONTRACTOR TO PROVIDE SERVICE GFI WP RECEPTACLE WITHIN 25' OF ROOFTOP EQUIPMENT.



0 4' 8' 16' 24'
1/8 " = 1'-0"

ROOF PLAN - ELECTRICAL | 1

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BY: Mutham Hweidi DATE: 03/25/2026

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	02/09/26	PLAN CHECK RESUBMITTAL #4

Sheet title:

ROOF PLAN - ELECTRICAL

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

E1.03

O. ADDITIONAL LIGHTING ALLOWANCE: TAILORED VERY VALUABLE MERCHANDISE

This section does not apply to this project.

P. POWER ADJUSTMENT: LIGHTING CONTROL CREDIT (POWER ADJUSTMENT FACTOR (PAF))

This section does not apply to this project.

Q. RATED POWER REDUCTION COMPLIANCE FOR ONE-FOR-ONE ALTERATIONS

This section does not apply to this project.

R. 80% LIGHTING POWER FOR ALL ALTERATIONS - CONTROLS EXCEPTIONS

This section does not apply to this project.

S. DAYLIGHT DESIGN POWER ADJUSTMENT FACTOR (PAF)

This section does not apply to this project.

T. DWELLING UNIT LIGHTING

This section does not apply to this project.

U. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Selections have been made based on information provided in this document. If any selections have been changed by permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and can be found online

Form/Title
NRCI-LTI-E - Must be submitted for all buildings

STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTI-E
Project Name: El Segundo Teen Center	Report Page:	(Page 4 of 9)
	Date Prepared:	2025-06-02T18:30:28-04:00

G. MODULAR LIGHTING SYSTEMS

This table calculates wattage for modular lighting systems/ track lighting fixtures indicated on Table F and transfers wattage to Table F.

01	02	03						04
Name or Item Tag	Complete Track Description	Calculation Method per 130.0(c)6						Track Wattage
F7	LED Track Light	☐	i Installed Luminaires vs Default 30 W/ft	☒	ii Current Limiter	☐	iii Overcurrent Protection Panel	☐ iv Power supplied by driver, power supply or transformer[1]	
		VA of current limiter						120
		120						

[1]*FOOTNOTE: For power-over-Ethernet lighting systems, power provided to installed non-lighting devices may be subtracted from the total power rating of the power-over-Ethernet system.*

H. INDOOR LIGHTING CONTROLS (Not including PAFs)

This table includes lighting controls for conditioned and unconditioned spaces.

Building Level Controls

01	02	03	
		Field Inspector	
		Pass	Fail
Mandatory Demand Response 110.12(c)	Shut-off controls 130.1(c) / 160.5(b)4C		
NA < 4,000W subject to multilevel	See Area/Space Level Controls	☐	☐

CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance
Generated Date/Time:
Report Version: 2022.0.000
Schema Version: rev 20220101
Documentation Software: Energy Code Ace
Compliance ID: 300788-0625-0003
Report Generated: 2025-06-02 15:30:31

STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTI-E
Project Name: El Segundo Teen Center	Report Page:	(Page 1 of 9)
Project Address:	Date Prepared:	2025-06-02T18:30:28-04:00

This document is used to demonstrate compliance with requirements in 110.9, 110.12(c), 130.0, 130.1, 140.6 and 141.0(b)2 for indoor lighting scopes using the prescriptive path for nonresidential and hotel/motel occupancies. It is also used to document compliance with requirements in 160.5, 170.2(e) and 180.2(b)4 for indoor lighting scopes using the prescriptive path for multifamily occupancies. Multifamily includes dormitory and senior living facilities.

A. GENERAL INFORMATION

01	Project Location (city)	El Segundo	04	Total Conditioned Floor Area (ft²)	4,847
02	Climate Zone	6	05	Total Unconditioned Floor Area (ft²)	214
03	Occupancy Types Within Project (select all that apply):		06	# of Stories (Habitable Above Grade)	1
• Classroom					

B. PROJECT SCOPE

This table includes any lighting systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in 140.6 / 170.2(e) or 141.0(b)2 / 180.2(b)4 for alterations.

Scope of Work	Conditioned Spaces		Unconditioned Spaces	
	01		02	03
My Project Consists of (check all that apply):	Calculation Method	Area (ft²)	Calculation Method	Area (ft²)
☒ New Lighting System	Area Category Method	4847	Area Category Method	214
☐ New Lighting System - Parking Garage	N/A	0	N/A	0
Total Area of Work (ft²)	4847		214	

CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance
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	Date Prepared:	2025-06-02T18:30:28-04:00

V. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Selections have been made based on information provided in this document. If any selections have been changed by the permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and any with "-A" in the form name must be completed through an Acceptance Test Technician Certification Provider (ATTCP). For more information visit: http://www.energy.ca.gov/title24/attcp/providers.html

Form/Title	Systems/Spaces To Be Field Verified
NRCA-LTI-02-A - Must be submitted for occupancy sensors and automatic time switch controls.	Multipurpose Rooms; Office; Storage; Restroom

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H. INDOOR LIGHTING CONTROLS (Not including PAFs)

Area Level Controls

04	05	06	07	08	09	10	11	12	
Area Description	Complete Building or Area Category Primary Function Area	Manual Area Controls 130.1(a) / 160.5(b)4A	Multi-Level Controls 130.1(b) / 160.5(b)4B	Shut-Off Controls 130.1(c) / 160.5(b)4C	Primary/Sky lit Daylighting 130.1(d) / 160.5(b)4D	Secondary Daylighting 130.1(d) / 160.5(b)4D	Interlocked Systems 140.6(a)1/ 170.2(e)2A	Field Inspector	
								Pass	Fail
Multipurpose Rooms	Conference, Multipurpose and Meeting Area	Readily Accessible	Dimmer	Occupancy Sensor	NA: Not daylit zone	NA: Not daylit zone	No	☐	☐
Office	Office (<=250 square feet)	Readily Accessible	Dimmer	Occupancy Sensor	NA: Not daylit zone	NA: Not daylit zone	No	☐	☐
Storage	Commercial Industrial Storage Area	Readily Accessible	NA: General Ltg <= 0.5W/SF	Occupancy Sensor	NA: Not daylit zone	NA: Not daylit zone	No	☐	☐
Restroom	Restroom	Readily Accessible	NA: Restrooms	Occupancy Sensor	NA: Not daylit zone	NA: Not daylit zone	No	☐	☐
							13		
							Plan Sheet Showing Daylit Zones:		

I. LIGHTING POWER ALLOWANCE: COMPLETE BUILDING OR AREA CATEGORY METHODS

Each area complying using the Complete Building or Area Category Methods per 140.6(b) are included in this table. Column 06 indicates if additional lighting power allowances per 140.6(c) or adjustments per 140.6(a) are being used .

Conditioned Spaces

01	02	03	04	05	06	
Area Description	Complete Building or Area Category Primary Function Area	Allowed Density (W/ft²)	Area (ft²)	Allowed Wattage (Watts)	Additional Allowance / Adjustment	
					Area Category	PAF
Multipurpose Rooms	Conference, Multipurpose and Meeting Area	0.75	4,362	3,271.5	No	No
Office	Office (<=250 square feet)	0.65	238	154.7	No	No

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C. COMPLIANCE RESULTS

If any cell on this table says "DOES NOT COMPLY" or "COMPLIES with Exceptional Conditions" refer to Table D. for guidance.

Lighting in conditioned and unconditioned spaces must not be combined for compliance per 140.6(b)1 / 170.2(e)	Allowed Lighting Power per 140.6(b) / 170.2(e) (Watts)						Adjusted Lighting Power per 140.6(a) / 170.2(e) (Watts)				Compliance Results
	01	02	03	04	05		06	07		08	09
	Complete Building 140.6(c)1	Area Category 140.6(c)2 / 170.2(e)4	Area Category Additional 140.6(c)2G / 170.2(e)4Av (+)	Tailored 140.6(c)3 / 170.2(e)4B (+)			Total Designed (Watts)	Adjustments PAF Lighting Control Credits 140.6(a)2 / 170.2(e)1B (-)		**Total Adjusted** (Watts) *Includes Adjustments	
	(See Table I)	(See Table I)	(See Table J)	(See Table K)		**Total Allowed** (Watts)	(See Table F)	(See Table P)			**05 must be >= 08 140.6 / 170.2(e)**
Conditioned		3,586.75			=	3,586.75	≥ 880.5		=	880.5	COMPLIES
Unconditioned		85.6			=	85.6	≥ 80		=	80	COMPLIES
										Controls Compliance (See Table H for Details)	COMPLIES
										Rated Power Reduction Compliance (See Table Q for Details)	

D. EXCEPTIONAL CONDITIONS

This table is auto-filled with uneditable comments because of selections made or data entered in tables throughout the form.

Track Lighting has been included in this project, details are provided in Table G.

E. ADDITIONAL REMARKS

This table includes remarks made by the permit applicant to the Authority Having Jurisdiction.

CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance
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Project Name: El Segundo Teen Center	Report Page:	(Page 9 of 9)
Project Address: 405 E Grand Ave, El Segundo, CA 90245	Date Prepared:	2025-06-02T18:30:28-04:00

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name:	Documentation Author Signature:
Christopher Fitch	
Company: ACE MEP GROUP, INC.	Signature Date: 06/02/25
Address: 9241 IRVINE BLVD., SUITE 250	CEA/ HERS Certification Identification (if applicable):
City/State/Zip: IRVINE, CA 92618	Phone: 949-620-4060

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer)
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name: BEN BEHNAM ENTEZAM	Responsible Designer Signature:
Company: ACE MEP GROUP, INC.	Date Signed: 06/02/25
Address: 9241 IRVINE BLVD., SUITE 250	License: E-023803
City/State/Zip: IRVINE, CA 92618	Phone: 949-620-4060

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BY: Mutham Howeidi DATE: 03/25/2026

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CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance
Generated Date/Time:
Report Version: 2022.0.000
Schema Version: rev 20220101
Documentation Software: Energy Code Ace
Compliance ID: 300788-0625-0003
Report Generated: 2025-06-02 15:30:31

STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTI-E
Project Name: El Segundo Teen Center	Report Page:	(Page 6 of 9)
	Date Prepared:	2025-06-02T18:30:28-04:00

I. LIGHTING POWER ALLOWANCE: COMPLETE BUILDING OR AREA CATEGORY METHODS

Restroom	Restroom	0.65	247	160.55	No	No
			TOTALS:	4,847	3,586.75	See Tables J, or P for detail

Unconditioned Spaces

01	02	03	04	05	06	
Area Description	Complete Building or Area Category Primary Function Area	Allowed Density (W/ft²)	Area (ft²)	Allowed Wattage (Watts)	Additional Allowance / Adjustment	
					Area Category	PAF
Storage	Commercial Industrial Storage Area	0.4	214	85.6	No	No
			TOTALS:	214	85.6	See Tables J, or P for detail

J. ADDITIONAL ALLOWANCE: AREA CATEGORY METHOD QUALIFYING LIGHTING SYSTEM

This section does not apply to this project.

K. TAILORED METHOD GENERAL LIGHTING POWER ALLOWANCE

This section does not apply to this project.

L. ADDITIONAL LIGHTING ALLOWANCE: TAILORED WALL DISPLAY

This section does not apply to this project.

M. ADDITIONAL LIGHTING ALLOWANCE: TAILORED FLOOR AND TASK LIGHTING

This section does not apply to this project.

N. ADDITIONAL LIGHTING ALLOWANCE: TAILORED DECORATIVE /SPECIAL EFFECTS

This section does not apply to this project.

CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance
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CERTIFICATE OF COMPLIANCE		NRCC-LTI-E
Project Name: El Segundo Teen Center	Report Page:	(Page 3 of 9)
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F. INDOOR LIGHTING FIXTURE SCHEDULE

This table includes all planned permanent and portable lighting other than dwelling unit/ hotel/ motel room lighting. Multifamily dwelling unit and hotel/motel room lighting is documented in Table T. If using Table T to document lighting in multifamily common use areas providing shared provisions for living, eating, cooking or sanitation, those luminaires are not included here.

Designed Wattage: Conditioned Spaces

01	02	03	04	05	06	07	08	09	10	
Name or Item Tag	Complete Luminaire Description	Modular (Track) Fixture	Small Aperture & Color Change[1]	Watts per luminaire[2]	How is Wattage determined	Total Number of Luminaires	Excluded per 140.6(a)3 / 170.2(e)2C	Design Watts	Field Inspector	
									Pass	Fail
F-1	Troffer 2x2	No	NA	20	Mfr. Spec	16	No	320	☐	☐
F-2	6" Downlight - Recessed	No	NA	17.5	Mfr. Spec	7	No	122.5	☐	☐
F3	LED Strip Light	No	NA	38	Mfr. Spec	6	No	228	☐	☐
F5	3" Downlight - Recessed	No	NA	18	Mfr. Spec	1	No	18	☐	☐
F6	Pendant Light	No	NA	18	Mfr. Spec	4	No	72	☐	☐
F7	LED Track Light	Yes	NA	120	See Other Section	1	No	120	☐	☐
							Total Designed Watts: CONDITIONED SPACES	880.5		

Designed Wattage: Unconditioned Spaces

01	02	03	04	05	06	07	08	09	10	
Name or Item Tag	Complete Luminaire Description	Modular (Track) Fixture	Small Aperture & Color Change[1]	Watts per luminaire[2]	How is Wattage determined	Total Number of Luminaires	Excluded per 140.6(a)3 / 170.2(e)2C	Design Watts	Field Inspector	
									Pass	Fail
F-1	Troffer 2x2	No	NA	20	Mfr. Spec	4	No	80	☐	☐
							Total Designed Watts: UNCONDITIONED SPACES	80		

[1]*FOOTNOTE: Design Watts for small aperture and color changing luminaires which qualify per 140.6(a)4B / 170.2(e)2D is adjusted to be 75% /80% of their rated wattage. Table F automatically makes this adjustment, the permit applicant should enter full rated wattage in column 05.*

[2]*Authority Having Jurisdiction may ask for Luminaire cut sheets to confirm wattage used for compliance per 130.0(c) / 160.5(b). Wattage used must be the maximum rated for the luminaire, not the lamp.*

CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance
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Report Generated: 2025-06-02 15:30:31

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LICENSED PROFESSIONAL ENGINEER BEHNAM ENTEZAM E 23803 EXP. 12/31/27 ELECTRICAL STATE OF CALIFORNIA

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

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
	02/09/26	PLAN CHECK RESUBMITTAL #4

Sheet title:

ELECTRICAL
T24

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

ET24.1

STATE OF CALIFORNIA
Outdoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTO-E
Project Name: El Segundo Teen Center	**Report Page:** (Page 7 of 8)
	Date Prepared: 2025-06-02T18:16:14-04:00

N. EXISTING CONDITIONS POWER ALLOWANCE (alterations only)
This section does not apply to this project.

O. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION
Selections have been made based on information provided in this document. If any selection has been changed by permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and can be found online

Form/Title
NRCI-LTO-E - Must be submitted for all buildings

P. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE
There are no NRCA forms required for this project.

STATE OF CALIFORNIA
Outdoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTO-E
Project Name: El Segundo Teen Center	**Report Page:** (Page 4 of 8)
	Date Prepared: 2025-06-02T18:16:14-04:00

H. OUTDOOR LIGHTING CONTROLS
This table demonstrates compliance with controls requirements for all new or altered luminaires installed as part of the permit application. For alteration projects, luminaires which are existing to remain (ie untouched) and luminaires which are removed and reinstalled (wiring only) do not need to be included in this table even if they are within the spaces covered by the permit application.
Outdoor lighting for nonresidential buildings, parking garages and common service areas in multifamily buildings must be documented separately from outdoor lighting attached to multifamily buildings and controlled from the inside of a dwelling unit

Mandatory Controls for Nonresidential Occupancies, Parking Garages & Common Areas in Multifamily Buildings

01	02	03	04	05	
Area Description	Shut-Off 130.2(c)1 / 160.5(c)	Auto-Schedule 130.2(c)2 / 160.5(c)	Motion Sensor 130.2(c)3 / 160.5(c)	Field Inspector	
				Pass	Fail
Hardscape: "F4"	Astronomical Timer	Provided	NA: Each Luminaire <= 40 Watts	☐	☐

[1] *FOOTNOTE: Text has been abbreviated, please refer to Table 160.5-A to confirm compliance with the specific light source technologies listed.*
[2] *Authority having jurisdiction may ask for cutsheets or other documentation to confirm compliance of light source.*
[3] *Recessed luminaires marked for use in fire-rated installations, and recessed luminaires installed in non-insulated ceilings are excepted from ii and iii.*

STATE OF CALIFORNIA
Outdoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTO-E
Project Name: El Segundo Teen Center	**Report Page:** (Page 1 of 8)
Project Address:	**Date Prepared:** 2025-06-02T18:16:14-04:00

This document is used to demonstrate compliance with requirements in 110.9, 130.0, 130.2, 140.7, and 141.0(b)2L for outdoor lighting scopes using the prescriptive path for nonresidential and hotel/motel occupancies. It is also used to document compliance with requirements in 160.5, 170.2(e)6, 180.1(a) and 180.2(b)4Bv for outdoor lighting scopes using the prescriptive path for multifamily and mixed-use occupancies. Multifamily includes dormitory and senior living facilities.

A. GENERAL INFORMATION

01	Project Location (city)	El Segundo	04	Total Illuminated Hardscape Area (ft²)	1553
02	Climate Zone	6			
03	Outdoor Lighting Zone per Title 24 Part 1 10.114 or as designated by Authority Having Jurisdiction (AHJ):				
☐	LZ-0: Very Low - Undeveloped Parkland	☐ LZ-2: Moderate - Urban Clusters	☐	LZ-4: High - Must be reviewed by CA Energy Commission for Approval	
☐	LZ-1: Low - Rural Areas	☒ LZ-3: Moderately High - Urban Areas			
05	Occupancy Types within Project				
• Classroom					

B. PROJECT SCOPE
This table includes outdoor lighting systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in 140.7 / 170.2(e)6 or 141.0(b)2L / 180.2(b)4Bv for alterations.

My Project Consists of:

01	02		
☐ New Lighting System	Must Comply with Allowances from 140.7 / 170.2(e)6		
☒ Altered Lighting System	Is your alteration increasing the connected lighting load (Watts)?	• Yes	○ No
03	04	05	
% of Existing Luminaires Being Altered[1]	Sum Total of Luminaires Being Added or Altered	Calculation Method	
☐ < 10% ☐ >= 10% and < 50% ☐ >= 50%			

Please proceed to Table F. Outdoor Lighting Fixture Schedule to define the project's luminaires.

[1] *FOOTNOTES: % of Existing Luminaires Being Altered = (Sum Total of Luminaires Being Added or Altered / Existing Luminaires within the Scope of the Permit Application) x 100.*

STATE OF CALIFORNIA
Outdoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTO-E
Project Name: El Segundo Teen Center	**Report Page:** (Page 8 of 8)
Project Address: 405 E Grand Ave, El Segundo, CA 90245	**Date Prepared:** 2025-06-02T18:16:14-04:00

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT
I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name:	Christopher Fitch	Documentation Author Signature:	
Company:	ACE MEP GROUP, INC.	Signature Date:	06/02/25
Address:	9241 IRVINE BLVD., SUITE 250	CEA/ HERS Certification Identification (if applicable):	
City/State/Zip:	IRVINE, CA 92618	Phone:	949-620-4060

RESPONSIBLE PERSON'S DECLARATION STATEMENT
I certify the following under penalty of perjury, under the laws of the State of California:
1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer)
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name:	BEN BEHNAM ENTEZAM	Responsible Designer Signature:	
Company:	ACE MEP GROUP, INC.	Date Signed:	06/02/25
Address:	9241 IRVINE BLVD., SUITE 250	License:	E-023803
City/State/Zip:	IRVINE, CA 92618	Phone:	949-620-4060

STATE OF CALIFORNIA
Outdoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTO-E
Project Name: El Segundo Teen Center	**Report Page:** (Page 5 of 8)
	Date Prepared: 2025-06-02T18:16:14-04:00

I. LIGHTING POWER ALLOWANCE (per 140.7 / 170.2(e))
This table includes areas using allowance calculations per 140.7 / 170.2(e). General Hardscape Allowance is per Table 140.7-A/Table 170.2-R while "Use it or lose it" Allowances are per Table 140.7-B /Table 170.2-S. Indicate which allowances are being used to expand sections for user input. Luminaires that qualify for one of the "Use it or lose it" allowances shall not qualify for another "Use it or lose it" allowance.
Outdoor lighting attached to multifamily buildings and controlled from the inside of a dwelling unit are included in Table H. and are not included here. All other multifamily outdoor lighting is included here.

01					
	"Use it or lose it" Allowance (select all that apply) (select all that apply)				
☒ General Hardscape Allowance Table I (below)	☒ Per Application Table J	☐ Sales Frontage Table K	☐ Ornamental Table L	☐ Per Specific Area Table M	

Calculated General Hardscape Lighting Power Allowance per Table 140.7-A for Nonresidential & Hotel/Motel

02	03	04	05	06	07	08	09
Area Description	Area Wattage Allowance (AWA)			Linear Wattage Allowance (LWA)			Total General AWA + LWA (Watts)
	Illuminated Area (ft²)	Allowed Density (W/ft²)	Area Allowance (Watts)	Perimeter Length (lf)	Allowed Density (W/lf)	Linear Allowance (Watts)	
Hardscape	1553	0.021	32.61	264	0.2	52.8	85.41
					Initial Wattage Allowance for Entire Site (Watts):		
					Instances of Initial Wattage Allowance (LZ 0 only)[1]		
					Total General Hardscape Allowance (Watts):		85.41

STATE OF CALIFORNIA
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CERTIFICATE OF COMPLIANCE	NRCC-LTO-E
Project Name: El Segundo Teen Center	**Report Page:** (Page 2 of 8)
	Date Prepared: 2025-06-02T18:16:14-04:00

C. COMPLIANCE RESULTS
Results in this table are automatically calculated from data input and calculations in Tables F through N. Note: If any cell on this table says "COMPLIES with Exceptional Conditions" refer to Table D. Exceptional Conditions for guidance or see applicable Table referenced below.

Calculations of Total Allowed Lighting Power (Watts) 140.7 / 170.2(e)6 or 141.0(b)2L / 180.2(b)4Bv											Compliance Results		
01		02		03		04		05	OR	06	=	07		08	09
General Hardscape Allowance 140.7(d)1 / 170.2(e)6 (See Table I)	+	Per Application 140.7(d)2 / 170.2(e)6 (See Table J)	+	Sales Frontage 140.7(d)2 (See Table K)	+	Ornamental 140.7(d)2 / 170.2(e)6 (See Table L)	+	Per Specific Area 140.7(d)2 / 170.2(e)6 (See Table M)		Existing Power Allowance 141.0(b)2L / 180.2(b)4Bv (See Table N)		**Total Allowed** (Watts)	≥	**Total Actual** (Watts)	**07 must be >= 08**
85.41	+	76	+	---	+	---	+	---	OR	---	=	161.41	≥	98	COMPLIES
										Shielding Compliance (See Table G for Details)					N/A
										Controls Compliance (See Table H for Details)					COMPLIES

D. EXCEPTIONAL CONDITIONS
This table is auto-filled with uneditable comments because of selections made or data entered in tables throughout the form.

E. ADDITIONAL REMARKS
This table includes remarks made by the permit applicant to the Authority Having Jurisdiction.

STATE OF CALIFORNIA
Outdoor Lighting
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Project Name: El Segundo Teen Center	**Report Page:** (Page 6 of 8)
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J. LIGHTING ALLOWANCE: PER APPLICATION
This table includes areas using the wattage allowance per application from Table 140.7-B / Table 170.2-S.

01	02	03	04	05	06	07	08	09	10
Area Description	Application per Table 140.7-B[1]	CALCULATED ALLOWANCE (Watts)			DESIGN WATTS				Additional Allowance (Watts)
		# of Locations	Allowance per Location[2]	Extra Allowance (Watts)	Luminaire Name or Item Tag	Watts per Luminaire	# of Luminaires	Design Watts	
Doors	Building Entrance/Exit	2	19	38	F4	14	3	42	38
							Total Design Watts for this Area:	42	
Roll Up Doors	Building Entrance/Exit	2	19	38	F4	14	4	56	38
							Total Design Watts for this Area:	56	
							Total Allowance (Watts) All Areas:		76

[1] *FOOTNOTES: Primary entrance applications are only available for senior care facilities, healthcare facilities, police stations, hospitals, fire stations, and emergency vehicle facilities.*
[2] *The Allowance per Location for ATMs is 100W for the first ATM and 35W for each additional per Table 140.7-B /Table 170.2-S.*
[3] *For luminaires indicated in Table F as linear, wattage in column 07 is W/lf instead of Watts/luminaire. Total linear feet should be indicated in column 08 instead of number of luminaires.*

K. LIGHTING ALLOWANCE: SALES FRONTAGE
This section does not apply to this project.

L. LIGHTING ALLOWANCE: ORNAMENTAL
This section does not apply to this project.

M. LIGHTING ALLOWANCE: PER SPECIFIC AREA
This section does not apply to this project.

STATE OF CALIFORNIA
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Project Name: El Segundo Teen Center	**Report Page:** (Page 3 of 8)
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F. OUTDOOR LIGHTING FIXTURE SCHEDULE
For new or altered lighting systems demonstrating compliance with 140.7 / 170.2(e)6 all new luminaires being installed and any existing luminaires remaining or being moved within the spaces covered by the permit application are included in the Table below. For altered lighting systems using the Existing Power method per 141.0(b)2L only new luminaires being installed and replacement luminaires being installed as part of the project scope are included (ie, existing luminaires remaining or existing luminaires being moved are not included). Outdoor lighting attached to multifamily buildings and controlled from the inside of a dwelling unit are included in Table H. and are not included here. All other multifamily outdoor lighting is included here.

Designed Wattage:

01	02		03	04	05	06	07	08	09	10	
Name or Item Tag	Complete Luminaire Description		Watts per luminaire[1,3]	How is Wattage determined	Total Number Luminaires[2]	Luminaire Status[3]	Excluded per 140.7(a) / 170.2(e)6A	Design Watts	Cutoff Req. > 6,200 initial lumen output 130.2(b) / 160.5(c)[4]	Field Inspector	
										Pass	Fail
F4	Wall Sconce	☐ Linear	14	Mfr. Spec	7	New	☐	98	NA: < 6200 lumens	☐	☐
							Total Design Watts:	98			

* NOTES: Selections with a * require a note in the space below explaining how compliance is achieved.
EX: Luminaire is lighting a statue; EXCEPTION 2 to 130.2(b)

[1] *FOOTNOTES: Authority Having Jurisdiction may ask for Luminaire cut sheets to confirm wattage used for compliance per 130.0(c) / 160.5(b)*
[2] *For linear luminaires, wattage should be indicated as W/lf instead of Watts/luminaire. Total linear feet should be indicated in column 05 instead of number of luminaires.*
[3] *Select "New" for new luminaires in a new outdoor lighting project, or for added luminaires in an alteration. Select "Altered" for replacement luminaires in an alteration. Select "Existing to Remain" for existing luminaires within the project scope that are not being altered and are remaining. Select "Existing Reinstalled" for existing luminaires which are being removed and reinstalled as part of the project scope.*
[4] *Compliance with mandatory shielding requirements is required for luminaires with initial lumen output >= 6,200 unless exempted by 130.2(b)/ 160.5(c)*

G. SHIELDING REQUIREMENTS (BUG)
This section does not apply to this project.

True North Compliance Services, Inc.

PLAN REVIEW APPROVAL

THESE PLANS/DOCUMENTS HAVE BEEN REVIEWED FOR COMPLIANCE WITH THE APPLICABLE CALIFORNIA BUILDING STANDARDS CODES AS ADOPTED BY THE STATE OF CALIFORNIA AND AMENDED BY THE JURISDICTION. PLAN REVIEW ACCEPTANCE OF DOCUMENTS DOES NOT AUTHORIZE CONSTRUCTION TO PROCEED IN VIOLATION OF ANY FEDERAL, STATE, NOR LOCAL REGULATION.

BY: Malham Hweidi DATE: 03/25/2026

THIS SET OF THE PLANS AND SPECIFICATIONS MUST BE KEPT ON THE JOB SITE AT ALL TIMES AND IT IS UNLAWFUL TO MAKE ANY CHANGES OR ALTERATIONS WITHOUT PERMISSION FROM THE CITY. OCCUPANCY OF STRUCTURE(S) IS NOT PERMITTED UNTIL FINAL APPROVAL IS GRANTED BY ALL APPLICABLE DEPARTMENTS.

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	06/06/25	50% CD SUBMITTAL
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	11/14/25	PLAN CHECK RESUBMITTAL #2
	01/16/26	PLAN CHECK RESUBMITTAL #3
	02/09/26	PLAN CHECK RESUBMITTAL #4

Sheet title:

ELECTRICAL
T24

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

ET24.2

ABBREVIATIONS (NOT ALL USED)

ABV	ABOVE
AFF	ABOVE FINISHED FLOOR
AHU	AIR HANDLING UNIT
AMB	AMBIENT
ARCH	ARCHITECTURAL
BDD	BACKDRAFT DAMPER
BHP	BRAKE HORSEPOWER
BMS	BUILDING MANAGERMENT SYSTEM
BTU	BRITISH THERMAL UNIT
BTUH	BTU PER HOUR
°C	DEGREES CENTIGRADE (CELSIUS)
CBC	CALIFORNIA BUILDING CODE
CC	COOLING COIL
CD	CEILING DIFFUSER
CD	CONDENSATE DRAIN
CFC	CALIFORNIA FIRE CODE
CFM	CUBIC FOOT/FEET PER MINUTE
CFSD	COMBINATION FIRE/SMOKE DAMPER
CG	CEILING GRILLE
CHWP	CHILLED WATER PUMP
CHWR	CHILLED WATER RETURN
CHWS	CHILLED WATER SUPPLY
CLG	CEILING
CMC	CALIFORNIA MECHANICAL CODE
COND	CONDENSATE
CONN	CONNECTION
CONT	CONTINUATION
CR	CEILING RETURN
CU FT	CUBIC FEET
CU IN	CUBIC INCHES
DN	DOWN
DWG	DRAWING
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EDB	ENTERING DRY BULB TEMPERATURE
EES	ENERGY EFFICIENCY STANDARD (TITLE 24)
EF	EXHAUST FAN
EL	ELEVATION
ELEC	ELECTRICAL
ENT	ENTERING
EQPM	EQUIPMENT
ESP	EXTERNAL STATIC PRESSURE
EWB	ENTERING WET BULB TEMPERATURE
EWT	ENTERING WATER TEMPERATURE
EXH	EXHAUST
°F	DEFREES FAHRENHEIT
(F)	FUTURE
FD	FIRE DAMPER
FF	FINAL FILTER
FLA	FULL LOAD AMPERES
FLR	FLOOR
FLX	FLEXIBLE CONNECTION
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
GA	GAUGE
GAL	GALLON
GC	GENERAL CONTRACTOR
GPH	GALLON PER HOUR
GPM	GALLON PER MINUTE
H	HEIGHT
HC	HEATING COIL
HHWS	HEATING HOT WATER SUPPLY
HHWR	HEATING HOT WATER RETURN
HS	HUMIDITY SENSOR
L	LENGHT
(L)	LINED DUCTWORK
LAT	LEAVING AIR TEMPERATURE
LBS	POUNDS
LDB	LEAVING DRY BULB TEMPERATURE
LIN FT	LINEAR FEET
LVG	LEAVING
LWB	LEAVING WET BULB TEMPERATURE
MAX	MAXIMUM
MB	MIXING BOX
MBH	THOUSAND BTU PER HOUR
MIN	MINIMUM
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
OSA/OA	OUTSIDE AIR
OD	OUTSIDE DIAMETER
POC	POINT OF CONNECTION
POD	POINT OF DISCONNECTION
RA	RETURN AIR
RG	RETURN GRILLE
RH	REHEAT COIL
RM	ROOM
RPM	REVOLUTION PER MINUTE
SA	SUPPLY AIR
SF	SUPPLY FAN
SOO	SEQUENCE OF OPERATION
SOV	SHUT OFF VALVE
SP	STATIC PRESSURE
SPEC	SPECIFICATION
SQ.FT	SQUARE FOOT
SS	STAINLESS STEEL OR SPLIT SYSTEM FAN COIL
SSG	SIDEWAY SUPPLY GRILL
TEMP	TEMPERATURE
TS	TEMPERATURE SENSOR
TG	TRANSFER GRILL
TV	TURNING VANES
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED
UTR	UP THROUGH ROOF
V	VOLTS
VAV	VARIABLE AIR VOLUME
VD	VOLUME DAMPER
VENT	VENTILATION AIR
W	WIDTH
W/	WITH
W/O	WITHOUT
WB	WET BULB
WC	WATER COLUMN
WG	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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EXP. 03/31/27
MECHANICAL
STATE OF CALIFORNIA

CITY OF EL SEGUNDO

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EL SEGUNDO RECREATION PARK PHASE 1 IMPROVEMENT PROJECT

TEEN CENTER AND TEEN PLAZA

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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
	02/09/26	PLAN CHECK RESUBMITTAL #4

Sheet title:

NOTES, SYMBOLS & ABBREVIATIONS

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

M0.01

True North Compliance Services, Inc.

PLAN REVIEW APPROVAL

THESE PLANS/DOCUMENTS HAVE BEEN REVIEWED FOR COMPLIANCE WITH THE APPLICABLE CALIFORNIA BUILDING STANDARDS CODES AS ADOPTED BY THE STATE OF CALIFORNIA AND AMENDED BY THE JURISDICTION. PLAN REVIEW ACCEPTANCE OF DOCUMENTS DOES NOT AUTHORIZE CONSTRUCTION TO PROCEED IN VIOLATION OF ANY FEDERAL, STATE, NOR LOCAL REGULATION.

BY: Mutham Fuweidi DATE: 03/25/2026

THIS SET OF THE PLANS AND SPECIFICATIONS MUST BE KEPT ON THE JOB SITE AT ALL TIMES AND IT IS UNLAWFUL TO MAKE ANY CHANGES OR ALTERATIONS WITHOUT PERMISSION FROM THE CITY. OCCUPANCY OF STRUCTURE(S) IS NOT PERMITTED UNTIL FINAL APPROVAL IS GRANTED BY ALL APPLICABLE DEPARTMENTS.

GENERAL NOTES

1. CONTRACTOR SHALL APPLY FOR ALL PERMITS & INSPECTION REQUIRED BY LEGAL AUTHORITIES.
2. WORKS & MATERIALS 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 RFI 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 WALLS, 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 504.4.5.
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 & U.L. 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 SECTIONS 1109.5.
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 WEIGHTS 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.

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
¼" 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 120-V 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 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 RECORED REVIEW & APPROVAL.

MECHANICAL CALGREEN NOTES

1. THE ENTIRE PROJECT SHALL COMPLY WITH CURRENT CALGREEN & BUILDING CODES.
2. CGBC SECTION 4.506 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. (2.A.) HUMIDITY CONTROLS SHALL BE CAPABLE OF ADJUSTMENT BETWEEN A RELATIVE HUMIDITY RANGE OF ≤ 50 PERCENT TO A MAXIMUM OF 80 PERCENT.
3. CGBC 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. CGBC 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. CGBC 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, BALANCE THE SYSTEM 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. CGBC 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. CGBC 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. CGBC SECTION 5.410.4.5.1-INSPECTIONS & REPORTS. INCLUDE A COPY OF ALL INSPECTION VERIFICATIONS & REPORTS REQUIRED BY THE ENFORCING AGENCY.
9. CGBC SECTION 5.503.1-FIREPLACES. INSTALL ONLY A DIRECT-VENT SEALED-COMBUSTION GAS OR SEALED WOOD-BURNING FIREPLACE& REFER TO CERC, TITLE 24, PART 6, SUBCHAPTER 7, SECTION 150.
10. CGBC 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. CGBC 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 A& MAINTENANCE MANUAL. EXCEPTION: EXISTING MECHANICAL EQUIPMENT.
12. CGBC SECTION 5.504.5.3.1 LABELING. INSTALLED FILTERS SHALL BE CLEARLY LABELED BY THE MANUFACTURER INDICATING THE MERV RATING.
13. CGBC 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 CEnC, OR APPLICABLE LOCAL CODE, WHICHEVER IS MORE STRINGENT, & DIVISION 1, CHAPTER 4 OF CCR, TITLE 8.
14. CGBC 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 CEnC CODE, SECTION 120(C)(4).
15. CGBC SECTION 5.508.1.1 CHLOROFLUOROCARBONS (CFCS). INSTALL HVAC, REFRIGERATION & FIRE SUPPRESSION EQUIPMENT THAT DO NOT CONTAIN CFCS.
16. CGBC 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. CGBC SECTION 5.508.1.2 HALONS. INSTALL HVAC, REFRIGERATION & FIRE SUPPRESSION EQUIPMENT THAT DO NOT CONTAIN HALONS.
18. CGBC 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. CGBC 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. CGBC SECTION A5.205.3.7.2 INSULATION. COVER THE INSULATION WITH A SOLID GUARD THAT PROTECTS AGAINST DAMAGE FROM ULTRAVIOLET RADIATION, MOISTURE, LANDSCAPING OPERATION, EQUIPMENT MAINTENANCE & WIND.

True North Compliance Services, Inc.

PLAN REVIEW APPROVAL

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BY: Mulham Aweidi DATE: 03/25/2026

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NONRESIDENTIAL LOUVERED RETURN GRILLES-CEILING/T-BAR

TAG	MANUFACTURER	MODEL	TYPE	CEILING TYPE	NECK SIZE	FACE SIZE	VELOCITY (FPM)	AIRFLOW RANGE (CFM)	NOISE CRITERIA (NC)	MATERIAL
RG-1	TITUS	350FL	RETURN	TBAR	6" x 6"	24"X24"	500	0-80	20	ALUMINUM
RG-2	TITUS	350FL	RETURN	TBAR	8" x 8"	24"X24"	500	81-150	20	ALUMINUM
RG-3	TITUS	350FL	RETURN	TBAR	10" x 10"	24"X24"	500	149-240	20	ALUMINUM
RG-4	TITUS	350FL	RETURN	TBAR	12" x 12"	24"X24"	500	241-350	20	ALUMINUM
RG-5	TITUS	350FL	RETURN	TBAR	14" x 14"	24"X24"	500	351-490	20	ALUMINUM
RG-6	TITUS	350FL	RETURN	TBAR	16" x 16"	24"X24"	500	491-650	20	ALUMINUM
RG-7	TITUS	350FL	RETURN	TBAR	18" x 18"	24"X24"	500	651-830	20	ALUMINUM
RG-8	TITUS	350FL	RETURN	TBAR	20" x 20"	24"X24"	500	831-1030	20	ALUMINUM

NOTES:
1-PROVIDE VOLUME DAMPER.
2-CONTRACTOR TO SELECT FASTNERS AND BORDER TYPES BASED ON CEILG/WALL TYPES.
3-CONTRACTOR TO CHECK WITH TITUS MANUFACTURER FOR CORRECT MODEL NUMBER AND BORDER TYPES PRIOR TO ORDER AND INSTALLATION.

NONRESIDENTIAL SUPPLY GRILLES-RECTANGULAR NECK/LOUVERED FACE/HORIZONTAL BLOW PATTERN/TBAR

TAG	MANUFACTURER	MODEL	TYPE	CEILING TYPE	NECK SIZE	MODULE SIZE	VELOCITY (FPM)	AIRFLOW RANGE (CFM)	NOISE CRITERIA (NC)	MATERIAL
CD-1	TITUS	TDC-AA	SUPPLY	HARD CEILING	6" x 6"	12" x 12"	500	25-100	16	ALUMINUM
CD-2	TITUS	TDC-AA	SUPPLY	HARD CEILING	9" x 9"	15" x 15"	500	101-180	18	ALUMINUM
CD-3	TITUS	TDC-AA	SUPPLY	HARD CEILING	12" x 12"	18" x 18"	500	201-350	19	ALUMINUM
CD-4	TITUS	TDC-AA	SUPPLY	HARD CEILING	15" x 15"	21" x 21"	500	351-500	20	ALUMINUM
CD-5	TITUS	TDC-AA	SUPPLY	HARD CEILING	18" x 18"	24" x 24"	500	501-720	20	ALUMINUM

NOTES:
1-PROVIDE YOUNG REGULATOR EITHER BOWWDEN OR ELECTRONIC DAMPER..
2- S1=1 WAY SQUARE, S2=2 WAY SQUARE, A3=3 WAY SQUARE, A4=4 WAY SQUARE.
3-CONTRACTOR TO SELECT FASTNERS AND BORDER TYPES BASED ON CEILING TYPE AND MOUNTING.
4-GRILLE COLOR BY ARCHITECT.
5-CONTRACTOR TO CHECK WITH TITUS MANUFACTURER FOR CORRECT MODEL NUMBER AND BORDER TYPES PRIOR TO ORDER AND INSTALLATION.

PIPE 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 FT2 °F)	MEAN RATING TEMPERATTURE (°F)		<1	1 TO <1.5	1.5 TO <4	4 TO <8	8 & LARGER
				INSULATION THICKNESS REQUIRED (IN INCHES)				
copy				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	R14.50
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
				NOMINAL PIPE DIAMETER (IN INCHES)				
				<1	1 TO <1.5	1.5 TO <4	4 TO <8	8 & LARGER
SPACE COOLING SYSTEMS (CHILLED WATER, REFRIGERANT & BRINE)				MINIMUM PIPE INSULATION REQUIRED (THICKNESS IN INCHES OR R-VALUE) [1]				
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 / R5 / 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 / R9 / 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.

DUCT INSULATION REQUIREMENTS

DUCT LOCATION	INSULATION R-VALUE	INSULATION THICKNESS
- OUTDOORS -VENTED ATTIC SPACE - UNCONDITIONED SPACE - SPACE BETWEEN ROOF AND INSULATED CEILING	R-8	2"
- ENCLOSED IN DIRECTLY CONDITIONED SPACE	NONE REQUIRED	N/A
- IN UNVENTED ATTIC	R-6	1.5"
- IN RETURN AIR PLENUM- ALL OTHER SPACES	R-6	1.5"

ZONING SYSTEM

SYSTEM CONTROLLER

TAG	MANUFACTURER	MODEL	ELECTRICAL		INPUTS	OUTPUTS	DIMENSIONS
			SUPPLY VOLTAGE	POWER CONSUMPTION			
SC 1	ZONEX SYSTEMS	GENV	24 VAC	0.7 VA	24 VAC, 1 THERMISTOR	24 VAC, 5 DRY CONTACTS	4"H x 6-1/8" W x 1-3/4"D

NOTES:
1. PROVIDE FUSED TRANSFORMER.

HUB THERMOSTAT

TAG	MANUFACTURER	MODEL	ELECTRICAL		OPERATING TEMPERATURE	OPERATING HUMIDITY	DIMENSIONS
			SUPPLY VOLTAGE	POWER CONSUMPTION			
T	ZONEX SYSTEMS	EZTOUCHV	24 VAC	5 VA MAX	55-95 F	0-100% RH	4-1/2"H x 3" W x 1"D

NOTES:
1. THERMOSTAT MUST BE T24 COMPLIANT

ZONE THERMOSTAT

TAG	MANUFACTURER	MODEL	ELECTRICAL		OPERATING TEMPERATURE	OPERATING HUMIDITY	DIMENSIONS
			SUPPLY VOLTAGE	POWER CONSUMPTION			
T	ZONEX SYSTEMS	EZTOUCHV	24 VAC	5 VA MAX	55-95 F	0-100% RH	4-1/2"H x 3" W x 1"D

NOTES:
1. THERMOSTAT MUST BE T24 COMPLIANT

ZONE DAMPER

TAG	MANUFACTURER	MODEL	ELECTRICAL		PRESSURE DROP @ RATED CFM	BODY MATERIAL	DIMENSIONS
			SUPPLY VOLTAGE	POWER CONSUMPTION			
ZD -	ZONEX SYSTEMS	STMPD	24 VAC	2 VA MAX	<0.04" W.C.	20-22 GAUGE GALVANIZED STEEL SHELL	REFER TO SIZING TABLE

NOTES:
1. REFER TO FLOOR PLANS FOR LOCATIONS AND NUMBER OF UNIT. REFER TO DETAIL SHEETS FOR WIRING DIAGRAM.

BYPASS DAMPER

TAG	MANUFACTURER	MODEL	ELECTRICAL		PRESSURE DROP @ RATED CFM	BODY MATERIAL	DIMENSIONS
			SUPPLY VOLTAGE	POWER CONSUMPTION			
BD -	ZONEX SYSTEMS	STBP	24 VAC	2.3 VA	<0.04" W.C.	20-22 GAUGE GALVANIZED STEEL SHELL	REFER TO SIZING TABLE

NOTES:
1. REFER TO FLOOR PLANS FOR LOCATIONS AND NUMBER OF UNIT. REFER TO DETAIL SHEETS FOR WIRING DIAGRAM.

ZONE DAMPERS SIZING

CFM MAX	DAMPER MODEL	DIAMETER (IN)	MAX VELOCITY (FPM)	PRESSURE DROP (IN.W.C.)	DIMENTION (L" x W")
110	STMPD06	6	540	0.014	10 x 9
250	STMPD08	8	700	0.015	10 x 11
410	STMPD10	10	750	0.015	12 x 13
660	STMPD12	12	850	0.015	14 x 15
1000	STMPD14	14	925	0.035	16 x 17

BYPASS DAMPERS SIZING

CFM MAX	DAMPER MODEL	DIAMETER (IN)	INTEGRATED STATIC PRESSURE CONTROL	CONTROL RANGE (IN.W.C)	DIMENTION (L" x W")
560	STBP08	8	YES	0.15-0.95	10 x 11
900	STBP10	10	YES	0.15-0.95	12 x 13
1250	STBP12	12	YES	0.15-0.95	14 x 15

ROOF MOUNTED EXHAUST FAN SCHEDULE

MARK	MANUFACTURER / MODEL	AREA SERVED	TYPE	SPECIFICATIONS/PERFORMANCE DATA						ELECTRICAL DATA			PHYSICAL DATA		REMARKS	DETAILS
				AIR FLOW	ESP	DRIVE	NOMINAL RPM	SONES	HP	V/PH/HZ	AMPS	WATTS	DIMENSIONS	WEIGHT		
				(CFM)	(IN. W.C.)	(-)	(-)	(-)	(-)	(-)	(AMP)	(W)	(INCHES)	(LB)		
EF R-1	GREENHECK USF-4	RESTROOM	ROOF MOUNTED	300	0.50	DIRECT	1156	7.6	1 / 6	208/60/1	4	-	22.91" W 17.35" D 27.63" H	84	1-6	-

NOTES:
1. FAN TO BE EQUIPPED WITH INTEGRATED BACKDRAFT DAMPER BY MANUFACTURER.
2. PROVIDE FLEXIBLE DUCT CONNECTION TO REDUCE NOISE & VIBRATION.
3. PROVIDE MOTOR SWITCH PER NEC REQUIREMENT.
4.CONTRACTOR SHALL VERIFY MODEL NUMBERS & MATCH WITH MANUFACTURER PRIOR TO ORDER AND INSTALLATION.
5. FAN SHALL RUN CONTINUOUSLY DURING STORE OPERATION.
6. PROVIDE MANUFACTURER PROVIDED ROOF CURBS FOR FAN.

ROOF TOP UNIT SCHEDULE

MARK	MANUFACTURER / MODEL	AREA SERVED	TYPE	SPECIFICATIONS / PERFORMANCE DATA									ELECTRICAL DATA			PHYSICAL DATA		REMARKS	DETAILS
				NOM. TONS	COOLING CAPACITY	HEATING CAPACITY	AIR FLOW (L/M/H)	OSA	ESP	EAT DB	EAT WB	NOISE LEVEL	V/PH/HZ	MCA	MOCP	SIZE	WEIGHT		
				(TON)	(BTU/HR)	(BTU/HR)	(CFM)	(CFM)	(IN. W.C.)	(°F)	(°F)	(dBB)	(-)	(AMP)	(AMP)	(INCHES)	(LB)		
RTU R-1	YORK WQE06A1B1AA5A111A1	GREAT ROOM	PACKAGED UNIT	5.0	60,800	54,600	2,000	1,160	0.6	97	65	78	230/1/60	36.6	50	74.05" D 41.29" W 48.88" H	637	ALL	-
RTU R-2	YORK WQE06A1B1AA5A111A1	AUXILARY ROOM	PACKAGED UNIT	5.0	60,800	54,600	2,000	1,160	0.6	97	65	78	230/1/60	36.6	50	74.05" D 41.29" W 48.88" H	637	ALL	-
RTU R-3	YORK WQE04A1B1AA5A111A1	BANQUET	PACKAGED UNIT	3.0	36,500	35,900	1,200	350	0.6	97	63	78	230/1/60	30	45	74.05" D 41.29" W 48.88" H	539	ALL	-

NOTES:
1. PROVIDE ALL REQUIRED MATERIAL FOR A FULLY FUNCTIONAL SYSTEM.
2. PROVIDE SPECIFIED CURB PER MANUFACTURER RECOMMENDATION & GUIDELINES.
3. PROVIDE SMOKE DETECTOR IN MAIN SUPPLY AIR DUCT PER CMC REQUIREMENT.
4. FAULT DETECTION & DIAGNOSTICS (FDD) MEETING T24 REQUIREMENT.
5. PROVIDE ACOUSTICALLY LINED INSULATION ON DUCTWORK.
6. PROVIDE PERMANENT LABEL FOR PACKAGED UNIT.
7. PROVIDE ECONOMIZER AND RELIEF HOOD.
8. PROVIDE MERV 13 FILTER.

True North Compliance Services, Inc.

PLAN REVIEW APPROVAL

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BY: Mulham Hwaidi DATE: 03/25/2026

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STATE OF CALIFORNIA

Ben Lai-Yuen

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EL SEGUNDO RECREATION PARK PHASE 1 IMPROVEMENT PROJECT

TEEN CENTER AND TEEN PLAZA

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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
	02/09/26	PLAN CHECK RESUBMITTAL #4

Sheet title:

MECHANICAL SCHEDULE

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

M0.03

HORIZONTAL DUCTED HEAT PUMP SYSTEM 1 / 14

Date
12/18/2024
Project Name
ACE MEP - El Segundo Teen Center
Project Number
Client / Purchaser

USAirconditioning ENTERPRISES.com
The world's largest privately owned HVAC distributor

Submittal Summary Page

Qty	Tag #	Model # / Material #	Description
2	RTU-1, 2	WQE060A1B1AA5A111A1	5 Ton, York Sun Core Single Packaged R-454B Standard Efficiency Heat Pump, 11.8 EER2 / 14.0 SEER2, 208/230-1-60, Copper tube/Aluminum fin Condenser Coil, Copper tube/Aluminum fin Evaporator Coil • Refrigerant Detection System • Medium Static Belt Drive Blower • Smart Equipment Controller including Discharge Air, Return Air, and Outdoor Air Temperature Sensors.
1	RTU-3	WQE040A1B1AA5A111A1	3 Ton, York Sun Core Single Packaged R-454B Standard Efficiency Heat Pump, 12.2 EER2 / 14.0 SEER2, 208/230-1-60, Copper tube/Aluminum fin Condenser Coil, Copper tube/Aluminum fin Evaporator Coil • Refrigerant Detection System • Medium Static Belt Drive Blower • Smart Equipment Controller including Discharge Air, Return Air, and Outdoor Air Temperature Sensors.
8		16162PLEATM13	16" x 16" x 2" Pleated MERV 13 Filter
2		16252PLEATM13	16" x 25" x 2" Pleated MERV 13 Filter
3		ECODPRSDB2	Small Sun Core Down Discharge Economizer w/ SSE Logic Modulating Dry Bulb Controls (Includes Barometric Relief Hood); Title 24 Compliant Including FDD
2		CBISPRS212	Small Sun Core 21" Tall Vibration Isolation Roof Curb, Spring Configuration - 2
1		CBISPRS211	Small Sun Core 21" Tall Vibration Isolation Roof Curb, Spring Configuration - 1

Equipment start-up and commissioning by a factory trained technician is recommended.
Contact your supplying distributor or sales representative for additional information & guidance.

⚠ WARNING: Cancer and Reproductive Harm - www.P65Warnings.ca.gov

Information is subject to change without notice. Check local codes.

HORIZONTAL DUCTED HEAT PUMP SYSTEM 2 / 14

YORK® 3-12.5 York® Sun™ Core

2x 5 ton Units

Project Name: **ACE MEP - El Segundo Teen Center** Unit Model #: **WQE060A1B1AA5A111A1**
Quantity: **2** Tag #: **RTU-1, 2** System: **WQE060A1B1AA5A111A1**

Cooling Performance

Total gross capacity	60.8 MBH
Sensible gross capacity	56.2 MBH
Total net capacity	57.9 MBH
Sensible net capacity	53.3 MBH
Seasonal Efficiency (at ARI)	14.00 SEER2
Efficiency (at ARI)	EER
Efficiency (at ARI)	11.80 EER2
Ambient DB temp.	97.0 °F
Entering DB temp.	87.3 °F
Entering WB temp.	69.3 °F
Evap Coil Leaving DB temp.	61.3 °F
Evap Coil Leaving WB temp.	54.9 °F
Unit Leaving DB temp.	62.9 °F
Unit Leaving WB temp.	55.4 °F
Leaving air temp dew point	49.8 °F
Power input (w/o blower)	4.52 kW
Sound power	78 dB(a)

Refrigerant

Refrigerant type	R-454B
Sys1	12 lb 4 oz

Heat Pump Performance

Supply air	2000 cfm
Ambient DB temp.	47 °F
Entering DB temp.	70 °F
Leaving DB temp.	89.3 °F
Rise	19.3 °F
Design Gross Capacity	54.8 MBH
Design Power Input	3.36 kW
HSPF2	9.7
Capacity @ 47(°F)	53.50 MBH
COP @ 47(°F)	3.50 COP
Capacity @ 17(°F)	29.00 MBH
COP @ 17(°F)	2.15 COP

Supply Air Blower Performance

Supply air	2000 cfm
Ext. static pressure	0.6 IWG
Blower speed	1026 rpm
Max BHP of Motor (including service factor)	2.40 HP
Duct location	Bottom
Motor rating	1.50 HP
Actual required BHP	0.92 HP
Power input	0.86 kW
Elevation	0 ft
Drive type	BELT

Outside/Mixed Air

Outside Air	1160 cfm
cfm	
Outside Air DB temp.	97 °F
Outside Air WB temp.	67 °F
Outside Air RH	19.6 %
Return Air	840 cfm
cfm	
Return Air DB temp.	74 °F
Return Air WB temp.	62 °F
Return Air RH	51 %

Electrical Data

Power supply	230-1-60
Unit min circuit ampacity	36.6 A
Unit min over-current protection	40 A
Unit max over-current protection	50 A

Dimensions & Weight

Hgt 41 in	Len 74 in	Wth 49 in	
Weight with factory installed options		637 lb	

Clearances

Right	18 in	Front	36 in	Rear	18 in
Top	72 in	Bottom	1 in	Left	12 in

Note: Please refer to the tech guide for listed maximum static pressures

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Unit Features
- Refrigerant Detection System (RDS) is Factory Installed
- Unit Cabinet Constructed of Powder Painted Steel, Certified At 750 Hours Salt Spray Test (ASTM B-117 Standards)
- Either supply and/or return can be field converted from vertical to horizontal configuration without cutting panels.
- Full perimeter base rails with built in rigging capabilities
- Scroll Compressors
- Medium Static Belt Drive Blower
- Solid Core Liquid Line Filter Driers
- Unit Ships with 2" Throwaway Filters
- Replacement Filters: 4 – (16" x 16"). Unit accepts 2" or 4" wide filters.
- Single Point Power Connection
- Short Circuit Current: 5kA RMS Symmetrical
- Copper tube/Aluminum fin Condenser Coil, Copper tube/Aluminum fin Evaporator Coil

5 Ton
- All units are manufactured at an ISO 9001 registered facility and each rooftop is completely computer-run tested prior to shipment.

BAS Controller
- Smart Equipment Controller including Discharge Air, Return Air, and Outdoor Air Temperature Sensors.

Standard Unit Controller
- An Integrated Low-Ambient Control, Anti-Short Cycle Protection, Lead-Lag, Fan On and Fan off Delays, Low Voltage Protection, Allows all units to operate in the cooling mode down to 0 °F outdoor ambient without additional components or intervention.
- Safety Monitoring - Monitors the high and low-pressure switches, the freezestats, the gas valve, if applicable, and the temperature limit switch on gas and electric heat units. The unit control board will alarm on ignition failures, safety lockouts and repeated limit switch trips.
- Smart Equipment Control Board
- On-Board Diagnostic and Fault Code display

Warranty
- One (1) Year Limited Warranty on the Complete Unit
- Five (5) Year Warranty - Compressors

Information is subject to change without notice. Check local codes.

HORIZONTAL DUCTED HEAT PUMP SYSTEM 3 / 14

YORK® 3-12.5 York® Sun™ Core

Project Name: **ACE MEP - El Segundo Teen Center** Unit Model #: **WQE060A1B1AA5A111A1**
Quantity: **2** Tag #: **RTU-1, 2** System: **WQE060A1B1AA5A111A1**

Additional Electrical Data

Power supply	230-1-60
Unit min circuit ampacity	36.6 A
Unit max over-current protection	50 A
Max Voltage	252 V
Comp #1 RLA	22.5
Comp #1 LRA	148.0
Indoor Min Voltage	230-1-60
Indoor Min FLA	6.1
Outdoor Min Qty	1
Outdoor Fan Voltage	230-1-60
OD Fan Min FLA (ea.)	2.3
Power Ex Min Qty (if applicable)	1
Powered Ex Voltage(if applicable)	230-1-60
Power Ex Min FLA (ea) (if applicable)	1.3

Information is subject to change without notice. Check local codes.

HORIZONTAL DUCTED HEAT PUMP SYSTEM 4 / 14

YORK® 3-12.5 York® Sun™ Core

Project Name: **ACE MEP - El Segundo Teen Center** Unit Model #: **WQE060A1B1AA5A111A1**
Quantity: **2** Tag #: **RTU-1, 2** System: **WQE060A1B1AA5A111A1**

RDS SUMMARY (Lowest Elevation Floor Being Served)

Refrigerant Detection System (RDS) Not Required.
Refrigerant Detection System is factory installed.

JOBSITE INPUTS

Room with the Lowest Discharge Height	0	ft
Smallest RDS Required Room Area on the Lowest Floor	N/A	ft²
Min. Allowed Smallest Room Area without an RDS	N/A	ft²
Total Applied Area	0	ft²
Min. Allowed Total Applied Area	N/A	ft²
Min. CFM when RDS is enabled	N/A	cfm
Min. System Exhaust (External to Unit)	N/A	cfm
Total Largest Circuit Refrigerant Charge	0	lb

⚠ R454B is a mildly flammable refrigerant. Unit installation must be in compliance with UL 60335-2-40 and installation and operations manual available on Solution Navigator. DS Solutions app and shipped with the unit.

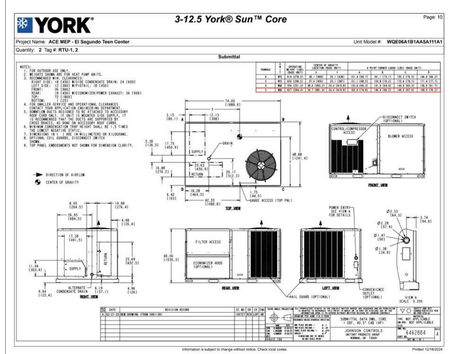
Information is subject to change without notice. Check local codes.

HORIZONTAL DUCTED HEAT PUMP SYSTEM 5 / 14

YORK® 3-12.5 York® Sun™ Core

Project Name: **ACE MEP - El Segundo Teen Center** Unit Model #: **WQE060A1B1AA5A111A1**
Quantity: **2** Tag #: **RTU-1, 2**

Submittal



Information is subject to change without notice. Check local codes.

HORIZONTAL DUCTED HEAT PUMP SYSTEM 6 / 14

YORK® 3-12.5 York® Sun™ Core

1x 3 ton Unit

Project Name: **ACE MEP - El Segundo Teen Center** Unit Model #: **WQE040A1B1AA5A111A1**
Quantity: **1** Tag #: **RTU-3** System: **WQE040A1B1AA5A111A1**



Cooling Performance

Total gross capacity	36.5 MBH
Sensible gross capacity	32.3 MBH
Total net capacity	34.2 MBH
Sensible net capacity	30.4 MBH
Seasonal Efficiency (at ARI)	14.00 SEER2
Efficiency (at ARI)	EER
Efficiency (at ARI)	12.20 EER2
Ambient DB temp.	97 °F
Entering DB temp.	80.7 °F
Entering WB temp.	63.5 °F
Evap Coil Leaving DB temp.	55.1 °F
Evap Coil Leaving WB temp.	53.1 °F
Unit Leaving DB temp.	57.2 °F
Unit Leaving WB temp.	53.9 °F
Leaving air temp dew point	51.10 °F
Power input (w/o blower)	2.66 kW
Sound power	76 dB(a)

Refrigerant

Refrigerant type	R-454B
Sys1	9 lb 2 oz

Heat Pump Performance

Supply air	1200 cfm
Ambient DB temp.	47 °F
Entering DB temp.	60 °F
Leaving DB temp.	87.7 °F
Air temp. rise	27.7 °F
Design Gross Capacity	35.5 MBH
Design Power Input	2.4 kW
HSPF2	8.7
Capacity @ 47(°F)	34.50 MBH
COP @ 47(°F)	4.00 COP
Capacity @ 17(°F)	19.50 MBH
COP @ 17(°F)	2.15 COP

Supply Air Blower Performance

Supply air	1200 cfm
Ext. static pressure	0.6 IWG
Blower speed	1000 rpm
Max BHP of Motor (including service factor)	1.50 HP
Duct location	Bottom
Motor rating	1.50 HP
Actual required BHP	0.58 HP
Power input	0.54 kW
Elevation	0 ft
Drive type	BELT

Outside/Mixed Air

Outside Air	350 cfm
cfm	
Outside Air DB temp.	97 °F
Outside Air WB temp.	67 °F
Outside Air RH	19.6 %
Return Air	850 cfm
cfm	
Return Air DB temp.	74 °F
Return Air WB temp.	62 °F
Return Air RH	51 %

Electrical Data

Power supply	230-1-60
Unit min circuit ampacity	30.2 A
Unit min over-current protection	35 A
Unit max over-current protection	45 A

Dimensions & Weight

Hgt 33 in	Len 74 in	Wth 49 in	
Weight with factory installed options		539 lb	

Clearances

Right	18 in	Front	36 in	Rear	18 in
Top	72 in	Bottom	1 in	Left	12 in

Note: Please refer to the tech guide for listed maximum static pressures

AHRI AHRI CERTIFIED cULus

Unit Features
- Refrigerant Detection System (RDS) is Factory Installed
- Unit Cabinet Constructed of Powder Painted Steel, Certified At 750 Hours Salt Spray Test (ASTM B-117 Standards)
- Either supply and/or return can be field converted from vertical to horizontal configuration without cutting panels.
- Full perimeter base rails with built in rigging capabilities
- Scroll Compressors
- Medium Static Belt Drive Blower
- Solid Core Liquid Line Filter Driers
- Unit Ships with 2" Throwaway Filters
- Replacement Filters: 2 – (16" x 25"). Unit accepts 2" or 4" wide filters.
- Single Point Power Connection
- Short Circuit Current: 5kA RMS Symmetrical
- Copper tube/Aluminum fin Condenser Coil, Copper tube/Aluminum fin Evaporator Coil

3 Ton
- All units are manufactured at an ISO 9001 registered facility and each rooftop is completely computer-run tested prior to shipment.

BAS Controller
- Smart Equipment Controller including Discharge Air, Return Air, and Outdoor Air Temperature Sensors.

Standard Unit Controller
- An Integrated Low-Ambient Control, Anti-Short Cycle Protection, Lead-Lag, Fan On and Fan off Delays, Low Voltage Protection. Allows all units to operate in the cooling mode down to 0 °F outdoor ambient without additional components or intervention.
- Safety Monitoring - Monitors the high and low-pressure switches, the freezestats, the gas valve, if applicable, and the temperature limit switch on gas and electric heat units. The unit control board will alarm on ignition failures, safety lockouts and repeated limit switch trips.
- Smart Equipment Control Board
- On-Board Diagnostic and Fault Code display

Warranty
- One (1) Year Limited Warranty on the Complete Unit
- Five (5) Year Warranty - Compressors

Information is subject to change without notice. Check local codes.

HORIZONTAL DUCTED HEAT PUMP SYSTEM 7 / 14

YORK® 3-12.5 York® Sun™ Core

Project Name: **ACE MEP - El Segundo Teen Center** Unit Model #: **WQE040A1B1AA5A111A1**
Quantity: **1** Tag #: **RTU-3** System: **WQE040A1B1AA5A111A1**

Additional Electrical Data

Power supply	230-1-60
Unit min circuit ampacity	30.2 A
Unit min over-current protection	35 A
Max Voltage	252 V
Comp #1 RLA	16.2
Comp #1 LRA	93.5
Indoor Min Voltage	230-1-60
Indoor Min FLA	7.0
Outdoor Min Qty	1
Outdoor Fan Voltage	230-1-60
OD Fan Min FLA (ea.)	2.3
Power Ex Min Qty (if applicable)	1
Powered Ex Voltage(if applicable)	230-1-60
Power Ex Min FLA (ea) (if applicable)	1.3

Information is subject to change without notice. Check local codes.

HORIZONTAL DUCTED HEAT PUMP SYSTEM 8 / 14

YORK® 3-12.5 York® Sun™ Core

Project Name: **ACE MEP - El Segundo Teen Center** Unit Model #: **WQE040A1B1AA5A111A1**
Quantity: **1** Tag #: **RTU-3** System: **WQE040A1B1AA5A111A1**

RDS SUMMARY (Lowest Elevation Floor Being Served)

Refrigerant Detection System (RDS) Not Required.

JOBSITE INPUTS

Room with the Lowest Discharge Height	0	ft
Smallest RDS Required Room Area on the Lowest Floor	N/A	ft²
Min. Allowed Smallest Room Area without an RDS	N/A	ft²
Total Applied Area	0	ft²
Min. Allowed Total Applied Area	N/A	ft²
Min. CFM when RDS is enabled	N/A	cfm
Min. System Exhaust (External to Unit)	N/A	cfm
Total Largest Circuit Refrigerant Charge	0	lb

⚠ R454B is a mildly flammable refrigerant. Unit installation must be in compliance with UL 60335-2-40 and installation and operations manual available on Solution Navigator. DS Solutions app and shipped with the unit.

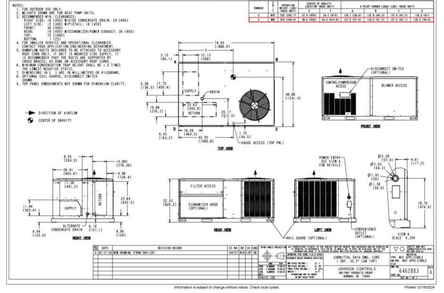
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HORIZONTAL DUCTED HEAT PUMP SYSTEM 9 / 14

YORK® 3-12.5 York® Sun™ Core

Project Name: **ACE MEP - El Segundo Teen Center** Unit Model #: **WQE040A1B1AA5A111A1**
Quantity: **1** Tag #: **RTU-3**

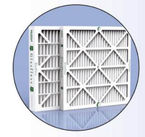
Submittal



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HORIZONTAL DUCTED HEAT PUMP SYSTEM 10 / 14

Glasfloss — THE CLEAR CHOICE SINCE 1936



Z-LINE® SERIES MR-13
Environmentally Friendly!
MADE IN U.S.A.

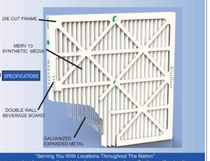
- MERV 13
- Electrostatically-Charged 100% Synthetic Media
- Heavy-Duty Moisture-Resistant Construction
- Standard Size 4" Incorporate Media Separators

FEATURES

The Glasfloss Z-Line Series MR-13 pleated air filter features the latest in media technology to achieve MERV 13 while maintaining low pressure drop and good service life. The new Z-Line Series MR-13 pleat is optimized for "LEED" compliance in new and existing buildings as well as providing a cost-effective upgrade from lower efficiency pleated filters for a variety of commercial and industrial applications. The Z-Line Series MR-13 pleat is available in many standard face dimensions in 1", 2" and 4" depths.

SPECIFICATIONS

The Glasfloss Z-Line Series MR-13 air filter shall be of the extended-surface pleated-media type. The media incorporates 100% synthetic fibers that are electrostatically charged. The filter fibers are thermally bonded and manufactured in an engineered gradient structure. An expanded metal reinforcement shall be laminated to the air-exit side of the media by a thermo-setting adhesive to maintain continuity of the radial pleats. The expanded metal shall be galvanized to resist rust and corrosion. The media shall be pleated in a tapered radial configuration. The pleated cartridge shall be bonded to the peripheral interior of the outer frame. A heavy-duty moisture-resistant beverage board shall be utilized for an encasing frame. The frame shall be internally laminated to the pleated cartridge apexes. Z-Line MR-13 Series filters shall be classified under U.L. std. 900 and shall be rated to withstand temperatures up to 180 degrees Fahrenheit. Z-Line MR-13 Series filters shall be rated MERV 13 when tested in accordance with the ANSI/ASHRAE 52.2 Test Standard.



Serving You With Locations Throughout The Nation

Glasfloss has a policy of uninterrupted research, development and product improvement and reserves the right to change design and specifications without notice.
www.glasfloss.com · (214) 741-7056

PRODUCT BULLETIN MERV13 · SECTION 9 · 4-20-21

MIG
360 East Second Street
Suite 675
Los Angeles, CA 90012
213–694–3800
www.migcom.com

BENHAM ENTWISTLE — No. M 40257 EXP. 03/31/27 — REGISTERED PROFESSIONAL ENGINEER — MECHANICAL — STATE OF CALIFORNIA

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

ACE MEP GROUP, INC.
9241 IRVINE BLVD., SUITE 250
IRVINE, CA 92618 | 949.620.4060
www.acemepgroup.com

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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
	02/09/26	PLAN CHECK RESUBMITTAL #4

Sheet title:

MECHANICAL SCHEDULE

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

M0.04

True North Compliance Services, Inc.

PLAN REVIEW APPROVAL

THESE PLANS/DOCUMENTS HAVE BEEN REVIEWED FOR COMPLIANCE WITH THE APPLICABLE CALIFORNIA BUILDING STANDARDS CODES AS ADOPTED BY THE STATE OF CALIFORNIA AND AMENDED BY THE JURISDICTION. PLAN REVIEW ACCEPTANCE OF DOCUMENTS DOES NOT AUTHORIZE CONSTRUCTION TO PROCEED IN VIOLATION OF ANY FEDERAL, STATE, NOR LOCAL REGULATION.

BY: *Mulham Hwaidi* DATE: 03/25/2026

THIS SET OF THE PLANS AND SPECIFICATIONS MUST BE KEPT ON THE JOB SITE AT ALL TIMES AND IT IS UNLAWFUL TO MAKE ANY CHANGES OR ALTERATIONS WITHOUT PERMISSION FROM THE CITY. OCCUPANCY OF STRUCTURE(S) IS NOT PERMITTED UNTIL FINAL APPROVAL IS GRANTED BY ALL APPLICABLE DEPARTMENTS.

FEBRUARY 9, 2026 - PLAN CHECK RESUBMITTAL #4

HORIZONTAL DUCTED HEAT PUMP SYSTEM 11 / 14

Glasfloss

THE CLEAR CHOICE SINCE 1936

Z-LINE SERIES MR-13 STANDARD SIZE FILTERS

MODEL NUMBER	SIZE W x H x D NOMINAL	SIZE W x H x D EXACT	RATED VELOCITY FPM	INITIAL RESIST. IN. W.G.	MEDIA SQUARE FEET	SIZE W x H x D NOMINAL MM	RATED VELOCITY M/H	INITIAL RESIST. PASCAL
MZ1332021	10x 20 x 2	9-1/2 x 19-1/2 x 3-3/4	500	.19	6.28	239 x 489 x 76	9150	94.65
MZ1332122	12x 12 x 2	11-1/2 x 11-1/2 x 3-3/4	500	.19	4.33	305 x 305 x 91	9150	94.65
MZ1332505	12 x 20 x 2	11-1/2 x 19-1/2 x 3-3/4	500	.19	7.20	305 x 508 x 51	9150	94.65
MZ1332342	12 x 24 x 2	11-1/8 x 23-3/8 x 3-3/4	500	.19	8.66	305 x 610 x 51	9150	94.65
MZ1332422	14 x 20 x 2	13-1/2 x 19-1/2 x 3-3/4	500	.19	8.06	356 x 508 x 51	9150	94.65
MZ1332422	14 x 25 x 2	13-1/2 x 24-1/2 x 3-3/4	500	.19	10.83	356 x 635 x 51	9150	94.65
MZ1332505	15 x 20 x 2	14-1/2 x 19-1/2 x 3-3/4	500	.19	9.12	381 x 508 x 51	9150	94.65
for 5-Ton (4 seats) MZ1332542	16 x 25 x 2	15-1/2 x 24-1/2 x 3-3/4	500	.19	7.65	406 x 305 x 51	9150	94.65
MZ1342502	16 x 20 x 2	15-1/2 x 19-1/2 x 3-3/4	500	.19	9.60	406 x 508 x 51	9150	94.65
for 5-Ton (4) MZ1342522	16 x 25 x 2	15-1/2 x 24-1/2 x 3-3/4	500	.19	12.00	406 x 635 x 51	9150	94.65
MZ1342522	16 x 25 x 2	15-1/2 x 24-1/2 x 3-3/4	500	.19	12.00	406 x 635 x 51	9150	94.65
MZ1333182	18 x 18 x 2	17-1/2 x 17-1/2 x 3-3/4	500	.19	9.92	457 x 457 x 51	9150	94.65
MZ1342402	18 x 20 x 2	17-1/2 x 19-1/2 x 3-3/4	500	.19	11.88	457 x 508 x 51	9150	94.65
MZ1333242	18 x 24 x 2	17-1/2 x 23-1/2 x 3-3/4	500	.19	13.28	457 x 610 x 51	9150	94.65
MZ1333302	18 x 30 x 2	17-1/2 x 29-1/2 x 3-3/4	500	.19	16.64	457 x 762 x 51	9150	94.65
MZ1333602	20 x 20 x 2	19-1/2 x 19-1/2 x 3-3/4	500	.19	12.80	508 x 508 x 51	9150	94.65
MZ1333682	20 x 24 x 2	19-3/4 x 23-3/8 x 3-3/4	500	.19	14.43	508 x 610 x 51	9150	94.65
MZ1333521	20 x 25 x 2	19-1/2 x 24-1/2 x 3-3/4	500	.19	15.04	508 x 635 x 51	9150	94.65
MZ1333503	20 x 30 x 2	19-3/4 x 29-3/4 x 3-3/4	500	.19	18.24	508 x 762 x 51	9150	94.65
MZ1342402	24 x 24 x 2	23-3/4 x 23-3/4 x 3-3/4	500	.19	17.61	610 x 610 x 51	9150	94.65
MZ1333842	24 x 25 x 2	23-1/2 x 24-1/2 x 3-3/4	500	.19	18.80	610 x 635 x 51	9150	94.65
MZ1333844	24 x 30 x 2	23-3/4 x 29-3/4 x 3-3/4	500	.19	22.48	610 x 762 x 51	9150	94.65
MZ1334284	14 x 20 x 4	13-1/2 x 19-1/2 x 3-3/4	500	.34	15.45	406 x 508 x 102	9150	82.30
MZ1334704	16 x 25 x 4	15-1/2 x 24-1/2 x 3-3/4	500	.34	19.34	406 x 635 x 102	9150	82.30
MZ1334344	18 x 24 x 4	17-1/2 x 23-1/2 x 3-3/4	500	.34	21.85	457 x 610 x 102	9150	82.30
MZ1335084	20 x 30 x 4	19-1/2 x 29-1/2 x 3-3/4	500	.34	18.52	508 x 508 x 102	9150	82.30
MZ1335044	20 x 24 x 4	19-3/4 x 23-3/8 x 3-3/4	500	.34	21.72	508 x 610 x 102	9150	82.30
MZ1335284	20 x 25 x 4	19-1/2 x 24-1/2 x 3-3/4	500	.34	22.20	508 x 635 x 102	9150	82.30
MZ1424384	24 x 24 x 4	23-3/4 x 23-3/8 x 3-3/4	500	.34	27.21	610 x 610 x 102	9150	82.30

Tolerances shall be +/- 1/8" for height, width and +/- 1/16" for depth. Recommended final resistance is 1.00" w.g.

Standard size 4" thick MR-13 pleated filters incorporate media separators.



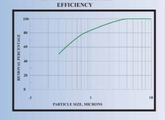
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HORIZONTAL DUCTED HEAT PUMP SYSTEM 12 / 14

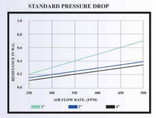
Glasfloss

THE CLEAR CHOICE SINCE 1936

MINIMUM PARTICLE SIZE EFFICIENCY



STANDARD PRESSURE DROP



GLASFLOSS' COMMITMENT to GREEN

For years, Glasfloss has been designing air filtration products for maximum energy savings and environmental benefits in HVAC systems. Now more than ever, our commitment to Green products and manufacturing processes is at the heart of our company. For more information on Glasfloss Green products and LEED project certification options, please contact your Glasfloss Sales Representative.

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HORIZONTAL DUCTED HEAT PUMP SYSTEM 13 / 14

FEATURES

- CA Title 24 Compliant.
- Direct coupled style actuator standard.
- Stainless steel damper side seals.
- AMCA certified CD-60 Airfoil dampers blades.
- Meets leakage rate as required by ASHRAE 90.1.
- External linkage system.
- Mechanically secured outside air intake filter.
- Metal Filter included:
  - PRE - 20-1/2" x 11" x 2"(E (exact).
  - PRE - 23-1/2" x 10-1/2" x 1"(E (exact).

FEATURES (When Ordered With Control Options)

- Fully modulating damper controls with enthalpy, dry bulb and differential temperature sensor options.
- Selectable economizer changeover temperature set point.
- Requires part number 2ECC0402 for Dual Enthalpy.
- CO2 controller standard.

Wall or duct mounted CO2 sensor provided as option:

- CO2WM - Wall Mount
- CO2DM - Duct Mount

DOWN DISCHARGE LOW STATIC ** ECONOMIZER WITH BAROMETRIC RELIEF FOR YORK UNITS:

ZX04-14, ZY04-12, ZQ04-06, XY04-09, XX08-12, XQ04-06, ZXA7, XXA7, XYA7, ZYA7, ZL04-14, ZQA7, ZLA6-14

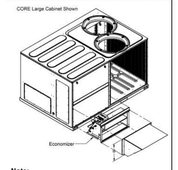
** FOR RTU'S MANUFACTURED AFTER FEBRUARY 2022**

ECONOMIZER STATIC RESISTANCE TABLE

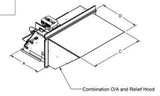
UNIT	CFM	RETURN AIR STATIC LOSS ECONOMY ESP (in. w.g.)	ECONOMY ESP (Pa)
PRS	1200	0.04	0.00
	1600	0.52	0.12
	2000	0.81	0.17
	2400	1.10	0.22
	3000	1.54	0.33
PRL	2400	0.21	0.08
	3000	0.35	0.18
	3400	0.47	0.23
	4000	0.66	0.30
	5200	1.04	0.41

York Unit	ProVent P/N	"A"	"B"	"C"	"D"	Weight
ZX 04-05 ZY 04-05 ZQ 04-05 XQ 04-05 XX04-09 XXA7 XXA7 ZL 04-06	ECO3PRS(Horizontal Duct)					
ZX 06-09 ZY 06-09 ZQ 06-09 XQ 06-09 XX 08-12 XXA7 XXA7 ZL 06-14	ECO3PRS(Horizontal Duct)	17-3/16"	18-3/8"	33-1/4"	17-3/8"	81 Lbs.
	ECO3PRL(Horizontal Duct)					
ZX 10-12 ZY 10-12 ZQ 10-12 XQ 10-12 XX 08-12 XXA7 XXA7 ZL 06-14	ECO3PRL(Horizontal Duct)	19-3/4"	23-7/16"	40-3/4"	22"	94 Lbs.
	ECO3PRL(Vertical Supply & Horizontal Duct)					
	ECO3PRL2(Vertical Duct)					

CORE Large Cabinet Shown



Note:
Please add an H to the end of the part number if RTU has a hinged filter access option.



Ruskin Company Model CO-60 is AMCA Certified

ProVent 3847 WABASH DRIVE MIRA LOMA, CA 91725 PHONE (951) 685-1101 FAX (619) 872-9799

SUBMITTED TO: COMPANY: JOB NAME: EQUIPMENT: NOTES:

FORM NO: ECO-79 | PART NUMBER: ECO3PR_3 Series | DATE: 3/18/2024 | REV.: 2 | DRAWN BY: CNG

HORIZONTAL DUCTED HEAT PUMP SYSTEM 14 / 14

FEATURES:

- Roof curb sides and ends are 16 ga. galvanized steel.
- Fully welded construction.
- Gasketing package provided.
- Heat treated wood nailer provided.
- Insulated deck pan provided.
- Pitched curbs and taller curbs are available.
- CatDun GSHPD pre-approved 3" deflection seismic restraints. (OPA-0070) IAPA

NOTES

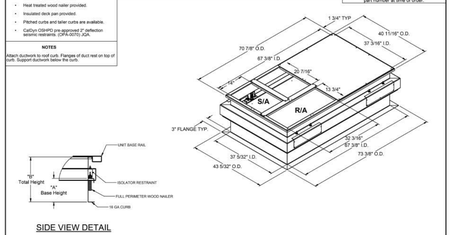
Attach ductwork to roof curb. Flanges of duct rest on top of curb. Support ductwork below the curb.

VIBRATION ISOLATION ROOF CURB FOR YORK UNITS

ZX04-07; XXA7, ZXA7 ZY, ZQ, XY, XQ, ZL04-06

PROVENT P/N	A	B	WEIGHT
CBSPRS18**	8"	18"	230 Lbs.
CBSPRS21**	11"	21"	250 Lbs.
CBSPRS24**	14"	24"	272 Lbs.

Note: Spring configuration must be added to part number at time of order.



SIDE VIEW DETAIL

ProVent 3847 WABASH DR. MIRA LOMA, CA 91752 PHONE (951) 685-1101 FAX (619) 872-9799

JOB NAME: ADDRESS: NOTES:

FORM NO: CBS-117 | PART NUMBER: CBSPRL SERIES | DATE: 3/17/2022 | REV.: 5 | DRAWN BY: FMM

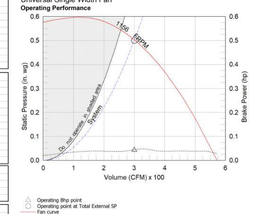
BATHROOM EXHAUST FAN 1 / 4

GREENHECK 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

Operating Performance



Performance	
Quantity	1
Volume (CFM)	300
Total External SP (in. wg)	0.5
Operating Power (hp)	0.04
Required Power (hp)	0.18
Fan RPM	1156
Max Fan RPM	2,615
Oper. Frequency (Hz)	39
Elevation (ft)	325
Start-up Temp (F)	70
Operating Temp (F)	70
Fan Configuration	
Size	4
Wheel Type	BI
Arrangement	4
Drive Type	Direct
Rotation	CW
Discharge Position	UB
Construction Type	PermaLock
Spark Resistance	None
Scroll Material	Steel
Wheel Material	Aluminum
Inlet Cone Material	Galvanized
Pedestal Material	Steel
Equipment Weights	
Fan (LM0)(lb)	72
Motor/Drive (lb)	8
Accessories (lb)	4
Fan Total (lb)	84
Misc Fan Data	
Fan Energy Index (FEI)	-
Outlet Velocity (ft/min)	347
Static Efficiency (%)	55
Tip Speed (ft/min)	3,383
Shaft Bearing Type	N/A
Bearing Life Calculation	N/A
Motor and Drives	
Motor	Included
Size (hp)	1/4
RPM	1770
Enclosure	TENV
V/C/P	208/60/1
Frame Size	48
Max Frame Size	56
Location	Centered
MCA* (Amps)	4
MOP* (Amps)	15
SCCR* (Kloamps)	5

Nameplate Model: USF-04-3-B7-00-02-02

Sound Power by Octave Band

Sound Data	62.5	125	250	500	1000	2000	4000	8000	LwA	dBA	Sones
Inlet	63	72	68	60	53	52	48	41	64	53	7.6

*Values are estimated and subject to change. Actual values provided on fan at time of manufacture.
Lwa - A weighted sound power level, based on 0 dB attenuation.
dBA - A weighted sound pressure level, based on 10 dB attenuation per octave band at 5 ft. dBA levels are not licensed by AMCA International
Sones - calculated using AMCA 301 at 5 ft

BATHROOM EXHAUST FAN 2 / 4

GREENHECK 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

Standard Construction Features:

HOUSING: Class II and under feature Perma-Lock construction on sizes 4 - 49 and continuously welded on sizes 54 - 73 and all class III fans - Unit support angles with mounting holes - Adjustable motor plate - Corrosion resistant fasteners - Inlet collars - Outlet flange standard on sizes 27 - 73 and all class III fans - Unitraxled steel parts are processed through a multi-stage cleaning and pre-treatment and then finished with a high-performance powder coating. Sizes 24 and less are rotatable in 45 deg. increments. Sizes 27 to 40 are rotatable in 90 deg. increments. Sizes greater than 40 and all class III are not rotatable.

BEARINGS, SHAFT, AND WHEEL: Air handling quality, self-aligning, ball bearing in pillow block housing - Polished, solid steel shafts with rust inhibitor - Centrifugal wheel

Selected Options & Accessories:

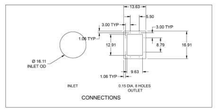
Motor VFD Rated without Shaft Grounding Protection
Control - Dial for Balancing
Switch - NEMA 3R, Toggle, For Indoor or Outdoor Use, Mounted & Wired
Motor - Vari-Green EC Motor, NEMA-3R Motor Enclosure, For Indoor/Outdoor Use, Galvanized
Motor with Class B or Greater Insulation
Finish - Coated
Coating - Permadator, Concrete Gray-RAL 7023, Mil Finish on Aluminum Components
Rotation - CW
Discharge Position - UB
Arrangement - 4
UL/cUL-705 - Power Ventilators
Inlet Connection, Slip Fit
Outlet Flange, Punched
Fasteners - Standard
Unit Warranty - 1 Yr (Standard)
California Energy Commission Title 20 Compliant/Exempt

BATHROOM EXHAUST FAN 3 / 4

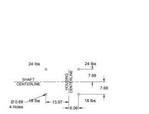
GREENHECK Building Value in Air.

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

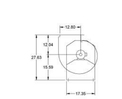
Model: USF-4-VG Universal Single Width Fan



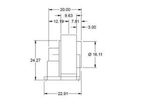
CONNECTIONS



FOOTPRINT VIEW



SIDE VIEW



END VIEW

Notes: All dimensions shown are in units of in.

BATHROOM EXHAUST FAN 4 / 4

GREENHECK Building Value in Air.

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

AMCA

AIR PERFORMANCE

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/kW) does not include transmission losses. Performance ratings do not include the effects of appurtenances (accessories).

The AMCA licensed air and/or sound performance data has been modified for installation, appurtenances 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.

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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

ACE MEP GROUP, INC.
9241 IRVINE BLVD., SUITE 250
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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
	02/09/26	PLAN CHECK RESUBMITTAL #4

Sheet title:

MECHANICAL SCHEDULE

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

M0.05

True North Compliance Services, Inc.

PLAN REVIEW APPROVAL

THESE PLANS/DOCUMENTS HAVE BEEN REVIEWED FOR COMPLIANCE WITH THE APPLICABLE CALIFORNIA BUILDING STANDARDS CODES AS ADOPTED BY THE STATE OF CALIFORNIA AND AMENDED BY THE JURISDICTION. PLAN REVIEW ACCEPTANCE OF DOCUMENTS DOES NOT AUTHORIZE CONSTRUCTION TO PROCEED IN VIOLATION OF ANY FEDERAL, STATE, NOR LOCAL REGULATION.

BY: Mulham Nweidi DATE: 03/25/2026

THIS SET OF THE PLANS AND SPECIFICATIONS MUST BE KEPT ON THE JOB SITE AT ALL TIMES AND IT IS UNLAWFUL TO MAKE ANY CHANGES OR ALTERATIONS WITHOUT PERMISSION FROM THE CITY. OCCUPANCY OF STRUCTURE(S) IS NOT PERMITTED UNTIL FINAL APPROVAL IS GRANTED BY ALL APPLICABLE DEPARTMENTS.

EzTouchV – Color Touch Screen HUB Controller and Zone Thermostat

SUBMITTAL



EzTouchV – HUB Thermostat Controller
Communicating / Modulating
Color Touch Screen Zone Thermostat
for use with the GEN V Building Automation System

DESCRIPTION

The **EzTouchV** is the central HUB for configuring & managing both the system's thermostats and the GEN V controller. The EzTouchV also functions as a zone thermostat operating two position (spring open/power close), modulating medium pressure, heavy-duty dampers, and communicate with SAVs for VRF-VAV systems.

The EzTouchV HUB stat is the interface for the management and programming of 2 - 20 thermostats which can change set points, lock/unlock stats, and scheduling of the thermostats. The HUB stat is also the interface for the management and control of the GEN V controller. This includes the unit type (Gas, Heat Pump, or VRF operation), unit staging, ADR, vacation scheduling, override operation, zone overview, and system diagnostic overview. The EzTouchV is the central HUB and operational center to control and manage all system components.

The EzTouchV controls modulating zone dampers based on variance from set point to a position that will match the supply load to the demand requirement. While the HVAC unit is running and a zone thermostat is not calling or is calling for the opposite mode, its corresponding damper fully closes. When the HVAC unit is not running, the thermostats open to the Vent mode to provide ventilation if the indoor blower fan is running continuously. Additionally, the EzTouchV also functions as a zone thermostat operating several damper types. Two position dampers remain open when the system is in the vent mode or when the EzTouchV is calling for the same mode as the HVAC unit is currently operating in. If the EzTouchV is calling for the mode opposite to what the HVAC unit is calling for or is satisfied the two-position damper will remain closed.

The space ambient temperature is continuously displayed with a range of 55° to 95° F and reports RH% in the space. Set points can be manually adjusted at the thermostat or from the management interface. The thermostat can be locked through the management interface to limit or prevent set point adjustment at the thermostat. Override operation can be configured for a 2-8 hour window to provide for after-hours operation.

The EzTouchV can be field configured for baseboard and reheat* operations, including Fan Powered Boxes. With an adjustable 2-4° dead band for auxiliary heat operations.

***NOTE**: An air proving switch must be used for this application; field supplied.*

4/1/21

TECHNICAL DATA

Electrical
Input voltage: 24VAC
Power consumption: 5VA maximum
Output:
- RO/RC Triacs – 24VAC @ 3 amp max
- AUX Heat Relay – 15VA @ 24 VAC max

Temperature/Humidity Sensors
Display Range: 55° to 95° F
Humidity Sensor: (0-100% RH) +/-2% RH

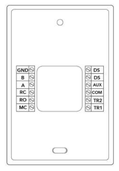
Environmental
Operating Temperature: 35° to 130° F (2° to 54° C)
Operating Humidity: 5 to 95% non-condensing
Storage Temperature: 0° to 150° (-18° to 66° C)

General
Dimensions: 4 1/2" H x 3" W x 1" D
Accuracy: +/- 0.8° F
Memory: Non-volatile EEPROM
Display: 320x480 3.5 TFT
Viewing Angle: 140°

Communication: RS485 - 2 wire Plenum rated twisted pair Zonex Wire

EzTouchV – Color Touch Screen HUB Controller and Zone Thermostat

TERMINAL FUNCTIONS



24V Terminal Block
RO – Run Open, damper
RC – Run Close, damper
MC – Damper common

AUX – Reheat/AUX Heat Output
COM – Aux Common

DS – Duct Sensor (optional)
DS – Duct Sensor (optional)

TR1- 24vac power - In and Out
TR2- 24vac common - In and Out
(18 ga. Minimum wire size)

Communication Terminal Block
A – Data Transmit - In and Out
B – Data Receive - In and Out
GND – Not Used
(Use Zonex Two wire twisted pair communication wire)

FEATURES

- Full Color Touch Screen Display
- High Tech look and operation
- Auto Changeover
- Adjustable Aux or Reheat operation
- Control Round or Rectangular dampers
- Diagnostic tool for thermostat communication and operation
- Control fully modulating dampers
- Relative Humidity reporting
- Set point lock
- Display lock out
- Auto / Off / Cool only / Heat only
- Non-volatile memory retains stored set points
- *Slave capability – up to 3 dampers per stat
- Temperature Calibration
- F° or C° Temperature operation
- Optional Duct Temperature monitoring (LAT sensor is not included)

ACCESSORIES

Part No.	Description
EzTouchV-RS	EzTouchV thermostat with remote sensor
LAT	Leaving Air Temperature sensor

*Smart Air Values (SAV) dampers cannot be slaved

EzTouchX – Color Touch Screen Zone Thermostat

SUBMITTAL



EzTouchX
Communicating / Modulating
Color Touch Screen Zone Thermostat
for use with the
GEN X, GEN V and GEN XV Building Automation Systems

DESCRIPTION

The **EzTouchX** is a microprocessor based, auto changeover, communicating color touch screen zone thermostat used with the ***GEN X, GEN V and GEN XV*** (for VRF-VAV) control systems. The EzTouchX can operate two position (spring open/power close), modulating medium pressure, heavy-duty dampers, and communicate with SAVs for VRF-VAV systems.

The EzTouchX controls modulating zone dampers based on variance from set point to a position that will match the supply load to the demand requirement. While the HVAC unit is running and a zone thermostat is not calling or is calling for the opposite mode, its corresponding damper fully closes. When the HVAC unit is not running, the thermostats open to the Vent mode to provide ventilation if the indoor blower fan is running continuously. Two position dampers remain open when the system is in the vent mode or when the EzTouchX is calling for the same mode as the HVAC unit is currently operating in. If the EzTouchX is calling for the mode opposite to what the HVAC unit is calling for or is satisfied the two-position damper will remain closed.

The EzTouchX is easy to configure and adjust via the touch screen display. Zone ambient temperature is continuously displayed with a range of 55° to 95° F and reports the RH% of the space it is located in. Set points can be manually adjusted at the thermostat or from the management interface. Thermostats can be locked through the management interface to limit or prevent set point adjustment at the thermostat. Override operation can be configured for a 2-8 hour window to provide for after-hours operation.

The EzTouchX can be field configured for auxiliary heat operations: baseboard, reheat*, and fan powered boxes with an adjustable dead band of 2-4°.

***NOTE**: An air proving switch must be used for this application; field supplied.*

TECHNICAL DATA

Electrical
Input voltage: 24VAC
Power consumption: 5VA maximum
Output:
- RO/RC Triacs – 24VAC @ 3 amp max
- AUX Heat Relay – 15VA @ 24 VAC max

Temperature/Humidity Sensors
Display Range: 55° to 95° F
Humidity Sensor: (0-100% RH) +/-2% RH

Environmental
Operating Temperature: 35° to 130° F (2° to 54° C)
Operating Humidity: 5 to 95% non-condensing
Storage Temperature: 0° to 150° (-18° to 66° C)

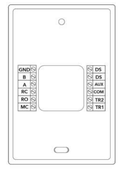
General
Dimensions: 4 1/2" H x 3" W x 1" D
Accuracy: +/- 0.8° F
Memory: Non-volatile EEPROM
Display: 320x480 3.5 TFT
Viewing Angle: 140°

Communication: RS485 - 2 wire Plenum rated twisted pair Zonex Wire

Rev 4/12/21

EzTouchX – Color Touch Screen Zone Thermostat

TERMINAL FUNCTIONS



24V Terminal Block
RO – Run Open, damper
RC – Run Close, damper
MC – Damper Common

AUX – Reheat/AUX Heat Output
COM – Aux Common

DS – Duct Sensor (optional)
DS – Duct Sensor (optional)

TR1- 24vac power - In and Out
TR2- 24vac common - In and Out
(18 ga. Minimum wire size)

Communication Terminal Block
A – Data Transmit - In and Out
B – Data Receive - In and Out
GND - Ground
(Use Zonex Two wire twisted pair communication wire)

FEATURES

- Full Color Touch Screen Display
- High Tech look and operation
- Auto Changeover
- Adjustable Aux or Reheat operation
- Control Round or Rectangular Dampers
- Diagnostic tool for thermostat communication and operation
- Control fully modulating dampers
- Relative Humidity reporting
- Set point lock
- Display lock out
- Auto / Off / Cool only / Heat only
- Non-volatile memory retains stored set points
- *Slave capability – up to 3 dampers per stat
- Temperature Calibration
- F or C Temperature operation
- Optional Duct Temperature monitoring (LAT sensor is not included)

ACCESSORIES

Part No.	Description
RZKITX	Thermostat and actuator as a package for VVT upgrades
EzTouchX-RS	EzTouchX thermostat with remote sensor
LAT	Leaving Air Temperature sensor

*Smart Air Values (SAV) dampers cannot be slaved

STBP ROUND ELECTRONIC BYPASS DAMPER

SUBMITTAL

Round Electronic Bypass Damper
with
Integrated Static Pressure Control
(Part # STBP)

DESCRIPTION

The ***Electronic Bypass Damper*** includes a factory mounted actuator and electronic static pressure controller used to control static pressure in zoned systems. The Electronic Static Pressure Control is adjustable, controlling a modulating bypass damper to maintain static pressure as zone dampers modulate. The bypass system reduces air noise from the supply outlets caused by excessive air velocity.

When the system is satisfied, the bypass damper will remain 25% open, if intermittent fan is used. On systems utilizing continuous fan operation, bypass will modulate based on system static. Bypass controller is adjustable to maintain static pressure range from .15" - .95" W.C. The Integrated Static Pressure Control (**IPC**) includes a quick start option or may be field adjusted to specified static pressure.

The electronic bypass is a modulating damper used for bypass applications. Bypass dampers are available from 6" - 18" round and 10x10 - 40x30 rectangular, with a maximum pressure differential of 1.75" W.C.

The 6"-10" damper cylinders are fabricated from 22 gauge steel; the 12"-18" cylinders from 20 gauge steel. Each cylinder features two rolled beads, which provide maximum structural integrity. A positive air seal is accomplished through the use of a high-density foam gasket around the blade perimeter. The damper blade is bolted to a hexagonal damper shaft.

Bypass Dampers feature 24V ac actuator. The integrated electronic pressure controller operates the motor, and each actuator hat section is insulated to prevent condensation.

Bypass Dampers can be paralleled or slaved to provide additional bypass CFM when required. If slaving two or more bypass dampers, consider utilizing a larger rectangular bypass.

TECHNICAL DATA

Electronic Integrated Bypass Damper

Electical:
Supply voltage: 24vac
Power consumption: 2.3va
Input: 24vac
Outputs
- 24vac (Run open)
- 24vac (Run closed)

General:
Control Range: .15" to .95" W.C.

By-Pass Damper
Electical:
Supply Voltage: 24vac
Power consumption: 2va maximum (1.5W)

Environmental:
Operating temperature: 20 to 125° F (-7 to 52° C)
Operating humidity: Non-condensing
Storage temperature: -20 to 130° F (-29 to 54° C)

General:
Shell: 20-22 gauge cold rolled galvanized steel
Shaft: 1/2" hexagonal aluminum
Bushings: Celcon
Actuator: Belimo
Stroke: 90°
Pressure drop: < .04" W.C. @ rated CFM

Rev 10/5/12

STBP ELECTRONIC BYPASS DAMPER

TYPICAL CAPACITIES

Round Bypass Selection Table

Diameter	CFM
8"	560
10"	900
12"	1250
14"	1700
16"	2200
18"	2600

Dimensional Data

Part #	Diameter	Length	Width
STBP08	8"	10"	11"
STBP10	10"	12"	13"
STBP12	12"	14"	15"
STBP14	14"	16"	17"
STBP16	16"	18"	19"
STBP18	18"	20"	21"

SENSOR LOCATION

STMPD ROUND MEDIUM PRESSURE DAMPER

SUBMITTAL



STMPD
Round Medium Pressure Modulating Supply Damper

DESCRIPTION

The **STMPD** is a medium pressure power open, power close pressure dependent supply air damper. The dampers are available from 6" – 18" round, with a maximum pressure differential of 1.75" W.C. The STMPD may also function as a modulating bypass damper.

STMPD dampers feature an elliptical blade for linear air volume delivery throughout the damper range of travel.

The 6" – 10" damper cylinders are fabricated from 22 gauge steel; the 12" – 18" cylinders from 20 gauge steel. Each cylinder features two rolled beads, which provide maximum structural integrity. The trailing end is crimped for ease of installation. A positive air seal is accomplished through use of a high-density foam gasket around the blade perimeter. The damper blade is bolted to the hexagonal damper shaft.

STMPD dampers feature 24V ac, full stall motors, which do not require use of end switches to terminate travel. Each STMPD is powered and controlled from its respective zone thermostat.

STMPD dampers can be wired in parallel to provide additional zone CFM capacity when required.

Damper motors are easily removed for damper shaft and motor inspection. Each actuator hat section is insulated to prevent condensation. The actuator provides minimum open and close stops for air balance requirements.

For supply applications, the STMPD is wired to a Zonex thermostat for modulating operation.

TECHNICAL DATA

Electrical:
Supply Voltage: 24vac
Power consumption: 2 VA maximum (1.5w)

Environmental:
Operating temperature: 20 to 125° F (-7 to 52° C)
Operating humidity: 10-95% non-condensing
Storage temperature: -20 to 130° F (-29 to 54° C)

General:
Shell: 20-22 gauge cold rolled galvanized steel
Shaft: 1/2" dia. aluminum, hexagonal
Bushings: Celcon
Actuator: Power Open/Power Close
Stroke: 60°
Pressure drop: < .04" W.C. @ rated CFM

Rev 3/3/21

TYPICAL CAPACITIES*

	Diameter	Nominal CFM	Velocity FPM	ΔP "WC
STMPD06	6"	115	540	.014
STMPD08	8"	250	700	.015
STMPD10	10"	410	750	.015
STMPD12	12"	660	850	.015
STMPD14	14"	1000	925	.035
STMPD16	16"	1450	1070	.036
STMPD18	18"	2000	1100	.036

* Capacities are for reference only. Duct friction rate should be established by use of ACCA Manual D. Manual Q or equivalent.

Dimensional Data

	Diameter	Length	Width
STMPD06	6"	10"	9"
STMPD08	8"	10"	11"
STMPD10	10"	12"	13"
STMPD12	12"	14"	15"
STMPD14	14"	16"	17"
STMPD16	16"	18"	19"
STMPD18	18"	23 1/2"	21"

ORDERING INFORMATION

Part No.	Description
STMPD06	Medium pressure zone damper, round, 6" diameter.
STMPD08	Medium pressure zone damper, round, 8" diameter.
STMPD10	Medium pressure zone damper, round, 10" diameter.
STMPD12	Medium pressure zone damper, round, 12" diameter.
STMPD14	Medium pressure zone damper, round, 14" diameter.
STMPD16	Medium pressure zone damper, round, 16" diameter.
STMPD18	Medium pressure zone damper, round, 18" diameter.

TERMINAL FUNCTIONS



RC- 24vac run damper closed
RO- 24vac run damper open
MC- 24vac motor common

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	01/16/26	PLAN CHECK RESUBMITTAL #3
	02/09/26	PLAN CHECK RESUBMITTAL #4

Sheet title:

MECHANICAL SCHEDULE

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

M0.06

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BY: Mulham Aweidi DATE: 03/25/2026

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GEN V - SYSTEM CONTROLLER

GEN V - SYSTEM CONTROLLER

SUBMITTAL



Zonex SYSTEMS
comfort you control

GEN V
System Controller

DESCRIPTION

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 2H2C Gas/Electric HVAC unit or 3H2C 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* controller 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, set each 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.

The *GEN V* provides a software-based feature to assign priority. A priority vote of 0, 1, 2, or 3 votes may be established for every stat in the system at the *GEN V* controller.

The *GEN V* controller is equipped with a lock / unlock feature providing a central point to remotely lock all the EzTouchX's in the system. Locked thermostats will support a +/- 2° local adjustment or 0° variance. Each thermostat also supports a 2-8 hour override during unoccupied periods.

An on-board diagnostic feature identifies and leads the Installer to wiring errors quickly, if required.

TECHNICAL DATA

Electrical
Supply Voltage: 24vac
Power consumption: 0.7 VA
Inputs:
24vac
1 Temperature Sensing Thermistor
Outputs:
24vac
5 SPST dry contacts, 1A @ 24vac
Fuse protection: Use Fused Transformer

Environmental
Operating temperature: 32 to 160° F (0 to 71° C)
Operating humidity: 10-95%, non-condensing
Storage temperature: 0 to 160° F (-18 to 71° C)

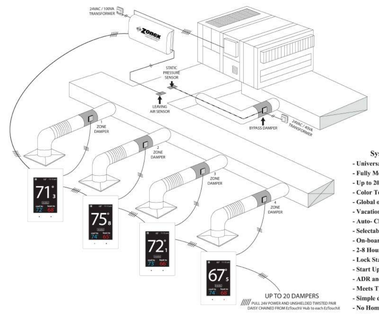
General
Communications: 2 wire Plenum rated twisted pair Zonex Wire
Enclosure Dimensions: 4" H x 6 1/8" W x 1 3/4" D

4/12/21

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

GEN V - CONTROL SYSTEM

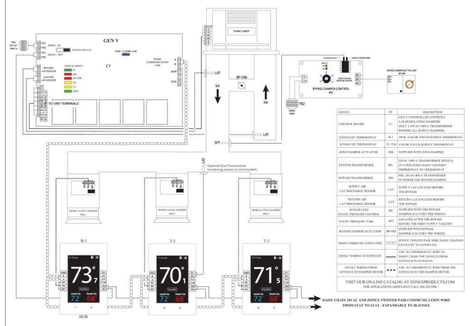
GEN V - CONTROL SYSTEM
ON-SITE HUB ACCESS FOR SYSTEM CONFIGURATION AND OPERATION



System Features
- **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**

GEN V - CONTROL SYSTEM

GEN V - CONTROL SYSTEM
VOTE BASED AUTO CHANGEOVER BYPASS VAV



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Sheet title:

MECHANICAL SCHEDULE

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

M0.07

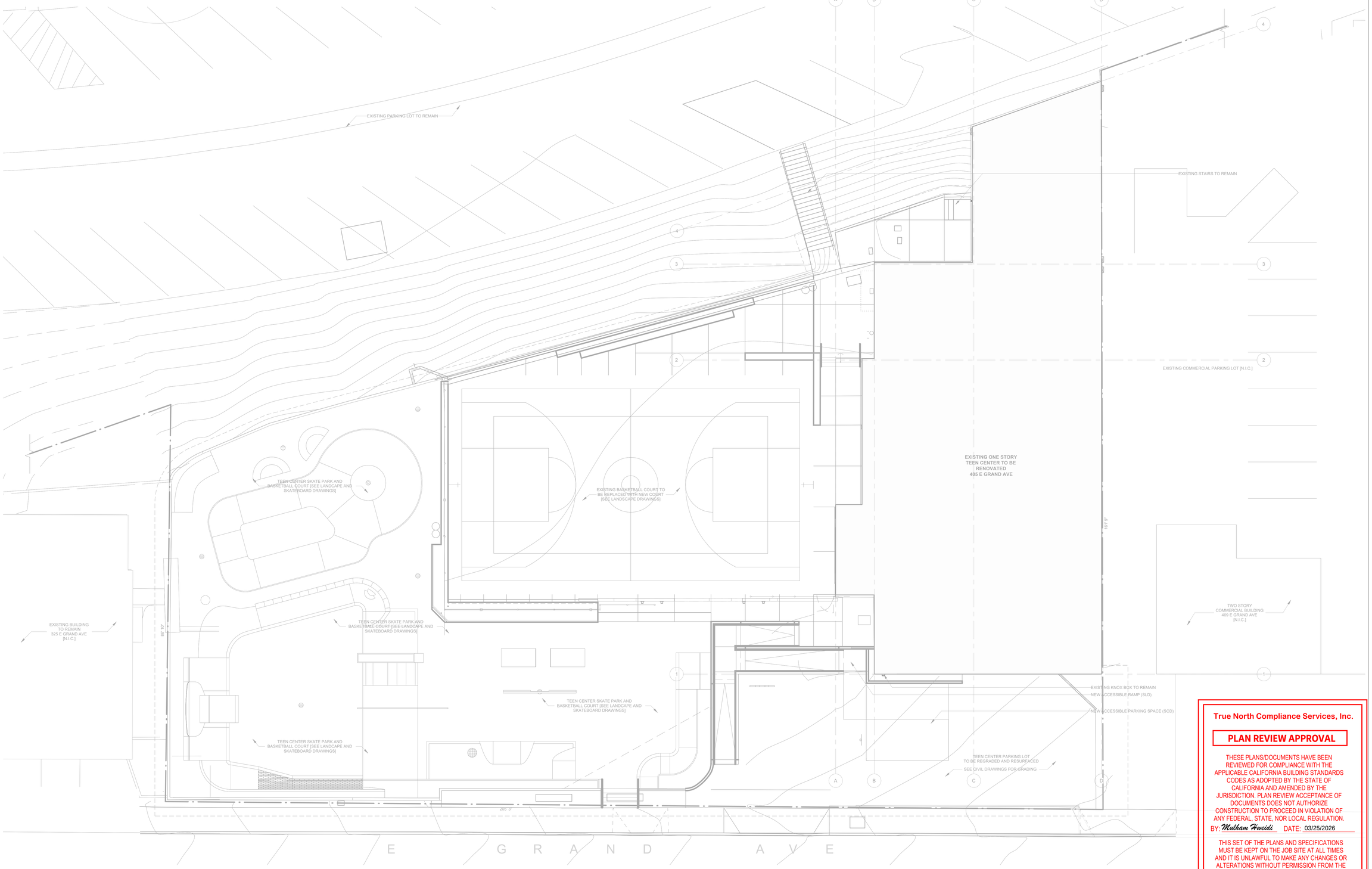
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PLAN REVIEW APPROVAL

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BY: Mulham Fweidi DATE: 03/25/2026

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0 4' 8' 16' 24'

1/8 " = 1'-0"

SITE PLAN - MECHANICAL | 1

FEBRUARY 9, 2026 - PLAN CHECK RESUBMITTAL #4

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BY: Mutham Hweidi DATE: 03/25/2026

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Sheet title:

SITE PLAN

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

M1.01

GENERAL NOTES

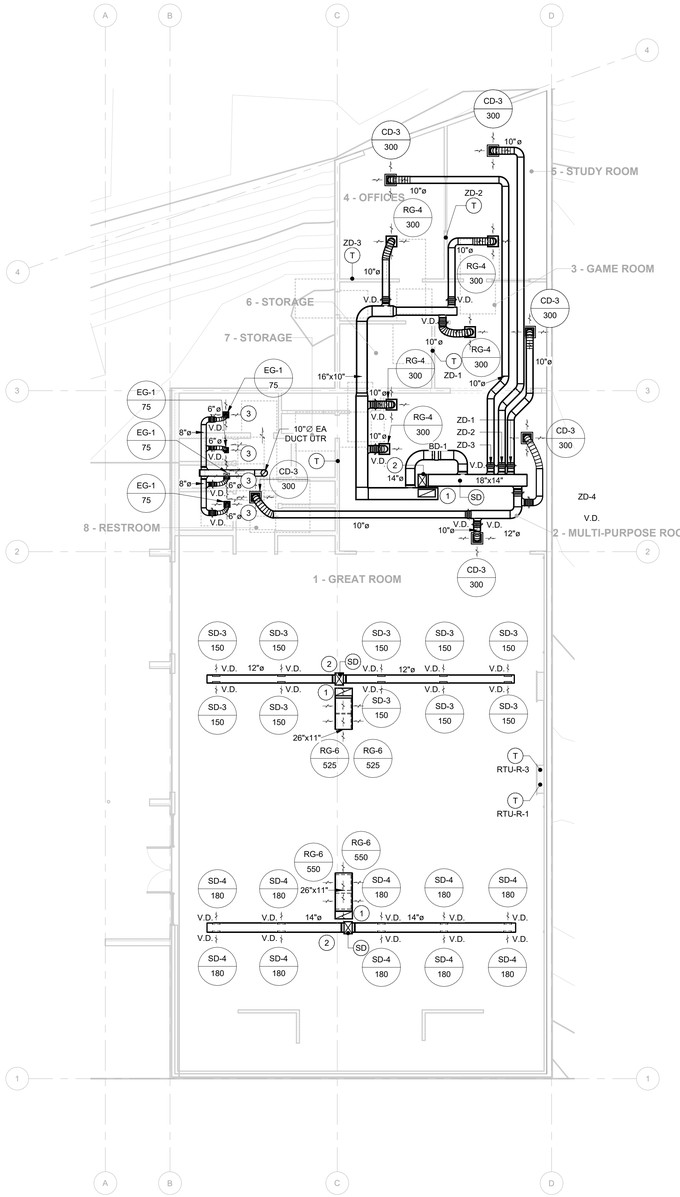
1. REFER TO GENERAL SHEETS FOR GENERAL NOTES, LEGENDS & SYMBOLS.
2. REFER TO SCHEDULE SHEETS FOR EQUIPMENT SCHEDULES.
3. REFER TO MD DRAWING SERIES FOR MECHANICAL DETAILS.
4. GARAGE EXHAUSTS OUTLETS- GARAGE EXHAUSTS OUTLETS SHALL TERMINATE NOT LESS THAN 10 FEET FROM A PROPERTY LINE, 3 FEET FROM EXTERIOR WALLS OR ROOFS, 10 FEET FROM OPENINGS INTO THE BUILDING, AND 10 FEET ABOVE ADJOINING GRADE PER CMC SECTION 502.2.2.
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-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 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 DAMPER, & COMBINATION FIR 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 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-NO AC UNIT SHALL BE LOCATED 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 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 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
T	THERMOSTAT



1/8 " = 1'-0"

1ST FLOOR PLAN - MECHANICAL | 1

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	01/16/26	PLAN CHECK RESUBMITTAL #3
	02/09/26	PLAN CHECK RESUBMITTAL #4

Sheet title:

FLOOR PLAN

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

M1.02

FEBRUARY 9, 2026 - PLAN CHECK RESUBMITTAL #4

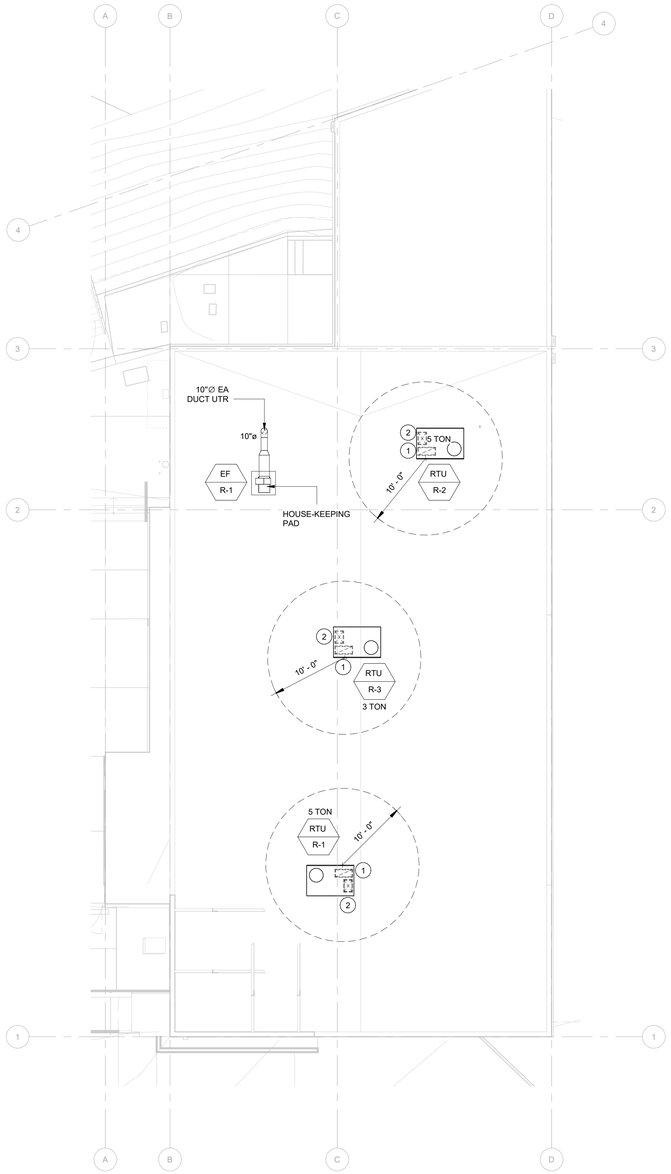
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10. OCCUPIED AREAS-ALL OCCUPIED AREAS IN THE GARAGE SHALL BE MAINTAINED AT POSITIVE OR NEUTRAL PRESSURE RELATIVE TO GARAGE SPACE.
11. EXHAUST INLETS-EXHAUST INLETS SHALL BE LOCATED SO THAT THE HIGHEST ELEVATION IS NO LONGER THAN 12 INCHES BELOW CEILING PER 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 DAMPER, & COMBINATION FIR 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 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-NO AC UNIT SHALL BE LOCATED 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 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



0 4' 8' 16' 24'

1/8" = 1'-0"

ROOF PLAN - MECHANICAL | 1

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BY: Mulham Aweidi DATE: 03/25/2026

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	04/18/25	100% DD SUBMITTAL
	06/06/25	50% CD SUBMITTAL
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	10/28/25	PLAN CHECK RESUBMITTAL #1
	11/14/25	PLAN CHECK RESUBMITTAL #2
	01/16/26	PLAN CHECK RESUBMITTAL #3
	02/09/26	PLAN CHECK RESUBMITTAL #4

Sheet title:

ROOF PLAN

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

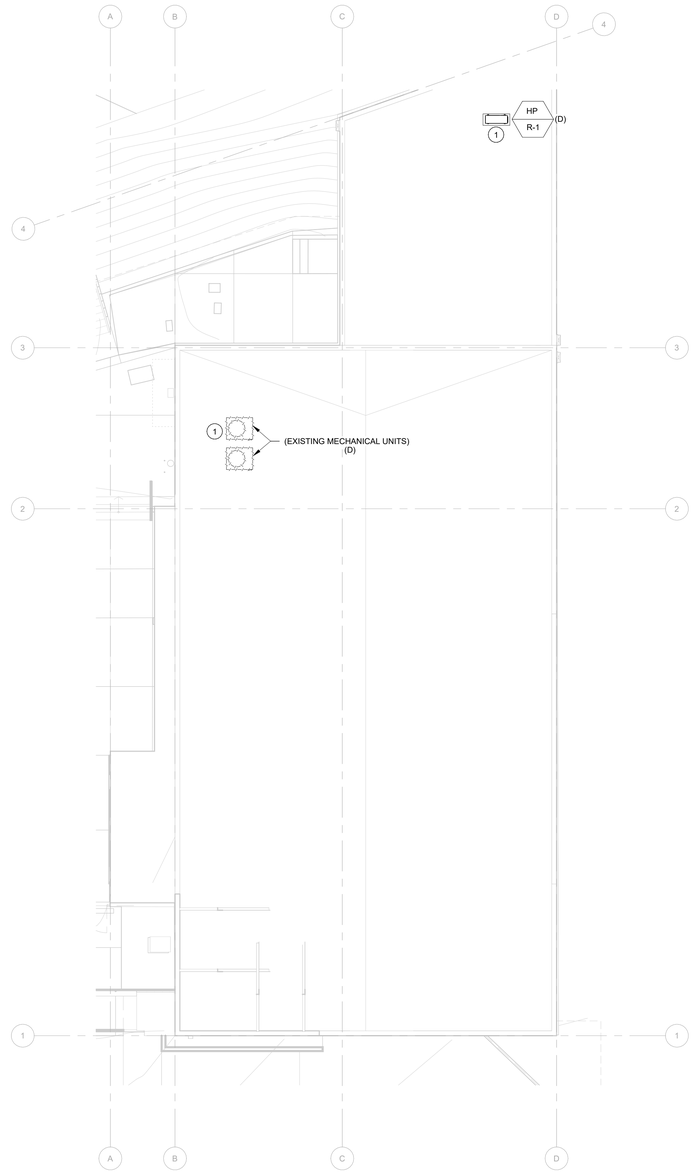
M1.03

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 CMC SECTION 502.2.2.
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-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 CMC, SECTION 403.7.2.3.
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PLAN NOTES

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



0 4' 8' 16' 24'
1/8 " = 1'-0"

ROOF DEMO PLAN - MECHANICAL | 1

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BY: Mulham Hweidi DATE: 03/25/2026

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	01/16/26	PLAN CHECK RESUBMITTAL #3
	02/09/26	PLAN CHECK RESUBMITTAL #4

Sheet title:

DEMO ROOF PLAN

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

M1.04

FEBRUARY 9, 2026 - PLAN CHECK RESUBMITTAL #4

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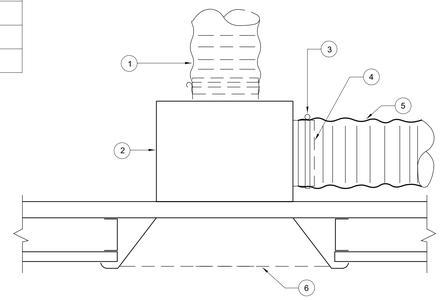
BY: Mulham Hwaidi DATE: 03/25/2026

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NOT IN USE

6 | SCALE NTS

FLEXIBLE DUCT TO CEILING DIFFUSER DETAIL	
1	ALTERNATE DUCT LOCATION
2	METAL BOX, METAL ELBOW, OR FLEXIBLE METAL BOX, METAL ELBOW
3	AIRTIGHT SEAL W/ DUCT BAND
4	ROUND COLLAR
5	FLEX DUCT
6	SQUARE OR RECTANGULAR CLG DIFFUSER



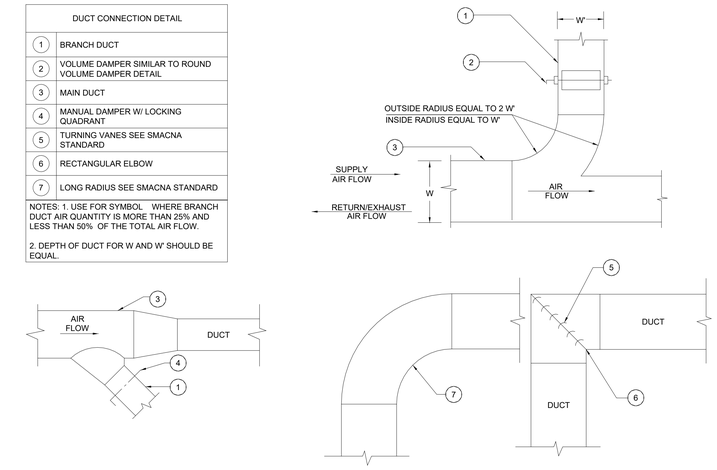
FLEXIBLE DUCT TO CEILING DIFFUSER

4 | SCALE NTS

DUCT CONNECTION DETAIL	
1	BRANCH DUCT
2	VOLUME DAMPER SIMILAR TO ROUND VOLUME DAMPER DETAIL
3	MAIN DUCT
4	MANUAL DAMPER W/ LOCKING QUADRANT
5	TURNING VANES SEE SMACNA STANDARD
6	RECTANGULAR ELBOW
7	LONG RADIUS SEE SMACNA STANDARD

NOTES: 1. USE FOR SYMBOL WHERE BRANCH DUCT AIR QUANTITY IS MORE THAN 25% AND LESS THAN 50% OF THE TOTAL AIR FLOW.

2. DEPTH OF DUCT FOR W AND W' SHOULD BE EQUAL.



DUCT CONNECTION DETAIL

2 | SCALE NTS

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	02/09/26	PLAN CHECK RESUBMITTAL #4

Sheet title:

MECHANICAL DETAIL

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

MD0.1

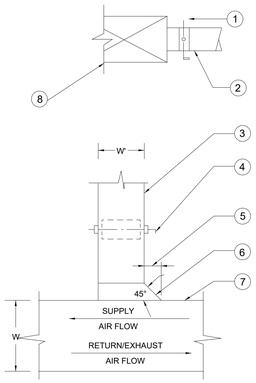
NOT IN USE

6 | SCALE NTS

RECTANGULAR TO RECTANGULAR DUCT CONNECTION DETAIL	
1	45° CLINCH COLLAR W/ MANUAL DAMPER W/ LOCKING HAND QUADRANT W/ 2" STAND-OFF BRACKET
2	RECTANGULAR/ SQUARE BRANCH DUCT
3	BRANCH DUCT
4	VOLUME DAMPER SIMILAR TO ROUND VOLUME DAMPER DETAIL
5	1/3W, 6" MINIMUM
6	CLINCH COLLAR
7	MAIN DUCT
8	SUPPLY DUCT

NOTES: 1. USE FOR SYMBOL , WHERE BRANCH DUCT AIR QUANTITY IS LESS THAN 25% OF THE TOTAL AIR FLOW.

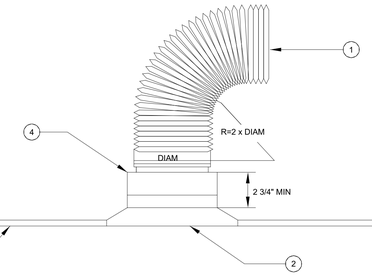
2. DEPTH AT W' MUST BE LEAST 2" THAN DEPTH AT W.



RECTANGULAR TO RECTANGULAR DUCT CONNECTION DETAIL

4 | SCALE NTS

CEILING TYPE EXHAUST FAN INSTALLATION DETAIL			
1	FLEXIBLE DUCT FULLY EXTENDED.	3	CEILING.
2	DIFFUSER.	4	ROUND DUCT ADAPTOR FOR RECTANGULAR DIFFUSER.



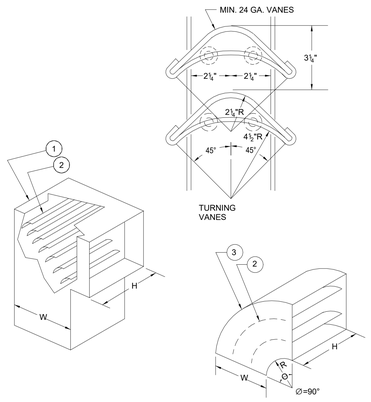
TYPICAL DIFFUSER OR GRILL CONNECTION

2 | SCALE NTS

RECTANGULAR ELBOW DETAIL

1	RECTANGULAR 90° ELBOW
2	SPLITTER VANES
3	RECTANGULAR RADIUS ELBOW

NOTES: 1. MAXIMUM UNSUPPORTED VANE LENGTH 36"
2. VANES AND FRAMES - 24 GAUGE
3. DUCT INLET AND OUTLET DIMENSIONS TO BE EQUAL.
4. FOR HIGH VELOCITY APPLICATIONS, PROVIDE 18 GAUGE CHANNEL AND TACK WELD VANE EDGES TO CHANNEL, TYPICAL BOTH ENDS.
5. FRAMES AND CHANNELS - BOLTED OR TACK WELDED TO ELBOW.



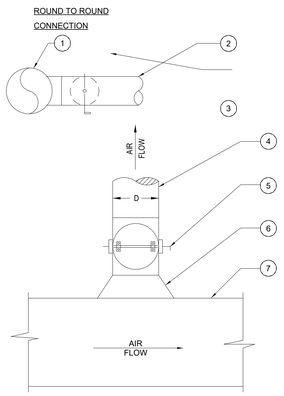
RECTANGULAR ELBOW DETAIL

5 | SCALE NTS

ROUND TO ROUND DUCT CONNECTION DETAIL	
1	SUPPLY DUCT
2	ROUND BRANCH DUCT
3	MANUAL DAMPER WITH LOCKING QUADRANT WITH 2" STAND OFF BRACKET
4	SHEET METAL OR FLEXIBLE DUCT AS SPECIFIED
5	ROUND VOLUME DAMPER, SEE DETAIL
6	CONICAL TAP
7	MAIN DUCT

NOTES: 1. USE FOR SYMBOL , WHERE BRANCH DUCT AIR QUANTITY IS LESS THAN 25% OF THE TOTAL AIR FLOW.

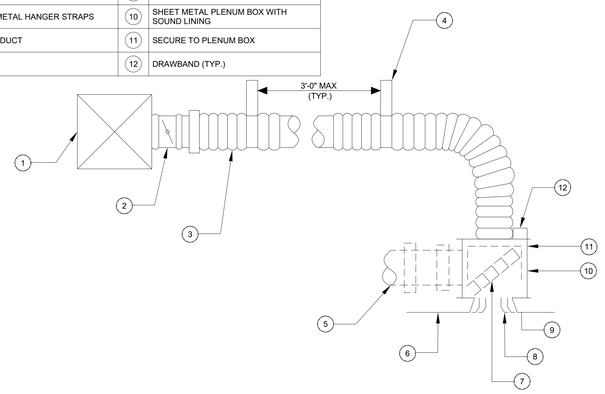
2. DEPTH OF MAIN DUCT MUST BE 2" LARGER THAN CONICAL DIAMETER.



ROUND TO ROUND DUCT CONNECTION DETAIL

3 | SCALE NTS

SUPPLY DIFFUSER DETAIL			
1	MAIN AIR SUPPLY AIR DUCT	7	DIRECTION CHANGER (ONLY FOR SIDE ENTRY DUCT CONNECTION)
2	SPIN-IN FITTING	8	CEILING DIFFUSER
3	FLEXIBLE DUCT	9	SECURE C.D. TO PLENUM
4	5/8" SHEET METAL HANGER STRAPS	10	SHEET METAL PLENUM BOX WITH SOUND LINING
5	SUPPLY AIR DUCT	11	SECURE TO PLENUM BOX
6	CEILING	12	DRAWBAND (TYP.)



SUPPLY DIFFUSER DETAIL

1 | SCALE NTS

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			

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-LTO-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	
			Battery (see Table F)	☐ Performance	Commissioning 120.8	NRCC-CXR-E is required	
				☒ Not Included	Solar and Battery 110.10	NRCC-SAB-E is required	

C1. COMPLIANCE SUMMARY

COMPLIES[3]

	Time Dependent Valuaton (TDV)		Source Energy Use
	Efficiency[1] (kBtu/ft² - yr)	**Total[2] (kBtu/ft² - yr)**	**Total[2] (kBtu/ft² - 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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EL SEGUNDO RECREATION PARK PHASE 1 IMPROVEMENT PROJECT

TEEN CENTER AND TEEN PLAZA

405 E Grand Ave, El Segundo, CA 90245

C2. TDV ENERGY COMPLIANCE RESULTS FOR PERFORMANCE COMPONENTS (Annual TDV Energy Use, kBtu/ft² - yr)

COMPLIES[2]

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.

C3. TDV ENERGY RESULTS FOR NON-REGULATED COMPONENTS[1]

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

True North Compliance Services, Inc.

PLAN REVIEW APPROVAL

THESE PLANS/DOCUMENTS HAVE BEEN REVIEWED FOR COMPLIANCE WITH THE APPLICABLE CALIFORNIA BUILDING STANDARDS CODES AS ADOPTED BY THE STATE OF CALIFORNIA AND AMENDED BY THE JURISDICTION. PLAN REVIEW ACCEPTANCE OF DOCUMENTS DOES NOT AUTHORIZE CONSTRUCTION TO PROCEED IN VIOLATION OF ANY FEDERAL, STATE, NOR LOCAL REGULATION.

BY: Mutham Hweidi DATE: 03/25/2026

THIS SET OF THE PLANS AND SPECIFICATIONS MUST BE KEPT ON THE JOB SITE AT ALL TIMES AND IT IS UNLAWFUL TO MAKE ANY CHANGES OR ALTERATIONS WITHOUT PERMISSION FROM THE CITY. OCCUPANCY OF STRUCTURE(S) IS NOT PERMITTED UNTIL FINAL APPROVAL IS GRANTED BY ALL APPLICABLE DEPARTMENTS.

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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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
	02/09/26	PLAN CHECK RESUBMITTAL #4

Sheet title:

T24 FORMS

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

MDT0.1

C8. ENERGY USE INTENSITY (EUI)

	Standard Design (kBtu/ft² / yr)	Proposed Design (kBtu/ft² / yr)	Margin (kBtu/ft² / 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
			Heating				Cooling				
Equipment Name	Equipment Type	Qty	Total Heating Output (kBtu/h)	Supp Heat Output (kBtu/h)	Efficiency Unit	Efficiency	Total Cooling Output (kBtu/h)	Efficiency Unit	Efficiency	Economizer Type (if present)	Status[1]
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

H3. NONRESIDENTIAL / COMMON USE AREA FAN SYSTEMS SUMMARY

01	02	03	04	05	06	07	08	09	10	11	12	13
			Supply Fan				Return / Relief Fan					
Name or Item Tag	Qty	Design OA CFM	CFM	Power	Power Units	Control	Fan Type	CFM	Power	Power Units	Control	Status[1]
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.

H8. SYSTEM SPECIAL FEATURES

01	02	03	04
System Name	Equipment Type	Interlocks per 140.4(n)[1]	Other Special Features and Controls
Art-Study-Office-5Ton	Single Zone Air Conditioner (SZAC) Air System	N/A	Zone(s) With CO2 Sensor Vent. Control Fixed DB
SHWFluidSystem	Service Hot Water	N/A	Fixed Temperature Control

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.

H9. NONRESIDENTIAL / COMMON USE AREA & HOTEL/MOTEL VENTILATION

01	02	03	04	05	06	07
Zone Name	Mechanical Ventilation				Conditioned Area (sf)	DCV or Occupant Sensor Controls, or Both
	Ventilation Function	# of People	Supply OA CFM	Exhaust CFM		
Great Room 1 Thermal Zone	General - Conference/meeting	72.7	1160	0	2181	DCV
Great Room 2 Thermal Zone	General - Conference/meeting	35	530	0	1050	DCV
Art-Study-Office Thermal Zone	General - Conference/meeting	63.67	955	300	1910	DCV

H11. ZONAL SYSTEM AND TERMINAL UNIT SUMMARY

01	02	03	04	05	06	07	08	09	10	11	12
			Rated Capacity (kBtuh)		Airflow (cfm)			Fan			
System ID	System Type	Qty	Heating	Cooling	Design	Min.	Min. Ratio	Power	Power Units	Cycles	VSD
R1-Terminal Unit	Uncontrolled	1	N/A	N/A	2,000	N/A	0	N/A	N/A	N/A	☐
R3-Terminal Unit	Uncontrolled	1	N/A	N/A	1,200	N/A	0	N/A	N/A	N/A	☐
R2-Terminal Unit	Uncontrolled	1	N/A	N/A	2,000	N/A	0	N/A	N/A	N/A	☐

I1. WATER HEATER EQUIPMENT SUMMARY

01	02	03	04	05	06	07	08	09	10	11	12	13	14
Name	Heater Element Type	Tank Type	Qty	Tank Vol (gal)	Rated Input	Rated Input Unit	Efficiency	Efficiency Unit	Tank Insulation R-value Int/Ext	Standby Loss Fraction	1st Hr. Rating or Flow Rate (gal)	Heat Pump Type	Tank Location or Ambient Condition
WaterHeater 1	Electricity	Instantaneous	2	0.2	4.16	kW	0.99	UEF	N/A	N/A	0.5	N/A	N/A

L. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Selections made by Documentation Author indicate which Certificates of Installation must be submitted for the features to be recognized for compliance. These documents must be retained and provided to the building inspector during construction and can be found online

Building Component	Form/Title
Mechanical	NRCI-MCH-E - For all buildings with Mechanical Systems
Plumbing	NRCI-PLB-E - For all buildings with Plumbing Systems

M. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Selections made by Documentation Author indicate which Certificates of Acceptance must be submitted for the features to be recognized for compliance. These documents must be provided to the building inspector during construction and must be completed through an Acceptance Test Technician Certification Provider (ATTCP).

Building Component	Form/Title & System Name(s)
Mechanical	NRCA-MCH-02-A - Outdoor Air must be submitted for all newly installed HVAC units. Note: MCH-02-A can be performed in conjunction with MCH-07-A Supply Fan VFD Acceptance (if applicable) since testing activities overlap
	Great Room 5 Ton, Great Room 3 Ton and Art-Study-Office-5Ton.
Mechanical	NRCA-MCH-03-A - Constant Volume Single Zone HVAC
	Great Room 5 Ton, Great Room 3 Ton and Art-Study-Office-5Ton.
Mechanical	NRCA-MCH-05-A - Air Economizer Controls
	Great Room 5 Ton, Great Room 3 Ton and Art-Study-Office-5Ton.
Mechanical	NRCA-MCH-06-A Demand Control Ventilation Systems must be submitted for all systems required to employ demand controlled ventilation (refer to) can vary outside ventilation flow rates based on maintaining interior carbon dioxide (CO2) concentration setpoints.
	Great Room 5 Ton, Great Room 3 Ton and Art-Study-Office-5Ton.

M. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Selections made by Documentation Author indicate which Certificates of Acceptance must be submitted for the features to be recognized for compliance. These documents must be provided to the building inspector during construction and must be completed through an Acceptance Test Technician Certification Provider (ATTCP).

Building Component	Form/Title & System Name(s)
Mechanical	NRCA-MCH-12-A FDD for Packaged Direct Expansion Units
	Great Room 5 Ton, Great Room 3 Ton and Art-Study-Office-5Ton.
Mechanical	NRCA-MCH-19-A Occupancy Sensor Controls
	Great Room 5 Ton, Great Room 3 Ton and Art-Study-Office-5Ton.

N. DECLARATION OF REQUIRED CERTIFICATES OF VERIFICATION

Selections made by Documentation Author indicate which Certificates of Verification must be submitted for the features to be recognized for compliance. These documents must be retained and provided to the building inspector during construction and can be found online

Building Component	Form/Title
Mechanical	NRCV-MCH-27 Indoor Air Quality & Mechanical Ventilation
Mechanical	NRCV-MCH-32 Local Mechanical Exhaust

Documentation Author's Declaration Statement

1. I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: Matthew Wang	Documentation Author Signature: Matthew Wang
Company: ACE MEP Group	Signature Date:
Address: 9241 Irvine Blvd Suite 250	CEA/HERS Certification Identification (if applicable):
City/State/Zip: Irvine, CA 92618	Phone: 949.808.1040

Responsible Person's Declaration statement

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer)
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I understand that a registered copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections, and I will take the necessary steps to accomplish this requirement.
6. I understand that a registered copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy, and I will take the necessary steps to accomplish these requirements.

Responsible Designer Name: Ben Behnam Entezam	Responsible Designer Signature: Ben Entezam	
Company: ACE MEP Group		
Address: 9241 Irvine Blvd Suite 250	Date Signed:	
City/State/Zip: Irvine, CA 92618	License #: M40257	
Phone: 949.808.1040	Title: Engineer	Scope: Mechanical

True North Compliance Services, Inc.

PLAN REVIEW APPROVAL

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BY: Mulham Hweidi DATE: 03/25/2026

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LICENSED PROFESSIONAL ENGINEER BEHNAM ENTEZAM M 40257 EXP. 03/31/27 MECHANICAL STATE OF CALIFORNIA

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

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	01/16/26	PLAN CHECK RESUBMITTAL #3
	02/09/26	PLAN CHECK RESUBMITTAL #4

Sheet title:

T24 FORMS

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

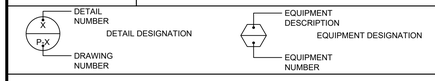
MDT0.2

ABBREVIATIONS (NOT ALL USED)

- A -	
ABV	ABOVE
ACC	ACCESSIBLE
AFF	ABOVE FINISH FLOOR
AP	ACCESS PANEL
- B -	
BEH	BEHIND
BEL	BELOW
BTUH	BRITISH THERMAL UNITS PER HOUR
- C -	
CD	CONDENSATE DRAIN
CFH	CUBIC FEET PER HOUR
CFM	CUBIC FEET PER MINUTE
CLG	CEILING
CO	CLEANOUT
CONT	CONTINUATION
COTG	CLEANOUT TO GRADE
CU FT	CUBIC FEET
CW	COLD WATER (DOMESTIC)
- D -	
DN	DOWN
DWG	DRAWING
- E -	
(E)	EXISTING
EQUIP	EQUIPMENT
- F -	
FCO	FLOOR CLEAN OUT
FCU	FAN COIL UNIT
FD	FLOOR DRAIN
FFE	FINISHED FLOOR ELEVATION
FLR	FLOOR
FT	FOOT, FEET
FU	FIXTURE UNIT
FV	FLUSH VALVE
FNL	FUNNEL DRAIN
- G -	
G	GAS (LOW PRESSURE)
GAL	GALLON
GC	GAS COCK
GPF	GALLONS PER FLUSH
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
- H -	
HB	HOSE BIBB
HP	HORSEPOWER
HW	HOT WATER (DOMESTIC)
HWR	HOT WATER RETURN (DOMESTIC)
- I -	
IW	INDIRECT WASTE
IE	INVERT ELEVATION
- K -	
KW	KILOWATT
- L -	
LAV	LAVATORY
- N -	
NTS	NOT TO SCALE
- P -	
PH	PHASE
POC	POINT OF CONNECTION
PSI	POUNDS PER SQUARE INCH
- Q -	
QTY	QUANTITY
- R -	
RPM	REVOLUTIONS PER MINUTE
- S -	
SAN	SANITARY SEWER
SOV	SHUT-OFF VALVE
- T -	
TMV	THERMOSTATIC MIXING VALVE
TP	TRAP PRIMER
TYP	TYPICAL
- V -	
V	VENT
VTR	VENT THROUGH ROOF
- W -	
W	WASTE
W/	WITH
WC	WATER CLOSET
WCO	WALL CLEANOUT
WHA	WATER HAMMER ARRESTOR

SYMBOLS (NOT ALL USED)

SYMBOL	DESCRIPTION
	PIPE DOWN
	PIPE UP OR RISE
	BRANCH - CHECK SPELLING CONNECTION
	BRANCH TOP OR BOTTOM CONNECTION
	DRAINAGE ABOVE GROUND
	DRAINAGE BELOW GROUND
	SANITARY VENT
	DOMESTIC COLD WATER
	DOMESTIC HOT WATER
	DOMESTIC HOT WATER RETURN
G	NATURAL GAS (LOW PRESSURE)
	EXISTING TO REMAIN
	EXISTING TO BE REMOVED
	POINT OF CONNECTION
	POINT OF DISCONNECTION
	BACKFLOW PREVENTER REDUCED PRESSURE PRINCIPLE
	FLOOR DRAIN
	FLOOR SINK
	FLOOR CLEAN OUT
	FOX DRAIN
	CLEANOUT
	REDUCER
	UNION
	FLEXIBLE CONNECTOR
	STRAINER
	PRESSURE GAUGE WITH PET COCK
	THERMOMETER
	TEMPERATURE / PRESSURE RELIEF VALVE & PRESSURE RELIEF VALVE
	AIR RELIEF VALVE
	CHECK VALVE
	SHUT-OFF / ISOLATION VALVE
	BALANCING VALVE
	PRESSURE REDUCING VALVE
	GAS COCK
	RECIRCULATING PUMP
	HOSE BIB
	DIRECTION OF FLOW
	PLUGGED OUTLET
	PIPING CONTINUATION



CALGREEN NOTES

2022 PLUMBING CALGREEN NOTES

1. WATER HEATING RECIRCULATION LOOPS SERVING MULTIPLE DWELLING UNITS, HIGH-RISE RESIDENTIAL, HOTEL/MOTEL AND NONRESIDENTIAL OCCUPANCIES SHALL MEET THE FOLLOWING REQUIREMENTS: (A) AIR RELEASE VALVE OR VERTICAL PUMP INSTALLATION (B) RECIRCULATION LOOP BACKFLOW PREVENTION, (C) EQUIPMENT FOR PUMP PRIMING, (D) PUMP ISOLATION VALVES, (E) COLD WATER SUPPLY AND RECIRCULATION LOOP CONNECTION TO HOT WATER STORAGE TANK (F) COLD WATER SUPPLY BACKFLOW PREVENTION. [SECTION 110.3 (C)4.]

2. SERVICE HOT WATER SYSTEMS WITH CIRCULATING PUMPS OR WITH ELECTRICAL HEAT TRACE SYSTEMS SHALL BE CAPABLE OF AUTOMATICALLY TURNING OFF THE SYSTEM. [SECTION 110.3 (C)]2.]

3. ANY POOL OR SPA HEATING SYSTEM OR EQUIPMENT MAY BE INSTALLED ONLY IF THE MANUFACTURER HAS CERTIFIED THAT THE SYSTEM OR EQUIPMENT HAS ALL OF THE FOLLOWING: (1) A THERMAL EFFICIENCY THAT COMPLIES WITH THE APPLIANCE EFFICIENCY REGULATIONS, (2) ON-FF SWITCH, (3) A PERMANENT, EASILY READABLE, AND WEATHERPROOF PLATE OR CARD THAT GIVES INSTRUCTION FOR THE ENERGY EFFICIENT OPERATION OF THE POOL OR SPA HEATER AND FOR THE PROPER CARE OF POOL OR SPA WATER WHEN A COVER IS USED , (4) WITHOUT ELECTRIC RESISTANCE HEATING. [110.4 (A).]

4. ANY POOL OR SPA SYSTEM OR EQUIPMENT SHALL BE INSTALLED WITH ALL OF THE FOLLOWING, (1) AT LEAST 36 INCHES OF PIPE SHALL BE INSTALLED BETWEEN THE FILTER & THE HEATER OR DEDICATED SUCTION AND RETURN LINES, OR BUILT-IN OR BUILT-UP CONNECTIONS SHALL BE INSTALLED TO ALLOW FOR THE FUTURE ADDITION' OF SOLAR HEATING EQUIPMENT; (2) A COVER FOR OUTDOOR POOLS OR OUTDOOR SPAS THAT HAVE A HEAT PUMP OR GAS HEATER (3) THE POOL SHALL HAVE DIRECTIONAL INLETS THAT ADEQUATELY MIX THE POOL WATER & A TIME SWITCH OR SIMILAR CONTROL MECHANISM SHALL BE INSTALLED AS PART OF A POOL WATER CIRCULATION CONTROL SYSTEM THAT WILL ALLOW ALL PUMPS TO BE SET OR PROGRAMMED TO RUN ONLY DURING THE OFF-PEAK ELECTRIC DEMAND PERIOD AND FOR THE MINIMUM TIME NECESSARY TO MAINTAIN THE WATER IN THE CONDITION REQUIRED BY APPLICABLE PUBLIC HEALTH STANDARDS. [SECTION 110.4 (B).]

5. CONTINUOUSLY PILOT LIGHTS PROHIBITED FOR NATURAL GAS FURNACES, COOKING EQUIPMENT, POOL & HEATERS & FIREPLACES. EXCEPTION- (1) HOUSEHOLD COOKING APPLIANCES WITHOUT AN ELECTRICAL SUPPLY VOLTAGE CONNECTION & IN WHICH EACH PILOT CONSUMES LESS THAN 150 BTU/HR, (2) POOL HEATERS, (3) SPA HEATERS & INDOOR & OUTDOOR FIREPLACES. [SECTION 110.5]

6. UNFIRED HOT WATER TANKS, SUCH AS STORAGE TANKS & BACKUP STORAGE TANKS FOR SOLAR WATER-HEATING SYSTEMS, SHALL BE EXTERNALLY WRAPPED WITH INSULATION HAVING AN INSTALLED THERMAL RESISTANCE OF R-12 OR GREATER OR HAVE INTERNAL INSULATION OF AT LEAST R-16 AND A LABEL ON THE EXTERIOR OF THE TANK SHOWING THE INSULATION R-VALUE. [SECTION150 (J)1]

7. INSULATION SHALL BE PROTECTED FROM DAMAGE, INCLUDING THAT DUE TO SUNLIGHT, MOISTURE, EQUIPMENT MAINTENANCE, & WIND BUT NOT LIMITED TO THE FOLLOWING: INSULATION EXPOSED TO WEATHER SHALL BE SUITABLE FOR OUTDOOR SERVICE (E.G., PROTECTED BY ALUMINUM, SHEET METAL, PAINTED CANVAS, OR PLASTIC COVER). CELLULAR FOAM INSULATION SHALL BE PROTECTED AS ABOVE OR PAINTED WITH A COATING THAT IS WATER RETARDANT & PROVIDES SHIELDING FROM SOLAR RADIATION THAT CAN CAUSE DEGRADATION OF THE MATERIAL. [SECTION 150 (M)]

8. ANY RESIDENTIAL POOL SYSTEM OR EQUIPMENT INSTALLED SHALL MEET THE REQUIREMENT FOR (1) PUMP SIZING & FLOW RATE, (2) SYSTEM PIPING, (3) FILTER SIZING & (4) VALVES PER SECTION OF 150 [150 (P).].

9. ALL FIXTURES SHALL MEET THE FLOW REQUIREMENT SPECIFIED IN 2022 CPC, CALIFORNIA GREEN BUILDING STANDARD & LOCAL REQUIREMENTS. THE FIXTURES SHALL BE CERTIFIED FOR FOLLOWING FLOW RATES:

PLUMBING CALGREEN RATES

CALGREEN NOTES

1. ALL FIXTURES SHALL MEET THE FLOW REQUIREMENT SPECIFIED IN 2022 CPC, CALIFORNIA GREEN BUILDING STANDARD & LOCAL REQUIREMENTS. THE FIXTURES SHALL BE CERTIFIED FOR FOLLOWING FLOW RATES:

PLUMBING FIXTURE FLOW RATE FOR NON RESIDENTIAL		
2022 GREEN BUILDING CODE TABLES 4.303.1		
C	LAVATORY FAUCETS, PUBLIC USES	0.5 GPM @ 60 PSI
E	METERING FAUCETS	0.2 GALLONS/CYCLE
G	WATER CLOSETS	1.28 GPF
I	URINAL	0.125 GPF

APPLICABLE CODES

- 2022 California Building Code
- 2022 California Residential Code
- 2022 California Electrical Code
- 2022 California Mechanical Code
- 2022 California Plumbing Code
- 2022 California Fire Code
- 2022 California Energy Code
- 2022 California Green Building Standards Code
- 2022 California Fire Code

SCOPE OF WORK

DEMOLISH EXISTING TEEN CENTER BASKETBALL COURT, PARKING AREA, AND WALL. CONSTRUCT NEW BASKETBALL COURT AREA, RAMPS, AND PARKING TO ACCOMMODATE MODERNIZATION.

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	P0.01	NOTES, SYMBOLS, & ABBREVIATIONS	N/A
2	P0.02	PLUMBING GENERAL NOTE	N/A
3	P0.03	PLUMBING SIZING TABLES, SCHEDULES & CALCULATIONS	N/A
4	P1.00	SITE PLAN	1/8"=1'-0"
5	P1.01	1ST FLOOR PLAN - DEMO	1/8"=1'-0"
6	P1.02-1	1ST FLOOR PLAN - WASTE	1/8"=1'-0"
7	P1.02-2	1ST FLOOR PLAN - WATER	1/8"=1'-0"
8	P1.03	ROOF PLAN	1/8"=1'-0"
9	PR0.1	RISER DIAGRAM	N/A
10	PD0.1	PLUMBING DETAIL	N/A
11	PD0.2	PLUMBING DETAIL	N/A

True North Compliance Services, Inc.

PLAN REVIEW APPROVAL

THESE PLANS/DOCUMENTS HAVE BEEN REVIEWED FOR COMPLIANCE WITH THE APPLICABLE CALIFORNIA BUILDING STANDARDS CODES AS ADOPTED BY THE STATE OF CALIFORNIA AND AMENDED BY THE JURISDICTION. PLAN REVIEW ACCEPTANCE OF DOCUMENTS DOES NOT AUTHORIZE CONSTRUCTION TO PROCEED IN VIOLATION OF ANY FEDERAL, STATE, NOR LOCAL REGULATION.

BY: Mulham Hweidi DATE: 03/25/2026

THIS SET OF THE PLANS AND SPECIFICATIONS MUST BE KEPT ON THE JOB SITE AT ALL TIMES AND IT IS UNLAWFUL TO MAKE ANY CHANGES OR ALTERATIONS WITHOUT PERMISSION FROM THE CITY. OCCUPANCY OF STRUCTURE(S) IS NOT PERMITTED UNTIL FINAL APPROVAL IS GRANTED BY ALL APPLICABLE DEPARTMENTS.

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MECHANICAL
STATE OF CALIFORNIA

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

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
	02/09/26	PLAN CHECK RESUBMITTAL #4

Sheet title:

NOTES, SYMBOLS, & ABBREVIATIONS

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

P0.01

GENERAL NOTES

1. CONTRACTOR SHALL APPLY FOR ALL PERMITS & INSPECTION REQUIRED BY LEGAL AUTHORITIES.
2. WORKS & MATERIALS 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 RFI 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 WALLS, 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.

PLUMBING 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. PLUMBING CONTRACTOR IS RESPONSIBLE TO PREPARE & SUBMIT SHOP DRAWINGS BASED ON STRUCTURAL, MECHANICAL, ELECTRICAL & OTHER DRAWINGS FOR LOCATING & ROUTING ALL DUCTWORKS, EQUIPMENT, DAMPERS, & PIPING TO MAKE SURE THERE ARE NO CONFLICTS WITH OTHER DISCIPLINES.
3. PLUMBING CONTRACTOR SHALL APPLY FOR ALL PERMITS & INSPECTION REQUIRED BY LEGAL AUTHORITIES.
4. PLUMBING CONTRACTOR SHALL: (1) VISIT THE JOB SITE, & THOROUGHLY FAMILIARIZE WITH THE EXISTING CONDITIONS. (2) VERIFY LOCATION & SIZE OF P,O,C.'S, INVERT ELEVATIONS, & AVAILABILITY OF ALL EXISTING UTILITIES PRIOR TO INSTALLATION OF ANY EQUIPMENT, PARTS & MATERIALS. (3) NOTIFY ARCHITECT & ENGINEERS FOR ANY DISCREPANCIES, FOR CLARIFICATION & CORRECTION.
5. AT PROJECT CLOSEOUT, PLUMBING CONTRACTOR SHALL SUBMIT DETAILED INSTALLATION DRAWINGS, SPECIFICATION CHANGES & CHANGE ORDERS TO ARCHITECT & ENGINEER FOR REVIEW &APPROVAL.
6. PLUMBING QUALITY & WEIGHTS OF MATERIAL, ALTERNATE METHODS OF CONSTRUCTION SHALL CONFORM TO CHAPTER 3 OF THE CPC.
7. ALL PLUMBING FIXTURE LOCATIONS SUCH AS WATER CLOSETS, LAVATORIES & ETC., ARE DIAGRAMMATIC.
8. PLUMBING CONTRACTOR SHALL REFER TO ARCHITECTURAL DRAWINGS FOR ADA FIXTURES, EXACT LOCATIONS, COLOR, MOUNTING HEIGHT, ACOUSTICAL CONSIDERATION & OTHER FACTORS.
9. PROVISIONS HAVE BEEN DESIGNED TO PROVIDE FIXTURES IN ACCORDANCE WITH A.D.A., ANSI & STATE OF CALIFORNIA REGULATIONS. PLUMBING CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS & REPORT TO ARCHITECT & ENGINEER WHEN FIELD CONDITIONS PREVENT CORRECT INSTALLATION.
10. ALL PLUMBING EQUIPMENT & PIPING SHALL BE INSTALLED TO MAKE SURE IT CAN FIT IN THE CEILING HEIGHT IN ACCORDANCE WITH ARCHITECTURAL CEILING PLANS & AVOID INTERFERENCE/CONFLICT WITH MECHANICAL & ELECTRICAL EQUIPMENT PARTS, FIRE SPRINKLER & STRUCTURAL FRAMING.
11. PIPING OVER ALL ELECTRICAL EQUIPMENT SHALL BE SEPARATED BY ENCLOSURE.
12. PROVIDE BALL VALVE TO SHUTOFF DOMESTIC HOT & COLD AT EACH FLOOR & EACH PUBLIC RESTROOM (NOT APPLICABLE AT GUEST ROOMS).
13. BEFORE ANY DEVICE IS INSTALLED FOR THE PREVENTION OF BACKFLOW OR SIPHONAGE, IT HAS TO BE APPROVED BY THE AAJ. CONTRACTOR SHALL BE RESPONSIBLE FOR PATCHING & REPAIRING ALL AREAS WHICH ARE DAMAGED BY THEIR OPERATIONS. THE CONTRACTOR SHALL RESTORE EXCAVATED TO THEIR ORIGINAL CONDITION.
14. ALL PENETRATION THRU SLAB SHALL BE COORDINATED & DOCUMENTED WITH STRUCTURAL ENGINEER PRIOR TO CONSTRUCTION.
15. ALL VALVES, UNIONS, ETC., TO BE SAME SIZE AS LINE SIZE UNLESS OTHERWISE INDICATED ON DRAWINGS.
16. DOMESTIC HOT WATER IS SUPPLIED TO LAVATORIES AT A MAX. TEMPERATURE OF 105 F IN PUBLIC AREAS.
17. ALL CLEANOUTS SHALL BE INSTALLED AS INDICATED-ON PLANS & PER CPC SECTION 707 A & 719. THE CONTRACTOR SHALL COORDINATE ALL CLEANOUTS LOCATIONS WITH EQUIPMENT, CABINETS, ETC., & THE ARCHITECT PRIOR TO INSTALLATION.
18. ALL TESTING SHALL BE PERFORMED IN ACCORDANCE WITH REQUIREMENT OF THE GOVERNING AUTHORITIES.
19. COPPER TUBING MAY NOT BE INSTALLED ON A MANNER THAT ALLOWS IT TO BE IN CONTACT WITH OTHER METAL PIPING, CONDUIT OR METAL FRAMING MEMBERS.
20. ABS, COPPER TUBING & STEEL PIPE MUST BE WRAPPED WHERE THEY PASS THRU CONCRETE &/OR MASONRY BUILDING COMPONENTS.
21. WATER PIPING MATERIAL WITHIN BUILDING SHALL BE IN ACCORDANCE WITH CPC SECTION 604.1. PEX, CPVC & OTHER PLASTIC WATER PIPING SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENT OF CPC, SECTION 604, INSTALLATION STANDARDS OF APPENDIX I OF THE CPC & MANUFACTURER INSTALLATION GUIDELINES. CPVC WATER PIPING REQUIRES A CERTIFICATION OF COMPLIANCE AS SPECIFIED IN CPC SECTION 604.1.1.
22. WATER PIPE & FITTINGS WITH A LEAD CONTENT WHICH EXCEEDS 0.25% SHALL BE PROHIBITED IN SYSTEMS AND PIPES CONVEYING POTABLE WATER.
23. CONTRACTOR TO PROVIDE REDUCERS, REDUCING INSERTS, UNIONS & APPURTENANCES NOT SHOWN ON DRAWINGS BUT REQUIRED FOR PROPER INSTALLATION.
24. CONTRACTOR TO INSTALL REDUCING FITTINGS IF PLUMBING LINE SIZE REDUCTIONS ARE NOT SHOWN WITH REDUCERS.
25. CONTRACTOR TO FURNISH, INSTALL & COORDINATE PIPE SLEEVES FOR PLUMBING LINES WITH SLAB WITH WALL.

PLUMBING FIXTURES

1. ALL PLUMBING FIXTURES USED SHALL BE IN ACCORDANCE WITH CPC APPLICABLE CODE INCLUDING CHAPTER 4.
2. ALL PLUMBING FIXTURES SHALL MEET THE FLOW REQUIREMENTS SPECIFIED IN CPC, CHAPTER 4 & CALGREEN.
3. COORDINATE EXACT LOCATION OF ALL PLUMBING FIXTURES WITH ARCHITECTURAL & OTHER TRADES.
4. PLUMBING CONTRACTOR TO: (1) PROVIDE PLUMBING FIXTURE CONNECTIONS TO THE BUILDING WASTE, VENT, COLD WATER, & HOT WATER SYSTEM IN ACCORDANCE WITH DRAWINGS, MANUFACTURER'S RECOMMENDATIONS & GUIDELINES, & LOCAL CODES. (2) CONNECT EACH FIXTURE, EQUIPMENT, ETC. WITH ALL ACCESSORIES, VALVES, VACUUM BREAKERS, REGULATORS, UNIONS, ETC. AS REQUIRED AND AS RECOMMENDED BY THE MANUFACTURERS. (3) REFER TO PLUMBING FIXTURE CONNECTION SCHEDULE ON PLANS.

PLUMBING FIXTURES

5. ALL FIXTURE USED SHALL BE INSTALLED IN ACCORDANCE WITH CPC, CHAPTER 4 REGARDING WORKMANSHIP, ALIGNMENT & TESTING.
6. FIXTURE CONNECTIONS TO THE DRAINAGE SYSTEM SHALL BE THROUGH AN APPROVED WET SEAL TRAP AS PER CPC, CHAPTERS 7 &10.
7. WHERE POTABLE WATER IS DISCHARGED TO THE DRAINAGE SYSTEM, IT SHALL BE BY MEANS OF AN APPROVED AIR GAP OF TWO PIPE DIAMETERS OF THE SUPPLY INLET, BUT IN NO CASE SHALL THE GAP BE LESS THAN 1 INCH. CONNECTION SHALL BE PERMITTED TO BE MADE TO THE INLET SIDE OF A TRAP PROVIDED THAT AN APPROVED VACUUM BREAKER IS INSTALLED NOT LESS THAN 6 INCHES, OR THE DISTANCE ACCORDING TO THE DEVICE'S LISTING, ABOVE THE FLOOD-LEVEL RIM OF SUCH TRAPPED FIXTURE, SO THAT AT NO TIME WILL SUCH DEVICE BE SUBJECTED TO BACKPRESSURE PER CPC SECTION 603.4.4.
8. ALL FIXTURES SHALL BE PROVIDED WITH INDIVIDUAL SHUT-OFF VALVES.
9. WATER PIPES AND FITTINGS WITH A LEAD CONTENT WHICH EXCEEDS 0.25% SHALL BE PROHIBITED IN SYSTEMS CONVEYING POTABLE WATER.
10. ALL FAUCETS IN PUBLIC RESTROOMS SHALL BE SELF-CLOSING OR SELF-CLOSING METERING FAUCETS PER CPC.
11. WATER PIPING CONNECTION TO EACH FIXTURE SHALL BE COLD WATER ON THE RIGHT-HAND SIDE & HOT WATER ON THE LEFT-HAND SIDE.
12. PLUMBING FIXTURES SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS. THE MEANS OF BACKFLOW PREVENTION SHALL NOT BE COMPROMISED BY THE DESIGNATED FIXTURE FITTING MOUNTING SURFACE.
13. PLUMBING CONTRACTOR TO PROVIDE WATER HAMMER ARRESTOR AT THE END OF HOT AND COLD-WATER LINES SERVING TWO OR MORE FIXTURES REQUIREMENTS. WATER HAMMER ARRESTORS ARE REQUIRED FOR QUICK CLOSING VALVES, SUCH AS LAUNDRY WASHERS, FLUSH VALVES (PUBLIC TOILETS), ETC.
14. CONSTRUCTION FOR FUTURE INSTALLATIONS SHALL BE TERMINATED WITH A PLUGGED FITTING OR FITTINGS.
15. THE PRESSURE REGULATING VALVE (PRV) SHALL BE ACCESSIBLY LOCATED ABOVEGROUND OR IN A VAULT EQUIPPED WITH A PROPERLY SIZED AND SLOPED DRAIN TO DAYLIGHT. THE PRV SHALL NOT BE INSTALLED IN A PIT WHERE IT CAN BECOME SUBMERGED IN WATER PER CPC SECTION 608.2.
16. SHOWERS SHALL BE PROVIDED WITH INDIVIDUAL TEMPERING VALVES PER CPC SECTION 408.3.
17. THE MINIMUM WATER PRESSURE SUPPLIED TO THE MOST REMOTE FIXTURE SHALL BE NOT LESS THAN THE REQUIREMENTS OF THAT FIXTURE & NOT LESS THAN 15 PSI, WHICHEVER IS HIGHER PER CPC SECTION 08.1.

PLUMBING DRAINAGE WASTE & VENT

1. CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF EXISTING SEWER LINES & POC BEFORE TRENCHING & DETERMINE IF IT IS NECESSARY TO RE-ROUTE PIPELINES DUE TO CONDITIONS FOUND ON SITE.
2. HORIZONTAL DRAINAGE PIPING SHALL RUN A UNIFORM SLOPE OF NOT LESS THAN 2% (1/4 INCH PER FOOT) TOWARD THE POINT OF DISPOSAL. WHERE IT IS IMPRACTICAL DUE TO THE DEPTH OF THE STREET SEWER, TO THE STRUCTURAL FEATURES, OR TO THE ARRANGEMENT OF A BUILDING OR STRUCTURE TO OBTAIN A SLOPE OF 2%, SUCH PIPE OR PIPING 4 INCHES OR LARGER IN DIAMETER SHALL BE PERMITTED TO HAVE A SLOPE OF NOT LESS THAN 1% (1/8 INCH PER FOOT) 1/8 INCH PER FOOT, WHERE FIRST APPROVED BY THE AHJ. PER CPC SECTION 708.1.
3. DRAINAGE CLEANOUT TO BE INSTALLED PER CPC, CHAPTER 7.
4. CHANGES OF DRAINAGE PIPE DIRECTION SHALL BE MADE BASED WITH USE OF APPROVED FITTINGS PER CPC SECTION 706.
5. EACH CLEANOUT FOR AN INTERCEPTOR SHALL BE OUTSIDE OF SUCH INTERCEPTOR PER CPC SECTION 707.7.
6. EACH CLEANOUT, UNLESS INSTALLED UNDER AN APPROVED COVER PLATE, SHALL BE ABOVE GRADE, READILY ACCESSIBLE, & SO LOCATED AS TO SERVE THE PURPOSE FOR WHICH IT IS INTENDED. CLEANOUTS LOCATED UNDER COVER PLATES SHALL BE SO INSTALLED AS TO PROVIDE THE CLEARANCES & ACCESSIBILITY REQUIRED BY THIS SECTION PER CPC SECTION 707.8.
7. FIXTURES INSTALLED ON A FLOOR LEVEL THAT IS LOWER THAN THE NEXT UPSTREAM MANHOLE COVER OF THE PUBLIC, OR PRIVATE SEWER SHALL BE PROTECTED FROM BACKFLOW OF SEWAGE BY INSTALLING AN APPROVED TYPE OF BACKWATER VALVE PER CPC SECTION 710.
8. VENTS SHALL BE TERMINATED NOT LESS THAN 10'-0" FROM OR 3'-0" ABOVE & OPENABLE WINDOW, DOOR INTAKE OR VENTILATION SHAFT AS PER CPC SECTION 906.2.
9. LANDSCAPE IRRIGATION DEVICE SHALL BE INSTALLED PER CITY STANDARD. ALL SEWER LINES TO BE BEDDED IN SAND & ALL LINES TO BE FLUSHED & INSPECTED WITH A CAMERA PRIOR TO CONCRETE SLAB PLACEMENT.
10. EACH VENT PIPE OR STACK SHALL EXTEND THROUGH ITS FLASHING & SHALL TERMINATE VERTICALLY NOT LESS THAN 6 INCHES ABOVE THE ROOF NOR LESS THAN 1 FOOT FROM A VERTICAL SURFACE PER CPC SECTION 906.1.
11. SANITARY WASTE VENTS SHALL BE RISE VERTICALLY TO A POINT NOT LESS SIX INCHES IN HEIGHT ABOVE THE FLOOR LEVEL RIM OF THE FIXTURE PRIOR TO BE CONNECTED TO ANY OTHER VENT.
12. CONTRACTOR TO COORDINATE WITH GC FOR ROOF DRAIN & OVERFLOWS, SCUPPER DRAINS, & CONDENSATE DRAINS.
13. DRAINAGE PIPING SERVING FIXTURES, WHICH HAVE FLOOD-WATER RIMS LOCATED BELOW THE ELEVATION OF THE NEXT UPSTREAM MANHOLE COVER OF THE SEWER, SHALL BE PROTECTED FROM BACK-FLOW OF SEWAGE BY INSTALLING AN APPROVED TYPE OF BACKWATER VALVE.
14. TRAP SEAL PROTECTION ARE REQUIRED FOR ALL THE FLOOR SINKS & FLOOR DRAINS.
15. EXCEPT FOR REFRIGERATION COILS & ICE-MAKING MACHINES, THE SIZE OF THE INDIRECT WASTE PIPE SHALL BE NOT SMALLER THAN THE DRAIN ON THE UNIT, BUT SHALL BE NOT SMALLER THAN 1 INCH, & THE MAX. DEVELOPED LENGTH SHALL NOT EXCEED 15 FEET. INDIRECT WASTE PIPE FOR ICE-MAKING MACHINES SHALL BE NOT LESS THAN THE DRAIN ON THE UNIT & IN NO CASE LESS THAN 3/4 OF AN INCH PER CPC SECTION 801.3.

PLUMBING FIXTURES

16. WHERE THE SINK IN A BAR, SODA FOUNTAIN, OR COUNTER IS SO LOCATED THAT THE TRAP SERVING THE SINK CANNOT BE VENTED, THE SINK DRAIN SHALL DISCHARGE THROUGH AN AIR GAP OR AIR BREAK INTO AN APPROVED RECEPTOR THAT IS VENTED. THE DEVELOPED LENGTH FROM THE FIXTURE OUTLET TO THE RECEPTOR SHALL NOT EXCEED 5 FEET PER CPC SECTION 801.4.
17. INDIRECT WASTE LONGER THAN FIVE FEET MUST BE TRAPPED, & INDIRECT WASTE LONGER THAN FIFTEEN FEET MUST BE TRAPPED & VENTED.
18. FLOOR DRAIN & HUB DRAIN P-TRAPS SHALL BE DEEP SEAL TYPE UNLESS NOTED OTHERWISE ON THE PLAN.
19. EACH PLUMBING FIXTURE TRAP SHALL BE PROTECTED AGAINST SIPHONAGE & BACKPRESSURE, & AIR CIRCULATION SHALL BE ENSURED THROUGHOUT ALL PARTS OF THE DRAINAGE SYSTEM BY MEANS OF VENT PIPES INSTALLED IN ACCORDANCE WITH CPC SECTION 901.2.
20. THE VENT PIPE EXTENSIONS THRU ROOF SHALL TERMINATE MINIMUM OF 1'-0" ABOVE FINISHED ROOF PER CPC SECTION 906.1.
21. CONTRACTOR TO PROVIDE P-TRAP FOR EACH HVAC UNIT CONDENSATE PAN WITH PLUG TEES FOR CLEANING.
22. CONDENSATE DRAIN SHALL BE DISCHARGED TO AN INDIRECT WASTE OR OUTSIDE.

PLUMBING UTILITY NOTES

1. CONTRACTOR SHALL CONTACT SERVING UTILITY COMPANIES FOR APPROVED ENGINEERED DRAWINGS PRIOR TO CONSTRUCTION.
2. CONTRACTOR TO REFER TO CIVIL ENGINEERS UTILITY PLAN DRAWINGS FOR UTILITY CONNECTIONS & EXTENSIONS.
3. ALL EXCAVATORS MUST COMPLY WITH STATE & LOCAL REQUIREMENTS INCLUDING NOTIFICATION OF ALL UNDERGROUND UTILITY COMPANIES PRIOR COMMENCING EXCAVATION.
4. GAS SUPPLY PRESSURE REGULATORS SHALL BE REVIEWED AND APPROVED BY UTILITY GAS COMPANY PRIOR TO PURCHASE AND INSTALLATION.
5. TRENCHING, JOINT TRENCHING, & CROSSING OTHER UTILITIES TO BE PROVIDED PER FOLLOWING FOR DIFFERENT APPLICATIONS:
   - A MINIMUM OF 12" SEPARATION BETWEEN POWER & TELEPHONE CONDUITS WHERE THEY ARE INSTALLED IN THE SAME TRENCH OR CROSS. CONFIRM WITH TELEPHONE & POWER UTILITY COMPANIES FOR ALL REQUIREMENTS & REGULATIONS PRIOR TO PURCHASE AND INSTALLATION.
   - A MINIMUM OF 36" SEPARATION BETWEEN POWER & GAS CONDUITS WHERE THEY ARE INSTALLED IN THE SAME TRENCH OR CROSS. CONFIRM WITH GAS & POWER UTILITY COMPANIES FOR ALL REQUIREMENTS & REGULATIONS PRIOR TO PURCHASE AND INSTALLATION.
   - CONFIRM WITH WET UTILITY COMPANIES FOR ALL REQUIREMENTS & REGULATIONS PRIOR TO PURCHASE AND INSTALLATION.

PLUMBING ADDITIONAL NOTES

1. ALL FIXTURES IN HANDICAP RESTROOMS SHALL BE INSTALLED IN ACCORDANCE WITH THE STATE OF CALIFORNIA HANDICAP CODE & LOCAL HANDICAP CODES HAVING JURISDICTION.
2. WATER HEATER SHALL BE INSTALLED PER MANUFACTURER INSTALLATION GUIDELINES WITH MIN. CLEARANCE REQUIREMENT.
3. A WATER HEATER SHALL BE PLACED ON LEVEL CONCRETE PAD NOT LESS THAN 3 INCHES ABOVE THE ADJOINING GROUND LEVEL IN ACCORDANCE WITH CPC SECTION 507.4.
4. WATER CLOSETS IS REQUIRED TO HAVE ELONGATED BOWLS WITH OPEN FRONT SEATS PER CPC SECTION 411.1.
5. THE POTABLE WATER SYSTEM SHALL BE DISINFECTED PRIOR TO ITS USE AS REQUIRED & OUTLINED IN CPC SECTION 609.9.
6. HOT WATER PIPING SHALL BE INSULATED PER CPC SECTION 609.11 & CALIFORNIA ENERGY CODE.
7. PRIMARY CONDENSATE PIPING TO TERMINATE AT TAILPIECE OF LAVATORY/SINK IN THE UNIT IT SERVES, FLOOR SINK OR DEDICATED ROOF TOP RECEPTOR.
8. CLEANOUTS ON TOP OF THE FLOOR SHALL BE FLUSHED WITH FINISHED FLOOR UNLESS NOTED OTHERWISE.
9. ALL DEVICES SHALL BE TESTED BY CERTIFIED BACK FLOW TESTER.
10. ALL WATER HEATERS & BOILERS ARE REQUIRED TO HAVE NEUTRALIZER FOR CONDENSATE DISCHARGE BEFORE ENTERING THE SEWER SYSTEM.

PLUMBING ACOUSTICAL NOTES

1. ALL VIBRATION ISOLATION SHALL CONFORM WITH ASHRAE STANDARD & GUIDELINES.
2. PLUMBING CONTRACTOR SHALL PROVIDE SUBMITTALS FOR ALL PROPOSED VIBRATION ISOLATION DEVICES. PLEASE NOTE ALL VIBRATION ISOLATORS SHALL BE FROM A SINGLE MANUFACTURER.
3. PLUMBING CONTRACTOR SHALL SUBMIT PIPING ISOLATION DEVICES FOR REVIEW & APPROVAL. THE FOLLOWING RESILIENT PIPE ATTACHMENTS ARE ACCEPTABLE: (1) BLUE& WHITE HUBBARD HOLDRITE SILENCER SYSTEM, (2) ORANGE & BLUE ACOUSTO-PLUM SYSTEM, & (3) TRISOLATOR SYSTEM.
4. ALL SERVICE PIPES & EQUIPMENT SHALL BE ISOLATED FROM THE STRUCTURE IN ORDER TO ISOLATE NOISE & VIBRATION TO THE STRUCTURE.
5. ALL SERVICE PIPES SHALL NOT HAVE ANY CONTACTS WITH GYPSUM BOARD. PLUMBING CONTRACTOR TO PROVIDE FULLY SEALED GAPS AROUND SERVICE PIPES.
6. ALL SUPPLY/SERVICE PIPING MUST BE ISOLATED, REGARDLESS OF TYPE OF MATERIALS SUCH AS COPPER, PEX, CPVC, OR OTHER.

PLUMBING ACOUSTICAL NOTES

7. ALL DOMESTIC PIPING SHALL BE VIBRATION ISOLATED FROM THE STRUCTURE THAT SUPPORTS THE FLOOR. ISOLATION MUST BE PROVIDED AT EACH OCCURRENCE ATTACHMENTS AT EVERY PENETRATION. IF CONTACT IS UNAVOIDABLE, THEN THE PLUMBING CONTRACTOR SHALL USE APPROVED CLOSED CELL FOAM AT THE POINT OF CONNECTION.
8. IN DOUBLE-STUD ASSEMBLIES, PIPING SHALL NOT BE ATTACHED TO BOTH STUD BAYS.
9. A MINIMUM OF 1/4-INCH-THICK STICKY-BACK FELT OR RIBBED NEOPRENE SHALL BE PLACED BETWEEN THE HANGER & THE PIPES. THE ISOLATION SHALL BE CUT SO THAT IT WRAPS CAN BE COMPLETELY PLACED AROUND THE PIPE. IN ADDITION, THE ISOLATION MATERIAL SHALL EXTEND OUT A MINIMUM OF 1/4-INCH PAST THE HANGER EDGES.
10. THE HUBBARD SILENCER 300 & 320 SERIES OF NEOPRENE LINED HANGERS ARE ACCEPTABLE TO BE USED. NON-ISOLATED HANGERS CAN BE USED AS LONG AS THE ISOLATION MATERIAL SUCH AS HUBBARD 272-2 OR 271 OR FELT TO BE ADDED IN THE FILED.
11. PLUMBING CONTRACTOR TO USE 3/4-INCH-THICK NEOPRENE WAFFLE PADS (MASON SUPER W OR APPROVED EQUAL) BETWEEN PIPE RISER CLAMPS & THE STRUCTURE.
12. (1) FOR WASTE, DRAIN, RAINWATER, OR SIMILAR SYSTEMS USE CAST IRON PIPE. (2) FOR OTHER TYPES OF PIPES SUCH AS THIN-WALLED COPPER, PVC, OR OTHER LIGHTWEIGHT PIPING, CONTRACTOR SHALL WRAP PIPES COMPLETELY WITH AN APPROVED ACOUSTICAL PIPE PUTTY. REFER TO MATERIAL TABLE IN SCHEDULE.
13. PLUMBING CONTRACTOR TO INSTALL A MIN. OF R-11 (3-1/2 INCH) BATT INSULATION IN ALL STUD AND JOIST SPACES CONTAINING PIPE.
14. PLUMBING CONTRACTOR TO INSTALL PIPE AS HIGH AS POSSIBLE IN THE FLOOR CEILING TO CREATE MORE ROOMS FOR OTHER TRADES SUCH AS MECHANICAL EQUIPMENT, DUCTWORK & SPRINKLER SYSTEM. THE PIPING SHALL BE ISOLATED FROM STRUCTURE.
15. A MINIMUM 4-INCH-THICK CONCRETE PAD SHALL BE PLACED UNDER ALL EQUIPMENT.
16. RAINWATER LEADERS SHALL BE AVOIDED IN THE INTERIOR OF RESIDENTIAL PARTURITIONS TO AVOID SOURCE OF NOISE FROM WATER FLOW.
17. THE PENETRATIONS FOR PIPES, CONDUITS & OTHER PENETRATIONS LESS THAN 3" SHOULD BE OVERSIZED BY 1/2" & SEALED AIRTIGHT WITH ACOUSTICALLY CAULKING MATERIAL.
18. THE PENETRATIONS FOR PIPES, CONDUITS & OTHER PENETRATIONS EQUAL OR LARGER THAN 3" SHOULD BE OVERSIZED BY 1" & SEALED AIRTIGHT WITH SAFING & ACOUSTICALLY CAULKING MATERIAL.
19. PUMPS, BOILERS AND PIPING SHALL BE ISOLATED WITH:

SYSTEM	ISOLATION TYPE		MIN. STATIC DEFLECTION
PUMPS	UN-HOUSED SPRINGS OVER CONCRETE PAD EQUAL TO MASON INDUSTRIES		1"
BOILERS	MASON NEOPRENE MOUNTS (TYPE BR OR EQAL)		0.3"
PIPING	SUPPORTED	NEOPRENE TYPE BR	0.3"
	SUSPENDED	NEOPRENE TYPE HN	

ADA COMPLIANCE NOTES

1. ALL FIXTURES IN THE HANDICAP RESTROOMS SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF THE STATE OF CALIFORNIA HANDICAP CODE & LOCAL HANDICAP CODES HAVING JURISDICTION.
2. ACCESSIBLE PLUMBING FIXTURES SHALL COMPLY WITH ALL OF THE REQUIREMENTS OF CBC 2022 CHAPTER 11B-DIVISION 6.

DIVISION 6: PLUMBING ELEMENTS & FACILITIES	
DRINKING & FOUNTAINS & BOTTLE STATIONS.	11B-602
TOILET & BATHING ROOMS	11B-603
WATER CLOSETS & TOILET COMPARTMENTS	11B-604
URINALS	11B-605
LAVATORIES & SINKS	11B-606
GRAB BARS	11B-609
SEATS	11B-610

3. PIPES UNDER LAVATORIES & SINKS SHALL BE INSULATED OR OTHERWISE CONFIGURED TO PROTECT AGAINST CONTACT. THERE SHALL BE NO SHARP OR ABRASIVE SURFACES UNDER LAVATORIES & SINKS.
4. FAUCET CONTROLS & OTHER OPERABLE PARTS SHALL BE OPERABLE WITH ONE HAND & SHALL NOT RE

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	VERICAL (DFU)	1	2[2,7]	16[3]	48[4]	256	600	1,380	3,600
	HORIZONTAL (DFU) 2% SLOPE (¼" PER FOOT)	1	1[7]	8[3]	35[4]	216[5]	428[5]	720[5]	2640[5]
	HORIZONTAL (DFU) 1% SLOPE (1/8 " 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-UNIT TRAPS OR WATER CLOSETS.
4. NOT TO EXCEED FIVE WATER CLOSETS OR FIVE SIX-UNIT TRAPS.
5. BASED ON 1/4 INCH PER FOOT (20.8 MM/M) SLOPE. FOR 1/8 OF AN INCH PER FOOT (10.4 MM/M) SLOPE, MULTIPLY HORIZONTAL FIXTURE UNITS BY A FACTOR OF 0.8.
6. THE DIAMETER OF AN INDIVIDUAL VENT SHALL BE NOT LESS THAN 1¼ INCHES (32 MM) NOR LESS THAN ONE-HALF THE DIAMETER OF THE DRAIN TO WHICH IT IS CONNECTED. FIXTURE UNIT LOAD VALUES FOR DRAINAGE AND VENT PIPING SHALL BE COMPUTED FROM TABLE 702.1 AND 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 8 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/M).

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	COLD WATER	HOT 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
1 ¼	1.375	1.125	9	9	12	12	0	2.9	2.9
1 ½	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	COLD WATER	HOT 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 FT2 °F)	MEAN RATING TEMPERATTURE (°F)		<1	1 TO <1.5	1.5 TO <4	4 TO <8	8 & LARGER	
SPACE HEATING, SERVICE WATER HEATING SYSTEM (STEAM, STEAM CONDENSATE, REFRIGERANT, SPACE HEATING, SERVICE HOT WATER)				INSULATION THICKNESS REQUIRED (IN INCHES)					
				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	
				NOMINAL PIPE DIAMETER (IN INCHES)					
				<1	1 TO <1.5	1.5 TO <4	4 TO <8	8 & LARGER	
SPACE COOLING SYSTEMS (CHILLED WATER, REFRIGERANT & BRINE)				MINIMUM PIPE INSULATION REQUIRED (THICKNESS IN INCHES OR R-VALUE)[1]					
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 (WSFU)			ROUGH-IN SIZE					STORM DRAIN	DESCRIPTION/REMARKS
				COLD WATER	HOT WATER	TOTAL WATER DEMAND	MIN. TRAP	W	V	CW	HW		
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 (1100)-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
											OPER. WT.	SIZE	VOLTAGE	AMPS	AMPS	
			(GAL)	(GAL)	(GPH)	(-)	(WATTS)	(°F)	(°F)	(IN)	(LBS)	(INCHES)	(V/PH/HZ)	(FLA)	(OCP)	
(EXISTING) BRADFORD WHITE RE2H50S10-1NCTT (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				DRANAGE 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

BRADFORD WHITE WATER HEATERS — AEROTHERM SERIES

AeroTherm® Series Heat Pump Water Heater



Photo is of RE2H50S10

FEATURING: AMERICAN STANDARD, MicroBan®

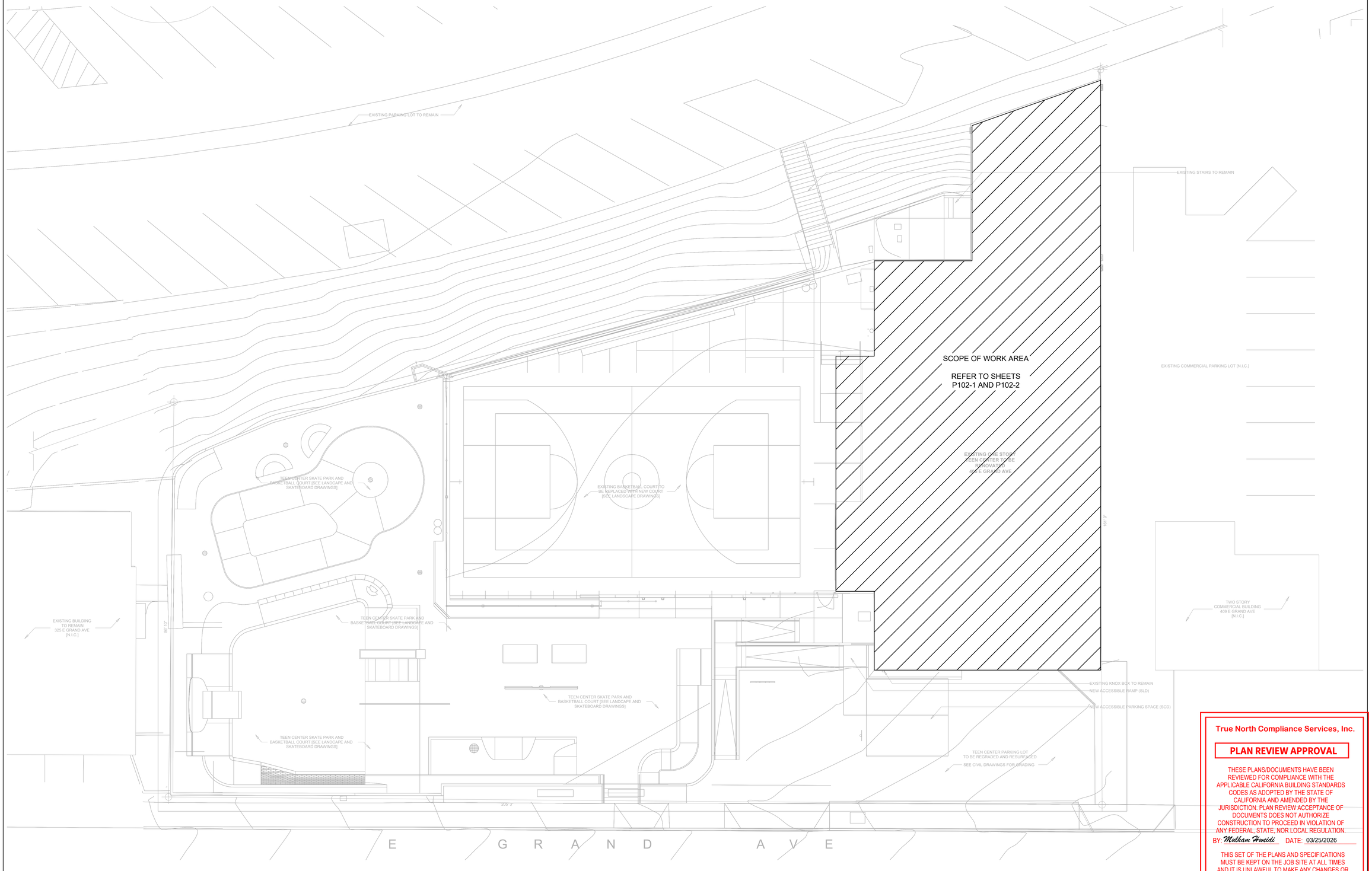
AeroTherm® Heat Pump Model Features:

- **ENERGY STAR® Qualified**—Meet or exceed requirements for ENERGY STAR® per the latest ENERGY STAR® criteria revision, as well as most utility rebate programs.
- **The AeroTherm® Series Control Panel**—Provides detailed diagnostic information including water heater fault codes, tank codes, need-to-assess codes, and heat pump codes. Additional functions allow you to monitor the status of temperature sensing thermistors and heating components.
  - **User-Friendly, Easy to Read Display.**
  - **LED's Clearly Indicate the Current Operating Mode.**
  - **Display Communicates Current Status, Mode and Set Point, and Displays Error Messages When Applicable.**
- **Operating Modes Offer Flexibility.**
  - **Heat Pump (Only) Mode**—Maximizes consumer savings. The most energy-efficient mode as it only utilizes the heat pump.
  - **Hybrid Standard Mode**—Maximizes recovery by using both the heat pump and an electrical element simultaneously. This mode consumes the most electricity.
  - **Hybrid Plus Mode**—Maximizes recovery by using both the heat pump and an electrical element simultaneously. This mode consumes more electricity compared to Hybrid Mode.
  - **Electric (Only) Mode**—Operates like a standard electric water heater, and eliminates the air flow and sound from the heat pump system when preferred (least energy efficient).
  - **Vacation Mode**—Adjusts the temperature set point down to 50°F (10°C) for extended periods of time.
- **Vitreglaze® Lining with Microban®**—An exclusively engineered enamel formula that provides superior tank protection from the corrosive effects of water, and with Microban® antimicrobial product protection to help prevent the growth of bacteria, mold and mildew on the surface of the tank lining.
- **Packaging Can be Laid on its Back for Transportation Flexibility**—Easy-to-open, protective packaging.
- **Easily Accessible Top Mounted Washable Air Filter**—User is automatically alerted when the air filter needs to be cleaned.
- **Operating Air Temperature Range of 35–120°F (2–49°C) for the Heat Pump**—(Unit operates in Standard/Electric Mode outside of this range).
- **Backup Electric Heating Elements.**
- **Direct Heat Transfer with Immersed Elements**—Transfers heat directly and efficiently to the water. Screw-in style.
- **Insulation System**—2" (51mm) Non-CFC foam insulation covers the sides and top of the tank, reducing heat loss. This results in less energy consumption, improved efficiencies, and jacket rigidity.
- **Water Connections**—3/4" (19mm) NPT factory-installed true dielectric fittings extend water heater life and simplify water line connections.
- **Protective Anode Rod**—Provides added protection against corrosion for long-term, trouble-free service.
- **Low Restrictive Brass Drain Valve**—Durable tamper proof design.
- **Factory-Installed Heat Traps**—Design incorporates a flexible disk that reduces heat loss in piping and eliminates the potential for noise generation.
- **Optional Ducting Kit**—Maximum duct length of 75 feet (23m) combined between inlet and exhaust.
- **T&P Relief Valve**—Installed.
- **Compatible With Bradford White Connect™ Kit**—Turns a Bradford White Water Heater into a smart, connected appliance that can be conveniently controlled from a smart phone or device via an app. Contractor version provides remote diagnostics to installer if granted access by homeowner. Sold separately.
- **Meets Requirements for Tier 2 of Advanced Water Heating Specification (AWHS).**

6 or 10-Year Limited Tank Warranties / 6 or 10-Year Limited Warranty on Component Parts.
For more information on warranty, please visit www.bradfordwhite.com
For products installed in USA, Canada, and Puerto Rico. Some states do not allow limitations on warranties.
Microban® Antimicrobial Product Protection
Microban® antimicrobial product protection helps prevent the growth of bacteria, mold and mildew that may affect the product. The built-in antimicrobial properties do not protect users or others from disease-causing organisms.

AERS CERTIFIED — cULus — CE

MANUFACTURED UNDER ONE OR MORE OF THE FOLLOWING U.S. PATENTS: 5,822,269; 7,534,379; 7,580,161; 7,254,462; 6,438,342; 6,438,340; 6,870,135; 7,149,403; 7,570,873; 7,941,199; 7,962,030; 8,664,921; 7,364,676; 7,364,677; 7,364,678; 7,364,679; 7,364,680; 7,364,681; 7,364,682; 7,364,683; 7,364,684; 7,364,685; 7,364,686; 7,364,687; 7,364,688; 7,364,689; 7,364,690; 7,364,691; 7,364,692; 7,364,693; 7,364,694; 7,364,695; 7,364,696; 7,364,697; 7,364,698; 7,364,699; 7,364,700; 7,364,701; 7,364,702; 7,364,703; 7,364,704; 7,364,705; 7,364,706; 7,364,707; 7,364,708; 7,364,709; 7,364,710; 7,364,711; AND FOREIGN PATENT EQUIVALENTS THEREOF. CANADIAN PATENTS: 2,474,689; 2,564,824; 2,196,108; 2,196,031; 2,464,251; 2,474,690; 2,474,691; 2,474,692; 2,474,693; 2,474,694; 2,474,695; 2,474,696; 2,474,697; 2,474,698; 2,474,699; 2,474,700; 2,474,701; 2,474,702; 2,474,703; 2,474,704; 2,474,705; 2,474,706; 2,474,707; 2,474,708; 2,474,709; 2,474,710; 2,474,711; 2,564,824; 2,564,825; 2,564,826; 2,474,712. Bradford White Corporation is a registered trademark of Bradford White® Corporation. Aeratherm® is a registered trademark of Bradford White Corporation. Bradford White® is a registered trademark of Bradford White Corporation. Bradford White® is a registered trademark of Bradford White Corporation. Bradford White



True North Compliance Services, Inc.

PLAN REVIEW APPROVAL

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BY: *Mulham Hweidi* DATE: 03/25/2026

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SITE PLAN | 1

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MECHANICAL
STATE OF CALIFORNIA

CITY OF
EL SEGUNDO
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Sheet title:

SITE PLAN

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

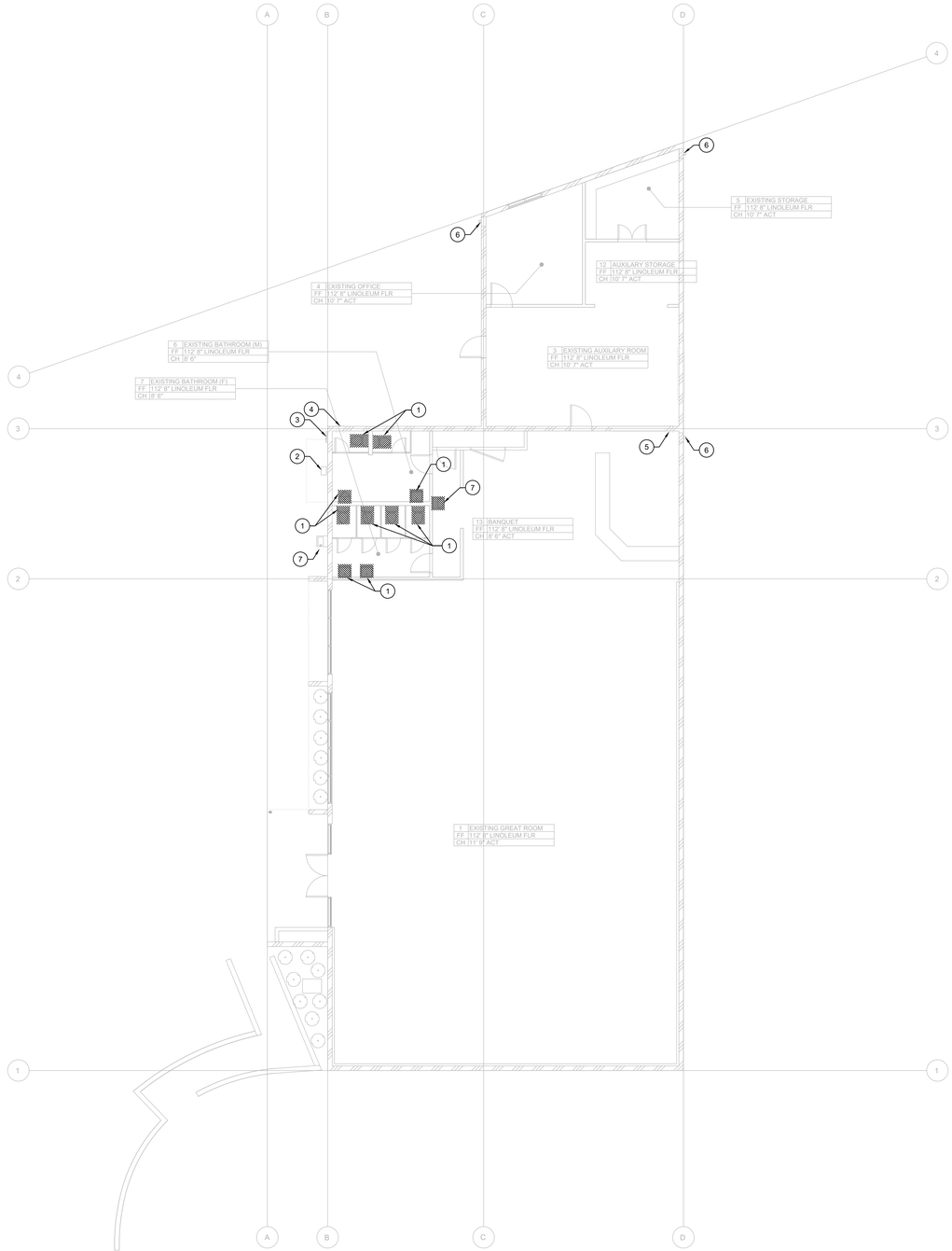
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GENERAL NOTES

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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.



1ST - FLOOR PLAN - DEMO | 1

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BY: Mulham Hweidi DATE: 03/25/2026

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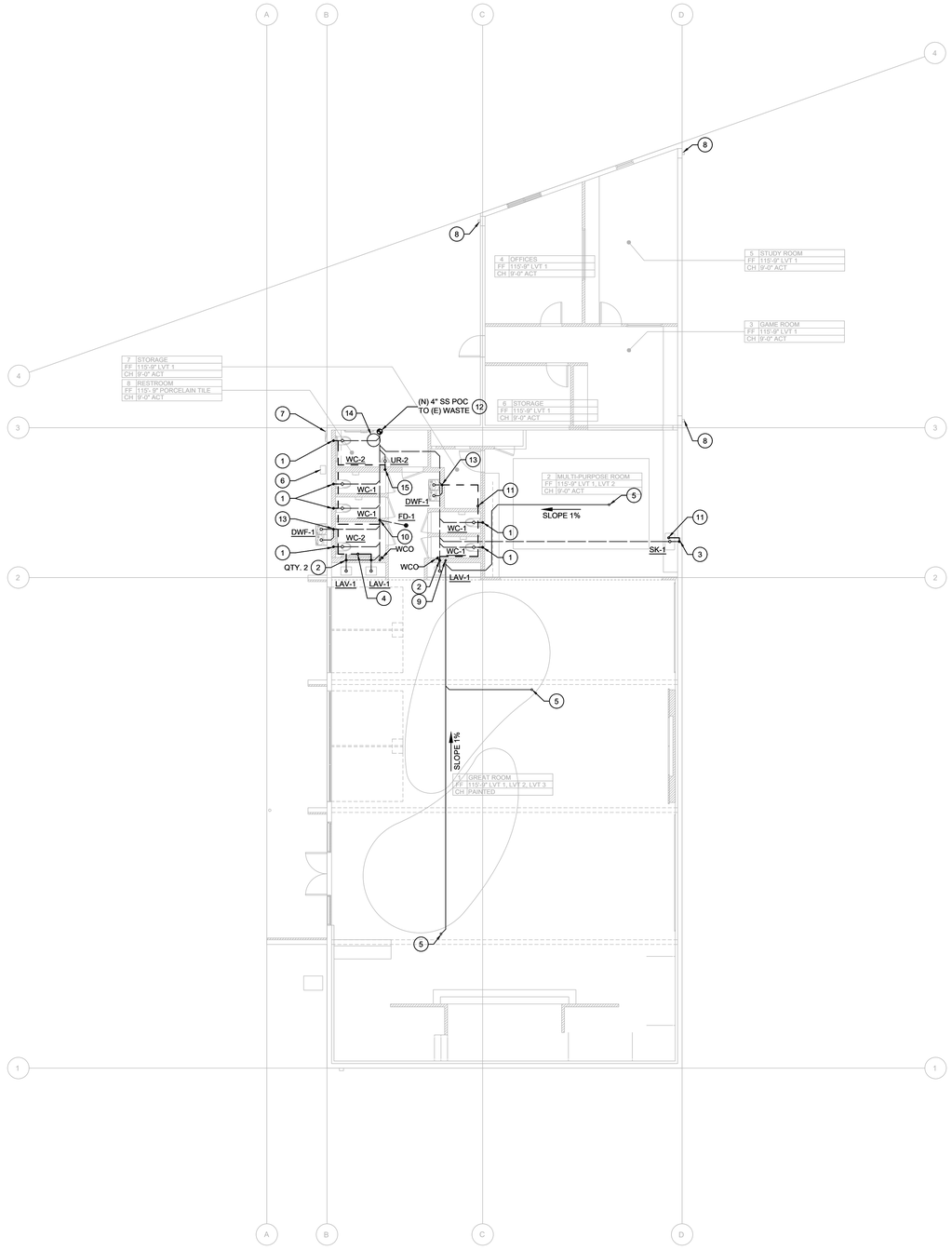
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PLAN NOTES

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.



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1ST - FLOOR PLAN - WASTE | 1

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1ST - FLOOR PLAN - WASTE

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P1.02-1

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BY: Mutkam Awaidi DATE: 03/25/2026

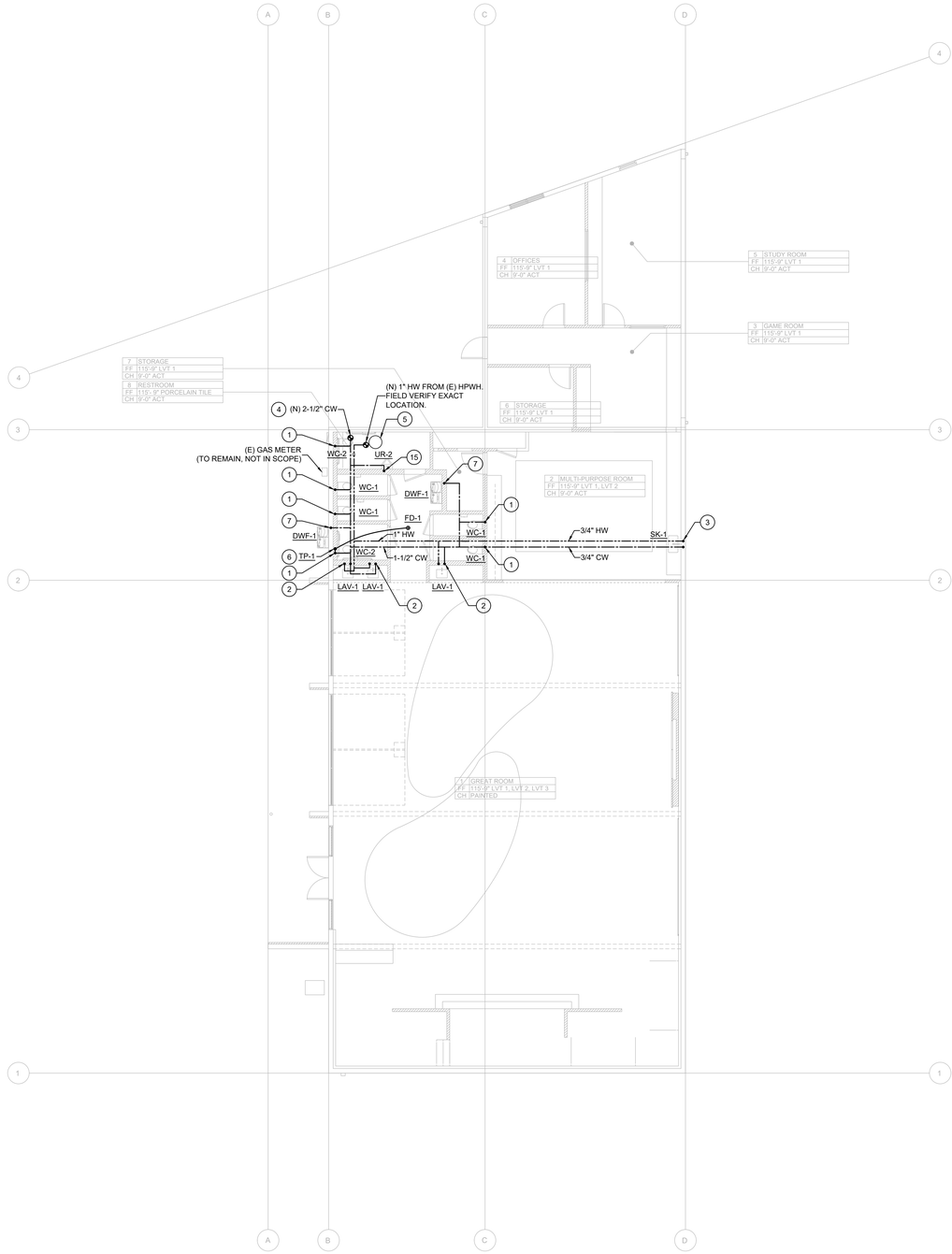
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PLAN NOTES

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.



0 4' 8' 16' 24'
1/8 " = 1'-0"

1ST - FLOOR PLAN - WATER | 1

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1ST - FLOOR PLAN - WATER

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P1.02-2

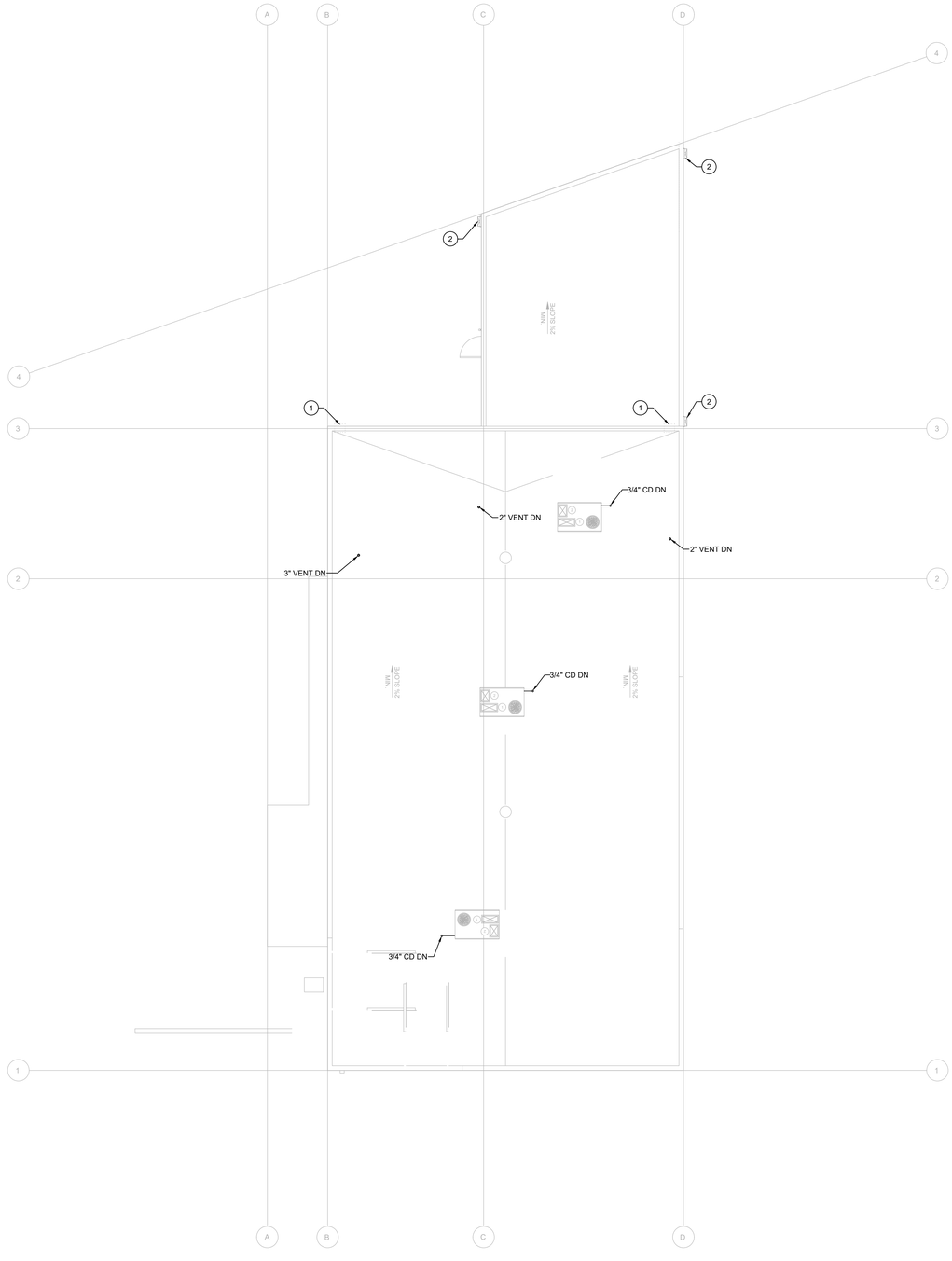
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PLAN NOTES

(1) EXISTING SCUPPER.

(2) EXISTING DOWNSPOUT.



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ROOF PLAN | 1

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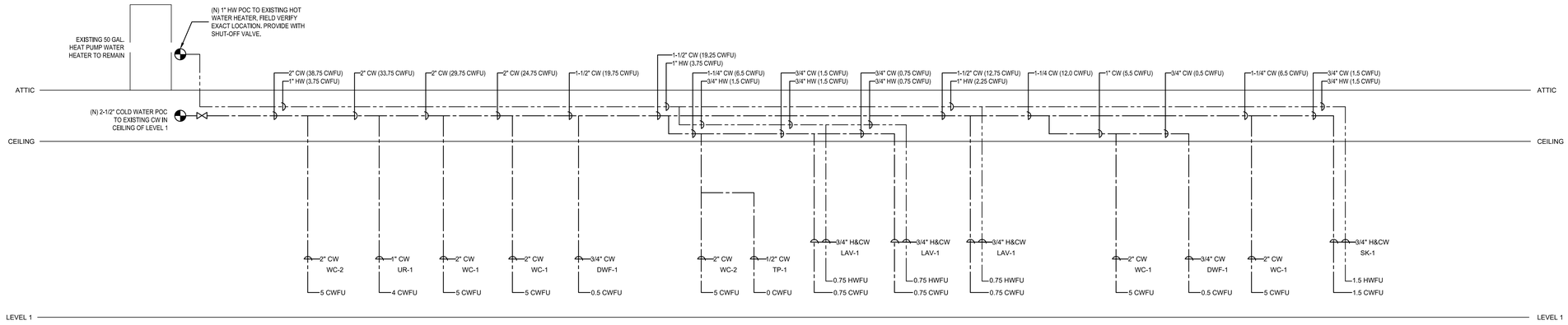
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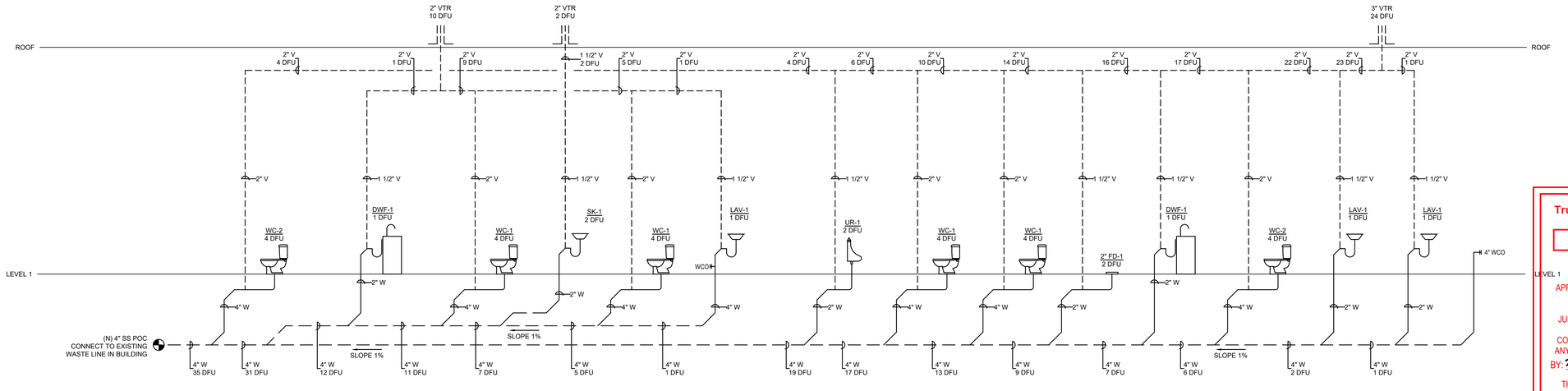
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WATER RISER DIAGRAM | 2



WASTE & VENT RISER DIAGRAM | 1

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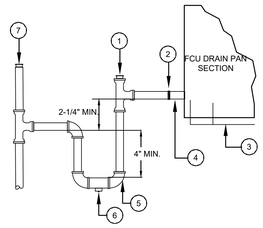
BY: Mutham Hweidi DATE: 03/25/2026

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NOT USED — 9 — SCALE NTS

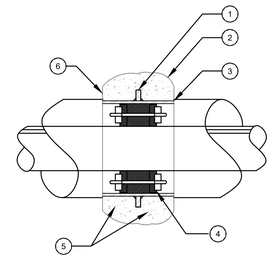
CONDENSATE DRAIN TRAP DETAIL — 6 — SCALE NTS

DETAIL FOR CONDENSATE TRAP	
1	CO PLUG (THREADED).
2	ADAPTER-UNION
3	DRAIN PAN.
4	DRAIN LINE SHALL BE AT LEAST THE SAME SIZE AS THE NIPPLE ON DRAIN PAN.
5	CONDENSATE DRAIN LINE ¾" MIN. (TYPE M COPPER TUBING WITH WROUGHT COPPER FITTING).
6	DRAIN PLUG.
7	VENT PLUG.
8	VENT.
9	DRAIN.



PIPE SLEEVE THRU CONCRETE WALL DETAIL — 3 — SCALE NTS

EXTERIOR WALL PIPE SLEEVE			
1	WATER STOP AND ANCHOR COLLAR (IF BELOW FINISHED GRADE).	4	LINK-SEAL TYPE WALL PENETRATION SEAL.
2	CONCRETE OR CMU WALL.	5	BUTT INSULATION TO WALL (TYPE) WHERE SPECIFIED.
3	LINK-SEAL TYPE WALL SLEEVE (FOR CAST IN PLACE, OMIT FOR CORE DRILLED INSTALLATION.	6	COAT EXTERIOR SURFACES WITH TAR COMPOUND.

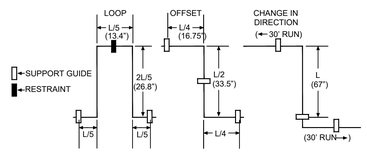


EXPANSION LOOP FOR CPVC OVER 2" — 8 — SCALE NTS

EXPANSION LOOP LENGTH (L), INCHES FOR 100°F TEMPERATURE CHANGE						
CPVC PIPE OVER 2"						
LENGTH OF RUN IN FEET						
NOMINAL PIPE DIAMETER [IN]	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"

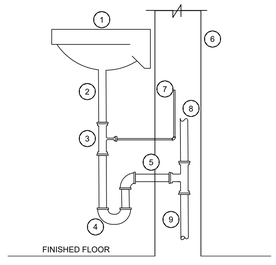
NOTES:
(1) REFERENCED FROM DESIGN & ENGINEERING DATA OF CHARLOTTE PIPE & FOUNDRY COMPANY, PLASTIC TECHNICAL MANUAL. (2) THE CALCULATION IS BASED ON EXPANSION LOOP FORMULA BASED ON MODULES OF ELASTICITY OF CPVC @100°F (385,000 PSI), WORKING STRESS OF CPV @ 100°F (1,640 PSI) & COEFFICIENTS OF LINEAR EXPANSION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

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



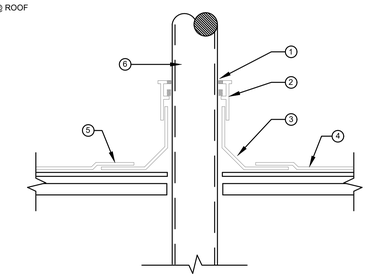
CONDENSATE TO TAILPIECE DETAIL — 5 — SCALE NTS

DETAIL FOR CONDENSATE TO TAILPIECE	
1	LAVATORY OR SINK.
2	TAIL PIECE.
3	SLIP JOINT TEE.
4	P-TRAP.
5	TRAP ARM.
6	WALL.
7	CONDENSATE DRAIN (FROM FCU).
8	VENT.
9	DRAIN.



VENT THRU ROOF DETAIL — 2 — SCALE NTS

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

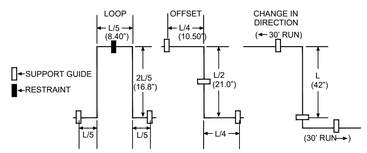


EXPANSION LOOP FOR CPVC UP TO 2" — 7 — SCALE NTS

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"

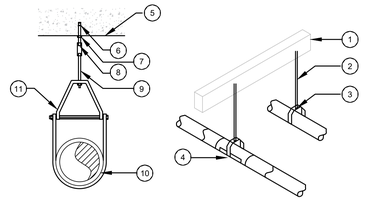
NOTES:
REFERENCED FROM DESIGN & ENGINEERING DATA OF CHARLOTTE PIPE & FOUNDRY COMPANY, PLASTIC TECHNICAL MANUAL.

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



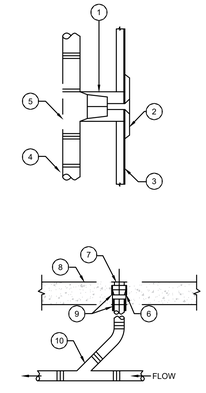
PIPE SUPPORT DETAIL — 4 — SCALE NTS

CLEANOUT DETAIL			
1	BUILDING STRUCTURE.	7	NUT.
2	ALL THREAD ROD, LENGTH AS REQUIRED FOR PIPE SLOPE.	8	ROD COUPLER.
3	GALVANIZED STEEL CLEVIS PIPE HANGER.	9	THREADED ROD.
4	VERIFY INSULATION THICKNESS WHEN SIZING HANGERS.	10	NON HUB IRON OR TYPE K COPPER TUBING WITH FELT OR VINYL ISOLATOR (TYP).
5	CONCRETE FLOOR DECK.	11	NON HUB IRON OR TYPE K COPPER TUBING WITH FELT OR VINYL ISOLATOR (TYP).
6	HILTI KWIK BOLT TZ CONCRETE EXPANSION BOLT.		



CLEANOUT DETAIL — 1 — SCALE NTS

CLEANOUT DETAIL			
1	18 GAUGE ROUND GALVANIZED STEEL.	6	ADJUSTING COLLAR.
2	ACCESS COVER.	7	FLUSH COVER.
3	FINISHED WALL.	8	FINISHED FLOOR.
4	CLEANOUT PIPE.	9	CLEANOUT PLUG.
5	CLEANOUT TEE.	10	WYE.



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350 Main St, El Segundo, CA 90245

EL SEGUNDO RECREATION PARK PHASE 1 IMPROVEMENT PROJECT

TEEN CENTER AND TEEN PLAZA

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El Segundo, CA 90245

Issue dates

#	Date	Description
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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
	02/09/26	PLAN CHECK RESUBMITTAL #4

Sheet title:

PLUMBING DETAILS

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

PD0.1

NOT USED

8 SCALE NTS

NOT USED

5 SCALE NTS

NOT USED

2 SCALE NTS

NOT USED

7 SCALE NTS

NOT USED

4 SCALE NTS

NOT USED

6 SCALE NTS

NOT USED

3 SCALE NTS

WATER HAMMER ARRESTOR DETAIL

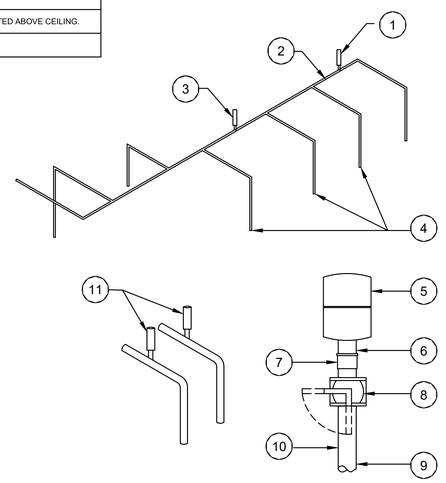
1 SCALE NTS

WATER HAMMER ARRESTOR SCHEDULE			
TYPE	A	B	C
SIZE	¾"	3/4"	1"
NUMBER OF FIXTURE UNITS	1 - 11	12 - 32	33-60
MANUFACTURER	WATTS	WATTS	WATTS
MODEL NUMBER	15M2-A	15M2-B	15M2-C

NOTES:

1. INSTALL AS CLOSE TO SHOCK SOURCE AS POSSIBLE.
2. INSTALL A SHOCK ARRESTOR ON BOTH HOT & COLD LINES.
3. DESIGNED TO OPERATE ON ALL DOMESTIC & COMMERCIAL LINES @ 150 PSI WORKING PRESSURE.
4. DESIGNED TO OPERATE ON TEMPERATURE RANGE OF 33°F TO 180°F.
5. PROVIDE ACCESS DOOR WHERE REQUIRED.

WATER HAMMER ARRESTOR DETAIL	
1	IF HORIZONTAL BRANCH IS LESS THAN 20' LONG, PROVIDE ONE WHA AT END OF THE LINE.
2	HOT OR COLD WATER SUPPLY.
3	IF BRANCH IS GREATER THAN 20' LONG, PROVIDE ANOTHER WHA IN MIDDLE EACH SIZED FOR HALF THE FIXTURE UNITS.
4	TO FIXTURE UNITS (TYP).
5	WATER HAMMER ARRESTOR.
6	THREADED END CONNECTION.
7	FITTING ADAPTER.
8	ISOLATION VALVE.
9	RISER.
10	WATER HAMMER ARRESTOR LOCATED ABOVE CEILING.
11	PDI SIZE "A".



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BY: Mukham Fawzi DATE: 03/25/2026

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Sheet title:

PLUMBING DETAILS

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

PD0.2

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

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

1 THE FABRICATOR OR ERECTOR, AS APPLICABLE, SHALL MAINTAIN A SYSTEM BY WHICH A WELDER WHO HAS WELDED A JOINT OR MEMBER CAN BE IDENTIFIED. STAMPS, IF USED, SHALL BE THE LOW-STRESS TYPE.

2 WHEN WELDING OF DOUBLER PLATES, CONTINUITY PLATES OR STIFFENERS HAS BEEN PERFORMED IN THE K-AREA, VISUALLY INSPECT THE WEB K-AREA FOR CRACKS WITHIN3 IN. (75MM) OF THE WELD.

3 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.

WOOD

1. ALL STRUCTURAL WOOD SHALL CONFORM WITH THE FOLLOWING SPECIFICATIONS: DOUGLAS FIR - COSTAL REGION - WCLIB GRADING RULES #17 OR WWPA STANDARD GRADING RULES FOR WESTERN LUMBER: #1 UNO.,
2. ALL WOOD IN DIRECT CONTACT WITH CONCRETE SHALL BE PRESSURE TREATED, EXCEPT LEDGERS, WHICH DO NOT NEED TO BE PRESSURE TREATED.
3. FIELD CUTS AND BOLT HOLES IN PRESSURE TREATED WOOD SHALL BE PROTECTED IN ACCORDANCE WITH AWPA STANDARD M4.
4. 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
5. PROVIDE SOLID BLOCKING BETWEEN JOISTS AND RAFTERS AT ALL SUPPORTS.
6. PROVIDE BLOCKING AT ALL CEILING LEVELS.
7. JOISTS UNDER AND PARALLEL TO PARTITIONS SHALL BE DOUBLED AND NAILED TOGETHER.
8. THE MOISTURE CONTENT OF 2X MATERIAL AT TIME OF INITIAL USE SHALLBE LESS THAN 19%. THE MOISTURE CONTENT OF LUMBER 3X AND LARGER AT TIME OF INITIAL USE SHALL BE LESS THAN 30% UNO.
9. HOLES FOR BOLTS IN WOOD SHALL BE BORED WITH A BIT OF THE SAME NOMINAL DIAMETER AS THE BOLT PLUS 1/16".
10. HOLES 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.
11. LAG SCREWS AND WOOD SCREWS SHALL BE SCREWED AND NOT DRIVEN INTO PLACE. SOAP MAY BE USED TO LUBRICATE SCREWS.
12. ALL BOLTS AND LAG SCREWS SHALL BE TIGHTENED ON INSTALLATION AND RETIGHTENED BEFORE CLOSING IN OR AT COMPLETION OF JOB.
13. ALL BOLTS SHALL BE FULL NOMINAL DIMENSION @ UNTHREADED PORTION. NO UPSET THREADED BOLTS ALLOWED.
14. 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.
15. 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.
16. BLOCK SHTG 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.
17. 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.
18. LAY ALL STRUCTURAL SHEATHING ON ROOF AND FLOORS WITH LONG DIMENSION PERPENDICULAR TO SUPPORTS UNLESS NOTED OTHERWISE.
19. NOTIFY STRUCTURAL ENGINEER AFTER WALL, FLOOR, AND ROOF SHTG NAILING HAS BEEN COMPLETED AND A MINIMUM OF 48 HOURS PRIOR TO CONCEALING NAILING.
20. ALL FASTENERS USED IN FIRE-RETARDANT TREATED WOOD SHALL BE HOT-DIPPED GALVANIZED OR STAINLESS STEEL.
21. ANCHOR BOLTS IN CONTACT WITH PRESSURE TREATED SILL PLATES SHALL BE OF HOT-DIPPED ZINC-COATED GALVANIZED STEEL, STAINLESS STEEL, SILICON BRONZE OR COPPER.
22. FOUNDATION ANCHOR BOLTS SHALL INCLUDE A 0.229"X3X3 STEEL PLATE WASHERS.

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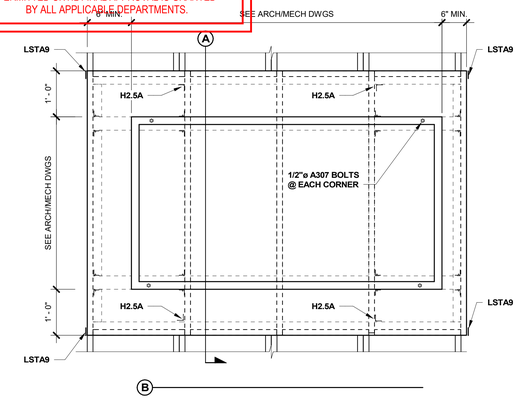
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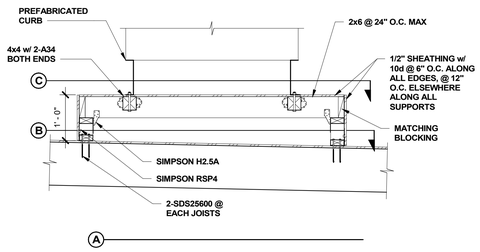
BY: Mulham Fweidi DATE: 03/25/2026

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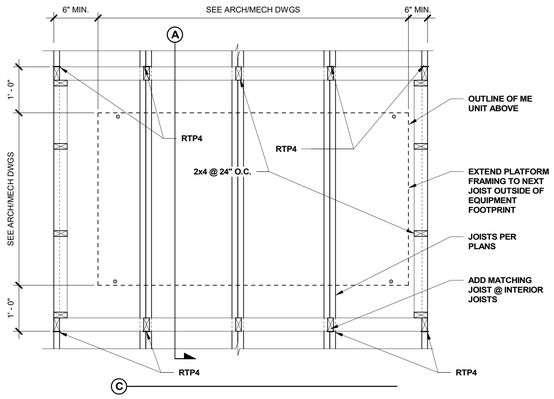
NOTE: REFER TO SHEET M0.03 FOR SIZES OF UNITS



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



ALIGN VERTICAL STUDS SUCH THAT THE SIMPSON H2.5A CAN CONNECT TO THE SUPPORT 2xs



CONCRETE MASONRY UNITS (CMU)

1. 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"
2. 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 PERMANENT DISTORTIONS.
3. WHEN THE AMBIENT AIR TEMPERATURE IS BELOW 40°F, THE COLD WEATHERPROCEDURES 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.
4. CONCRETE BLOCK UNITS SHALL CONFORM TO ASTM C90 . f'm= 2000 PSI. f'm 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.
5. MORTAR SHALL BE TYPE S PER ASTM C270.
6. 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 SPACE WIDTH (FOR MULTI-WYTHE 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 PEA GRAVEL SHALL PASS THE NO. 8 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.
7. 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.
8. PLACE ALL HORIZONTAL BARS IN BOND BEAM UNITS. WHEN 2 BARS ARE USED, STAGGER LAPS MINIMUM OF 5'-0".
9. 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 MINIMUMCOVER FOR THE REINFORCING BARS OF 2" SHALL BE MAINTAINED.
10. 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.
11. VERTICAL CELLS SHALL HAVE VERTICAL ALIGNMENT SUFFICIENT TO MAINTAIN A CLEAR UNOBSTRUCTED CONTINUOUS VERTICAL CELL.
12. GROUT PLACEMENT SHALL CONFORM TO TMS 602 SECTION 3.5.
13. CLEAN OUT OPENINGS SHALL BE PROVIDED AT THE BOTTOMS OF ALL CELLSTO 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.
14. REINFORCEMENT IS TO BE SUPPORTED IN PLACE TO PREVENT DISPLACEMENT CAUSED BY PLACEMENT OF GROUT AND MORTAR OR BY CONSTRUCTION LOADS.
15. THOROUGHLY CLEAN ALL CELLS AND BOND BEAMS OF MORTAR BEFORE GROUTING.
16. 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.
17. 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.
18. EVERY VERTICAL BAR IN WALLS SHALL BE LAPPED PER THE TABLE BELOW WITH A DOWEL OF THE SAME SIZE EXTENDING FROM THE FOUNDATION. CAMP EACH DOWEL TO WITHIN 3" OF THE BOTTOM OF THE FOUNDATION AND TERMINATE WITH 90 DEGREE HOOK. DOWELS SHALL BE STRAIGHT AND PLUMB.
19. 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 AMINIMUM 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.
20. SINGLE CONDUITS (3/4" MAX) MAY BE PLACED IN VERTICAL CELLS NOT CONTAINING VERTICAL REBAR. NO HORIZONTAL CONDUITS ALLOWED IN WALL CONSTRUCTION.
21. ANCHOR BOLTS CAST IN MASONRY SHALL BE HEADED BOLTS WITH CUT THREADS CONFORMING TO ASTM F1554 GRADE 36, OR ASTM A307 GRADE A, UNO. BENT BAR ANCHORBOLTS ARE NOT PERMITTED.
22. USE OPEN END BLOCK FOR ALL CONSTRUCTION NOT LAID IN RUNNING BOND.
23. 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 #8 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)

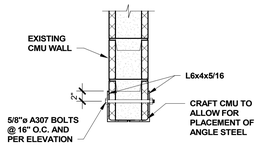
BAR SIZE	fy (KSI)	y	6" CMU		8" CMU		10" CMU		12" CMU	
			CENTER	EF	CENTER	EF	CENTER	EF	CENTER	EF
#3	60	1.0	12"	-	12"	14"	12"	13"	12"	12"
#4	60	1.0	18"	-	13"	24"	13"	22"	13"	21"
#5	60	1.0	28"	-	20"	37"	20"	35"	20"	33"
#6	60	1.3	53"	-	38"	-	38"	-	38"	-
#7	60	1.3	-	-	52"	-	52"	-	52"	-

STATEMENT OF STRUCTURAL SPECIAL INSPECTIONS AND TESTING

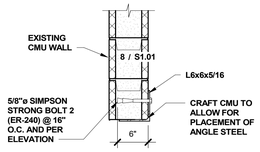
1. SPECIAL INSPECTIONS AND TESTING SHALL BE PROVIDED BY A TESTING AND INSPECTION AGENCY, EMPLOYED BY THE OWNER (OR OWNER'S AUTHORIZED AGENT), AND APPROVED BY THE BUILDING OFFICIAL TO PROVIDE SPECIAL INSPECTIONS AND TESTING FOR THE PARTICULAR TYPE OF CONSTRUCTION.
2. TABLES OF SPECIAL INSPECTIONS AND 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 CONVENIENCE OF THE OWNER, TESTING AGENCY AND CONTRACTOR IN DEVELOPING THE SCOPE OF WORK FOR REQUIRED TESTING AND INSPECTIONOF 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).
3. 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.
4. 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.
5. 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.
6. SPECIAL INSPECTION AND TESTING RECORDS SHALL BE RETAINED BY THE CONTRACTOR ON SITE UNTIL COMPLETION OF CONSTRUCTION.
7. 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.
8. THE OWNER OR THE OWNER'S AUTHORIZED AGENT SHALL SUBMIT TO THE BUILDING OFFICIAL, A FINAL REPORT DOCUMENTING SPECIAL INSPECTIONS AND TESTS PER CBC SECTION1704.2.4, AND REPORTS AND CERTIFICATES PER CBC SECTION 1704.5.
9. SPECIAL INSPECTION IS REQUIRED FOR ALL SHOP FABRICATED MEMBERS OR ASSEMBLIES UNLESS WAIVED PER THE EXCEPTIONS IN CBC SECTION 1704.2.5.
10. DEFINITIONS:
    a. CONTINUOUS -SPECIAL INSPECTION BY THE SPECIAL INSPECTOR WHO IS CONTINUOUSLY PRESENT WHEN AND WHERE THE WORK TO BE INSPECTED IS BEING PERFORMED.
    b. PERIODIC -SPECIAL INSPECTION BY THE SPECIAL INSPECTOR WHO IS INTERMITTENTLY PRESENT WHERE THE WORK TO BE INSPECTED HAS BEEN OR IS BEING PERFORMED.
    c. 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.
    d. QUALITY CONTROL (QC) -CONTROLS AND INSPECTIONS IMPLEMENTED BY THE FABRICATOR OR ERECTOR, AS APPLICABLE, TO ENSURE THAT THE MATERIAL PROVIDED ANDWORK PERFORMED MEET THE REQUIREMENTS OF THE APPROVED CONSTRUCTION DOCUMENTS ANDREFERENCED STANDARDS.
    e. OBSERVE (O) -OBSERVE THESE ITEMS ON A RANDOM BASIS (DAILY FOR LFRS). OPERATIONS NEED NOT BE DELAYED PENDING THESE INSPECTIONS.
    f. PERFORM (P) -PERFORM THOSE TASKS PRIOR TO FINAL ACCEPTANCE FOR EACH ITEM OR ELEMENT.
    g. 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, COMPLETED WELDS, OR OTHER 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.
11. 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 -BOLTING

GENERAL NOTES

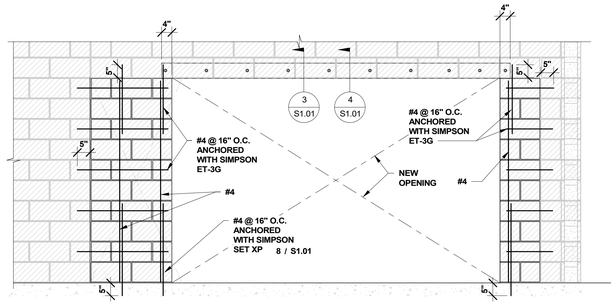
1. CONSTRUCTION SHALL CONFORM TO ALL APPLICABLE CODES, REGULATIONS, AND THESE CONTRACT DRAWINGS.
2. INTERPRETATION OF DRAWINGS & SPECIFICATIONS
    a. WHERE SPECIFICATIONS HAVE BEEN PREPARED FOR THIS PROJECT, THEY ARE ARRANGED IN SEVERAL SECTIONS, BUT SUCH SEPARATION SHALL NOT BE CONSIDERED AS THE LIMITS OF THE WORK REQUIRED OF ANY SEPARATE TRADE. THE TERMS AND CONDITIONS OF SUCH LIMITATIONS ARE WHOLLY BETWEEN THE CONTRACTOR AND THEIR SUBCONTRACTORS.
    b. IN GENERAL, THE WORKING DETAILS WILL INDICATE DIMENSIONS, POSITION AND KIND OF CONSTRUCTION, AND THE SPECIFICATIONS WILL INDICATE QUALITIES AND METHODS. ANY WORK INDICATED ON THE WORKING DETAILS AND NOT MENTIONED IN THE SPECIFICATIONS, OR VICE VERSA, SHALL BE FURNISHED AS THOUGH FULLY SET FORTH IN BOTH. WORK NOT PARTICULARLY DETAILED, MARKED, OR SPECIFIED, SHALL BE IDENTICAL OR SIMILAR TO LIKE CASES OF CONSTRUCTION THAT ARE DETAILED, MARKED, OR SPECIFIED. IF CONFLICTS OCCUR ON DRAWINGS AND/OR SPECIFICATIONS, THE HIGHEST QUALITY MATERIALS OR METHODS WILL PREVAIL.
    c. SHOULD AN ERROR APPEAR IN THE WORKING DETAILS OR SPECIFICATIONS, OR IN WORK DONE BY OTHERS AFFECTING THIS WORK, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT AT ONCE AND IN WRITING. IF THE CONTRACTOR PROCEEDS WITH THE WORK SO AFFECTED WITHOUT HAVING GIVEN SUCH WRITTEN NOTICE AND WITHOUT RECEIVING THE NECESSARY APPROVAL, DECISION, OR INSTRUCTIONS IN WRITING FROM THE OWNER, THEN THE CONTRACTOR SHALL HAVE NO VALID CLAIM AGAINST THE OWNER FOR THE COST OF SO PROCEEDING AND SHALL MAKE GOOD ANY RESULTING DAMAGE OR DEFECT. NO VERBAL APPROVAL, DECISION, OR INSTRUCTION SHALL BE VALID OR BE THE BASIS FOR ANY CLAIM AGAINST THE OWNER, ITS OFFICERS, EMPLOYEES OR AGENTS. THE FOREGOING INCLUDES TYPICAL ERRORS IN THE SPECIFICATIONS OR NOTATIONAL ERRORS IN THE WORKING DETAILS WHERE THE INTERPRETATION IS DOUBTFUL OR WHERE THE ERROR IS SUFFICIENTLY APPARENT AS TO PLACE A REASONABLY PRUDENT CONTRACTOR ON NOTICE THAT, SHOULD THE CONTRACTOR ELECT TO PROCEED, THEY ARE DOING SO AT THEIR OWN RISK.
3. GENERAL NOTES APPLY TO ALL PARTS OF THE WORK EXCEPT WHERE SPECIFICALLY DETAILED OR NOTED.
4. THESE STRUCTURAL DRAWINGS ILLUSTRATE THE NEW STRUCTURAL MEMBERS OR SPECIFY THE EXISTING STRUCTURAL MEMBERS. THE EXISTING STRUCTURAL MEMBERS SHALL BE VERIFIED BY THE CONTRACTOR IN THE FIELD.
5. THE LOCATION SLEEVES, OPENINGS, AND HANGERS FOR PIPES, DUCTS, AND EQUIPMENT SHALL BE SET FORTH IN THE MECHANICAL AND ELECTRICAL DRAWINGS. ANY CONDUITS THAT RUN WITHIN A STRUCTURAL SLAB SHALL BE WITHIN THE MIDDLE 1/3 OF THE SLAB, AND SHALL BE SPACED AT THREE TIMES THE LARGER DIAMETER OF THE TWO CONDUITS BEING CONSIDERED. THE CONTRACTOR SHALL REVIEW THE LOCATIONS OF CONDUITS AND OTHER EQUIPMENT THAT IS EMBDDED IN THE CONCRETE. WHERE THESE ELEMENTS MODIFY THE SPECIFIED SIZE OR SHAPE, OR PENETRATE THE STRUCTURAL ELEMENTS SPECIFIED ON THESE DRAWINGS, THE CONTRACTOR SHALL INFORM THE STRUCTURAL ENGINEER IMMEDIATELY.
6. THE CONTRACTOR SHALL VERIFY THE SCOPE OF WORK AND THE SITE CONDITIONS, AND SHALL DETERMINE IF THOSE ELEMENTS ARE, OR ARE NOT, IN COMFORMANCE. THE CONTRACTOR SHALL VERIFY (IN THE FIELD OR OTHERWISE) AND TAKE RESPONSIBILITY FOR ALL DIMENSIONS AND CONDITIONS WHICH IMPACT THE WORK.
7. SAFETY NOTE:
    a. IT IS THE CONTRACTORS RESPONSIBILITY TO COMPLY WITH THE PERTINENT SECTIONS, AS THEY APPLY TO THIS PROJECT, OF THE "CONSTRUCTION SAFETY ORDERS" ISSUED BY THE STATE OF CALIFORNIA LATEST EDITION, AND ALL OSHA REQUIREMENTS.
    b. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADEQUATE DESIGN AND CONSTRUCTION OF ALL FORMS AND SHORING REQUIRED. DETERMINATION WHETHER SHORING IS REQUIRED FOR TEMPORARY OR INTERMEDIATE CONDITIONS DURING CONSTRUCTION IS WHOLLY THE RESPONSIBILITY OF THE CONTRACTOR.
    c. THE OWNER AND THE STRUCTURAL ENGINEER DO NOT ACCEPT ANY RESPONSIBILITY FOR THE CONTRACTOR'S FAILURE TO COMPLY WITH THESE REQUIREMENTS.
    d. THE CONTRACTOR SHALL PROVIDE SECURELY BRACE AND SHORE ALL FLOOR AND ROOF ELEMENTS DURING CONSTRUCTION.
8. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT AND STRUCTURAL ENGINEER WHERE A CONFLICT OR DISCREPANCY OCCURS BETWEEN THE STRUCTURAL DRAWINGS AND ANY OTHER PORTION OF THE CONTRACT DOCUMENTS OR EXISTING FIELD CONDITIONS. SUCH NOTIFICATION SHALL BE GIVEN IN DUE TIME SO AS NOT TO AFFECT THE CONSTRUCTION SCHEDULE. IN CASE OF A CONFLICT BETWEEN STRUCTURAL DRAWINGS AND SPECIFICATIONS THE MORE RESTRICTIVE CONDITION SHALL TAKE PRECEDENCE UNLESS WRITTEN APPROVAL HAS BEEN GIVEN FOR A LESS RESTRICTIVE. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS WITH ARCHITECTURAL PRIOR TO COMMENCING ANY WORK.
9. ANY DEVIATION FROM THE APPROVED SET OF STRUCTURAL DRAWINGS SHALL BE APPROVED BY THE INSPECTOR REPRESENTING THE JURISDICTION HAVING AUTHORITY AND ANY OTHER ENGINEER OF RECORD PRIOR TO CONSTRUCTION.
10. THE CONTRACTOR SHALL PROVIDE MEANS, METHODS, AND SEQUENCE OF CONSTRUCTION. SITE VISITS BY THE ENGINEER OF RECORD DO NOT INCLUDE OBSERVATION OF MEANS AND METHODS.
11. THE CONTRACTOR SHAL



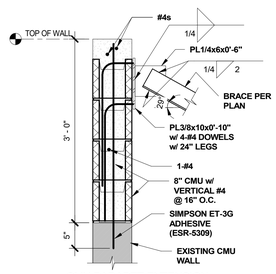
4 NEW HEADER FOR CMU OPENING
1" = 1'-0"



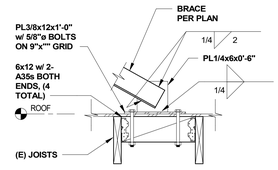
3 HEADER FOR CMU OPENING
1" = 1'-0"



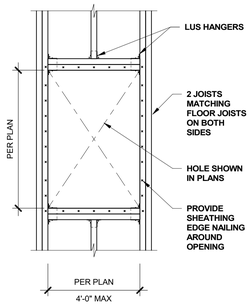
5 WIDENING OF AN EXISTING CMU WALL
1/2" = 1'-0"



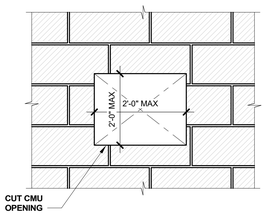
7 CMU PARAPET EXTENSION
1" = 1'-0"



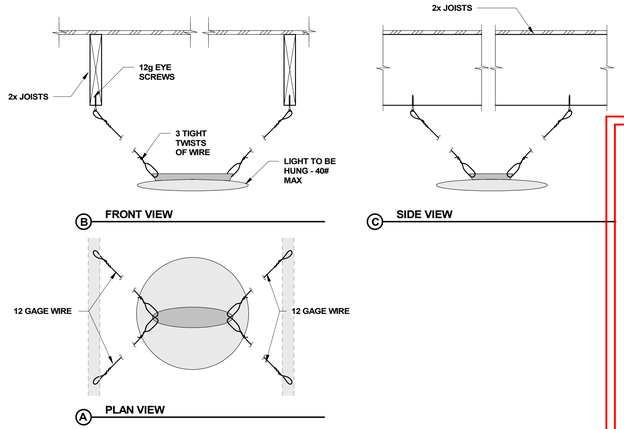
6 BRACE CONNECTION TO ROOF
1" = 1'-0"



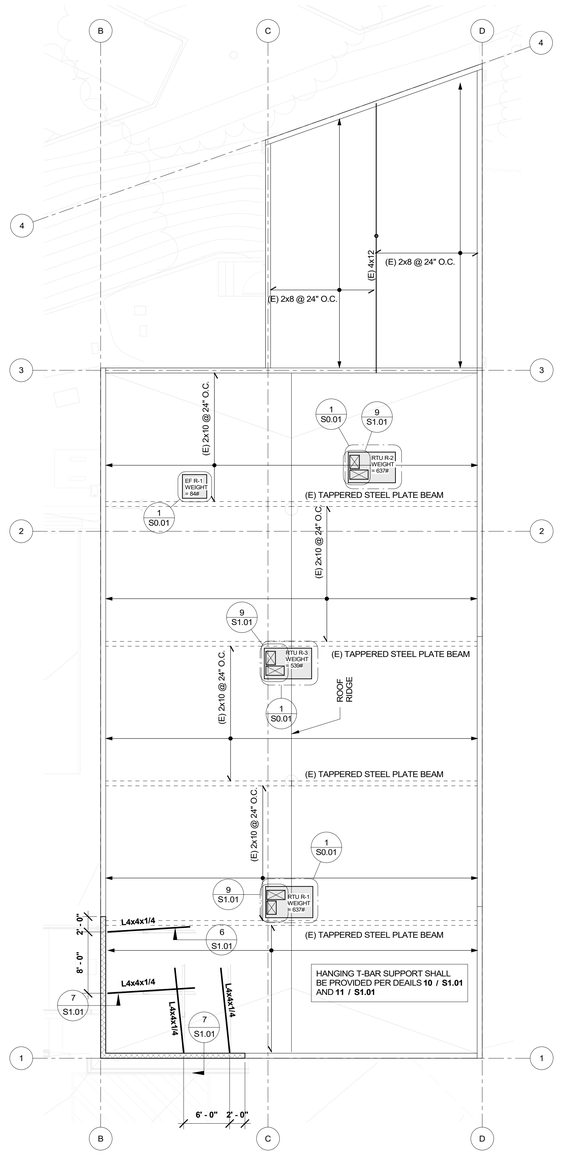
9 OPENING IN WOOD FRAMED FLOOR/ROOF
3/4" = 1'-0"



8 NEW SMALL OPENING IN CMU WALL
1" = 1'-0"

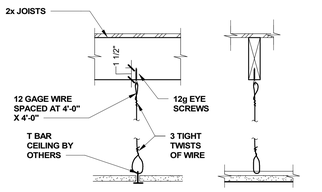


12 LIGHT SUPPORT
1 1/2" = 1'-0"

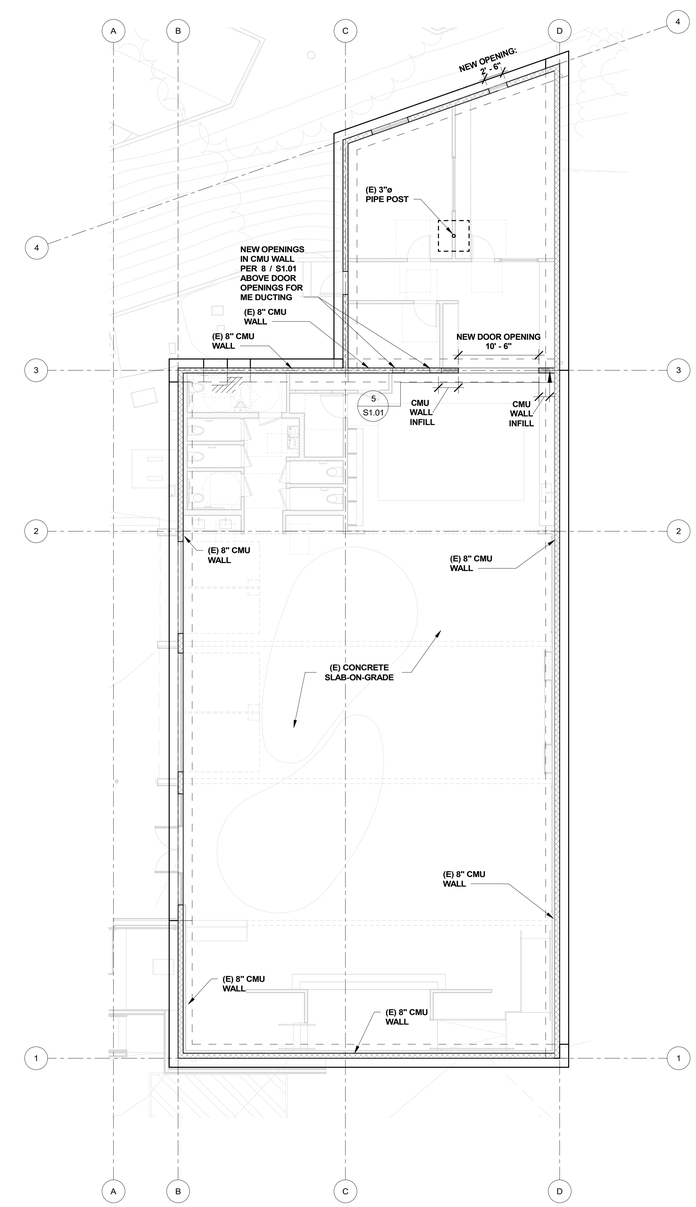


SEE 9 / S1.01 FOR RE-FRAMING FOR NEW OPENINGS IN ROOF DECK AT MECHICAL EQUIPMENT

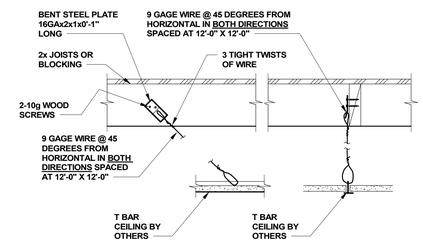
2 BOTTOM OF BEAM
1/8" = 1'-0"



11 TILE CEILING WIRE ATTACHMENTS
1 1/2" = 1'-0"



1 GROUND LEVEL
1/8" = 1'-0"



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

True North Compliance Services, Inc.

PLAN REVIEW APPROVAL

THESE PLANS/DOCUMENTS HAVE BEEN REVIEWED FOR COMPLIANCE WITH THE APPLICABLE CALIFORNIA BUILDING STANDARDS CODES AS ADOPTED BY THE STATE OF CALIFORNIA AND AMENDED BY THE JURISDICTION. PLAN REVIEW ACCEPTANCE OF DOCUMENTS DOES NOT AUTHORIZE CONSTRUCTION TO PROCEED IN VIOLATION OF ANY FEDERAL, STATE, NOR LOCAL REGULATION.

BY: Matham Hweidi DATE: 03/25/2026

THIS SET OF THE PLANS AND SPECIFICATIONS MUST BE KEPT ON THE JOB SITE AT ALL TIMES AND IT IS UNLAWFUL TO MAKE ANY CHANGES OR ALTERATIONS WITHOUT PERMISSION FROM THE CITY. OCCUPANCY OF STRUCTURE(S) IS NOT PERMITTED UNTIL FINAL APPROVAL IS GRANTED BY ALL APPLICABLE DEPARTMENTS.

This plan has been reviewed by Converse Consultants and appears to be in general conformity with the recommendations of the Geotechnical Investigation Report and Supplements. We make no representation as to accuracy of dimensions, measurements, calculations, or any portion of design.

Project No. 24-31-126-01 Dated 3/6/2026

By Engineer License No. GE2708 Date 3/6/2026

REGISTERED PROFESSIONAL ENGINEER No. 2708 Exp. 6-30-27 GEOTECHNICAL STATE OF CALIFORNIA

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STRUCTURAL
STATE OF CALIFORNIA

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

TIGHE

5757 Venice Blvd.
Los Angeles, CA 90019
323-424-7594
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Issue dates

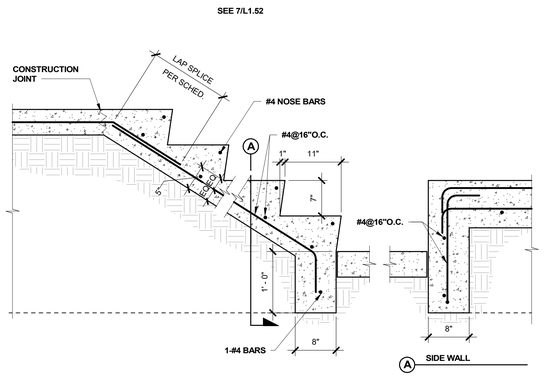
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	04/18/25	100% DD SUBMITTAL
	06/06/25	50% CD SUBMITTAL
	08/20/25	90% CD SUBMITTAL
	10/28/25	PLAN CHECK RESUBMITTAL #1
	11/14/25	PLAN CHECK RESUBMITTAL #2
	01/16/26	PLAN CHECK RESUBMITTAL #3
	02/09/26	PLAN CHECK RESUBMITTAL #4

Sheet title:

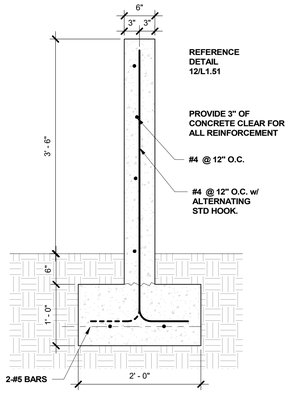
PLANS AND DETAILS

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

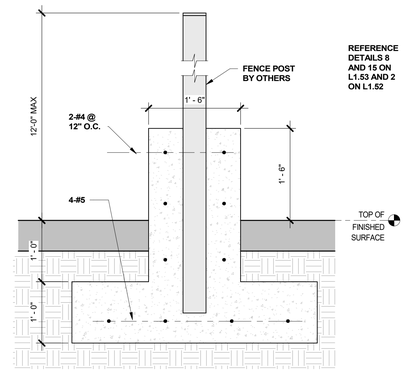
S1.01



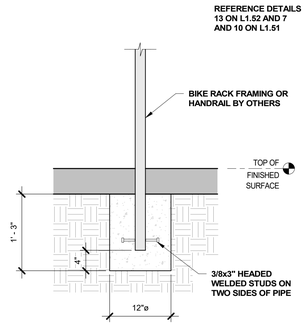
13 CONCRETE STAIR-ON-GRADE
1" = 1'-0"



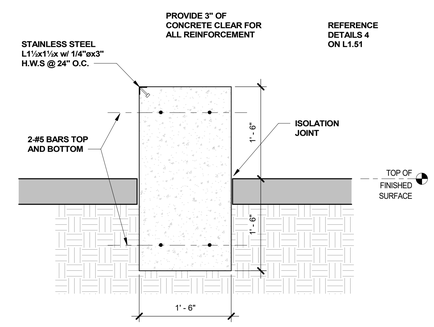
10 CIP MONUMENT SIGN
1" = 1'-0"



7 FENCE AT SEATWALL
1" = 1'-0"



4 BIKE RACK AND FREESTANDING HANDRAIL FOUNDATION
1" = 1'-0"



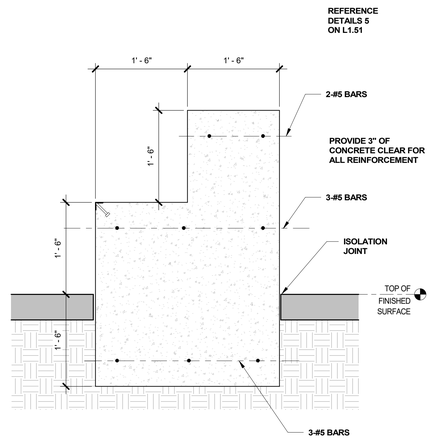
1 SEAT WALL
1" = 1'-0"

14 SITE CANTILEVER RETAINING WALL WITH DRAINAGE
3/4" = 1'-0"

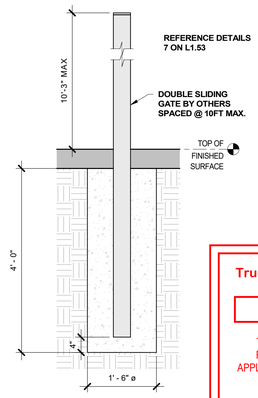
11 10FT HIGH FENCE POST FOUNDATION
3/4" = 1'-0"

8 FENCE POST BASE PLATE
1 1/2" = 1'-0"

5 PEDESTRIAN GATE POST AND VOLLEYBALL POST FOUNDATION
3/4" = 1'-0"



2 AMPLITHEATER SEATING
1" = 1'-0"



15 DOUBLE SLIDING GATE
3/4" = 1'-0"

This plan has been reviewed by Converse Consultants and appears to be in general conformity with the recommendations of the Geotechnical Investigation Report and Supplements. We make no representation as to accuracy of dimensions, measurements, calculations, or any portion of design.

Project No. 24-31-126-01 Dated 3/6/2026

By Engineer GE2708 License No. 3/6/2026 Date

REGISTERED PROFESSIONAL ENGINEER — No. 2708 Exp. 6-30-26 — GEOTECHNICAL — STATE OF CALIFORNIA

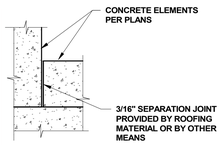
True North Compliance Services, Inc.

PLAN REVIEW APPROVAL

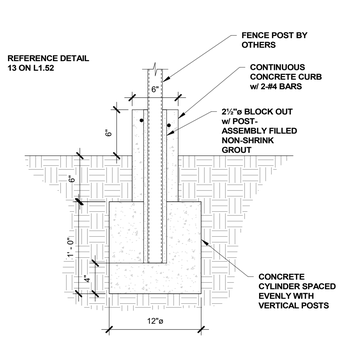
THESE PLANS/DOCUMENTS HAVE BEEN REVIEWED FOR COMPLIANCE WITH THE APPLICABLE CALIFORNIA BUILDING STANDARDS CODES AS ADOPTED BY THE STATE OF CALIFORNIA AND AMENDED BY THE JURISDICTION. PLAN REVIEW ACCEPTANCE OF DOCUMENTS DOES NOT AUTHORIZE CONSTRUCTION TO PROCEED IN VIOLATION OF ANY FEDERAL, STATE, NOR LOCAL REGULATION.

BY: Mulham Hweidi DATE: 03/25/2026

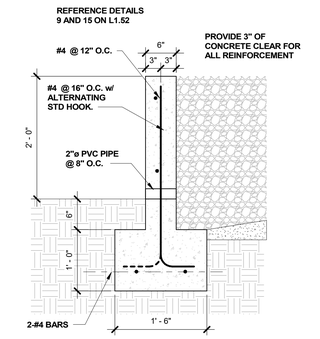
THIS SET OF THE PLANS AND SPECIFICATIONS MUST BE KEPT ON THE JOB SITE AT ALL TIMES AND IT IS UNLAWFUL TO MAKE ANY CHANGES OR ALTERATIONS WITHOUT PERMISSION FROM THE CITY. OCCUPANCY OF STRUCTURE(S) IS NOT PERMITTED UNTIL FINAL APPROVAL IS GRANTED BY ALL APPLICABLE DEPARTMENTS.



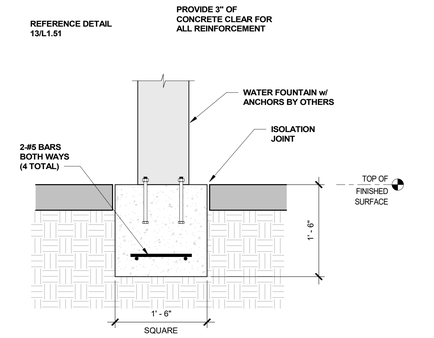
12 ISOLATION JOINT DETAIL
3/4" = 1'-0"



9 405 E. Grand - FREEESTANDING GUARDRAIL AT CURB
1 1/2" = 1'-0"



6 CURB AT PARKING LOT
1" = 1'-0"



3 BOTTLE FILLER CONNECTION
1" = 1'-0"

M I G
360 East Second Street
Suite 675
Los Angeles, CA 90012
213-694-3800
www.migcom.com

REGISTERED PROFESSIONAL ENGINEER — MICHAEL ZAHN No. S-5054 EXP.: 09.30.27 — STRUCTURAL — STATE OF CALIFORNIA

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

TIGHE
5757 Venice Blvd.
Los Angeles, CA 90019
323-424-7594
www.tighearchitecture.com

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
	02/09/26	PLAN CHECK RESUBMITTAL #4

Sheet title:

SITE DETAILS

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

S2.01

STRUCTURED CABLING SYSTEM / SECURITY

A SCOPE

GENERAL OVERVIEW

THIS PROJECT INVOLVES THE INSTALLATION OF INFRASTRUCTURE FOR THE VOICE, DATA, MATV, CCTV, ACCESS CONTROL AND INTRUSION DETECTION SYSTEMS. THE DESIGN OF THESE INFRASTRUCTURE SYSTEMS IS BASED UPON CURRENT INDUSTRY STANDARDS, SUPPORTING AN OPEN SYSTEM ARCHITECTURE.

VOICE AND DATA INFRASTRUCTURE OVERVIEW

FIBER OPTIC AND CAT-6 UTP INFRASTRUCTURE TO SUPPORT DATA, VOICE, AND INTERNET SERVICES THROUGHOUT THE FACILITY. OUTLETS WILL BE CONFIGURED PER FLOOR PLANS AND CORRESPONDING OUTLET CONFIGURATION DETAILS. ALL OUTLETS, PATCH PANELS AND CABLE LINKS ARE TO BE LABELED PER ANSI/TIA/EIA STANDARDS. INSTALLER SHALL DEVELOP AND SUBMIT FOR APPROVAL A LABELING SYSTEM FOR THE INFRASTRUCTURE INSTALLATION USING THE GUIDELINES SPECIFIED HEREIN. SYSTEMS INFRASTRUCTURE SHALL BE TESTED AND CERTIFIED AS DOCUMENTED HEREIN.

MATV INFRASTRUCTURE OVERVIEW

TELEVISION SERVICE TO FACILITY WILL BE DELIVERED VIA A COAXIAL AND/OR FIBER/CAT-6 DISTRIBUTION SYSTEM. CABLING CONTRACTOR IS RESPONSIBLE FOR SUPPLYING ALL CABLE, SPLITTERS/TAPS, AMPLIFIERS, PATCH PANELS, TERMINATIONS, ETC. TO PROVIDE A COMPLETE MATV DISTRIBUTION SYSTEM. LABELING OF ALL CABLE RUNS, HEADEND TERMINATIONS, OUTLET LOCATIONS AND JUNCTION BOX COVERS IS REQUIRED. THE LABELING SCHEME SHALL BE CLEAR, CONCISE AND REFLECTED ON AS-BUILT DRAWINGS.

CCTV AND INTRUSION DETECTION SYSTEMS OVERVIEW

SECURITY SYSTEM WILL CONSIST OF ALL OR SOME OF THE FOLLOWING: CLOSED CIRCUIT CAMERAS, NETWORK VIDEO RECORDER(S), DURESS ALARMS, DOOR CONTACTS, CARD READERS, ACCESS CONTROL PANELS, AND INTERCOM UNITS. ALL COMPONENTS SHALL BE PROVIDED AND INSTALLED IN APPROPRIATE LOCATIONS PER DRAWINGS. CONTRACTOR IS RESPONSIBLE FOR INSTALLING ALL NECESSARY COMPONENTS, CABLE, HARDWARE, ETC. TO FURNISH COMPLETE SYSTEM.

B PROJECT SPECIFIC CONDITIONS

1. ALL CABLE REMOVAL AND NEW WORK SHALL BE COORDINATED WITH OPERATIONS PERSONNEL.
2. ALL NEW CABLE PATHWAYS SHALL BE SELECTED TO MINIMIZE RUN LENGTHS AND TO MINIMIZE DEMOLITION OF WALLS AND CEILINGS REQUIRED TO ENABLE CABLE PULLING. ALL WALL AND CEILING DEMOLITION REQUIRED FOR CABLE INSTALL SHALL BE REPAIRED AND FINISHED TO MATCH FINISHES STATED ON ARCHITECTURAL AND ID DRAWINGS.
3. EXISTING TELEPHONE, DATA AND TV CABLES IN NON-SCOPE AREAS ARE NOT TO BE DISTURBED. IDENTIFY PRESENCE AND LOCATION OF SAME PRIOR TO DEMOLITION.

C CONTRACTOR PROJECT REQUIREMENTS

1. INSTALLATION SHALL COMPLY WITH APPLICABLE CODES INCLUDING BUT NOT LIMITED TO ANSI/TIA/EIA 568C (FOR STRUCTURED CABLING SYSTEM), NATIONAL ELECTRICAL CODE, NFPA GUIDELINES, AND ANY LOCAL CODES OR ORDINANCES IN EFFECT.
2. CONTRACTOR IS RESPONSIBLE FOR THEIR OWN CLEANUP.
3. CONTRACTOR IS RESPONSIBLE FOR SAFE KEEPING OF THEIR OWN MATERIAL. ANY LOSSES OF MATERIAL ARE THE RESPONSIBILITY OF THE CONTRACTOR. THE OWNER, GENERAL CONTRACTOR, ETC. IS NOT RESPONSIBLE FOR LOSSES.
4. ALL WORK WILL BE SCHEDULED AND CONTINGENT UPON THE SCHEDULE OF THE GENERAL CONTRACTOR. SUBCONTRACTORS SHALL ATTEND REGULAR AND MANDATORY SAFETY MEETINGS FOR PROJECT MANAGER AND/OR TECHNICIANS.
5. CONTRACTOR SHALL COORDINATE WITH GENERAL CONTRACTOR AND ARCHITECT BEFORE DRILLING OR CORING FLOORS FOR CABLE ACCESS OR "SHOOTING" FASTENERS INTO CONCRETE FOR CABLE SUPPORT AND PATHWAY SYSTEMS.
6. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY FINAL OUTLET PLACEMENT PRIOR TO ANY CONDUIT ROUGH IN BOX INSTALLATION. VERIFICATION PROCESS SHALL INCLUDE REFERENCING I.D., MEP AND ARCHITECTURAL DRAWINGS AS WELL AS FIELD VERIFICATION.
7. PROVISIONS OUTLINED IN RELATED PROJECT DOCUMENTS, DRAWINGS AND GENERAL PROVISIONS OF THE CONTRACT, INCLUDING GENERAL AND SUPPLEMENTARY CONDITIONS AND DIVISION 1 SPECIFICATION SECTIONS, APPLY TO THIS SCOPE.
8. IT IS A RESPONSIBILITY OF THE CONTRACTOR TO IMMEDIATELY NOTIFY NETWORK TECHNOLOGIES, INC. (NTI) OF ANY CONFLICTS/DISCREPANCIES ON THE PROJECT DOCUMENTS. IN CASE OF SUCH CONFLICT, MOST STRINGENT REQUIREMENT APPLIES UNLESS OTHERWISE NOTED/DIRECTED BY NTI.
9. CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND CABLING IN THE PROPER SEQUENCE ACCORDING TO THE OVERALL CONSTRUCTION SCHEDULE.
10. ALL COSTS ASSOCIATED WITH PREPARATION OF A BID PROPOSAL WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.
11. CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS FOR PROJECT. PROVIDE CURRENT LV LICENSE REQUIRED PER STATE REGULATIONS.
12. PROVIDE PROOF OF CERTIFICATION OF TEAM MEMBERS. INCLUDE ANY RCDD MEMBERS ON STAFF OR INSTALLATION TEAM. VOICE/DATA CABLING CONTRACTOR SHALL BE A CURRENTLY CERTIFIED CONTRACTOR FOR THE MANUFACTURER OF THE CABLING SYSTEM USED.
13. CONTRACTOR REQUIRED TO HAVE RCDD REVIEW AND APPROVE ALL SHOP DRAWINGS PRIOR TO SUBMITTAL. RCDD MUST SUPERVISE AND APPROVE ALL PHASES OF THE CABLING INFRASTRUCTURE INSTALLATION.

D OTHER DRAWING SETS

CONTRACTOR IS RESPONSIBLE FOR OBTAINING AND REVIEWING ALL CONSTRUCTION DOCUMENTS AS ARE NECESSARY TO BID AND COMPLETE THE INSTALLATION OF SYSTEMS SPECIFIED HEREIN. DRAWING SETS WHICH ARE NECESSARY TO ASCERTAIN COMPLETE PROJECT SCOPE INCLUDE, BUT ARE NOT LIMITED TO, ARCHITECTURAL, ELECTRICAL AND INTERIOR DESIGN SETS.

E ELECTRICAL AND MECHANICAL NOTES

1. ANY ELECTRICAL POWER DEVICE LOCATIONS INDICATED HEREIN ARE INTENDED FOR INCORPORATION INTO THE PROJECT ELECTRICAL DRAWINGS AS PART OF THE ELECTRICAL DESIGN.
2. ESTIMATED HEAT LOADS ARE SHOWN FOR REFERENCE ONLY AND ARE INTENDED FOR THE INCORPORATION INTO THE PROJECT MECHANICAL DRAWINGS AS PART OF THE MECHANICAL DESIGN.
3. ALL MDF, IDF AND AV ROOMS TO MAINTAIN 70°F AND LESS THAN 60% RH.

F JUNCTION BOX AND CONDUIT NOTES

1. REFER TO RISER DIAGRAM, FLOOR PLAN AND SYMBOL LEGEND FOR OUTLET CONDUIT REQUIREMENTS.

(CONTINUED IN NEXT COLUMN)

F JUNCTION BOX AND CONDUIT NOTES (CONTINUED)

2. PROVIDE A PULL BOX FOR 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 SHALL BE COORDINATED WITH THE DESIGN TEAM AND GENERAL CONTRACTOR.
3. PULL BOX LOCATIONS ARE SHOWN FOR COORDINATION PURPOSES ONLY. THE PATHWAY OF THE RELATED CONDUIT WILL BE DETERMINED BY THE MEP FIRM AND FIELD CONDITIONS.
4. PROVIDE PULL STRING IN ALL CONDUITS.
5. ALL OUTLET CONDUITS SHALL BE STUBBED TO ACCESSIBLE CEILING AREA CONTIGUOUS TO CABLE DESTINATION ROOM TO PROVIDE FULLY ACCESSIBLE CABLE PATHWAY.
6. ALL CONDUITS SHALL BE CLEARLY MARKED ON EACH END WITH TAPE, LABEL, OR PAINT AS TO DESIGNATE IT SPECIFICALLY FOR DATA/VOICE, TV OR SECURITY USE ONLY.
7. IF APPROVED BY G.C. (BOX ELIMINATORS MAY BE USED IN LIEU OF BACK BOXES) CABLES MAY BE ROUTED THROUGH WALL. CABLES SHALL BE PLENUM RATED.
8. ALL CONDUITS SHALL BE EMT UNLESS OTHERWISE NOTED.
9. ALL CONDUIT STUB AND SLEEVE OPENINGS SHALL BE TERMINATED WITH INSULATED THROAT BUSHINGS.

G GROUNDING AND BONDING

1. THE PRIMARY PURPOSE OF THE GROUNDING AND BONDING SYSTEM IS TO CREATE A ROBUST PATH FOR EQUALIZATION OF VOLTAGES AND FOR RESULTANT SURGE CURRENTS TO RETURN TO THEIR SOURCE. LIGHTNING, POWER-SYSTEM FAULT CURRENTS, CIRCUIT SWITCHING (MOTORS ON AND OFF), ACTIVATION OF SURGE-PROTECTION DEVICES, AND ELECTROSTATIC DISCHARGE (ESD) ARE COMMON CAUSES OF TRANSIENT VOLTAGES AND ELECTRICAL SURGES.
2. ALL RACKS AND CABINETS SHALL BE PROPERLY GROUNDED PER NEC AND TIA/EIA STANDARDS.
3. THE PRIMARY BONDING BUSBAR (PBB) SHALL BE INSTALLED 18" AFF AT THE TELCO DEMARC (TYPICALLY IN THE MDF). REFER TO GROUNDING RISER FOR DETAILS.
4. THE SECONDARY BONDING BUSBAR (SBB) SHALL BE INSTALLED 7' AFF IN IDFS AT A LOCATION SO AS TO MINIMIZE DISTANCE TO EQUIPMENT RACKS AND LADDER RACKS. REFER TO GROUNDING RISER FOR DETAILS.
5. ALL BUSBARS SHALL BE A MINIMUM OF 6" CLEAR ON ALL SIDES.
6. MINIMUM OF A #6 AWG GREEN GROUNDING CONDUCTOR TO EACH EQUIPMENT RACK, CABINET, LADDER RACK AND CABLE TRAY.
7. REFER TO GROUNDING DETAILS FOR ADDITIONAL INFORMATION.
8. FINAL GROUNDING SYSTEM REQUIREMENTS SHALL BE COMPLIANT WITH THOSE IDENTIFIED BY THE ELECTRICAL ENGINEER OF RECORD FOR THE PROJECT.

H FIRESTOPPING

1. PROVIDE FIRESTOP SYSTEMS CONSISTING OF A MATERIAL, OR COMBINATION OF INSTALLED MATERIALS TO RETAIN THE INTEGRITY OF FIRE RESISTANCE RATED CONSTRUCTION. FLAME, SMOKE AND/OR HOT GASES THROUGH PENETRATIONS AND PERIMETER OPENINGS IN ACCORDANCE WITH THE REQUIREMENTS OF THE BUILDING CODE FOR THIS PROJECT.
2. FIRESTOPPING OF ALL FLOOR AND WALL OPENINGS, ACCORDING TO LOCAL CODES AND ORDINANCES, SHALL BE BY THE CABLING CONTRACTOR. ALL WALL OPENINGS MUST BE SLEEVED AND FIRE STOPPED.
3. CONTRACTOR IS RESPONSIBLE FOR FIRE STOPPING ALL PENETRATIONS THROUGH FIRE RATED DEMISING WALLS.
4. ALL FIRESTOPPING MEANS AND METHODS SHALL BE U.L. LISTED AND APPROVED.

I CABLE INSTALLATION GUIDELINES

1. MAINTAIN MINIMUM BEND RADIUS OF:

   A. 4 TIMES THE CABLE O.D. FOR COPPER UNSHIELDED TWISTED PAIR CABLE.

   B. 10 TIMES THE CABLE O.D. OR 1.2" (WHICHEVER IS LARGER) FOR FIBER OPTIC CABLE.
2. MAXIMUM CABLE LENGTH BETWEEN TELECOMMUNICATIONS CLOSET TERMINATION AND OUTLET IS 90 METERS (295 FEET).
3. PULLING TENSION ON 4 PAIR, UNSHIELDED TWISTED PAIR CABLE CAN NOT EXCEED 25 POUNDS.
4. TO MINIMIZE TENSION IN SUSPENDED CABLE RUNS, LIMIT SPANS TO 5 FEET OR LESS BETWEEN SUPPORTS (I.E. J-HOOKS).
5. DO NOT OVER CINCH CABLE TIES ON CABLE BUNDLES. CABLE TIES SHOULD BE LOOSELY FITTED OVER CABLE(S) SO AS NOT TO CAUSE AN INDENTATION IN THE CABLE JACKETS.
6. PLENUM RATED CABLE TIES MUST BE USED IN ALL RETURN AIR PLENUM SPACES.
7. LEAVE A 20'-0" SERVICE LOOP AT EACH END OF FIBER RISER RUNS.
8. FIBER RISERS SHALL BE LABELED EVERY 50'-0" FOR CLEAR IDENTIFICATION IN PATHWAYS.
9. LEAVE A 10'-0" SERVICE LOOP AT EACH END OF ALL TELEPHONE RISERS.
10. LEAVE 12" OF SLACK NEATLY COILED IN OUTLET BOX FOR EACH HORIZONTAL CABLE RUN.
11. TO AVOID SOURCES OF EMI ON UNSHIELDED CABLES, MAINTAIN THE FOLLOWING MINIMUM SEPARATION DISTANCES BETWEEN CABLING PATHWAYS AND POTENTIAL SOURCES:

    A. 4 FEET FROM MOTORS OR TRANSFORMERS.

    B. 1 FOOT FROM CONDUIT OR CABLES USED FOR ELECTRICAL POWER DISTRIBUTION.

    C. 5 INCHES FROM FLUORESCENT LIGHTING.
12. CABLING PATHWAYS SHOULD CROSS PERPENDICULAR TO FLUORESCENT LIGHTING AND ELECTRICAL POWER CABLES OR CONDUITS.
13. THESE GUIDELINES ARE NOT INTENDED TO SERVE AS A SUBSTITUTE FOR TIA/EIA 568 SERIES OF STANDARDS. CONTRACTOR SHALL BE RESPONSIBLE FOR KNOWING, UNDERSTANDING AND CONFORMING TO THE SPECIFICATIONS CONTAINED WITHIN ALL OF THE FOLLOWING STANDARDS:
    - ANSI/TIA-568.1, COMMERCIAL BUILDING TELECOMMUNICATIONS INFRASTRUCTURE STANDARD.
    - ANSI/TIA-568.2, BALANCED TWISTED-PAIR TELECOMMUNICATIONS CABLING AND COMPONENTS STANDARD.
    - ANSI/TIA-568.3, OPTICAL FIBER CABLING AND COMPONENTS STANDARD.
    - ANSI/TIA-568.4, BROADBAND COAXIAL CABLING AND COMPONENTS STANDARD.
    - ANSI/TIA-569, TELECOMMUNICATIONS PATHWAYS AND SPACES.

(CONTINUED IN NEXT COLUMN)

I CABLE INSTALLATION GUIDELINES (CONTINUED)

- ANSI/TIA-570, RESIDENTIAL TELECOMMUNICATIONS INFRASTRUCTURE STANDARD.
- ANSI/TIA-606, ADMINISTRATION STANDARD FOR TELECOMMUNICATIONS INFRASTRUCTURE.
- ANSI/TIA-607, GENERIC TELECOMMUNICATIONS BONDING & GROUNDING (EARTHING) FOR CUSTOMER PREMISES.
- ANSI/TIA-758, CUSTOMER-OWNED OUTSIDE PLANT TELECOMMUNICATIONS INFRASTRUCTURE STANDARD.
- ANSI/TIA-862, STRUCTURED CABLING INFRASTRUCTURE STANDARD FOR INTELLIGENT BUILDING SYSTEMS.

J GENERAL INFRASTRUCTURE INSTALLATION NOTES

1. INSTALLATION OF CABLING SYSTEM. ALL EQUIPMENT RACKS & LADDER RACKS, GROUNDING, ETC. MUST FOLLOW INSTALLATION GUIDELINES IN THE MOST CURRENTLY PUBLISHED VERSION OF NEC, TIA/EIA 568C, NFPA AND ANY LOCAL, STATE OR MUNICIPAL CODES IN EFFECT AT TIME OF INSTALLATION. ALL CABLE BUNDLES SHALL BE INSTALLED USING PROPER WIRE MANAGEMENT TECHNIQUES, IN A NEAT AND WORKMANLIKE FASHION. INSTALLER SHALL INSTALL CABLE BUNDLES FOLLOWING ALL TIA/EIA & BICSI GUIDELINES AS TO WIRE TIES, CINCHING TIGHTNESS, BEND RADIUS, NEATNESS, WIRE MANAGEMENT, LABELING, ETC. ANY ASSOCIATED HARDWARE, MATERIALS OR COMPONENTS NEEDED TO PROPERLY INSTALL A COMPLETE AND FUNCTIONAL SYSTEM PER THESE GUIDELINES MUST BE INCLUDED IN THE INITIAL BID RESPONSE AND ARE THE RESPONSIBILITY OF THE CABLING CONTRACTOR.
2. FREE STANDING EQUIPMENT RACKS SHALL BE FASTENED TO CONCRETE FLOOR AND FASTENED TO OVERHEAD RACK WITH PROPER HARDWARE. RACKS SHALL BE SUPPLIED IN SUFFICIENT QUANTITY TO PROVIDE RACK SPACE FOR ALL PATCH PANELS, ASSOCIATED WIRE MANAGEMENT AND ANTICIPATED NETWORK HARDWARE.
3. VERTICAL CABLE MANAGEMENT SHALL BE SUPPLIED BETWEEN EACH RACK AND ON THE ENDS OF ALL RACK CONFIGURATIONS OR AS NOTED ON RACK ELEVATIONS.
4. MDF ROOMS SHALL HAVE 18" WIDE X 6' DEEP LADDER RACK (CPI OR APPROVED EQUIVALENT) AND FROM RACKS TO WALL IN APPROPRIATE ROOMS AS DEPICTED IN CLOSET LAYOUTS. IDF CLOSETS SHALL UTILIZE LADDER STYLE CABLE RUNWAY (MIN. 12"W OR SPECIFIED HEREIN) AS DEPICTED IN IDF LAYOUTS.
5. PATCH PANELS SHALL BE CATEGORY 6, RJ-45, RACK MOUNT STYLE PANELS TERMINATED TO T568B COLOR CODE. PATCH PANELS SHALL BE SUPPLIED IN AMPLE QUANTITY AND PORT CONFIGURATION TO TERMINATE ALL HORIZONTAL DATA AND RISER DATA CABLES. PROVIDE SEPARATE PATCH PANELS FOR EACH OF THE FOLLOWING OUTLET TYPES:
    - PUBLIC/FUNCTION AREAS
    - ADMINISTRATIVE AREAS
    - WIRELESS NODES
    - IPTV (IF APPLICABLE)
    - DATA
    - POINT OF SALE
    - COPPER DATA RISER CABLES

    ALL PATCH PANELS SHALL BE LABELED ACCORDINGLY TO PROVIDE CLEAR AND CONCISE INFORMATION DETAILING THE OUTLET CIRCUITING FOR EACH PATCH PANEL PORT. CABLE MANAGEMENT SHALL BE SUPPLIED BETWEEN EACH PANEL AND ON THE TOP AND BOTTOM OF ALL PANEL ROWS. HORIZONTAL WIRE MANAGEMENT SHALL BE 2 RACK UNITS IN HEIGHT (3.5"). PATCH PANEL PORTS SHALL BE LOGICALLY GROUPED BY FUNCTION/PURPOSE. THAT IS GROUP WIRELESS NODES, POINT OF SALES, RISER OUTLETS, ETC. TOGETHER ON PATCH PANELS.
6. PATCH CABLES AND WORKSTATION CABLES SHALL BE SUPPLIED BY OTHERS OR AS NOTED IN "ALTERNATE/UNIT PRICING" BLOCK.
7. ALL HORIZONTAL COPPER CABLE SHALL BE 4 PAIR, UTP, CAT-6. ALL HORIZONTAL CABLE SHALL BE PLENUM RATED. IF REQUIRED BY LOCAL CODES "LC" CABLE SHALL BE USED IN LIEU OF PLENUM RATED CABLE. ALL RISER CABLES MUST BE PLENUM RATED. CABLING CONTRACTOR IS RESPONSIBLE FOR VERIFYING WITH LOCAL CODE OFFICIALS THE ACCEPTANCE FOR USE OF ANY NON-PLENUM RATED CABLE.
8. ALL HORIZONTAL CABLING RUNS SHALL BE SUPPORTED IN THE OPEN SPACE AREAS USING AN INDEPENDENT SUPPORT SYSTEM (I.E. J-HOOKS MUST NOT BE HUNG FROM CEILING GRID SUPPORT OR ANY OTHER DISCIPLINES SUPPORT SYSTEM). BRIDLE RINGS OR TYING CABLES TO STRUCTURE SHALL NOT BE PERMITTED.
9. CABLING CONTRACTOR SHALL FURNISH ALL RACKS, OVERHEAD CABLE TRAY AND ALL ASSOCIATED HARDWARE NECESSARY TO BUILD OUT CABLING SYSTEM INFRASTRUCTURE IN ALL IDF LOCATIONS AND EQUIPMENT ROOMS AS DETAILED ON THE DRAWINGS.
10. ANALOG TELEPHONE RISER SHALL TERMINATE ON CAT-6 RATED 110 BLOCKS. TELEPHONE RISER CABLES SHALL BE 24 GAUGE, CATEGORY 3, UTP, CMP RATED, SUPPLIED IN THE APPROPRIATE PAIR COUNT TO PROVIDE 2 PAIRS PER HORIZONTAL VOICE CABLE PLUS 25% FOR FUTURE GROWTH OR AS INDICATED ON RISER DIAGRAM.
11. 110 BLOCKS SHALL BE INSTALLED IN A SUFFICIENT QUANTITY TO FULLY TERMINATE ALL HORIZONTAL VOICE CABLES AND PROVIDE 4 PAIRS FOR RISER CABLE TERMINATIONS. HORIZONTAL AND VERTICAL CROSS-CONNECT CABLE MANAGEMENT TROUGHS MANUFACTURED BY THE SAME MANUFACTURER AS THE 110 BLOCKS SHALL BE USED BETWEEN 110 BLOCKS AND VERTICAL BLOCK ARRAYS. D-RINGS WILL NOT BE PERMITTED FOR CABLE MANAGEMENT IN THE 110 BLOCK FIELD. REAR CABLE TROUGH TYPE ARRANGEMENT IS REQUIRED FOR THE 110 BLOCKS. REAR FEED AND CABLE DRESSING IN THE CABLE TROUGHS IS REQUIRED FOR ALL CABLE, BOTH WORKSTATION AND RISERS. CABLING CONTRACTOR SHALL PROVIDE ALL VOICE CROSS-CONNECTING AT WALL FIELDS UNLESS OTHERWISE NOTED.
12. ALL HORIZONTAL CABLING RUNS SHALL BE HOMERUN TO THE APPROPRIATE IDF USING THE PRIMARY CABLING PATHWAYS IDENTIFIED ON THE FLOOR PLANS. UNLESS OTHERWISE NOTED, DATA CABLES SHALL TERMINATE ON DATA PATCH PANELS. TELEPHONE HORIZONTAL CABLES SHALL TERMINATE ON THE IDF 110 BLOCKS OR PATCH PANELS AS NOTED. CONTRACTOR IS RESPONSIBLE FOR FINAL ROUTING AND FIELD VERIFICATION OF LENGTH OF STATION RUNS. CABLE LENGTHS SHALL NOT EXCEED TIA/EIA STANDARDS (90 METERS MAXIMUM).
13. ALL TELEPHONE AND DATA JACKS SHALL BE CATEGORY 6, 8 POSITION, RJ-45, TERMINATED TO T568B PIN CONFIGURATION.
    - DATA JACKS SHALL BE BLACK
    - VOICE JACKS SHALL MATCH FACEPLATE COLOR
    - ALL P.O.S. JACKS SHALL BE BLUE, IF APPLICABLE

    ALL JACKS SHALL BE LABELED WITH APPROPRIATE ICON FOR VOICE, DATA OR P.O.S. CIRCUIT.
14. WALL OUTLET FACEPLATES SHALL BE 110 SERIES, SINGLE GANG, UP TO 6 POSITIONS PER SINGLE GANG PLATE. MODULAR FURNITURE FACEPLATES SHALL BE USED WHERE REQUIRED, IF APPLICABLE. BLANKS SHALL BE INSERTED IN OPEN POSITIONS ON FACEPLATE. FACEPLATES SHALL BE OF THE SAME MANUFACTURER AS THE JACKS AND PATCH PANELS. ALL WALL MOUNTED PHONE OUTLETS SHALL HAVE WALL MOUNT FACEPLATE. (REFER TO ID DRAWINGS FOR WALL MOUNT LOCATIONS).
15. FACEPLATE COLOR SHALL MATCH ELECTRICAL OUTLET FACEPLATE COLOR UNLESS OTHERWISE SPECIFIED ON I.D. DRAWINGS.
16. ALL NETWORK SWITCHES AND OTHER ACTIVE ELECTRONIC EQUIPMENT TO BE SUPPLIED AND INSTALLED BY OTHERS UNLESS NOTED OTHERWISE.
17. TYPICALLY, VOICE AND DATA OUTLETS SHALL BE AT STANDARD OUTLET HEIGHT, UNLESS OTHERWISE NOTED. ALL DATA AND TV OUTLETS REQUIRE ADJACENT ELECTRICAL OUTLETS. ALL WALL PHONES SHALL BE 48 INCHES A.F.F. UNLESS OTHERWISE NOTED. NO BACK TO BACK OUTLETS ON SHARED WALLS; OFFSET BY A MINIMUM OF (1) STUD CAVITY
18. DEVICE LOCATIONS IDENTIFIED ON THESE DRAWINGS ARE

(CONTINUED IN NEXT COLUMN)

J GENERAL INFRASTRUCTURE INSTALLATION NOTES (CONTINUED)

18. APPROXIMATE AND ARE INTENDED TO CONVEY OUTLET CONTENTS. IF A CONFLICT EXISTS REGARDING FINAL OUTLET PLACEMENT DEFER TO INTERIOR DESIGN AND ELECTRICAL DRAWINGS FOR FINAL OUTLET LOCATIONS.
19. CABLE JACKET COLOR:
    - ALL DATA SYSTEMS CABLE SHALL BE BLUE
    - ANALOG VOICE CABLE (NON-IP) SHALL BE GRAY
    - WIRELESS NODE CABLE SHALL BE YELLOW.

K LABELING GUIDELINES

1. LABELING SCHEME SHALL FOLLOW EIA/TIA 606A/568C GUIDELINES AND SHALL BE COORDINATED WITH THE CUSTOMER. LABELS SHALL BE TYPE WRITTEN AND PRINTED USING A PRE-APPROVED FORMAT. NO HAND-WRITTEN LABELS SHALL BE ALLOWED. THE LABELS AT THE PATCH PANEL SHALL BE OF THE SAME TYPE NUMBERING SCHEME AS THE WORKSTATION OUTLET.
2. SUBMIT PROPOSED LABELING SCHEME TO OWNER AND CONSULTANT FOR COMMENT AND APPROVAL PRIOR TO PREPARING AND AFFIXING LABELS.

L FIBER INFRASTRUCTURE INSTALLATION NOTES

1. THE OPTICAL FIBER CABLE CONSTRUCTION SHALL CONSIST OF 50/125 MM OR SINGLEMODE OPTICAL FIBERS OR A COMBINATION OF THESE MEDIA. INDIVIDUAL FIBERS AND GROUPS OF FIBERS SHALL BE IDENTIFIABLE IN ACCORDANCE WITH ANSI/TIA/EIA-598-A.
2. FIBER ENCLOSURES SHALL BE SUPPLIED IN APPROPRIATE PORT CONFIGURATION AS REQUIRED FOR HORIZONTAL AND RISER FIBER CABLES. ALL FIBER ENCLOSURES AND TERMINATIONS SHALL BE CLEARLY LABELED INDICATING THE FLOOR, CLOSET DESIGNATION AND PORT NUMBER SERVED.
3. ALL FIBER SHALL BE TERMINATED WITH "LC" STYLE CONNECTORS UNLESS NOTED OTHERWISE.
4. THE OPTICAL FIBER PATCH CORD SHALL BE A TWO-FIBER CABLE, OF THE SAME FIBER TYPE AND CONNECTIVITY AS THE OPTICAL FIBER CABLING PLANT IT IS INTENDED TO PATCH.

M DATA / VOICE / FIBER TESTING

1. ALL DATA AND FULLY TERMINATED VOICE HORIZONTAL RUNS SHALL BE TESTED PER THE LATEST REVISION OF TIA/EIA 568. TESTERS SHALL BE LEVEL III RATED OR HIGHER. ALL TESTING SHALL BE REVIEWED BY CUSTOMER REPRESENTATIVE PRIOR TO ACCEPTANCE OF CABLING SYSTEM. TEST SHALL BE CONDUCTED PER THE MOST RECENTLY AVAILABLE VERSION OF SOFTWARE AND HARDWARE. TEST RESULTS SHALL BE SUBMITTED IN PDF OR OTHER READABLE ELECTRONIC FORMAT. A PRINTED VERSION IN BRIEF FORMAT MAY BE REQUIRED.
2. ALL CROSS CONNECTED TELEPHONE DROPS TO BE TESTED FOR CONTINUITY, CROSSED PAIRS AND SHORTS FROM JACK TO RISER BLOCKS AT MDF.
3. ALL MULTI-MODE FIBER OPTIC TESTS SHALL BE PERFORMED AT THE 850nm AND 1300nm WINDOWS IN BOTH DIRECTIONS.
4. ALL CONNECTORS SHALL BE TESTED AND THE LOSS MEASURED IN DB. CONNECTORS SHALL HAVE A LOSS OF 0.5 DB OR LESS PER MATED PAIR TO BE ACCEPTED.
5. ALL FIBER OPTIC LINKS SHALL BE TESTED AND LOSS MEASURED IN DB/KM.
6. A SOFT 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 568 REQUIREMENTS.

N MATV INSTALLATION NOTES

1. REFER TO MATV SYSTEM SPECIFICATIONS AND MATV SYSTEM COMPONENTS SPECIFICATION LIST FOR ADDITIONAL SYSTEM REQUIREMENTS. CONTRACTOR SHALL USE SPECIFIED COMPONENTS OR NTI'S APPROVED EQUIVALENT. IN EITHER CASE, THE MATV CONTRACTOR IS RESPONSIBLE FOR THE SIGNAL REQUIREMENTS INDICATED WITHIN MATV SYSTEM SPECIFICATIONS.
2. TV OUTLET LOCATIONS SHALL BE HOMERUN IN ACCORDANCE WITH THE FLOOR PLAN AND CABLING RISER DIAGRAM.
3. CABLING CONTRACTOR SHALL LEAVE A MINIMUM OF 2'-0" OF SLACK PRIOR TO TERMINATION ON ALL HORIZONTAL CABLE PULL AT OUTLET END.
4. SEE MATV RISER DIAGRAM FIR MATV SYSTEM RISER CABLE REQUIREMENTS. CONTRACTOR TO LEAVE A MINIMUM OF A 6'-0" SERVICE LOOP PRIOR TO TERMINATION ON BOTH ENDS.
5. CONTRACTOR IS RESPONSIBLE FOR LABELING ALL MATV SYSTEM COAX CABLE RUNS AS FOLLOWS:
    - THE LABELING SYSTEM SHALL DESIGNATE THE CABLE DESTINATION ON EACH END OF THE RUN.
    - ALL LABELING INFORMATION SHALL BE RECORDED ON AS-BUILT DRAWINGS UPON PROJECT COMPLETION.

O MATV SYSTEM SPECIFICATIONS

1. THE MATV DISTRIBUTION SYSTEM SHALL CONSIST OF ALL EQUIPMENT, COMPONENTS AND CABLING NECESSARY TO DISTRIBUTE NTSC RF TELEVISION SIGNALS. THIS SCOPE INCLUDES, BUT IS NOT LIMITED TO:
    - COAXIAL CABLE
    - DISTRIBUTION AMPLIFIERS
    - DISTRIBUTION PASSIVES (SPLITTERS, DIRECTIONAL COUPLERS, FILTERS)
    - CABLE CONNECTORS, WALL PLATES AND ADAPTERS
2. DISTRIBUTION SHALL BE ACCOMPLISHED VIA DEDICATED OUTLET HOMERUNS. AS THE ACTUAL INSTALLED CABLE LENGTHS CAN AFFECT THE REQUIRED TAP VALVES AND AMPLIFICATION LEVELS, THE DESIGN OF THE AMPS/TAPS MUST BE ACCOMPLISHED BY THE CONTRACTOR. ALL AMPS AND TAPS MUST BE MOUNTED IN ACCESSIBLE AREAS FOR FUTURE SERVICEABILITY.
3. THE CONTRACTOR SHALL PROVIDE SUBMITTALS TO OWNER, OWNER'S REPRESENTATIVE AND OWNER'S MATV VENDOR(S) FOR APPROVAL PRIOR TO INSTALLATION. SUBMITTALS SHALL COMPLETELY DESCRIBE THE MATV DISTRIBUTION SYSTEM AND SHALL INCLUDE SCHEMATIC DIAGRAMS, COMPONENT AND CABLE CUT SHEETS, TAP VALUES AND OTHER PERTINENT COMPONENT SETTINGS.
4. THE MATV DISTRIBUTION SYSTEM SHALL PROVIDE CLEAR RECEPTION OF TELEVISION SIGNALS TO ALL DESIGNATED RECEIVING LOCATIONS WITHIN THE FACILITY. REFER TO FLOOR PLANS FOR TV OUTLET LOCATIONS.
5. PASSIVE DEVICES (DIRECTIONAL COUPLES, TAPS, SPLITTERS, ETC.) MUST HAVE A FREQUENCY RATING OF 5 MHZ TO 1 GHZ AND A SHIELDING RATING OF -100 DBMV OR BETTER.
6. INSTALL ALL PASSIVE DEVICES IN AN ACCESSIBLE SPACE. PASSIVE DEVICES MOUNTED IN CEILINGS OR WALLS SHALL HAVE ACCESS PANELS ASSOCIATED WITH THEM.
7. PASSIVE DEVICES SHALL HAVE A MINIMUM PORT-TO-PORT ISOLATION OF 23 DBMV.
8. RISER CABLES SHALL BE RG-11 CABLES UP TO 300 FEET AND HARD LINE (.5") OVER 300 FEET. ALL RISER CABLES SHALL BE SWEPT FROM 5 MHZ

(CONTINUED IN NEXT COLUMN)

O MATV SYSTEM SPECIFICATIONS (CONTINUED)

8. TO 3 GHZ.
9. HORIZONTAL CABLES SHALL BE RG-6 CABLES UP TO 150 FEET AND RG-11 CABLES OVER 150 FEET.
10. ALL RG-6 AND RG-11 COAXIAL CABLES SHALL HAVE COMPRESSION-TYPE CONNECTORS. HEX-CRIMP CONNECTORS ARE NOT ACCEPTABLE.
11. ALL END-OF-RISERS AND UNUSED DEVICE PORTS SHALL BE TERMINATED AT 75 OHMS. ALL "F" CONNECTIONS ON ACTIVE DEVICES SHALL BE TIGHTENED TO A TORQUE OF 15 INCH POUNDS. ALL "F" CONNECTIONS ON PASSIVE DEVICES SHALL BE TIGH

STRUCTURED CABLING SYMBOL LEGEND

SYMBOL	DESCRIPTION	CABLE COUNT	CABLE DESCRIPTION	WORK AREA TERMINATION	CLOSET TERMINATION	STANDARD MOUNTING HEIGHT (AFF)	ELECTRICAL ROUGH-IN	POWER REQUIREMENT	REMARKS
▼#	# PORT DATA OUTLET (# = NUMBER OF PORTS)	#	CAT6, CMP	JACK INSERT, CAT6, RJ45	PATCH PANEL, CAT6, RJ45	18"	4" X 4" BACK BOX WITH 1 GANG MUD RING, CONDUIT STUBBED TO ACCESSIBLE CEILING SPACE, SIZED PER CABLE QTY: 1-4 = 3/4"Ø, 5-6 = 1"Ø, 7-8 = 1-1/4"Ø	120VAC / 20A DUPLEX POWER OUTLET WITHIN THE SAME STUD CAVITY	PROVIDE BLANKS FOR UNPOPULATED PORTS IN FACEPLATE. USE 2-GANG FACEPLATE FOR PORT QUANTITY > 6.
▽/▼#	# PORT DATA FLOOR BOX OUTLET (# = NUMBER OF PORTS)	#	CAT6, CMP	JACK INSERT, CAT6, RJ45	PATCH PANEL, CAT6, RJ45	FLOOR BOX	1 GANG SECTION OF FLOOR BOX - SPECIFIED BY ELECTRICAL ENGINEER, CONDUIT STUBBED TO ACCESSIBLE CEILING SPACE, SIZED PER CABLE QTY: 1-4 = 3/4"Ø, 5-6 = 1"Ø, 7-8 = 1-1/4"Ø	120VAC / 20A DUPLEX POWER OUTLET IN SAME OR ADJACENT FLOOR BOX	
A ▼#	# PORT ADMIN OUTLET (# = NUMBER OF PORTS)	#	CAT6, CMP	JACK INSERT, CAT6, RJ45	DEDICATED ADMIN PATCH PANEL, CAT6, RJ45	18"	4" X 4" BACK BOX WITH 1 GANG MUD RING, CONDUIT STUBBED TO ACCESSIBLE CEILING SPACE, SIZED PER CABLE QTY: 1-4 = 3/4"Ø, 5-6 = 1"Ø, 7-8 = 1-1/4"Ø	120VAC / 20A DUPLEX POWER OUTLET WITHIN THE SAME STUD CAVITY	CABLES TO BE TERMINATED ON DEDICATED ADMIN PATCH PANELS
A ▽/▼#	# PORT DATA FLOOR BOX OUTLET (# = NUMBER OF PORTS)	#	CAT6, CMP	JACK INSERT, CAT6, RJ45	DEDICATED ADMIN PATCH PANEL, CAT6, RJ45	FLOOR BOX	1 GANG SECTION OF FLOOR BOX - SPECIFIED BY ELECTRICAL ENGINEER, 1.5"Ø CONDUIT STUBBED TO ACCESSIBLE CEILING SPACE	120VAC / 20A DUPLEX POWER OUTLET IN SAME OR ADJACENT FLOOR BOX	CABLES TO BE TERMINATED ON DEDICATED ADMIN PATCH PANELS
POS-T ▼#	# PORT POINT OF SALE TERMINAL OUTLET (# = NUMBER OF PORTS)	#	CAT6, CMP	JACK INSERT, CAT6, RJ45	DEDICATED POS PATCH PANEL, CAT6, RJ45	18"	4" X 4" BACK BOX WITH 1 GANG MUD RING, CONDUIT STUBBED TO ACCESSIBLE CEILING SPACE, SIZED PER CABLE QTY: 1-4 = 3/4"Ø, 5-6 = 1"Ø, 7-8 = 1-1/4"Ø	120VAC / 20A DUPLEX POWER OUTLET WITHIN THE SAME STUD CAVITY	CABLES TO BE TERMINATED ON DEDICATED POS PATCH PANELS
POS-P ▼#	# PORT POINT OF SALE PRINTER OUTLET (# = NUMBER OF PORTS)	#	CAT6, CMP	JACK INSERT, CAT6, RJ45	DEDICATED POS PATCH PANEL, CAT6, RJ45	18"	4" X 4" BACK BOX WITH 1 GANG MUD RING, CONDUIT STUBBED TO ACCESSIBLE CEILING SPACE, SIZED PER CABLE QTY: 1-4 = 3/4"Ø, 5-6 = 1"Ø, 7-8 = 1-1/4"Ø	120VAC / 20A DUPLEX POWER OUTLET WITHIN THE SAME STUD CAVITY	CABLES TO BE TERMINATED ON DEDICATED POS PATCH PANELS
F ▼2	3 PORT OUTLET - DATA AND FIBER	2	CAT6, CMP	JACK INSERT, CAT6, RJ45	PATCH PANEL, CAT6, RJ45	18"	4" X 4" BACK BOX WITH 1 GANG MUD RING, (2) 3/4"Ø CONDUIT STUBBED TO ACCESSIBLE CEILING SPACE	120VAC / 20A DUPLEX POWER OUTLET WITHIN THE SAME STUD CAVITY	
		1	2 STRAND, OM3 CMP	LC DUPLEX INSERT	FIBER PANEL, LC DUPLEX				
TC ▼	1 PORT TIME CLOCK OUTLET	1	CAT6, CMP	JACK INSERT, CAT6, RJ45 SEE REMARKS	PATCH PANEL, CAT6, RJ45 SEE REMARKS	TYPICAL 42-48", VERIFY WITH ARCH	4" X 4" BACK BOX WITH 1 GANG MUD RING, 3/4"Ø CONDUIT STUBBED TO ACCESSIBLE CEILING SPACE	TYPICALLY REQUIRES ADJACENT 120VAC / 20A DUPLEX EMERGENCY POWER POWER OUTLET. SEE REMARKS	TIME CLOCK IS VENDOR SPECIFIC; CONSULT TIME CLOCK PROVIDER FOR SPECIFICATIONS OF PROPOSED SYSTEM FOR CABLE AND OUTLET TERMINATION AND POWER REQUIREMENTS
DS ▼	1 PORT DIGITAL SIGNAGE OUTLET	1	CAT6, CMP SEE REMARKS	CAT6, RJ45 SEE REMARKS	PATCH PANEL, CAT6, RJ45 SEE REMARKS	TYPICAL 48-60", VERIFY WITH ARCH/I.D.	4" X 4" BACK BOX WITH 1 GANG MUD RING, 3/4"Ø CONDUIT STUBBED TO ACCESSIBLE CEILING SPACE	SEE REMARKS	DIGITAL SIGNAGE IS VENDOR SPECIFIC; CONSULT SIGNAGE PROVIDER FOR SPECIFICATIONS OF PROPOSED SYSTEM FOR CABLE AND OUTLET TERMINATION AND POWER REQUIREMENTS
WN ▼	1 PORT WALL MOUNTED WIRELESS NODE OUTLET	1	CAT6, CMP	JACK INSERT, CAT6, RJ45	PATCH PANEL, CAT6, RJ45	120" SEE REMARKS	4" X 4" BACK BOX WITH 1 GANG MUD RING, 3/4"Ø CONDUIT STUBBED TO ACCESSIBLE CEILING SPACE	N/A - TYPICALLY POE POWERED BY OTHERS	CONFIRM MOUNTING HEIGHT AND LOCATION WITH I.D. AND WIFI VENDOR PRIOR TO ROUGH IN.
WN ▽	1 PORT CEILING MOUNTED WIRELESS NODE OUTLET	1	CAT6, CMP	JACK INSERT, CAT6, RJ45	PATCH PANEL, CAT6, RJ45	ABOVE FINISHED CEILING	TYPICALLY NOT REQUIRED UNLESS OTHERWISE NOTED ON PLANS	N/A - TYPICALLY POE POWERED BY OTHERS	CONFIRM OUTLET LOCATION WITH I.D. AND WIFI VENDOR PRIOR TO ROUGH IN. OUTLET IS TYPICALLY MOUNTED IN ACCESSIBLE CEILING SPACE, OR BEHIND ACCESS PANEL. INSTALL 10' SERVICE LOOP FOR FUTURE RELOCATION, SEE DETAILS.
ZN ▽	1 PORT CEILING MOUNTED ZIGBEE NODE OUTLET	1	CAT6, CMP	JACK INSERT, CAT6, RJ45	PATCH PANEL, CAT6, RJ45	ABOVE FINISHED CEILING	TYPICALLY NOT REQUIRED UNLESS OTHERWISE NOTED ON PLANS	N/A - TYPICALLY POE POWERED BY OTHERS	CONFIRM OUTLET LOCATION WITH ARCHITECT AND ZIBGEE VENDOR PRIOR TO ROUGH IN. OUTLET IS TYPICALLY MOUNTED IN ACCESSIBLE CEILING SPACE, OR BEHIND ACCESS PANEL. INSTALL 10' SERVICE LOOP FOR FUTURE RELOCATION, SEE DETAILS.
▽/▼#	# PORT CEILING MOUNTED OUTLET (# = NUMBER OF PORTS)	#	CAT6, CMP	JACK INSERT, CAT6, RJ45	PATCH PANEL, CAT6, RJ45	ABOVE FINISHED CEILING	TYPICALLY NOT REQUIRED UNLESS OTHERWISE NOTED ON PLANS	N/A - UNLESS OTHERWISE NOTED ON PLANS	OUTLET IS TYPICALLY MOUNTED IN ACCESSIBLE CEILING SPACE, OR BEHIND ACCESS PANEL. INSTALL 10' SERVICE LOOP FOR FUTURE RELOCATION, SEE DETAILS.
D ▼	1 PORT GUESTROOM DESK DATA OUTLET	1	CAT6, CMP	JACK INSERT, CAT6, RJ45	PATCH PANEL, CAT6, RJ45	18"	4" X 4" BACK BOX WITH 1 GANG MUD RING, REFER TO GUESTROOM RACEWAY DETAIL FOR CONDUIT REQ.	120VAC / 20A DUPLEX POWER OUTLET WITHIN THE SAME STUD CAVITY	
B ▼	1 PORT BED PHONE OUTLET - VOIP	1	CAT6, CMP	JACK INSERT, CAT6, RJ45	PATCH PANEL, CAT6, RJ45	18"	4" X 4" BACK BOX WITH 1 GANG MUD RING, REFER TO GUESTROOM RACEWAY DETAIL FOR CONDUIT REQ.	N/A - TYPICALLY POE POWERED BY OTHERS	
H ▼	1 PORT HOUSE PHONE OUTLET - VOIP	1	CAT6, CMP	JACK INSERT, CAT6, RJ45	PATCH PANEL, CAT6, RJ45	18"	4" X 4" BACK BOX WITH 1 GANG MUD RING, 3/4"Ø CONDUIT STUBBED TO ACCESSIBLE CEILING SPACE	N/A - TYPICALLY POE POWERED BY OTHERS	PHONE OUTLETS ABOVE STANDARD MOUNTING HEIGHT REQUIRE FACEPLATE WITH MOUNTING STUDS
▽	1 PORT PHONE OUTLET - ANALOG	1	CAT6, CMP	JACK INSERT, CAT6, RJ45	110 BLOCK	18"	4" X 4" BACK BOX WITH 1 GANG MUD RING, 3/4"Ø CONDUIT STUBBED TO ACCESSIBLE CEILING SPACE	120VAC / 20A DUPLEX POWER OUTLET WITHIN THE SAME STUD CAVITY	PHONE OUTLETS ABOVE STANDARD MOUNTING HEIGHT REQUIRE FACEPLATE WITH MOUNTING STUDS. PROVIDE A 10'-0" SERVICE LOOP ABOVE 110 BLOCKS IN CLOSET
B ▽	1 PORT BED PHONE OUTLET - ANALOG	1	CAT6, CMP	JACK INSERT, CAT6, RJ45	110 BLOCK	18"	4" X 4" BACK BOX WITH 1 GANG MUD RING, REFER TO GUESTROOM RACEWAY DETAIL FOR CONDUIT REQ.	120VAC / 20A DUPLEX POWER OUTLET WITHIN THE SAME STUD CAVITY	PROVIDE A 10'-0" SERVICE LOOP ABOVE 110 BLOCKS IN CLOSET
E ▽	1 PORT ELEVATOR PHONE OUTLET - ANALOG	1	CAT6, CMP	JACK INSERT, CAT6, RJ45	110 BLOCK	18"	N/A	N/A	PROVIDE A 10'-0" SERVICE LOOP ABOVE 110 BLOCKS IN CLOSET. COORDINATE TERMINATION WITH ELEVATOR VENDOR.
H ▽	1 PORT HOUSE PHONE OUTLET - ANALOG	1	CAT6, CMP	JACK INSERT, CAT6, RJ45	110 BLOCK	18"	4" X 4" BACK BOX WITH 1 GANG MUD RING, 3/4"Ø CONDUIT STUBBED TO ACCESSIBLE CEILING SPACE	120VAC / 20A DUPLEX POWER OUTLET WITHIN THE SAME STUD CAVITY	PHONE OUTLETS ABOVE STANDARD MOUNTING HEIGHT REQUIRE FACEPLATE WITH MOUNTING STUDS. PROVIDE A 10'-0" SERVICE LOOP ABOVE 110 BLOCKS IN CLOSET
FACP ▽2	2 PORT VOICE OUTLET - ANALOG (FIRE ALARM CONTROL PANEL)	2	CAT6, CMP	JACK INSERT, CAT6, RJ45	110 BLOCK	48"	4" X 4" BACK BOX WITH 2 GANG MUD RING, 3/4"Ø CONDUIT STUBBED TO ACCESSIBLE CEILING SPACE	N/A	COORDINATE FINAL LOCATION & TERMINATION WITH FIRE ALARM VENDOR
TV ▼#	# PORT DATA TV OUTLET - IPTV	#	CAT6, CMP	JACK INSERT, CAT6, RJ45	PATCH PANEL, CAT6, RJ45	PER ARCH/I.D. DRAWINGS	4" X 4" BACK BOX WITH 1 GANG MUD RING, CONDUIT STUBBED TO ACCESSIBLE CEILING SPACE, SIZED PER CABLE QTY: 1-4 = 3/4"Ø, 5-6 = 1"Ø, 7-8 = 1-1/4"Ø	120VAC / 20A DUPLEX POWER OUTLET WITHIN THE SAME STUD CAVITY	
TV	1 PORT COAX TV OUTLET	1	COAX	F TYPE INSERT	MATV BACKBOARD, F TYPE	PER ARCH/I.D. DRAWINGS	4" X 4" BACK BOX WITH 1 GANG MUD RING, TYPICAL NON GUESTROOM 3/4"Ø CONDUIT STUBBED TO ACCESSIBLE CEILING SPACE, FOR GUESTROOM, REFER TO GUESTROOM RACEWAY DETAIL	120VAC / 20A DUPLEX POWER OUTLET WITHIN THE SAME STUD CAVITY	USE RG6 COAX FOR LENGTHS UP TO 150' USE RG11 COAX FOR LENGTHS OVER 150'
▼# TV	# PORT TV OUTLET - COAX AND DATA	1	COAX, CMP	F TYPE INSERT	MATV BACKBOARD, F TYPE	PER ARCH/I.D. DRAWINGS	4" X 4" BACK BOX WITH 1 GANG MUD RING, CONDUIT STUBBED TO ACCESSIBLE CEILING SPACE, SIZED PER CABLE QTY: 1-4 = 3/4"Ø, 5-6 = 1"Ø, 7-8 = 1-1/4"Ø. FOR GUESTROOM, REFER TO GUESTROOM RACEWAY DETAIL	120VAC / 20A DUPLEX POWER OUTLET WITHIN THE SAME STUD CAVITY	USE RG6 COAX FOR LENGTHS UP TO 150' USE RG11 COAX FOR LENGTHS OVER 150'
		#	CAT6, CMP	JACK INSERT, CAT6, RJ45	PATCH PANEL, CAT6, RJ45				
F ▼2 TV	4 PORT OUTLET - COAX, DATA AND FIBER	1	COAX, CMP	F TYPE INSERT	MATV BACK-BOARD, F TYPE	PER ARCH/I.D. DRAWINGS	4" X 4" BACK BOX WITH 1 GANG MUD RING, (2) 3/4"Ø CONDUITS STUBBED TO ACCESSIBLE CEILING SPACE.	120VAC / 20A DUPLEX POWER OUTLET WITHIN THE SAME STUD CAVITY	USE RG6 COAX FOR LENGTHS UP TO 150' USE RG11 COAX FOR LENGTHS OVER 150'
		2	CAT6, CMP	JACK INSERT, CAT6, RJ45	PATCH PANEL, CAT6, RJ45				
		1	2 STRAND, OM3 CMP	LC DUPLEX INSERT	FIBER PANEL, LC DUPLEX				
— J —	J-HOOK PATHWAY	N/A	N/A	N/A	N/A	ABOVE CEILING	N/A	N/A	SUPPORT CABLES EVERY 4'-5' WITH J-HOOKS SECURED TO WALL OR STRUCTURE ABOVE. SEE DETAILS
FF	FURNITURE FEED JUNCTION BOX - WALL MOUNT	N/A	N/A	N/A	N/A	18"	JUNCTION BOX PER ELECTRICAL DRAWINGS WITH CONDUIT STUBBED TO ACCESSIBLE CEILING SPACE, SIZED PER CABLE QTY: 1-4 = 3/4"Ø, 5-6 = 1"Ø, 7-10 = 1-1/4"Ø	N/A	WHERE "FF" IS PRESENT, IT REPRESENTS A FURNITURE FEED TO MODULAR FURNITURE RACEWAY. USE BLACK WIRE LOOM TO CONCEAL ANNEXPOSED CABLE BETWEEN BOX AND FURNITURE
FF	FURNITURE FEED JUNCTION BOX - FLOOR MOUNT					N/A			
FF	FURNITURE FEED JUNCTION BOX - CEILING MOUNT					N/A	JUNCTION BOX PER ELECTRICAL DRAWINGS		

INTRUSION DETECTION SYMBOL LEGEND

SYMBOL	DESCRIPTION	CABLE COUNT	CABLE DESCRIPTION	WORK AREA TERMINATION	CLOSET TERMINATION	STANDARD MOUNTING HEIGHT (AFF)	ELECTRICAL ROUGH-IN	POWER REQUIREMENT	REMARKS
DC	DOOR CONTACT	1	2C/22 AWG,CMP, STRANDED, UNSHIELDED	DEVICE	SYSTEM CONTROL PANEL	N/A	3/4"Ø CONDUIT FROM DOOR FRAME TO ACCESSIBLE CEILING. PROVIDE HOLE IN DOOR FRAME FOR ACCESS TO CONDUIT FEED.	N/A	
DA	DURESS ALARM PUSH BUTTON	1	2C/22 AWG,CMP, STRANDED, UNSHIELDED	DEVICE	SYSTEM CONTROL PANEL	TYPICALLY UNDER COUNTER, VERIFY WITH ARCH	SINGLE GANG, 3-1/2" DEEP BACK BOX WITH MUD RING, WITH 3/4"Ø CONDUIT STUB TO ACCESSIBLE CEILING.	N/A	
M	MOTION DETECTOR - CEILING MOUNTED	1	4C/22 AWG,CMP, STRANDED, UNSHIELDED	DEVICE	SYSTEM CONTROL PANEL	CEILING MOUNTED	ACCESS HOLE THROUGH CEILING WITH 3/4"Ø CONDUIT STUB TO ACCESSIBLE CEILING.	TYPICALLY POWERED BY SYSTEM CONTROL PANEL POWER SUPPLY. SEE REMARKS	SECURITY SYSTEM IS VENDOR SPECIFIC; CONSULT PROVIDER FOR SPECIFICATIONS OF PROPOSED SYSTEM FOR CABLE TYPE AND TERMINATION AND POWER REQUIREMENTS
KP	KEYPAD	1	6C/22 AWG,CMP, STRANDED, SHIELDED	DEVICE	SYSTEM CONTROL PANEL	TYPICAL 42"-48", VERIFY WITH ARCH	SINGLE GANG, 3-1/2" DEEP BACK BOX WITH MUD RING WITH 3/4"Ø CONDUIT STUB TO ACCESSIBLE CEILING.	TYPICALLY POWERED BY SYSTEM CONTROL PANEL POWER SUPPLY. SEE REMARKS	SECURITY SYSTEM IS VENDOR SPECIFIC; CONSULT PROVIDER FOR SPECIFICATIONS OF PROPOSED SYSTEM FOR CABLE TYPE AND TERMINATION AND POWER REQUIREMENTS
SCP	SECURITY CONTROL PANEL	N/A	N/A	N/A	N/A	48"-60"	MINIMUM OF (2) 3/4"Ø CONDUIT STUB TO ACCESSIBLE CEILING. SEE REMARKS.	TYPICALLY REQUIRES 120VAC / 20A EMERGENCY POWER OUTLET OR HARDWIRE. SEE REMARKS	SECURITY SYSTEM IS VENDOR SPECIFIC; CONSULT PROVIDER FOR SPECIFICATIONS OF PROPOSED SYSTEM FOR CABLE TYPE AND TERMINATION AND POWER REQUIREMENTS

ACCESS CONTROL AND INTERCOM SYMBOL LEGEND

SYMBOL	DESCRIPTION	CABLE COUNT	CABLE DESCRIPTION	WORK AREA TERMINATION	CLOSET TERMINATION	STANDARD MOUNTING HEIGHT (AFF)	ELECTRICAL ROUGH-IN	POWER REQUIREMENT	REMARKS
CR	CARD READER	1	6C/22 AWG,CMP, STRANDED, SHIELDED	DEVICE	SYSTEM CONTROL PANEL	TYPICAL 42"-48", VERIFY WITH ARCH	SINGLE GANG, 3-1/2" DEEP BACK BOX WITH MUD RING, TYPICALLY MOUNTED 8" FROM DOOR FRAME ON HANDLE SIDE WITH 3/4"Ø CONDUIT STUB TO ACCESSIBLE CEILING.	TYPICALLY POWERED BY SYSTEM CONTROL PANEL POWER SUPPLY. SEE REMARKS.	REFER TO DOOR HARDWARE SPECS.
IC	INTERCOM REMOTE STATION	1	CAT6, CMP	MALE PLUG CAT6, RJ45	PATCH PANEL, CAT6, RJ45	TYPICAL 42"-48", VERIFY WITH ARCH	INSTALL MANUFACTURERS RECOMMENDED BACK BOX WITH 3/4"Ø CONDUIT STUB TO ACCESSIBLE CEILING. SEE REMARKS.	TYPICALLY POE POWERED BY OTHERS. SEE REMARKS.	REFER TO INTERCOM SYSTEM
▼ IC	INTERCOM REMOTE STATION AT ENTRY VESTIBULE & LOADING DOCK	2	CAT6, CMP	MALE PLUG CAT6, RJ45	PATCH PANEL, CAT6, RJ45	TYPICAL 42"-48", VERIFY WITH ARCH	INSTALL MANUFACTURERS RECOMMENDED BACK BOX WITH 3/4"Ø CONDUIT STUB TO ACCESSIBLE CEILING. SEE REMARKS.	TYPICALLY POE POWERED BY OTHERS. SEE REMARKS.	REFER TO INTERCOM SYSTEM. PROGRAM TO CONTACT FRONT DESK OR SECURITY DESK.
EKR	ELEVATOR REMOTE ACCESS READER	1	6C/22 AWG,CMP, STRANDED, SHIELDED	DEVICE	SYSTEM CONTROL PANEL	TYPICAL 42"-48", VERIFY WITH ARCH	N/A	N/A	REFER TO DOOR HARDWARE SPECS.
TE	TELEPHONE ENTRY SYSTEM STATION	1	CAT6, CMP	DEVICE	110 BLOCK	TYPICAL 42"-48", VERIFY WITH ARCH	INSTALL MANUFACTURERS RECOMMENDED BACK BOX WITH 3/4"Ø CONDUIT STUB TO ACCESSIBLE CEILING. SEE REMARKS.	120VAC / 20A DUPLEX POWER OUTLET. SEE REMARKS	PROVIDE LINEAR AE-500. CONSULT SPECIFICATIONS OF PROPOSED SYSTEM FOR CABLE TYPE AND TERMINATION AND POWER REQUIREMENTS
PR	PROXIMITY READER	1	6C/22 AWG,CMP, STRANDED, SHIELDED	DEVICE	SYSTEM CONTROL PANEL	TYPICAL 42"-48", VERIFY WITH ARCH	SINGLE GANG, 3-1/2" DEEP BACK BOX WITH MUD RING, TYPICALLY MOUNTED 8" FROM DOOR FRAME ON HANDLE SIDE WITH 3/4"Ø CONDUIT STUB TO ACCESSIBLE CEILING.	TYPICALLY POWERED BY SYSTEM CONTROL PANEL POWER SUPPLY. SEE REMARKS.	CARD READER SYSTEM IS VENDOR SPECIFIC; CONSULT PROVIDER FOR SPECIFICATIONS OF PROPOSED SYSTEM FOR CABLE TYPE AND TERMINATION AND POWER REQUIREMENTS
EC8	SINGLE BUTTON EMERGENCY PHONE SYSTEM STATION	1	CAT6, CMP	DEVICE	110 BLOCK	TYPICAL 42"-48", VERIFY WITH ARCH	MOUNTING BOX INCLUDED WITH DEVICE, REQUIRES 3/4"Ø CONDUIT STUB TO ACCESSIBLE CEILING SPACE	N/A - POWERED OFF PHONE LINE	PROVIDE TALK A PHONE EC-8 AS NEEDED FOR INSTALLATIONS WITH MORE THAN 1 EMERGENCY STATION.

CCTV SYMBOL LEGEND

SYMBOL	DESCRIPTION	CABLE COUNT	CABLE DESCRIPTION	WORK AREA TERMINATION	CLOSET TERMINATION	STANDARD MOUNTING HEIGHT (AFF)	ELECTRICAL ROUGH-IN	POWER REQUIREMENT	REMARKS
DI	MINI DOME SINGLE LENS CAMERA - CEILING MOUNTED	1	CAT6, CMP	CAT6, RJ45 JACK	PATCH PANEL, CAT6, RJ45	PER CEILING HEIGHT	TYPICALLY FREE RUN DATA CABLE WITH BISCUIT JACK ABOVE ACCESSIBLE / GYP CEILING SPACE	NA - TYPICALLY POE POWERED BY CCTV NETWORK SWITCH	SEE CCTV SYSTEM COMPONENTS SCHEDULE AND INSTALLATION DETAILS FOR ADDITIONAL REQUIREMENTS
DI	MINI DOME SINGLE LENS CAMERA - WALL MOUNTED	1	CAT6, CMP	CAT6, RJ45 JACK	PATCH PANEL, CAT6, RJ45	TYPICAL 8'-10', VERIFY WITH ARCH	CONCEALED IN WALL STUD CAVITY	NA - TYPICALLY POE POWERED BY CCTV NETWORK SWITCH	SEE CCTV SYSTEM COMPONENTS SCHEDULE AND INSTALLATION DETAILS FOR ADDITIONAL REQUIREMENTS
BC	FIXED BULLET STYLE CAMERA - WALL MOUNTED	1	CAT6, CMP	CAT6, RJ45 JACK	PATCH PANEL, CAT6, RJ45	TYPICAL 8'-10', VERIFY WITH ARCH	CONCEALED IN WALL STUD CAVITY	NA - TYPICALLY POE POWERED BY CCTV NETWORK SWITCH	SEE CCTV SYSTEM COMPONENTS SCHEDULE AND INSTALLATION DETAILS FOR ADDITIONAL REQUIREMENTS
180°	MINI DOME 180° CAMERA - CEILING MOUNTED	1	CAT6, CMP	CAT6, RJ45 JACK	PATCH PANEL, CAT6, RJ45	PER CEILING HEIGHT	TYPICALLY FREE RUN DATA CABLE WITH BISCUIT JACK ABOVE ACCESSIBLE / GYP CEILING SPACE	NA - TYPICALLY POE POWERED BY CCTV NETWORK SWITCH	SEE CCTV SYSTEM COMPONENTS SCHEDULE AND INSTALLATION DETAILS FOR ADDITIONAL REQUIREMENTS
360°	MINI DOME 360° CAMERA - CEILING MOUNTED	1	CAT6, CMP	CAT6, RJ45 JACK	PATCH PANEL, CAT6, RJ45	PER CEILING HEIGHT	TYPICALLY FREE RUN DATA CABLE WITH BISCUIT JACK ABOVE ACCESSIBLE / GYP CEILING SPACE	NA - TYPICALLY POE POWERED BY CCTV NETWORK SWITCH	SEE CCTV SYSTEM COMPONENTS SCHEDULE AND INSTALLATION DETAILS FOR ADDITIONAL REQUIREMENTS
XX L M	CUSTOM CAMERA - SEE CAMERA SCHEDULE X = CAMERA TYPE M= MOUNT TYPE L = LENS TYPE	1	CAT6, CMP	CAT6, RJ45 JACK	PATCH PANEL, CAT6, RJ45	PER CEILING HEIGHT	TO BE DETERMINED	NA - TYPICALLY POE POWERED BY CCTV NETWORK SWITCH	SEE CCTV SYSTEM COMPONENTS SCHEDULE AND INSTALLATION DETAILS FOR ADDITIONAL REQUIREMENTS

LEGEND NOTES

1. SOME ITEMS LISTED IN THE ABOVE TABLE MAY NOT BE INCLUDED IN THIS PROJECT. THE ABOVE ROUGH-IN REQUIREMENTS ARE INTENDED TO SERVE AS REFERENCE INFORMATION ONLY.

2. THIS PART LIST IS INTENDED TO COMMUNICATE DESIGN INTENT. AS PART OF SUBMITTAL PROCESS, INSTALLER MUST SUBMIT A COMPLETE CUT SHEET OF FINAL PRODUCT. THIS MAY CHANGE BASED ON RECOMMENDATION OF OWNERSHIP GROUP.

3. ALL COMPONENTS MOUNTED IN EXTERIOR ENVIRONMENTS SHALL BE IN EXTERIOR WEATHER PROOF RATED ENCLOSURES.

GENERAL NOTES FOR SYMBOL LEGENDS

1. SEE COVER SHEET FOR ADDITIONAL INFORMATION PERTAINING TO BACK BOX AND CONDUIT ROUGH IN REQUIREMENTS FOR SECURITY SYSTEM DEVICES.

2. ADDITIONAL CONDUIT INFORMATION MAY BE NOTED ON THE FLOOR PLANS.

3. OUTLET MOUNTING HEIGHTS MAY BE NOTED ON THE DRAWINGS, VERIFY ALL MOUNTING HEIGHTS WITH ARCHITECTURAL AND INTERIOR DESIGN DRAWINGS.

4. ALL POINT OF SALE TERMINAL AND PRINTER LOCATIONS TO BE CROSS CHECKED AND VERIFIED WITH FOOD SERVICE DRAWINGS.

5. CARD READERS ARE SHOWN ON THESE FLOOR PLANS FOR REFERENCE ONLY TO PROVIDE VISUAL REPRESENTATION OF ACCESS CONTROL LOCATIONS. CARD READER, SPECIFICATIONS AND FINAL LOCATIONS SHOULD BE DERIVED FROM THE DOOR HARDWARE SCHEDULE.

6. ALL CROSS CONNECTING OF STATION VOICE CABLES TO RISER CABLES IS PART OF THIS SCOPE OF WORK - TO PROVIDE COMPLETE CONTINUITY OF SIGNAL FROM JACK TO MDF.

7. FURNISHING OF AND INSTALLATION OF ALL AMPS AND TAPS FOR TV SIGNAL DISTRIBUTION SYSTEM IS PART OF THIS SCOPE OF WORK - TO PROVIDE COMPLETE CONTINUITY OF SIGNAL FROM OUTLET TO TV MDF.

8. SEE COVER SHEET FOR ADDITIONAL INFORMATION, NOTES ON ALL SYSTEMS. REVIEW AND VERIFY OTHER PERTINENT DISCIPLINE DRAWINGS (ARCHITECT, I.D., FOOD SERVICE, ELECTRICAL, MECHANICAL, ETC.) AND SUBMIT RFI FOR ANY DISCREPANCIES FOUND WITH RESPECT TO NTI DRAWINGS.

9. NOT ALL SYMBOLS ARE USED ON EVERY PROJECT. REFER TO FLOOR PLANS FOR OUTLET LOCATIONS AND QUANTITIES.

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, CABLES, MOUNTING HARDWARE, SOFTWARE, JACKS, LADDER RACKS, ETC...AND ANY OTHER RELATED COMPONENTS TO DELIVER A COMPLETE SYSTEM TO THE CLIENT.	• DOOR CONTACTS (AS NEEDED) • NETWORK VIDEO RECORDERS • ACCESS CONTROL SYSTEM • ALL CABLES FOR ACCESS CONTROL SYSTEM • CCTV CAMERAS • CCTV CAMERA MOUNTS • ACCESS CONTROL PoE SWITCHES • TAMPER SWITCHES • MISCELLANEOUS: PANELS, CABLES, MOUNTING HARDWARE, SOFTWARE, ETC...AND ANY OTHER RELATED COMPONENTS TO DELIVER A COMPLETE ACCESS CONTROL SYSTEM TO THE CLIENT. • WEATHERPROOF HOUSING FOR ANY CCTV CAMERAS EXPOSED TO WEATHER	• 4X4 BACK BOXES • 4X4 SINGLE GANG MUD RINGS • CONDUITS • SLEEVES • PULL STRINGS • KNOX BOXES • POWER SYSTEMS • GROUNDING SYSTEMS • MISCELLANEOUS: CONDUIT LABELS, HAND HOLES, SITE CONDUITS, 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.

True North Compliance Services, Inc.

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BY: Mulham Fwaidi DATE: 03/25/2026

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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/

COPPER COMPONENTS SPECIFICATIONS LIST

DESCRIPTION	MANUFACTURER	PART NUMBER	COMMENTS
CATEGORY 6, 4 PAIR, UTP, CMP, GRAY JACKET	MOHAWK	M57196	
CATEGORY 6, 4 PAIR, UTP, CMP, WHITE JACKET	MOHAWK	M56905	
CATEGORY 6, 4 PAIR, UTP, CMP, BLUE JACKET	MOHAWK	M57193	
CATEGORY 6, 4 PAIR, UTP, CMP, BLACK JACKET	MOHAWK	M57200	
CATEGORY 3, 50 PAIR, UTP, CMP	MOHAWK	M56126	
CATEGORY 3, 100 PAIR, UTP, CMP	MOHAWK	M56128	
CATEGORY 3, 200 PAIR, UTP, CMP	MOHAWK	M56129	
CATEGORY 6, 4 PAIR, OUTDOOR RATED	UNIPRISE	6NF4	OUTDOOR RATED CABLE FOR FLOOR BOXES IN BALLROOM
RJ-45, CAT 6, 8 POSITION, T568B, DATA JACK INSERT	HUBBELL	HXJ6**	* DENOTES COLOR
FACEPLATE, SINGLE GANG	HUBBELL	IFP1#**	# DENOTES NUMBER OF PORTS, * DENOTES COLOR
BLANK INSERTS	HUBBELL	SFB**	* DENOTES COLOR
WALL PHONE STYLE - FACEPLATE WITH JACK	HUBBELL	P630SR1GC6	USED FOR ALL WALL PHONES (HOUSE AND PUBLIC) AT 48"AFF OR AS NOTED
WEATHERPROOF ENCLOSURE FOR OUTDOOR MOUNTED PHONES	GAI-TRONICS	MODEL 255	
24 PORT CATEGORY 6, PATCH PANEL, UNIVERSALWIRING	HUBBELL	HP624	
48 PORT CATEGORY 6, PATCH PANEL, UNIVERSALWIRING	HUBBELL	HP648	
66 BLOCK - 50 PAIR	HUBBELL	HPW66M150	
300 PAIR 110 WALL MOUNT KITS WITH FRAME	HUBBELL	110WMK	
110 WALL MOUNT CABLE MANAGEMENT FRAME	HUBBELL	188BB	
100 PAIR 110 XC BLOCKS WITH MOUNTING LEGS	HUBBELL	110BLK100FTK4	
300 PAIR 110 XC BLOCKS WITH MOUNTING LEGS	HUBBELL	110BLK300FTK4	
110 BLOCK CABLE MANAGEMENT TROUGHS	HUBBELL	110TRA	
100 PAIR 110 BLOCKS-RACK MOUNT KIT	HUBBELL	110RM14	
200 PAIR 110 BLOCKS-RACK MOUNT KIT	HUBBELL	110RM24	

FIBER OPTIC COMPONENTS SPECIFICATIONS LIST

DESCRIPTION	MANUFACTURER	PART NUMBER	COMMENTS
6 STRAND 50/125 MM FIBER, OFNP-ADVANCELITE 1000	MOHAWK	M9C045	
12 STRAND 50/125 MM FIBER, OFNP-ADVANCELITE 1000	MOHAWK	M9C048	
6 STRAND SINGLE-MODE FIBER, OFNP-ENHANCED	MOHAWK	M9W045	
12 STRAND SINGLE-MODE FIBER, OFNP-ENHANCED	MOHAWK	M9W048	
ARMORLITE 6 STRAND 50/125 MM FIBER, OFNP-ADVANCELITE 1000	MOHAWK	M9C230	
ARMORLITE 12 STRAND 50/125 MM FIBER, OFNP-ADVANCELITE 1000	MOHAWK	M9C231	
ARMORLITE 6 STRAND SINGLE-MODE FIBER, OFNP-ENHANCED	MOHAWK	M9W230	
ARMORLITE 12 STRAND SINGLE-MODE FIBER, OFNP-ENHANCED	MOHAWK	M9W231	
SC SIMPLEX KEYSTONE ADAPTER INSERT	HUBBELL	SFSC*	FOR MULTI-MODE FIBER, * DENOTES COLOR
SC SIMPLEX KEYSTONE ADAPTER INSERT	HUBBELL	SFSCS*	FOR SINGLE-MODE FIBER, * DENOTES COLOR
FACEPLATE, SINGLE GANG	HUBBELL	IFP1#**	# DENOTES NUMBER OF PORTS, * DENOTES COLOR
BLANK INSERTS	HUBBELL	SFB**	* DENOTES COLOR
WIC BOX WALL MOUNT CABINET, DOUBLE DOOR W/LOCK	HUBBELL	FCW4SP	
12 PORT RACK MOUNT FIBER ENCLOSURE-LOADED-SC	HUBBELL	FPRO12SCM	
12 PORT RACK MOUNT FIBER ENCLOSURE-LOADED-ST	HUBBELL	FPRO12STM	
24 PORT RACK MOUNT FIBER ENCLOSURE-LOADED-SC	HUBBELL	FPRO24SCM	
24 PORT RACK MOUNT FIBER ENCLOSURE-LOADED-ST	HUBBELL	FPRO24STM	
72-144 P0RT RACK MOUNT FIBER ENCLOSURE-UNLOADED	HUBBELL	FCR350SP(##)R	
FSP FIBER ADAPTER PANEL - 6-STRAND SC PANEL	HUBBELL	FSPSCDM3AQ	FOR MULTI-MODE FIBER
FSP FIBER ADAPTER PANEL - 12-STRAND SC PANEL	HUBBELL	FSPSCDM6AQ	FOR MULTI-MODE FIBER
FSP FIBER ADAPTER PANEL - 6-STRAND SC PANEL	HUBBELL	FSPSCDS3Y	FOR SINGLE-MODE FIBER
FSP FIBER ADAPTER PANEL - 12-STRAND SC PANEL	HUBBELL	FSPSCDS6Y	FOR SINGLE-MODE FIBER
VELCRO TIE WRAPS	HUBBELL	HPWCVF(XX)8	

MATV RECOMMENDED COMPONENT SCHEDULE

DESCRIPTION	MANUFACTURER	PART NUMBER	COMMENTS
SPLITTERS			
2 Way 1 GHz Drop Splitter	TONER CABLE EQUIPMENT, INC.	XGVS -2	GREATER THAN 120dB RFI INTEGRITY
4 Way 1 GHz Drop Splitter	TONER CABLE EQUIPMENT, INC.	XGVS -4	GREATER THAN 120dB RFI INTEGRITY
6 Way 1 GHz Drop Splitter	TONER CABLE EQUIPMENT, INC.	XGVS -6	GREATER THAN 120dB RFI INTEGRITY
8 Way 1 GHz Drop Splitter	TONER CABLE EQUIPMENT, INC.	XGVS -8	GREATER THAN 120dB RFI INTEGRITY
2 WAY 1-GHZ VERTICAL SPLITTER - SOLDER BACK	PICO MACOM	TSV-2SB	GREATER THAN 130dB RFI INTEGRITY
4 WAY 1-GHZ VERTICAL SPLITTER - SOLDER BACK	PICO MACOM	TSV-4SB	GREATER THAN 130dB RFI INTEGRITY
6 WAY 1-GHZ VERTICAL SPLITTER - SOLDER BACK	PICO MACOM	TSV-6SB	GREATER THAN 130dB RFI INTEGRITY
8 WAY 1-GHZ VERTICAL SPLITTER - SOLDER BACK	PICO MACOM	TSV-8SB	GREATER THAN 130dB RFI INTEGRITY
TAPS - DIRECTIONAL COUPLERS			
1-PORT DIRECTIONAL COUPLER, 5-1,000 MHz - SOLDER BACK	PICO MACOM	TCS-(*)-SB	(*) DENOTES TAP VALUE - 6, 9, 12, 16, 20, 24, 27, 30 dB
1-PORT DIRECTIONAL COUPLER, 5-1,000 MHz - WALL PLATE	PICO MACOM	TSCW-(*)-SB	(*) DENOTES TAP VALUE - 6, 9, 12, 16, 20, 24, 27, 30 dB
2-PORT DIRECTIONAL COUPLER, 5-1,000 MHz - SOLDER BACK	PICO MACOM	TSC2-(*)-SB	(*) DENOTES TAP VALUE - 6, 9, 12, 16, 20, 24, 27, 30 dB
4-PORT DIRECTIONAL COUPLER, 5-1,000 MHz - SOLDER BACK	PICO MACOM	TSC4-(*)-SB	(*) DENOTES TAP VALUE - 6, 9, 12, 16, 20, 24, 27, 30 dB
2-PORT TAP, 5-1,000 MHz	TONER CABLE EQUIPMENT, INC.	TGT2-(*)	(*) DENOTES TAP VALUE - 4T, 8, 11, 14, 17, 20, 23, 26, 29, 32 dB
4-PORT TAP, 5-1,000 MHz	TONER CABLE EQUIPMENT, INC.	TGT4-(*)	(*) DENOTES TAP VALUE - 4T, 8, 11, 14, 17, 20, 23, 26, 29, 32 dB
AMPLIFIERS AND ACCESSORIES			
BROADBAND INDOOR DISTRIBUTION AMPLIFIERS, 750 MHz, 30 dB GAIN	BLONDER TONGUE	BIDA 75A-30P	POWER DOUBLING

MATV RECOMMENDED COMPONENT SCHEDULE continued

DESCRIPTION	MANUFACTURER	PART NUMBER	COMMENTS
AMPLIFIERS AND ACCESSORIES continued			
BROADBAND INDOOR DISTRIBUTION AMPLIFIERS, 860 MHz, 30 dB GAIN	BLONDER TONGUE	BIDA 86A-30P	POWER DOUBLING
BROADBAND INDOOR DISTRIBUTION AMPLIFIERS, 750 MHz, 43 dB GAIN	BLONDER TONGUE	BIDA 75A-43P	POWER DOUBLING
BROADBAND INDOOR DISTRIBUTION AMPLIFIERS, 860 MHz, 43 dB GAIN	BLONDER TONGUE	BIDA 86A-43P	POWER DOUBLING
FIXED ATTENUATORS (PADS) 1-20 dB IN 1 dB STEP	BLONDER TONGUE	BIDA FA	STOCK NUMBER 5411A SPECIFY VALUE 3, 6, 9, 12, 18 dB
CABLE EQUALIZERS	BLONDER TONGUE	BIDA CE	STOCK NUMBER 5477 SPECIFY VALUE 3, 6, 9, 12, 18 dB
CONNECTORS			
SERIES 6 COMPRESSION CONNECTOR	PCT INTERNATIONAL	PCT-TRS-6(*)	(*) P=PLENUM, LRA=RIGHT ANGLE
SERIES 11 COMPRESSION CONNECTOR	PCT INTERNATIONAL	PCT-DRS-11(*)	
COAXIAL CABLES			
RG-6, 18 AWG, PLENUM, DUOFOIL & 95% TC BRAID COVERAGE	BELDEN	89120	CATVP, CMP RATING
RG-11, 14 AWG, PLENUM, DUOFOIL & 63% TC BRAID COVERAGE	BELDEN	89292	CATVP, CMP RATING

MATV SYSTEM NOTES

1. SOME OF THE ABOVE LISTED PRODUCTS MAY NOT BE REQUIRED FOR THIS PROJECT. CABLING CONTRACTOR IS RESPONSIBLE FOR PROVIDING AND INSTALLING ALL PRODUCTS, AS REQUIRED, TO FURNISH OWNER WITH COMPLETE SYSTEM.
2. IT IS THE RESPONSIBILITY OF THE CABLING CONTRACTOR TO COORDINATE WITH THE OWNER AND MATV VENDOR PRIOR TO INSTALLING CABLE, TAPS ETC. TO DETERMINE WITCH SYSTEM SHALL BE USED.

EQUIPMENT ROOM COMPONENTS SPECIFICATIONS LIST

DESCRIPTION	MANUFACTURER	PART NUMBER	COMMENTS
RACK MOUNT DOUBLE SIDED HORIZONTAL CABLE MANAGER - 1RMU	CPI	30529-719	
RACK MOUNT DOUBLE SIDED HORIZONTAL CABLE MANAGER - 2RMU	CPI	30530-719	
VERTICAL CABLE MANAGER FOR FLOOR RACK	CPI	30095-703	
VERTICAL POWER OUTLET STRIP (INLET PLUG NEMA 5L-20P)	CPI	12581-708	(1) PER 7' FLOOR RACK
VELCRO TIE WRAPS	HUBBELL	HPWCVF(XX)8	
HUB SHELF OR BACKBOARD MOUNTED SHELF	CPI	40074-700	
STANDARD FLOOR MOUNTED EQUIPMENT RACK - 45RMU	CPI	55053-703	
CPU/MONITOR SHELF WITH KEYBOARD & MOUSE TRAY	CPI	12487-723	
STANDARD 4-PORT RACK - 7'Hx19"Wx29"D - 45RMU	CPI	50120-703	
WALL MOUNTED EQUIPMENT CABINET - 48'Hx19"Wx29"D - 26RMU	CPI	40074-700	
WALL MOUNTED EQUIPMENT CABINET - 36'Hx19"Wx29"D - 18RMU	CPI	40074-700	
100 CFM FAN KIT	CPI	12804-701	(1) PER CABINET
HORIZONTAL POWER OUTLET STRIP	CPI	12816-707	(1) PER CABINET OR SWING FRAME
WALL MOUNTED SWING FRAME RACK - 49'Hx19"Wx25"D - 27RMU	CPI	11807-725	
WALL MOUNTED SWING FRAME RACK - 38'Hx19"Wx25"D - 21RMU	CPI	11791-725	
12" WIDE LADDER RACK	CPI	10250-712	
18" WIDE LADDER RACK	CPI	10250-718	
24" M.E.2 WIRE CABLE TRAY	WIREMAID	05-2-24410	OR APPROVED EQUIVALENT
36" M.E.2 WIRE CABLE TRAY	WIREMAID	05-2-36410	OR APPROVED EQUIVALENT
8" SOLID BOTTOM PLATE	WIREMAID	05-2-08BP	OR APPROVED EQUIVALENT
12" SOLID BOTTOM PLATE	WIREMAID	05-2-12BP	OR APPROVED EQUIVALENT
18" SOLID BOTTOM PLATE	WIREMAID	05-2-18BP	OR APPROVED EQUIVALENT
24" SOLID BOTTOM PLATE	WIREMAID	05-2-24BP	OR APPROVED EQUIVALENT
36" SOLID BOTTOM PLATE	WIREMAID	05-2-36BP	OR APPROVED EQUIVALENT
2" HIGH TRAY DIVIDER	WIREMAID	05-2-500983	OR APPROVED EQUIVALENT
4" HIGH TRAY DIVIDER	WIREMAID	05-2-500984	OR APPROVED EQUIVALENT
FIRESTOP SYSTEM FOR SLOTS AND LARGE WALL PENETRATIONS	SPECIFIED TECHNOLOGIES, INC.	C-AJ-8093	OR APPROVED EQUIVALENT

DAS / FIRST RESPONDERS RADIO SYSTEM

DAS (DISTRIBUTED ANTENNAE SYSTEM)-FOR ENHANCED CELL PHONE COVERAGE

A DAS (DISTRIBUTED ANTENNAE SYSTEM) TO PROVIDE ENHANCED CELL PHONE COVERAGE MAY BE REQUIRED FOR THIS PROJECT. A SITE SURVEY WILL BE REQUIRED TO VERIFY THE NEED. FOR NEW BUILDS, ONCE THE STRUCTURE IS COMPLETE AND WALLS ARE FRAMED IN (BUT PRIOR TO CEILING AND WALL CLOSE UP) A SITE SURVEY SHOULD BE CONDUCTED BY A QUALIFIED DAS INTEGRATION COMPANY. THE PURPOSE OF THE SURVEY IS TO VERIFY THE NATIVE SIGNAL LEVELS WITHIN THE BUILDING FOR THE MAJOR CELL PHONE CARRIERS (ATT, VERIZON, SPRINT, T-MOBILE, ETC.). IN ADDITION TO MEASURING THE NATIVE SIGNAL STRENGTH, A COMPREHENSIVE DAS SURVEY WILL EMULATE THE POTENTIAL NUMBER OF SIMULTANEOUS CELL SESSIONS THAT COULD OCCUR IN THE BUILDING AND DETERMINE WHETHER OR NOT THE FULLY OCCUPIED BUILDING MAY NEGATIVELY IMPACT THE LOCAL CARRIERS MACRO NETWORK THEREBY RESULTING IN OVERALL POOR SIGNAL COVERAGE IN THE BUILDING AND POSSIBLE DROPPED CALLS BY USERS OUTSIDE THE BUILDING. IF THE NATIVE SIGNAL LEVELS ARE NOT ADEQUATE WITHIN THE BUILDING, A HOST NEUTRAL DAS SYSTEM WILL NEED TO BE INSTALLED. IF APPLICABLE, SEE SHEET DV-XXX WITHIN OUR DRAWING SET FOR GENERAL SPECIFICATIONS AND SCHEMATIC CABLING DIAGRAMS FOR A HOST NEUTRAL DAS SYSTEM. FOR BUDGETING PURPOSES, WE SUGGEST THE GENERAL CONTRACTOR OR OWNER CARRY AN ALLOWANCE FOR THE DAS AND ERRS SYSTEMS. IF THE SURVEY REVEALS THAT NATIVE SIGNAL LEVELS ARE ADEQUATE PER THE BRAND STANDARD REQUIREMENTS, THEN A DAS SYSTEM WILL NOT BE REQUIRED AND THE ALLOWANCE CAN BE REMOVED FROM THE BUDGET.

FIRST RESPONDERS RADIO SYSTEM

IN ADDITION TO THE DAS SYSTEM, A FIRST RESPONDERS RADIO SYSTEM MAY ALSO BE NEEDED. THE FIRST RESPONDERS RADIO SYSTEM PROVIDES ENHANCED COVERAGE FOR THE LOCAL FIRST RESPONDERS RADIOS (POLICE, FIREMEN, EMT, ETC.) LOCAL JURISDICTIONS HAVE SPECIFIC BROADCAST FREQUENCY THAT IS UTILIZED BY FIRST RESPONDERS RADIO. TYPICALLY THESE FREQUENCIES ARE IN THE 700 -900 MHZ RANGE, BUT CAN VARY. THE FREQUENCIES REQUIRED FOR THIS PROJECT MUST BE VERIFIED WITH THE LOCAL FIRE AND POLICE DEPARTMENTS. SIMILAR TO THE DAS SYSTEM EVALUATION PROCESS, THE ACTUAL REQUIREMENT FOR A FIRST RESPONDERS RADIO ENHANCEMENT SYSTEM IS DETERMINED BY PERFORMING A SITE SURVEY ONCE THE BUILDING STRUCTURE IS IN PLACE. IF A SYSTEM IS DEEMED NEEDED, IT IS FEASIBLE TO "PIGGY BACK" ON THE DAS SYSTEM BY ADDING ANTENNAE AND HEAD END EQUIPMENT TO ADD THE FIRST RESPONDERS COVERAGE ONTO THE DAS SYSTEM. HOWEVER, IT MAY BE MORE COST EFFECTIVE TO HAVE A SEPARATE, DEDICATED FIRST RESPONDERS SYSTEM DEPLOYED. A QUALIFIED, LOCAL INTEGRATION COMPANY CAN PROVIDE THE SURVEY AND PRICING FOR THE SYSTEM INSTALLATION. IF THE SURVEY REVEALS THAT NATIVE SIGNAL LEVELS ARE ADEQUATE PER THE LOCAL CODE REQUIREMENTS, THEN A FIRST RESPONDERS RADIO SYSTEM WILL NOT BE REQUIRED AND THE ALLOWANCE CAN BE REMOVED FROM THE BUDGET.

NOTES FOR ALL COMPONENTS SPECIFICATIONS LISTS

1. CONTRACTOR TO VERIFY WITH LOCAL CODES REQUIREMENTS FOR USE OF LC "LOW COMBUSTIBLE" CABLING IF REQUIRED BY LOCAL CODES, CONTRACTOR IS RESPONSIBLE FOR FURNISHING AND INSTALLING IN ALL PLENUM RATED SPACE.
2. SOME OF THE ABOVE LISTED PRODUCTS MAY NOT BE REQUIRED FOR THIS PROJECT. CABLING CONTRACTOR IS RESPONSIBLE FOR PROVIDING AND INSTALLING ALL PRODUCTS, AS REQUIRED, TO FURNISH OWNER WITH COMPLETE SYSTEM.
3. AS MANUFACTURERS PART NUMBERS CAN CHANGE, CONTRACTOR IS RESPONSIBLE FOR VERIFYING CORRECT, CURRENT PART NUMBERS FOR PRODUCTS SPECIFIED.
4. BIDDERS MUST SUBMIT CUT SHEET TO NTI FOR REVIEW/APPROVAL FOR ALL PROPOSED PRODUCTS.
5. ALTERNATE MANUFACTURES MAY BE USED. ALTERNATE PRODUCTS MUST BE EQUIVALENT OR BETTER WITH REGARD TO PERFORMANCE, FORM, FIT & FUNCTION.

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	01/16/26	PLAN CHECK RESUBMITTAL #3
	02/09/26	PLAN CHECK RESUBMITTAL #4

Sheet title:

SPECIFICATIONS & NOTES

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

T0.02

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PLAN REVIEW APPROVAL

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BY: Mulham Aweidi DATE: 03/25/2026

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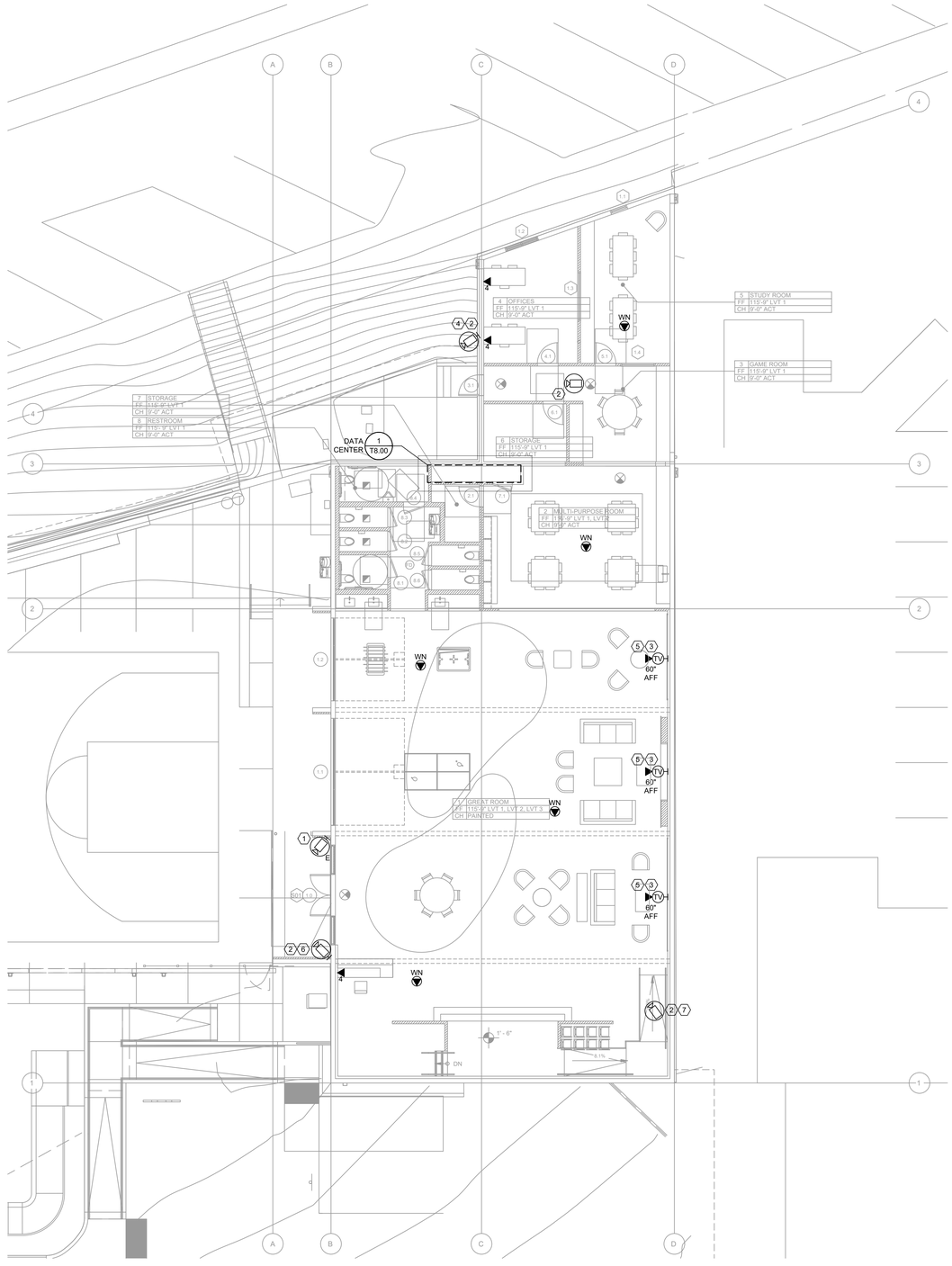
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CABLE ZONING NOTE

HOMERUN ALL CABLES TO DATA CENTER, THIS LEVEL.

KEYED NOTES

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) 1"Ø 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.



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

2025-12-11 PLAN

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GROUND LEVEL PLAN

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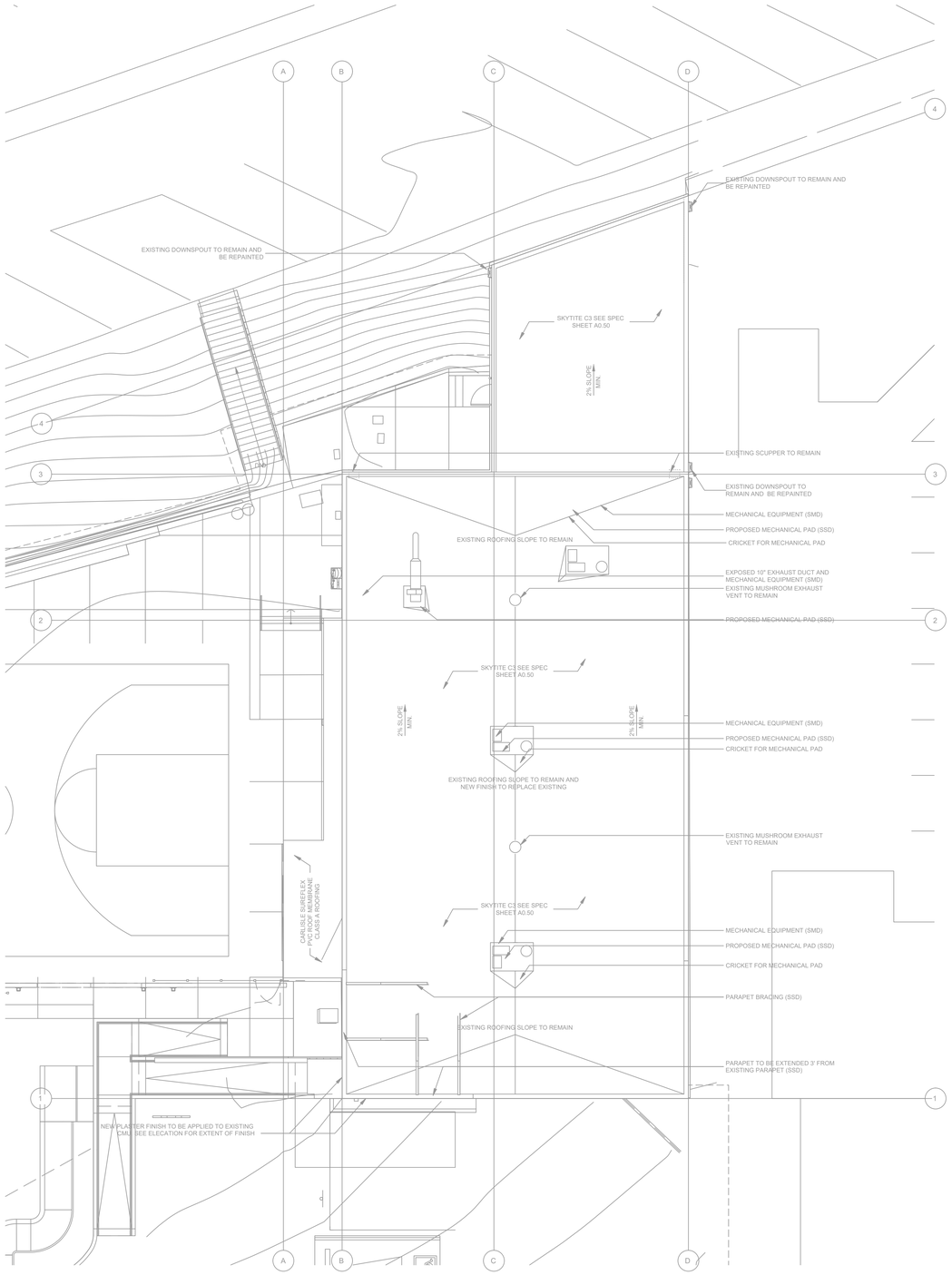
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BY: Mulham Hweidi DATE: 03/25/2026

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

2025-12-11 PLAN

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BY: Mutham Hweidi DATE: 03/25/2026

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ROOF LEVEL PLAN

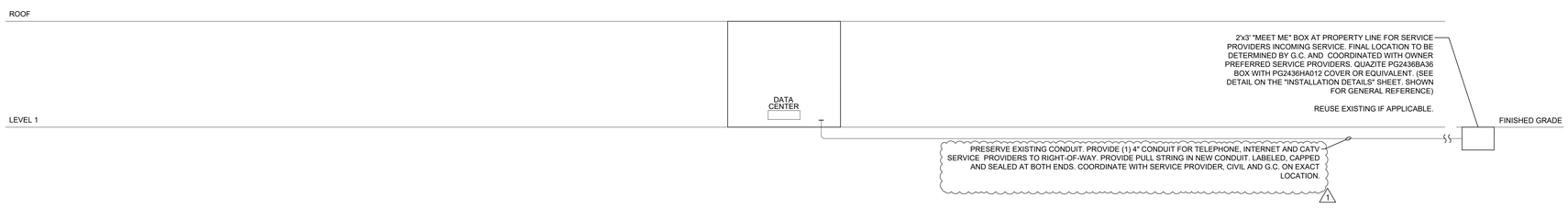
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CONDUIT NOTES

1. CONDUIT RUNS SHALL CONTAIN NO MORE THAN TWO (2) 90 DEGREE BENDS AND HAVE AN AGGREGATE BEND OF NO MORE THAN 180 DEGREES WITHOUT 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 4" SEPARATION FROM ADJACENT CONDUITS AND SHALL STUB 4" AFF.



1 CONDUIT RISER DIAGRAM
NOT TO SCALE

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CONDUIT RISER DIAGRAM

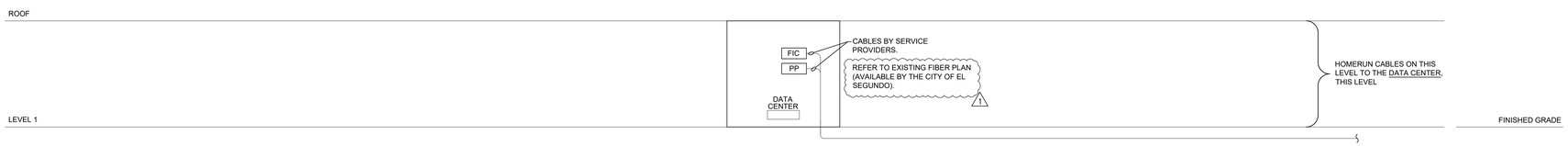
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LEGEND	
110	110 BLOCKS
FIC	FIBER INTERCONNECT CABINET
PP	CAT-6 PATCH PANEL



1 CABLING RISER DIAGRAM
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CABLING RISER DIAGRAM

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LEGEND	
SBB	SECONDARY BONDING BUSBAR
BBC	BACKBONE BONDING CONDUCTOR
PBB	PRIMARY BONDING BUSBAR

GENERAL NOTES

1. SBB 2"X12" BUSBAR CPI PART #13622-012 SHALL BE INSTALLED 7' AFF IN IDFS AT A LOCATION SO AS TO MINIMIZE DISTANCE TO EQUIPMENT RACKS AND LADDER RACKS.
2. PBB 4"X12" BUSBAR CPI PART #40153-012 SHALL BE INSTALLED 18" AFF AT TELCO DEMARC (TYPICALLY IN MDF).
3. ALL BUSBARS SHALL BE 6" CLEAR ON ALL SIDES.

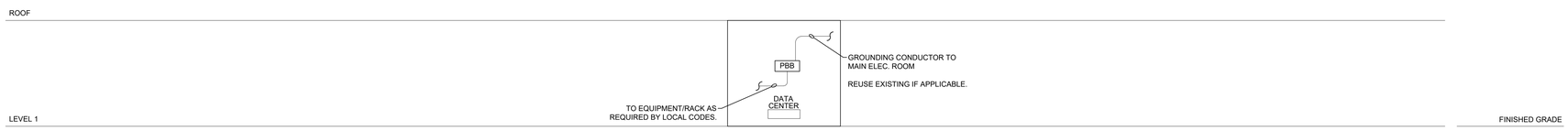
NOTE

THE BBC SHALL BE A COPPER CONDUCTOR. THE MIN. BBC CONDUCTOR SIZE SHALL BE A NO. 6 AWG. THE BBC SHOULD BE SIZED BY THE ELECTRICAL ENGINEER. THE BBC MAY BE INSULATED AND, IF SO, THE INSULATION SHALL MEET THE FIRE RATINGS OF ITS PATHWAY. THE SIZING OF THE BBC IS NOT INTENDED TO ACCOUNT FOR THE REDUCTION OR CONTROL OF ELECTROMAGNETIC INTERFERENCE. (FROM J-STD-607-A).

SIZING OF THE BBC

BBC LENGTH LINEAR M (FEET)	BBC SIZE (AWG)
less than 8 (26)	2
8 - 10 (27 - 33)	2
10 - 13 (34 - 41)	1
13 - 16 (42 - 52)	1 / 0
16 - 20 (53 - 66)	2 / 0
GREATER THAN 20 (66)	3 / 0

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



1 GROUNDING RISER DIAGRAM
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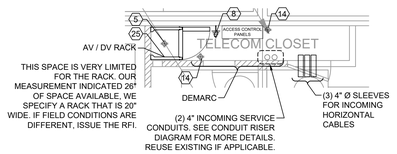
GROUNDING RISER DIAGRAM

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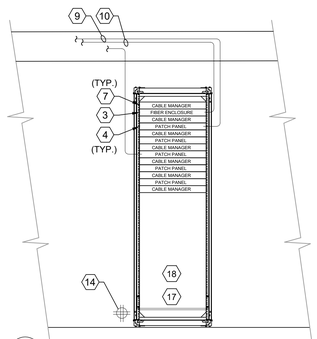
SPACE REQUIREMENTS :

HVAC - ESTIMATE HEAT LOAD - 10,000 BTU/H, FOR DV & AV EQUIPMENT ONLY, MAINTAIN 70°F, MAX. 50% RH. DEDICATED THERMOSTAT, STAND-ALONE SYSTEM.

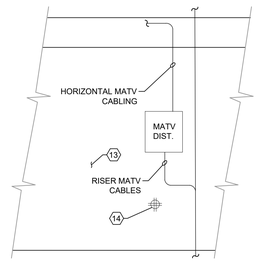
- GROUNDING BUS BAR, CONNECTED TO TELECOM GROUNDING SYSTEM.

1 DATA CENTER
1/4"=1'0"

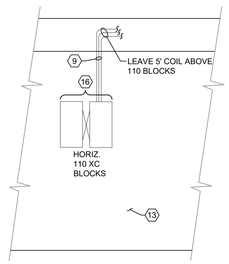
2025-12-11 PLAN



2 WALL MOUNT RACK ELEVATION
NOT TO SCALE



3 MATV BACKBOARD ELEVATION
NOT TO SCALE



4 110 BLOCK ELEVATION
NOT TO SCALE

CLOSET INSTALLATION NOTES

1. THE LAN COMPUTER/TELEPHONE RM. SHALL HAVE APPROPRIATE NUMBER OF EQUIPMENT RACKS INSTALLED AS PER DRAWINGS. FLOOR MOUNTED RACKS SHALL BE CPI #46353-705 OR EQUIVALENT. FLOOR RACKS MUST BE FASTENED TO CONCRETE FLOOR, AND FASTENED TO LADDER RACK WITH PROPER CPI HARDWARE. ALL RACKS & FRAMES SHALL BE INSTALLED ACCORDING TO ALL APPLICABLE LOCAL BUILDING CODES.
2. PATCH PANELS SHALL BE 48-PORT DENSITY, 2U AND SHALL BE INSTALLED IN EQUIPMENT RACKS AS SHOWN ON ELEVATIONS. CONTRACTOR SHALL INSTALL PANELS IN SUFFICIENT QUANTITY & PORT CONFIGURATION TO TERMINATE ALL INCOMING HORIZONTAL DATA CABLES AND TELEPHONE PATCH SYSTEM CABLES. ADMIN OUTLET DATA CABLES TO BE TERMINATED ON DEDICATED PATCH PANELS.
3. EQUIPMENT RACKS MUST BE SUPPORTED OVERHEAD WITH 18"(W) x 6"(D) CABLE TRAY FROM RACKS TO WALL ACCORDING TO PLANS CODES. DRAWING DETAILS. CABLE TRAY TO BE MP HUSKY OR EQUIVALENT. LADDER RACK MAY BE USED IN IDF ROOMS WITH CEILINGS LESS THAN 8'-0". MAINTAIN A MINIMUM OF 18" CLEARANCE FROM ANY OVERHEAD SPRINKLER SYSTEMS.
4. VERTICAL WIRE MANAGEMENT SHALL BE CPI#11729-703, TO BE USED BETWEEN EACH RACK AND ON ENDS OF RACK(S).
5. HORIZONTAL WIRE MANAGEMENT, 2 RACK UNITS (3.5"), TO BE USED BETWEEN EACH PATCH PANEL, ABOVE THE TOP PANEL & BELOW THE BOTTOM PANEL FOR EACH PANEL LINEUP.
6. ALL IDF & MDF CROSS-CONNECT FIELDS SHALL BE OF THE 110 TYPE BLOCKS IN A SUFFICIENT QUANTITY TO FULLY TERMINATE ALL HORIZONTAL VOICE CABLES. VERTICAL CROSS-CONNECT CABLE MANAGEMENT TROUGHS MANUFACTURED BY THE SAME MANUFACTURER AS THE 110 BLOCKS MUST BE USED BETWEEN 110 BLOCKS AND VERTICAL BLOCK ARRAYS. D-RINGS WILL NOT BE PERMITTED FOR CABLE MANAGEMENT IN THE 110 BLOCK FIELD. REAR CABLE TROUGH TYPE ARRANGEMENT IS REQUIRED FOR THE 110 BLOCKS. REAR FEED AND CABLE DRESSING IN THE CABLE TROUGHS IS REQUIRED FOR ALL CABLE, BOTH WORKSTATION AND RISERS.
7. ALL PHONE CROSS CONNECTS TO BE COMPLETED BY CABLING CONTRACTOR TO PROVIDE CONTINUITY FOR PHONE LINES FROM WALL PLATE TO MDF BLOCKS.
8. ALL EQUIPMENT RACKS AND HARDWARE MUST BE GROUNDED PER TIA/EIA & NEC GUIDELINES. RACKS SHALL HAVE VERTICAL GROUND STRIPS.
9. UPS UNITS CAPABLE OF MAINTAINING POWER FOR A MINIMUM OF FIFTEEN MINUTES REQUIRED FOR ALL IT EQUIPMENT IN ALL IDF AND MDF ROOMS. TO BE PROVIDED AND INSTALLED BY OSE EQUIPMENT VENDORS, EXCEPT AS NOTED OTHERWISE.

KEYED NOTES

1. 18" WIDE LADDER RACK. MOUNT ABOVE EQUIPMENT RACKS. INSTALLED BY CABLING CONTRACTOR. CPI OR EQUIVALENT.
2. FLOOR MOUNTED EQUIPMENT RELAY RACK, 7'(H) x 19"(W) BLACK, (CPI #46353-705) OR APPROVED EQUIVALENT.
3. RACK MOUNT FIBER ENCLOSURE LOADED WITH 'LC' MULTIMODE BULKHEADS - SUPPLY AS NEEDED TO TERMINATE ALL INCOMING/OUTGOING FIBER CABLES.
4. 48 PORT CAT-6 DATA PATCH PANEL RACK MOUNTED SUPPLY AS NEEDED TO TERMINATE ALL INCOMING HORIZONTAL DATA CABLES AND DATA RISER CABLES. (CAT-3 RATED PANELS MAY BE USED FOR "TELEPHONE TRUNK PANELS").
5. 120V AC/20A NEMA 5-20R QUAD RECEPTACLE ON DEDICATED EMERGENCY POWER, SUPPLY ONE OUTLET ON DEDICATED CIRCUIT PER RACK, COORDINATE INSTALLATION WITH ELECTRICAL CONTRACTOR.
6. VERTICAL CABLE MANAGER (CPI #11729-703) WITH COVER (CPI #12188-001) OR APPROVED EQUIVALENT.
7. 2 UNIT HORIZONTAL CABLE MANAGER, 3.5" HIGH RACK MOUNTED.
8. GROUND BUS BAR FOR COMMUNICATIONS EQUIPMENT GROUND.
9. INCOMING 4 PAIR, CAT-6, HORIZONTAL CABLES.
10. INCOMING FIBER CABLES, SEE CABLING RISER DIAGRAM FOR EXACT REQUIREMENTS.
11. TELEPHONE TRUNK PANEL. SUPPLY AS NEEDED TO ACCOMMODATE ALL ANALOG CABLES.
12. 2OA RATED 66" POWER STRIP (CPI #12848-758) WITH FACTORY INSTALLED 20A PLUG AND WITH 6.5" STAND OFF BRACKETS, SEE DETAIL.
13. 3/4" AC GRADE PLYWOOD (MOUNT WITH BOTTOM 6" OFF THE FLOOR), 8 FEET HIGH, FIRE RATED OR TREATED ON ALL SIDES WITH TWO COATS OF FIRE RESISTANT PAINT TYPICAL TO ALL WALLS.
14. 20 AMP 120VAC QUAD RECEPTACLE ON DEDICATED EMERGENCY POWER CIRCUIT.
15. 20 AMP 120VAC DUPLEX RECEPTACLE ON DEDICATED CIRCUIT. COORDINATE FINAL REQUIREMENTS WITH MATV SERVICE PROVIDER.
16. PROVIDE CAT-6 RATED 110 BLOCKS IN QUANTITY REQUIRED TO TERMINATE ALL HORIZONTAL AND RISER CABLING. PROVIDE ALL NECESSARY CROSS CONNECTING BETWEEN HORIZONTAL AND RISER BLOCKS.
17. SHELF.
18. RACKS AND/OR RACK SPACE TO BE LEFT OPEN TO BE POPULATED BY OTHERS.
19. AV CABINET, SEE AV DIAGRAMS FOR DETAILS & COORDINATE.
20. 20 AMP 120VAC. DUPLEX RECEPTACLE ON DEDICATED CIRCUIT.
21. SHELF FOR 4-POST RACK (CPI 15255-704).
22. 4-POST FLOOR MOUNT RACK (CPI 15218-703).
23. CPU / MONITOR SHELF WITH SINGLE SLIDING KEYBOARD TRAY (CPI 11487-719).
24. UPS UNIT CAPABLE OF MAINTAINING POWER FOR A MINIMUM OF FIFTEEN MINUTES. TO BE PROVIDED AND INSTALLED BY CCTV SUBCONTRACTOR.
25. WALL MOUNT EQUIPMENT RACK, 72"H X 25"D. CPI PART NUMBER 11795-725 (OR EQUIVALENT).

GENERAL NOTES

1. ALL HORIZONTAL TO BACKBONE CROSS CONNECTING TO BE PERFORMED BY CABLING CONTRACTOR. REFER TO DETAILS FOR CROSS-CONNECTING REQUIREMENTS FOR TELEPHONE PATCHING SYSTEM PATCH PANELS.
2. HEAT LOADS LISTED HEREIN REPRESENT KNOWN LOADS FOR DATA/TEL. SYSTEM EQUIPMENT IN RESPECTIVE ROOMS AT TIME OF DESIGN. MECHANICAL SYSTEMS DESIGNER SHOULD VERIFY HEAT LOADS WITH OTHER DESIGNERS FOR SHARED EQUIPMENT SPACES. MECHANICAL SYSTEMS ARE TO BE SIZED BY MECHANICAL ENGINEER AND SPECIFIED ON MECHANICAL DRAWINGS.
3. HVAC SYSTEMS FOR EQUIPMENT ROOMS SHALL BE DEDICATED SYSTEMS. WHERE NOT FEASIBLE, ROOMS SHALL BE ON DEDICATED ZONE WITH INDEPENDENT THERMOSTAT CONTROL.
4. ALL EQUIPMENT ROOMS SHALL HAVE:
   -NO CEILING TILES
   -TILE OR SEALED CONCRETE FLOOR (NO CARPET)
   -NO WATER LEAK POTENTIAL SPACES ABOVE (POOL, KITCHEN, BATHROOM, ETC.)
   -HIGH-TEMP FIRE PROTECTION HEADS
5. RACK ELEVATIONS ARE SHOWN FOR REFERENCE ONLY. CABLING CONTRACTOR IS RESPONSIBLE FOR VERIFYING AND PROVIDING APPROPRIATE NUMBER OF PANELS AS NECESSARY TO TERMINATE ALL HORIZONTAL AND BACKBONE CABLES WITHIN EACH TEL./ELEC.-IDF AND EQUIPMENT ROOM.
6. MDF AND IDFs FOR EQUIPMENT ROOMS SHALL BE ON GENERATOR POWER CIRCUITS.
7. CONVENIENCE 120V 20 AMP DUPLEX OUTLETS EVERY 6' AROUND THE ROOM. CAN BE DAISY CHAINED TOGETHER ON (1) ONE COMMON DEDICATED CIRCUIT.

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BY: Mulham Hweidi DATE: 03/25/2026

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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
	02/09/26	PLAN CHECK RESUBMITTAL #4

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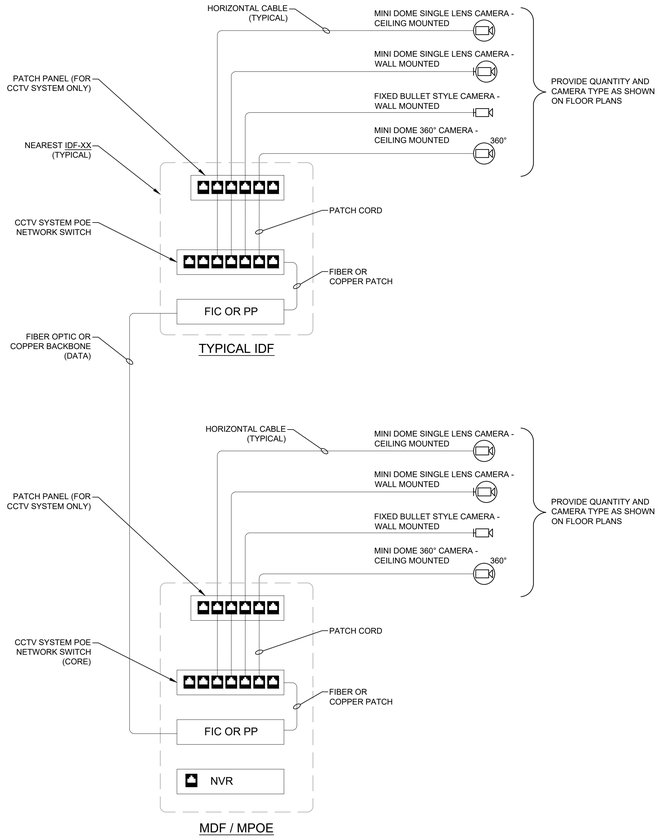
ENLARGED EQUIPMENT ROOM LAYOUTS

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

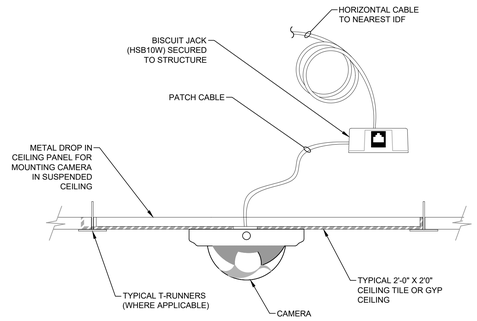
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FEBRUARY 9, 2026 - PLAN CHECK RESUBMITTAL #4

Plotted by: kayla.wagner_nticons Dec. 15, 2025 12:19 PM G:\Shared drives\NTI Projects 2025\25D00762 TEEN CENTER AT EL SEGUNDO\02-DWG\T800.dwg



1 CCTV SCHEMATIC DIAGRAM
SCALE: NOT TO SCALE



2 CCTV CAMERA DETAIL
SCALE: NOT TO SCALE

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	

CCTV INSTALLATION

1. PROVIDE SHOP DRAWINGS PRIOR ANY INSTALLATION OR PURCHASE ACTIVITIES. COMPONENT SPECIFICATION SCHEDULE ABOVE IS INCLUDED 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 COMPLETE NETWORK DIAGRAM DEPICTING ALL CAMERAS, NETWORK SWITCHES, ETC., ALL COMPONENTS OF THE NETWORK FOR REVIEW AND APPROVAL BY NTI. NETWORK DIAGRAM SHOULD INCLUDE 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 CABLING, TRANSCEIVERS, 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 NTSC. 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 OF RECORDED VIDEO VIA 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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BY: Mulham Hweidi DATE: 03/25/2026

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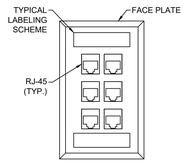
SECURITY INSTALLATION DETAILS

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

T9.01

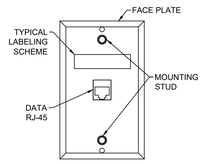
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Plotted by: kayla.wagner_nticons Dec. 15, 2025 12:19 PM G:\Shared drives\NTI Projects 2025\25000762 TEEN CENTER AT EL SEGUNDO\02-DWG\T900_T901_T902_ELEVATOR TECHNOLOGY DETAIL.dwg



UP TO SIX PORTS PER SINGLE GANG FACEPLATE

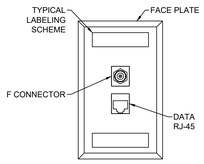
1 TYPICAL FACEPLATE DETAIL
SCALE: NOT TO SCALE



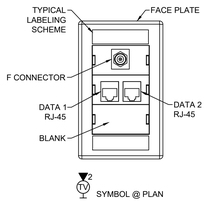
H OR H SYMBOL @ PLAN

NOTE: PHONE OUTLETS ABOVE STANDARD MOUNTING HEIGHT REQUIRE FACEPLATE WITH MOUNTING STUDS.

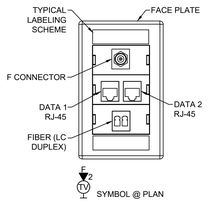
2 HOUSE PHONE OUTLET
SCALE: NOT TO SCALE



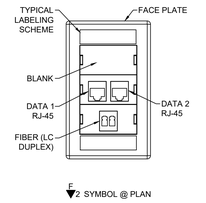
3 TV COAX, DATA OUTLET
SCALE: NOT TO SCALE



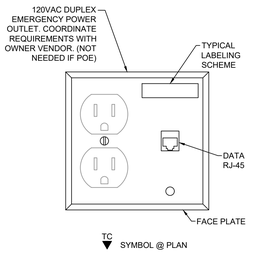
4 TV COAX, 2 PORT DATA OUTLET
SCALE: NOT TO SCALE



5 TV COAX, 2 PORT DATA, FIBER (LC) OUTLET
SCALE: NOT TO SCALE



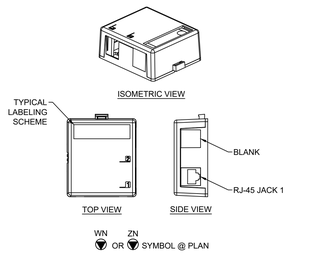
6 FIBER (LC), 2 PORT DATA OUTLET
SCALE: NOT TO SCALE



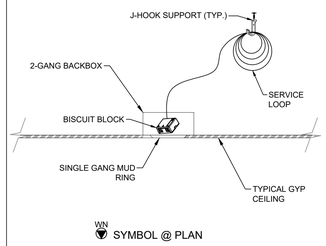
NOTE: MOUNT IN COMMON DOUBLE GANG BACK BOX WITH SEPARATOR BETWEEN DATA AND POWER.

7 TIMECLOCK OUTLET
SCALE: NOT TO SCALE

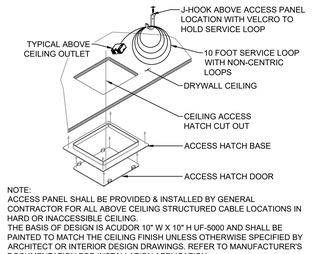
8 NOT USED
SCALE: NOT TO SCALE



9 1 PORT WIRELESS NODE OR ZIGBEE NODE
SCALE: NOT TO SCALE

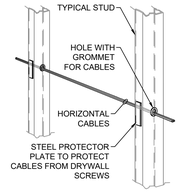


10 SURFACE MOUNTED WIRELESS NODE DETAIL
SCALE: NOT TO SCALE

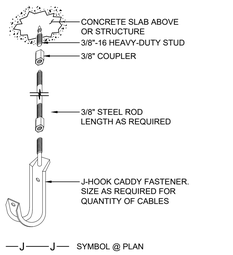


NOTE:
ACCESS PANEL SHALL BE PROVIDED & INSTALLED BY GENERAL CONTRACTOR FOR ALL ABOVE CEILING STRUCTURED CABLE LOCATIONS IN HARD OR INACCESSIBLE CEILING.
THE BASIS OF DESIGN IS ACUDOR 10" W X 10" H UF-5000 AND SHALL BE PAINTED TO MATCH THE CEILING FINISH UNLESS OTHERWISE SPECIFIED BY ARCHITECT OR INTERIOR DESIGN DRAWINGS. REFER TO MANUFACTURER'S DOCUMENTATION FOR INSTALLATION APPLICATION.

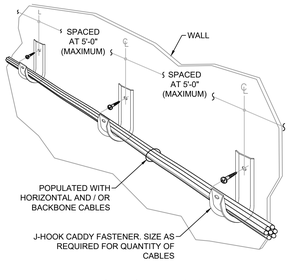
11 CONCEALED WIRELESS NODE DETAIL
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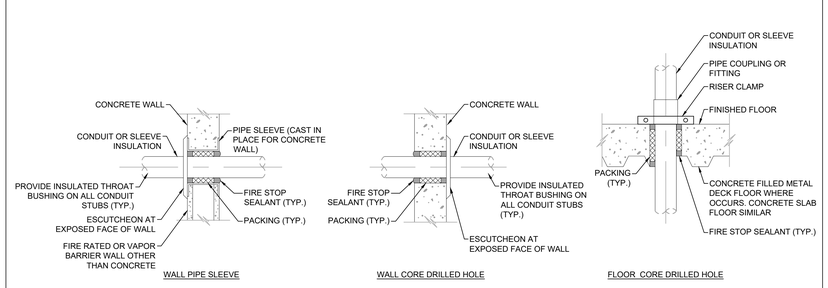
12 STUD OPENINGS DETAIL
SCALE: NOT TO SCALE



13 J-HOOK CABLE SUPPORT (CEILING MOUNTED)
SCALE: NOT TO SCALE

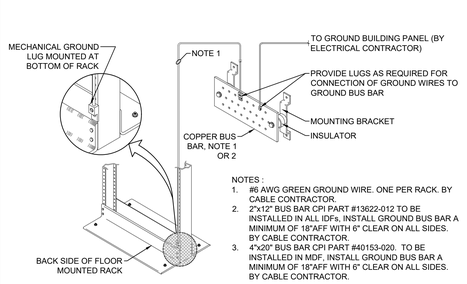


14 J-HOOK CABLE SUPPORT (WALL MOUNTED)
SCALE: NOT TO SCALE



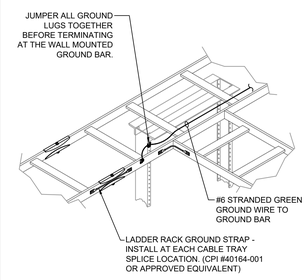
15 CONDUIT OR SLEEVE PENETRATIONS THRU WALL AND FLOOR
SCALE: NOT TO SCALE

16 NOT USED
SCALE: NOT TO SCALE

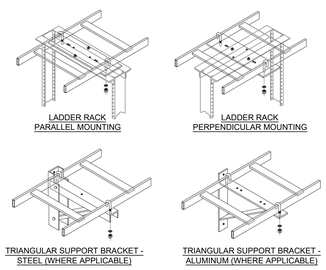


NOTES :
1. #6 AWG GREEN GROUND WIRE. ONE PER RACK. BY CABLE CONTRACTOR.
2. 2"x12" BUS BAR CPI PART #13622-012 TO BE INSTALLED IN ALL IDFs, INSTALL GROUND BUS BAR A MINIMUM OF 18"AFF WITH 6" CLEAR ON ALL SIDES. BY CABLE CONTRACTOR.
3. 4"x20" BUS BAR CPI PART #40153-020. TO BE INSTALLED IN MDF, INSTALL GROUND BUS BAR A MINIMUM OF 18"AFF WITH 6" CLEAR ON ALL SIDES. BY CABLE CONTRACTOR.

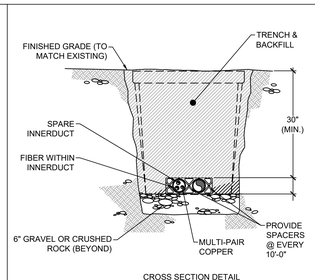
17 EQUIPMENT RACK GROUNDING DETAIL
SCALE: NOT TO SCALE



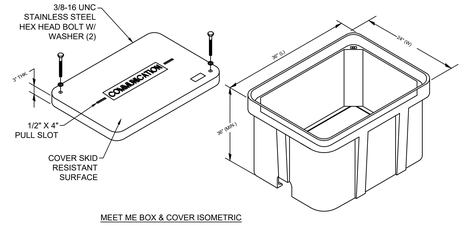
18 LADDER RACK GROUNDING DETAIL
SCALE: NOT TO SCALE



19 LADDER RACK DETAILS
SCALE: NOT TO SCALE



NOTE: SHOWN ONLY FOR THE CASE IF NEW BOX IS REQUIRED.



FOR GENERAL REFERENCE ONLY :
2x3' "MEET ME" BOX AT PROPERTY LINE FOR SERVICE PROVIDERS INCOMING SERVICE. FINAL LOCATION TO BE DETERMINED BY G.C. AND COORDINATED WITH OWNER PREFERRED SERVICE PROVIDERS.
QUAZITE PG2436BA36 BOX WITH PG2436HA012 COVER OR EQUIVALENT. REFER TO ELECTRICAL DRAWINGS AND PROVIDE SUBMITTAL THROUGH ARCHITECT FOR FINAL MEET ME BOX ENCLOSURE APPROVAL.

20 "MEET ME" BOX DETAILS
SCALE: NOT TO SCALE

21 NOT USED

True North Compliance Services, Inc.

PLAN REVIEW APPROVAL

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BY: Mutkam Awuchi DATE: 03/25/2026

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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
	02/09/26	PLAN CHECK RESUBMITTAL #4

Sheet title:

INSTALLATION DETAILS

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

T9.02

FEBRUARY 9, 2026 - PLAN CHECK RESUBMITTAL #4

Plotted by: koyin.wagner_nticons Dec. 15, 2025 12:19 PM
G:\Shared drives\NTI Projects 2025\25D00762 TEEN CENTER AT EL SEGUNDO\02-DWG\T900_T901_T902_ELEVATOR TECHNOLOGY DETAIL.dwg

AUDIO / VISUAL SYSTEMS

A SCOPE

SYSTEMS WILL UTILIZE AV-OVER-IP TRANSPORTS TO SUPPORT FLEXIBILITY OF SIGNAL ROUTING AND FUTURE SCALABILITY. AUDIO SOURCES WILL BE RENDERED MONAURALLY VIA DISTRIBUTED SPEAKERS TO SUPPORT BGM (BACKGROUND MUSIC), PROGRAM AUDIO PLAYBACK, AND SPEECH REINFORCEMENT. DISTRIBUTED SPEAKER FORM-FACTOR/MOUNTING (E.G., CEILING RECESSED, SURFACE-MOUNT, LANDSCAPE, ETC.) WILL VARY AS REQUIRED TO ACCOMMODATE THE ARCHITECTURE.

EACH ROOM/SPACE/AREA WILL BE ABLE TO SELECT ANY OF THE FOLLOWING AS AN INPUT:

- ANY OF THE FOUR (4) CENTRALLY LOCATED OFE (OWNER FURNISHED EQUIPMENT) BGM SOURCES
- ANY LOCALLY CONNECTED SOURCES
- ANY OTHER ROOM/SPACE/AREA OUTPUT (PENDING NOTIFICATION/CONFIRMATION) TO USE AS AN OVERFLOW

THE GREAT ROOM WILL ALSO SUPPORT VIDEO PRESENTATION VIA PROJECTOR & SCREEN CONNECTED TO OFE SOURCES VIA AN HDMI INPUT PLATE.

EACH ROOM/SPACE/AREA WILL PROVIDE A LOCAL PROGRAMMABLE USER INTERFACE SUPPORTING LOCAL CONTROL & A BROWSER-BASED PROGRAMMABLE USER INTERFACE TO SERVE AS AN ADDITIONAL MEANS OF CONTROL FOR:

- SOURCE SELECTION
- PROGRAM LEVEL UP/DOWN/MUTE
- SPEECH LEVEL UP/DOWN/MUTE
- INPUT GAIN (DEFAULT +40 DB)
- PHANTOM POWER (DEFAULT OFF)
- DIVIDE/COMBINE AS REQUIRED

EACH USER INTERFACE WILL BE PASSWORD PROTECTED TO LIMIT PUBLIC ACCESS NO MANAGE USER RIGHTS.

B GENERAL NOTES

1) ALL DEVICES RELATED TO THE AV TECHNOLOGY SHALL BE MOUNTED AND INSTALLED AS PER THE MANUFACTURER'S RECOMMENDATIONS. THEY SHALL BE PLUMB TO THE WALLS, FLOORS, OR RELATED MOUNTING EQUIPMENT WHEN EVER APPLICABLE.
2) WHILE THESE DRAWINGS CALL OUT FOR THE MAIN COMPONENTS REQUIRED FOR THE FULL OPERATION AND PERFORMANCE OF THIS SYSTEM DESIGN, ALL DEVICES SUPPLEMENTAL AND RELATED TO THE PERFORMANCE, OPERATIONS, AND INSTALLATION OF THESE DEVICES ARE NOT EXCLUDED AND SHOULD BE CONSIDERED TO BE A PART OF THE SCOPE OF WORK.
3) ALL WORK SHALL CONFORM TO THE NATIONAL ELECTRICAL CODE (NEC) AND TO THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA), WHERE REQUIRED BY LOCAL CODE FOR MAINTAINING FIRE RATING, USE FIRESTOP TO ALL STUB THROUGH LOCATIONS.
4) WHERE APPLICABLE ALL EQUIPMENT AND MATERIALS SHALL BE AS APPROVED BY - NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA), UNDERWRITERS LABORATORIES, INC. (UL) OR SIMILARLY RELATED ASSOCIATION.
5) ALL WORK SHALL COMPLY WITH, MEET, OR EXCEED STANDARDS SET ASIDE BY - NATIONAL ELECTRICAL CODE (NEC)/ AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)/ INFOCOMM INTERNATIONAL/ INSTITUTE OF ELECTRONIC & ELECTRICAL ENGINEERS (IEEE)/ AMERICANS WITH DISABILITIES ACT (ADA)/ AND ANY APPLICABLE ASSOCIATIONS.
6) CONTRACTOR IS RESPONSIBLE FOR FIRE STOPPING ALL WALL AND FLOOR PENETRATIONS PER LOCAL CODES.
7) MATERIALS REQUIRED TO MEET THE STANDARDS OF THE ABOVE STATED ASSOCIATIONS SHOULD BE INCLUDED AS PART OF THIS SCOPE OF WORK.
8) EXCEPT WERE SPECIFICALLY SHOWN OR DESCRIBED ALL EQUIPMENT REPRESENTATION IS FOR GENERAL INFORMATION OF CONNECTIVITY, PLACEMENT, AND RELATIONSHIP WITHIN THE DESIGNED SYSTEM.
9) THE DIMENSIONS SHOWN ARE SUGGESTED PLACEMENTS ONLY FOR COORDINATION AND INFORMATION. FINAL LOCATIONS WILL NEED TO BE PLACED BASED ON ACTUAL FIELD CONDITIONS AND VERIFIED WITH ARCHITECT/I.D. PRIOR TO INSTALLATION. FIELD CONDITIONS TAKE PRECEDENCE OVER ANY DRAWING DIMENSIONS.
10) ALL CEILING SPEAKER LOCATIONS ARE REFERENCE LOCATIONS ONLY. THEY ARE INTENDED FOR THE INSTALLATION BY THE AV INTEGRATOR.
11) FINAL MOUNTING LOCATIONS FOR CEILING MOUNTED EQUIPMENT SHALL BE COORDINATED WITH THE RCP DRAWING, INTERIOR DESIGNER, AND FIELD CONDITIONS.

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 THROUGH THE PRIMARY CONTRACTOR 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 ALL 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 MANUFACTURES 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 OWNERSHIP FOR 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 EXPECTED. CLOTHING SHALL INDICATE THE COMPANY THE INSTALLER IS 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.

D SPECIAL PROJECT NOTES:

1) FOR THIS PROJECT, COORDINATE WITH FIRE SYSTEMS PROVIDER, TO RECEIVE AN OPEN/CLOSED FEED FROM THEIR SYSTEM. THIS FEED WILL TRIGGER AN "ALL MUTE" TO THE AUDIO SYSTEMS IN CASE OF AN EMERGENCY. A 2 CONDUCTOR CONTROL WIRE WILL NEED TO BE RUN FROM THE FIRE SYSTEMS CONTROLLER TO THE CENTRAL AV RACK LOCATION. COORDINATE FINAL CABLE TYPE WITH FIRE SYSTEMS PROVIDER. THIS CABLE SHALL BE RUN BY THE AV CABLE PULLING FIRM, CONNECTED TO THE FIRE SYSTEM BY THE FIRE SYSTEMS INSTALLER, AND CONNECTED TO AUDIO SYSTEM BY THE AV SYSTEMS INTEGRATOR. THE TWO SHALL COORDINATE A TEST TO ENSURE THE SYSTEM IS WORKING.
2) EQUIPMENT AND CABLING INDICATED ON THE TA-1.XX, TA-2.XX, AND TA-8.XX SERIES DRAWINGS ARE INTENDED TO BE INSTALLED DURING CONSTRUCTION. (UNLESS OTHERWISE INDICATED) ALL CABLE PULLING, LABELING, AND TESTING REQUIREMENTS APPLY. FULL DOCUMENTATION OF ALL CABLES AND EQUIPMENT INSTALLED DURING CONSTRUCTION SHALL BE MADE AND DELIVERED AS PART OF AN AS-BUILT DOCUMENTATION.

E DIVISION OF LABOR

GENERAL CONTRACTOR, MECHANICAL AND ELECTRICAL CONTRACTORS ARE INTENDED TO PICK UP THE HEAT LOAD INFORMATION, POWER REQUIREMENTS, JUNCTION BOXES, CONDUIT, CABLE RACEWAYS PATHWAYS AND CABLING. (UNLESS OTHERWISE NOTED)

THE EQUIPMENT PROVIDER IS TO INCLUDE ANY EQUIPMENT NOT OTHERWISE SHOWN AS PROVIDED BY OTHERS, ANY CABLING SPECIFIED TO BE BY THE EQUIPMENT PROVIDER, AND ANY SPECIALTY ITEM REQUIRED BY THE EQUIPMENT PROVIDER.

SOME ELECTRIC SCREENS, LIFTS, SPEAKERS, CONTROL UNITS, RACK EQUIPMENT OR OTHER DEVICES, MAY REQUIRE COORDINATED INSTALLATION BETWEEN THE EQUIPMENT PROVIDER AND THE GENERAL CONTRACTOR, ELECTRICAL CONTRACTOR, LIGHTING PROVIDER, FIRE SAFETY SYSTEMS, OR MECHANICAL SYSTEMS PROVIDER. IT IS THE RESPONSIBILITY OF THE EQUIPMENT PROVIDER TO COORDINATE THESE EFFORTS WITH THE GC OR AS DIRECTED BY THE PROJECT MANAGEMENT TEAM.

ANY INFRASTRUCTURE, POWER, CABLING, OR RELATED DEVICES REQUIRED BY THE EQUIPMENT PROVIDER THAT IS NOT SHOWN ON THE DRAWINGS, OR NOT INSTALLED IN THE FIELD NEEDS TO BE BROUGHT TO THE ATTENTION OF THE GC, DESIGN TEAM, OR PROJECT MANAGER IMMEDIATELY.

F CONTRACTOR QUALIFICATIONS

1) CONTRACTOR SHALL HAVE A MINIMUM OF 5 YEARS OF EXPERIENCE WITH SIMILAR SCOPE, SCALE, AND COMPLEXITY OF THE TECHNOLOGY PRESENTED HEREIN.
2) CONTRACTOR SHALL BE A CURRENT MEMBER IN GOOD STANDING OF INFOCOMM INTERNATIONAL, NATIONAL ASSOCIATION OF BROADCASTERS, NATIONAL SYSTEMS CONTRACTORS ASSOCIATION, OR RELATED AUDIO VISUAL ASSOCIATION.
3) CONTRACTOR SHALL BE A FULLY AUTHORIZED DIRECT DEALER OF ANY AND ALL MAJOR COMPONENTS LISTED HEREIN.
4) CONTRACTOR SHALL HOLD CURRENT AND COMPLETE CERTIFICATIONS FOR PROGRAMMING, INSTALLATION, SET-UP & CONFIGURATION OF ALL MAJOR COMPONENTS WHERE APPLICABLE FOR THE EQUIPMENT LISTED HEREIN. THESE CERTIFICATIONS SHALL INCLUDE THE CONTROL SYSTEMS, SIGNAL PROCESSORS, OR ANY RELATED CERTIFICATIONS REQUIRED BY THE MANUFACTURE.
5) IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ALL FIELD CONDITIONS AND REPORT ANY DISCREPANCIES FOUND PRIOR TO STARTING ANY WORK.
6) IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REVIEW ALL RELATED DOCUMENTS AND DRAWINGS OF OTHER DISCIPLINES THAT MIGHT PERTAIN TO FINAL SYSTEM REQUIREMENTS. THESE INCLUDE POWER, FACILITY COVER PLATE COLORS, FINAL INSTALLED CEILING LOCATIONS AND OTHER REQUIREMENTS.
7) INCLUDED WITH A PROPOSAL RESPONSE TO A RFP SHALL BE DOCUMENTATION FOR VERIFICATION OF THE ABOVE LISTED REQUIREMENTS, A LIST OF ALL PERTINENT PERSONNEL THAT WILL BE ASSIGNED TO THE PROJECT ALONG WITH THEIR QUALIFICATIONS, A GENERAL EQUIPMENT LIST, AND ANY EXTENDED SERVICE WARRANTIES OR CONTRACTS AVAILABLE FROM THE BIDDING FIRM.
8) PERTINENT PERSONNEL ASSIGNED TO THIS PROJECT THAT HOLD CERTIFICATES SUCH AS CTS-I, CTS-D, CTS, CERTIFIED PROGRAMMER, NSCA CERTIFIED ELECTRONICS SYSTEMS TECHNICIAN, NICET LVL I OR II WILL BE MORE HEAVILY FAVORED IN FINAL REVIEW OF QUALIFICATIONS FOR THIS PROJECT.
9) ANY SUBCONTRACTOR SHALL BE LISTED AS TO PRIMARY CONTACT, LEAD ON-SITE PERSONNEL, AND AREA OF RESPONSIBILITY AS IT RELATES TO THE JOB. ALL SUBCONTRACTORS AND THEIR WORK ARE REQUIRED TO MEET THE SAME QUALIFICATIONS AS THE PRIMARY CONTRACTOR FOR THEIR AREA OF RESPONSIBILITY.
10) IF A SUBCONTRACTOR WILL BE WORKING ON THE PROJECT, A MEMBER OF THE PRIMARY PROPOSING COMPANY WILL BE REQUIRED TO BE ON-SITE AT ALL TIMES THAT WORK IS BEING PERFORMED ON THE PROJECT SITE.
11) CONTRACTORS SELECTED FOR THIS JOB BUT WHO DO NOT MEET THE CRITERIA ESTABLISHED FOR THIS PROJECT WILL BE HELD FULLY RESPONSIBLE FOR ANY SHORTCOMINGS IN THEIR INSTALLATION, PROGRAMMING OR PERFORMANCE OF THE SYSTEM.

G INSTALLATION NOTES

1) IT IS RECOMMENDED THAT THE ACTIVE ELECTRONIC EQUIPMENT NOT BE INSTALLED UNTIL A MAJORITY OF THE MAJOR CONSTRUCTION IS COMPLETE. THIS WILL LIMIT POTENTIAL DAMAGE FROM CONSTRUCTION WORK, DUST, AND RELATED RISKS.
2) UPON INSTALLATION OF THE CEILING SPEAKERS, THE PAINT GUARD SHALL BE PUT IN PLACE AND SHALL REMAIN THERE UNTIL SUCH TIME AS THE FACILITY HAS BEEN PAINTED AND IT IS TIME FOR FINAL SETUP AND CONFIGURATION.
3) A PANEL CRAFTERS PLATE (QUOTE #NETTE-25472-RHIM-02 SHALL BE ORDERED AND PLACED IN EACH RACK. THIS PLATE HAS ADDITIONAL ROOM FOR THE INTEGRATORS CONTACT INFORMATION IF IT IS SO DESIRED TO INCLUDE IT ON THIS PLATE. IF THE CONTRACTOR DOES NOT WISH TO ADD THEIR INFORMATION TO THIS PLATE A SEPARATE CONTACT INFORMATION PLATE SHOULD BE INCLUDED IN EACH RACK.
4) THE COPY OF THE SOFTWARE THAT IS TO BE INCLUDED IN THE CLOSEOUT PACKAGE SHOULD BE ON CD-R/CD-RW/DVD-R OR SIMILAR STORAGE SYSTEM. THE VERSIONS OF SOFTWARE SHOULD ALSO BE LISTED SEPARATELY FOR FUTURE REFERENCE INCASE OF DAMAGE TO THE STORAGE DEVICE. IF THE INTEGRATOR HAS RESTRICTIONS ABOUT PROVIDING AN EDITABLE COPY OF THEIR PROGRAMMING, IT SHOULD BE MADE KNOWN UP FRONT WITH A LISTING OF THEIR RESTRICTIONS OR USE CRITERIA.

H SPECIAL PROGRAMMING & FOLLOW UP REQUIREMENT

1) APPROXIMATELY 30 DAYS BEFORE THE INSTALLATION OF THE CONTROL SYSTEM PROGRAMMING, SAMPLE GUI SHEETS OF THE TOUCH PANEL INTERFACES SHOULD BE SENT TO THE OWNERSHIP AND THE CONSULTANT FOR APPROVAL OF THE GENERAL LAYOUTS.
2) AFTER COMPLETION OF THE SYSTEMS INSTALLATION, CONFIGURATION, TESTING, AND TRAINING, A FOLLOW UP PROGRAMMING AND TRAINING EFFORT SHALL OCCUR AT APPROXIMATELY 30 DAYS BEFORE OPENING.
3) THIS EFFORT WILL BE TO ALLOW THE STAFF TIME TO USE THE SYSTEM IN REAL TIME AND EVALUATE ANY ADDITIONAL QUESTIONS THEY MAY HAVE.
4) THIS EFFORT WILL ALSO INCLUDE CHANGES TO THE PROGRAMMING OF THE INTERFACE UNITS AND POSSIBLE CONTROL UNITS AS REQUESTED TO MAKE THE SYSTEM MORE USER FRIENDLY TO THE OPERATOR.

I 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 DWG/PDF/ 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 INTERFACE 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, ALL PROGRAMS USED TO PROGRAM THE SYSTEM 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 DRAWINGS 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 ¾" 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 AUDIO/VISUAL 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 CABLING 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 A 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 THE SYSTEM TO RESIDE ON AND INTERACT WITH. A V-LAN SHOULD FOLLOW ALL FACILITY AND INDUSTRY STANDARDS FOR CONFIGURATION.

M GENERAL CABLING & OTHER REQUIREMENTS

1) PATCH PANELS ARE TO BE CAT6 OR CAT6A SHIELDED (AS SHOWN IN DRAWING SET) WITH RJ-45 PATCH CABLE CONNECTIONS. THESE ARE TO BE RACK MOUNTABLE WITH PUNCH-DOWN BLOCK CONNECTIONS AND TERMINATED TO T568B PIN CONFIGURATION STANDARDS. PATCH PANELS ARE TO BE SUPPLIED IN AMPLE QUANTITIES AND PORT CONFIGURATIONS TO TERMINATE ALL HORIZONTAL CABLES. PROVIDE SEPARATE PATCH PANELS FOR EACH OF THE FOLLOWING INFRASTRUCTURAL NETWORK TYPES - AUDIO/VISUAL, ADMINISTRATIVE, POS, SECURE, EXECUTIVE, CORPORATE, GUEST, AND COMMON AREA NETWORKS. PATCH PANELS SHOULD BE LABELED ACCORDINGLY TO PROVIDE CLEAR AND CONCISE INFORMATION DETAILING THE OUTLET CIRCUITING FOR EACH PORT. WIRE MANAGEMENT TO BE SUPPLIED BETWEEN EACH PANEL AND ON THE TOP AND BOTTOM OF ALL PANEL ROWS. HORIZONTAL WIRE MANAGEMENT TO BE TWO(2) RACK UNITS IN HEIGHT (3.5")
2) VERTICAL RISERS SHALL BE SECURED TO STEEL ANGLE CHANNEL WITH CABLE STRAPS AT EACH FLOOR. SEE NTI DV DRAWING SET FOR DETAILS.
3) ALL HORIZONTAL CABLING RUNS WILL BE HOME RUN TO THE APPROPRIATE IDF OR AV CLOSEST(AS APPROPRIATE) USING THE CEILING SPACES IN CORRIDORS, UNLESS OTHERWISE NOTED. CONTRACTOR IS RESPONSIBLE FOR THE FINAL ROUTING AND FIELD VERIFICATION OF THE DISTANCE OF EACH STATION RUN. NO RUN LENGTHS SHALL EXCEED TIE/EIA STANDARDS OF 100 METERS-MAX (ENDPOINT TO ENDPOINT, INCLUDING CABLE COILS) UNLESS OTHERWISE NOTED.
4) FOR THE INSTALLATION OF CABLING SYSTEM, ALL EQUIPMENT RACKS, LADDER RACKS, CABLE TRAYS, GROUNDING SYSTEMS AND RELATED EQUIPMENT, MUST FOLLOW THE GUIDELINES ESTABLISHED IN THE MOST CURRENTLY PUBLISHED VERSIONS OF NEC, TIE/EIA 568C, NFPA, INFOCOMM INTERNATIONAL, ANSI, AND ANY LOCAL, STATE, OR MUNICIPAL CODES, IN EFFECT AT THE TIME OF INSTALLATION. ALL CABLE BUNDLES MUST BE INSTALLED USING PROPER WIRE MANAGEMENT TECHNIQUES, USING A NEAT AND WORK PERSON-LIKE FASHION. THE CABLE INSTALLER WILL INSTALL CABLE BUNDLES FOLLOWING ALL TIE/EIA & BICSI GUIDELINES AS TO WIRE TIES, CINCHING TIGHTNESS, BEND RADIUS, NEATNESS, WIRE MANAGEMENT, LABELING, ETC. ANY ASSOCIATED HARDWARE, MATERIAL, OR COMPONENTS NEEDED TO PROPERLY INSTALL A COMPLETE AND FUNCTIONAL SYSTEM, PER THESE GUIDELINES, MUST BE INCLUDED IN THE INITIAL BID RESPONSE AND ARE THE RESPONSIBILITY OF THE CABLING CONTRACTOR.
5) ALL HORIZONTAL AND VERTICAL CABLES ARE TO BE PLENUM RATED UNLESS OTHERWISE NOTED. THE CABLING CONTRACTOR IS RESPONSIBLE FOR VERIFYING WITH LOCAL CODE OFFICIALS, THE ACCEPTANCE FOR USE OF ANY NON-PLENUM RATED CABLES.
6) ALL CABLE RUNS SHALL BE SUPPORTED IN THE OPEN SPACE AREAS USING CADDY STYLE CATEGORY 6 (6A SHIELDED AS NOTED) RATED J HOOKS USING AN INDEPENDENT SUPPORT SYSTEM (I.E. THE J-HOOKS MUST NOT BE HUNG FROM THE CEILING GRID SUPPORT OR ANY OTHER DISCIPLINES SUPPORT SYSTEM). BRIDLE RINGS OR TYPING CABLES TO STRUCTURE WILL NOT BE PERMITTED
7) THE CONTRACTOR INSTALLING THE CABLING INFRASTRUCTURE IS RESPONSIBLE FOR ALL J-HOOKS, CABLE TRAYS, AND RELATED MATERIALS REQUIRED TO COMPLETE THE CABLE PATHWAY TO THE HOMERUN LOCATION.
8) FIBER RISERS WILL BE TERMINATED INTO RACK MOUNTED FIBER ENCLOSURES OR WC BOXES WITH "LC" STYLE CONNECTORS AND BULKHEADS. FIBER ENCLOSURES WILL BE SUPPLIED IN THE APPROPRIATE PORT CONFIGURATIONS AS REQUIRED. COPPER DATA RISER CABLES SHALL BE TERMINATED ON RACK MOUNTED PATCH PANELS. ALL ENCLOSURES AND TERMINATIONS WILL BE CLEARLY LABELED INDICATING THE FLOOR, CLOSET DESIGNATIONS, AND PORT NUMBER SERVED.
9) THE CABLING CONTRACTOR WILL BE RESPONSIBLE FOR FIRE-STOPPING ALL WALL AND FLOOR PENETRATIONS PER LOCAL CODES.
10) THE CABLING CONTRACTOR WILL PROVIDE THE DESIGN TEAM A COPY OF ALL TEST REPORTS AND PROVIDE ADDITIONAL COPIES FOR RELATED INSTALLATION CONTRACTORS AS NEEDED. (SEE "GENERAL TESTING REQUIREMENTS' SECTION FOR THE TEST REQUIREMENTS)
11) CONDUIT FILL SIZE SHALL FOLLOW THE NEC GUIDELINES FOR FILL CAPACITY.

N CABLE PULLING

1) MAINTAIN MINIMUM BEND RADIUS ON ALL CABLE TYPES. THIS RADIUS IS GENERALLY 4 TIMES THE CABLE O.D. FOR COPPER CABLE TYPES.
2) THE MAXIMUM DISTANCE BETWEEN THE END BOX LOCATION AND THE HOME RUN LOCATION IS 225 FEET.
3) DO NOT EXCEED 25LBS OF PULLING TENSION ON CABLES.
4) MINIMIZE TENSION ON SUSPENDED CABLE RUNS BY PLACING SUPPORTS EVERY 5 FEET WHEN J-HOOKS OR SIMILAR DEVISES ARE BEING USED FOR CABLE SUPPORT.
5) DO NOT OVER CINCH CABLE TIES ON CABLE BUNDLES. CABLES TIES SHOULD BE LOOSELY FITTED OVER THE CABLES AS TO NOT CAUSE IND

SYMBOLS AND LEGEND SHEET

ALL EQUIPMENT SHOWN ON FLOOR PLANS AND RCP DRAWINGS IS REPRESENTED ON THIS LEGEND SHEET. ALL RACK MOUNTED AND OTHER REQUIRED EQUIPMENT IS SHOWN IN THE TA8.XX SERIES DRAWING SHEETS.

SYMBOLS / DESCRIPTIONS / INFRASTRUCTURE / EQUIPMENT

INFRASTRUCTURE						CABLE REQUIREMENTS				INTEGRATOR PACKAGE		
CONDUITS, JUNCTION BOXES, AND CABLE PATHWAYS TYPICALLY PROVIDED BY THE GC AND/OR ELECTRICAL SUBCONTRACTOR.						THESE ITEMS TYPICALLY PROVIDED BY THE AV INTEGRATOR				THESE ITEMS TYPICALLY PROVIDED BY THE AV INTEGRATOR		
SYMBOL	DESCRIPTION	BACK-BOX TYPE / SIZE	MOUNT HEIGHT	CONDUIT REQUIREMENTS *Note: All conduit to be contiguous to home-run destinations, J-hooks, or Cable tray Locations.*	POWER REQUIREMENTS	CABLE	CONNECTORS	FACE PLATE COVER	ACCESSORIES	BRAND	MODEL	NOTES
S1	PENDANT MOUNT SPEAKER	INCLUDED	COORDINATE WITH INTERIORS AND ACOUSTIC CEILING.	NA	UNITS ARE DAISY CHAINED TOGETHER IN A 70V CONFIGURATION UNLESS OTHERWISE NOTED	(1) SPK1	PHX	NA	NA	JBL	CONTROL 64 P/T	* UNIT TAPPED AT 30W. COORDINATE COLOR WITH INTERIORS. SPEAKER CAN BE PAINTED.
S2	CEILING RECESSED SPEAKER	INCLUDED	FLUSH TO CEILING	NA	DAISY CHAIN WIRE PER DRAWINGS W/6' SERVICE LOOP AT EACH LOCATION	(1) SPK1	PHX	NA	NA	TANNOY	CVS 4	* UNIT TAPPED AT 15W
S3	SURFACE MOUNTED SPEAKER	1 GANG 3" DEEP JUNCTION BOX	SEE DETAIL	NA	UNITS ARE DAISY CHAINED TOGETHER IN A 70V CONFIGURATION UNLESS OTHERWISE NOTED	(1) SPK1	NA	NA	NA	TANNOY	DVS-6t	* UNIT TAPPED AT 30W
CP.1	CONTROL PANEL	TSW-UMB-70-BBI	SSH	ONE (1) 3/4" FLEX CONDUIT STUBBED TO ACCESSIBLE CEILING SPACE	NA	(1) TPC1	C1	NA	NA	CRESTRON	TSW-770-B-S	COORDINATE COLOR WITH INTERIORS.
FP.1	FACE PLATE	J2	BELOW TABLE	(1) 1" CONDUIT STUBBED UP TO ACCESSIBLE CEILING	GANG SIZE REFERS TO OPENING REQUIRED IN THE FLOOR BOX PROVIDED BY OTHERS	(2) TPC1	C1	T3	NA	VISIONARY SOLUTIONS	DUETE-WP	REFER TO TA801 FOR ADDITIONAL EQUIPMENT.
PJ	PROJECTOR W/ RECEIVER	CHIEF RSMAUW CEILING MOUNT	BFC	NA	REQUIRES ONE (1) 120V 20AMP DUPLEX OUTLET LOCATED NEXT TO PROJECTOR.	(1) TPC1	NA	NA	NA	LG	BU53RG	STANDARD LENS W/ THROW DISTANCE OF 1'-11"
										VISIONARY SOLUTIONS	DUET DECODER	REFER TO TA801 FOR ADDITIONAL EQUIPMENT.
ST.1	159" DIAG. PROJECTION SCREEN	NA	NA	NA	NA	NA	NA	NA	NA	DALITE	23713	159" DIAG.(78X139) - [16:9] - DA-MAT - 1.0

EQUIPMENT & CONNECTOR SYMBOLS

PRODUCTS BELOW ARE SUGGESTIONS, SUBSTITUTIONS WILL BE CONSIDERED AS NECESSARY.

SYMBOL	BRAND	MODEL #	DESCRIPTION
JX	GENERIC	MUST BE 3" DEEP	JUNCTION BOX X= NUMBER OF GANGS
TX	GENERIC	GENERIC	FACEPLATE X= NUMBER OF GANGS
B1	FSR	FL-500P-6-BLP-C	VERIFY LID TYPE WITH ID
B2	FSR	FL-700-BLP-C	VERIFY LID TYPE WITH ID
XL1	NEUTRIK	NC3FD-L-X	X=1 SILVER / BAG-1 BLACK
XL2	NEUTRIK	NC3MD-L-X	X=1 SILVER / BAG-1 BLACK
XL3	SWITCHCRAFT	D3F / D3FB	D3F = SILVER / D3FB = BLACK
XL4	SWITCHCRAFT	D3M / D3MB	D3M = SILVER / D3MB = BLACK
LC1	LEVITON	41085-SLX	X=(W)HITE, (I)VORY, (B)LACK
LC2	NEUTRIK	NO2-4FDW-A	ADD "-1-" FOR SMPTE SHIELD
SC1	LEVITON	41085-MXC	X=(W)HITE, (I)VORY, (B)LACK
C1	BELDEN	HIPMP-RJ45CAT6	FOR CAT 6 BASIC PLUG
C2	LEVITON	61110-RY6	FOR CAT 6 BASIC JACK
C3	NEUTRIK	NE8FDV-Y110	FOR CAT6 DURABLE PLUG ADD "-B" FOR BLACK
C4	LEVITON	6110G-RY6	FOR CAT6A JACK
C5	BELDEN	HIPMP-RJ45CAT6GC	FOR CAT6A PLUG
C6	NEUTRIK	NE8FDY-C6	FOR CAT6A SHIELDED ADD "-B" FOR BLACK
C7	LEVITON	6A10G-RY6	FOR CAT6A SHIELDED QUICKPORT
BNC	BELDEN	FS1BNC	FOR 5 BNC VGA CABLE
1/4"	NEUTRIK	NJ3FP6C	ADD "-BAG" FOR BLACK
PHX	GENERIC	GENERIC	INCLUDED WITH EQUIPMENT

* = DENOTES LOCATION FOR COLOR SELECTION. SEE DETAIL SHEET FOR FURTHER INFORMATION ON EACH UNIT ABOVE.

BULK CABLE TYPE & DESCRIPTION

SYMBOL	BRAND	MODEL #	DESCRIPTION	NOTES
AUD1	BELDEN	6400FE	2 CONDUCTOR 20AWG SHIELDED AUDIO CABLE	
AUD2	BELDEN	6300FE	2 CONDUCTOR 18AWG SHIELDED AUDIO CABLE	
AUD3	BELDEN	6341PC	2 PAIR 12AWG SHIELDED AUDIO CABLE	
CTL1	BELDEN	1392P	22 AWG 1 SHIELDED PAIR & 18 AWG 2 CONDUCTOR	AXLINK / CRESNET
CTL2	BELDEN	1213	CAT 5E UNSHIELDED CABLE	KEYPAD / TOUCH-PANEL / ATTEROTECH
CTL3	BELDEN	2413F	CAT 5E SHIELDED CABLE	DXLINK / DM8G / HAL
CTL4	BELDEN	82842	4 CONDUCTOR CABLE	DMX LIGHTING CONTROL
FIB1	MOHAWK	M9E043	50/125 MM OM3 2 STRAND GRADE 6 FIBER CABLE	
FIB2	MOHAWK	M9E044	50/125 MM OM3 4 STRAND GRADE 6 FIBER CABLE	
FIB3	MOHAWK	M9E261	50/125 MM OM3 12 STRAND ARMOR FIBER CABLE	
FIB4	MOHAWK	M9E251	50/125 MM OM3 12 STRAND ARMOR PATCH CABLE	FOR RISERS
FIB5	MOHAWK	M9W043	SM ENHANCED SM2 2 STRAND FIBER CABLE	
FIB6	MOHAWK	M9W044	SM ENHANCED SM2 4 STRAND FIBER CABLE	
FIB7	MOHAWK	M9W261	SM ENHANCED SM2 12 STRAND ARMOR FIBER CABLE	
FIB8	MOHAWK	M9W251	SM ENHANCED SM2 12 STRAND ARMOR FIBER CABLE	FOR RISERS
SPK1	BELDEN	6200UE	16 AWG 2 CONDUCTOR SPEAKER WIRE	TYPICALLY DAISY CHAINED WITH 6' SERVICE LOOPS AT EACH LOCATION
SPK2	BELDEN	6300UE	18 AWG 2 CONDUCTOR SPEAKER WIRE	TYPICALLY DAISY CHAINED WITH 6' SERVICE LOOPS AT EACH LOCATION
SPK3	BELDEN	6000UE	12 AWG 2 CONDUCTOR SPEAKER WIRE	TYPICALLY DAISY CHAINED WITH 6' SERVICE LOOPS AT EACH LOCATION
TPC1	MOHAWK	M58281	CAT6	
TPC2	MOHAWK	M58687	GIGALAN10	
TPC3	MOHAWK	M58886	CAT6 SHIELDED	
TPC4	MOHAWK	M58814	LOW SKEW SPECTRUM CAT6	
TPC5	MOHAWK	M58772	CAT6 - INDOOR/ OUTDOOR	
VID1	BELDEN	1395P	25 AWG 5 CONDUCTOR MINI HI-RES COAX	

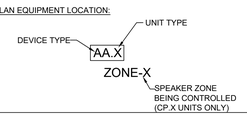
SEE CABLE PULLING GUIDE ON COVER SHEET FOR INSTALLATION GUIDELINES. ALL CABLES LISTED ARE PLENUM RATED. VERIFY PLENUM REQUIREMENTS WITH GC.

ABBREVIATIONS & TERMS

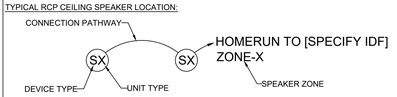
SYMBOL	DESCRIPTION
LC / SC	FIBER OPTIC TERMINATION (INDIVIDUALLY SPECIFIED)
RJ - XX	DATA TYPE CABLE TERMINATION(RJ-11/RJ-45)
RCA	STANDARD AUDIO/VIDEO CONNECTOR TYPE (M/F)
MINI	1/8" AUDIO CONNECTOR TYPE (M/F)(MONO/STEREO)
XLR	THREE PIN BALANCED AUDIO CONNECTOR TYPE (M/F)
SPDIF	COAXIAL RCA DIGITAL AUDIO 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

ELECTRICAL SYMBOLS AND NOTES

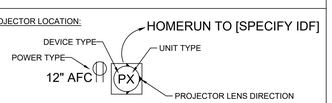
TYPICAL FLOOR PLAN EQUIPMENT LOCATION:



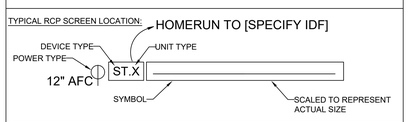
TYPICAL RCP CEILING SPEAKER LOCATION:



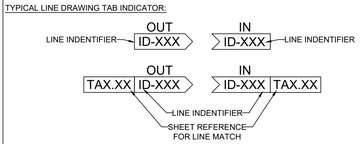
TYPICAL RCP PROJECTOR LOCATION:



TYPICAL RCP SCREEN LOCATION:



TYPICAL LINE DRAWING TAB INDICATOR:



ADDITIONAL SYMBOLS

SYMBOL	DESCRIPTION
# / TAXXX	INTERIOR ELEVATION INDICATOR
# / TAXXX	EXTERIOR ELEVATION INDICATOR
# / TAXXX	DETAIL INDICATOR
# TITLE	TITLE BLOCK

PATCH AND PRE-TERMINATED CABLE SYMBOLS

ALL CABLE LENGTHS ARE TO BE FIELD VERIFIED BY THE INTEGRATOR UNLESS OTHERWISE STATED BELOW.

SYMBOL	BRAND	MODEL #	DESCRIPTION
CAT6	LEVITON	SRJ-U60MY001MY2U	1 METER CAT6 PATCH
CAT6A	LEVITON	SRJ-U6AMY001MY2U	1 METER CAT6A PATCH
MMF1	LEVITON	FPC-M4PD1CC001FAB	1 FOOT MM PATCH LC/LC
MMF2	LEVITON	FPC-M4PD1BB001FAB	1 FOOT MM PATCH SC/SC
SMF1	LEVITON	FPC-S2PD1CC001FAB	1 FOOR SM PATCH LC/LC
MIC	C2G	40061	25' MICROPHONE CABLE
PHONO	C2G	40067	25' (M) 1/4" TO (M) 1/4"
HDM1	EXTRON	26-650-XX	HDMI TO HDMI
HDM2	EXTRON	26-614-XX	HDMI TO DVI
VGAA	EXTRON	26-490-XX	VGA W/AUDIO (M) TO (M)
DVI1	EXTRON	26-651-XX	DVI TO DVI
DVI2	EXTRON	26-619-01	DVI (M) TO VGA (F) 6"
DVI3	EXTRON	26-609-01	DVI (M) TO 5 BNC (F) 6"
STR1	EXTRON	26-641-XX	DUAL RCA (M) TO RCA (M)
STR2	EXTRON	26-642-06	⅛" STEREO TO TWO RCA (M)
TT	MOGAMI	PJM-XX	TT (M) TO TT (M)
ASA1	EXTRON	60-804-01	STEREO RCA TO MONO PHX
IRED	GENERIC	2 COND IR CABLE	IR BLASTER TO BAREWIRE
SERIAL	EXTRON	26-433-XX	9-PIN TO 9-PIN CONTROL CABLE

XX= LENGTH UNLESS OTHERWISE NOTED.

ELECTRICAL SYMBOLS AND NOTES

SYMBOL	DESCRIPTION	MOUNT TYPE & SIZE	MOUNT HEIGHT	CONDUIT REQUIREMENTS
	120V 20AMP DEDICATED CIRCUIT WITH DUPLEX OUTLET*	SEE ELECTRICAL DRAWINGS FOR JUNCTION BOX SIZE	SOH	REFER TO ELECTRICAL DRAWINGS FOR CONDUIT REQUIREMENTS
	120V 20AMP DEDICATED CIRCUIT UNTERMINATED*	SEE ELECTRICAL DRAWINGS FOR JUNCTION BOX SIZE	12" AFC	REFER TO ELECTRICAL DRAWINGS FOR CONDUIT REQUIREMENTS
	120V 20AMP DEDICATED CIRCUIT WITH QUAD OUTLET*	SEE ELECTRICAL DRAWINGS FOR JUNCTION BOX SIZE	SOH	REFER TO ELECTRICAL DRAWINGS FOR CONDUIT REQUIREMENTS
	208V~240V SINGLE PHASE CIRCUIT WITH NEMA L6-30P RECEPTACLE	SEE ELECTRICAL DRAWINGS FOR JUNCTION BOX SIZE	SOH	REFER TO ELECTRICAL DRAWINGS FOR CONDUIT REQUIREMENTS

*RECOMMEND THAT ALL AV REQUESTED OUTLETS BY I.G. WHEN EVER POSSIBLE. A SEPARATE GROUND BAR WITH A COMMON GROUND IS ACCEPTABLE AS WELL.

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BY: Mathan Hweidi DATE: 03/25/2026

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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
	02/09/26	PLAN CHECK RESUBMITTAL #4

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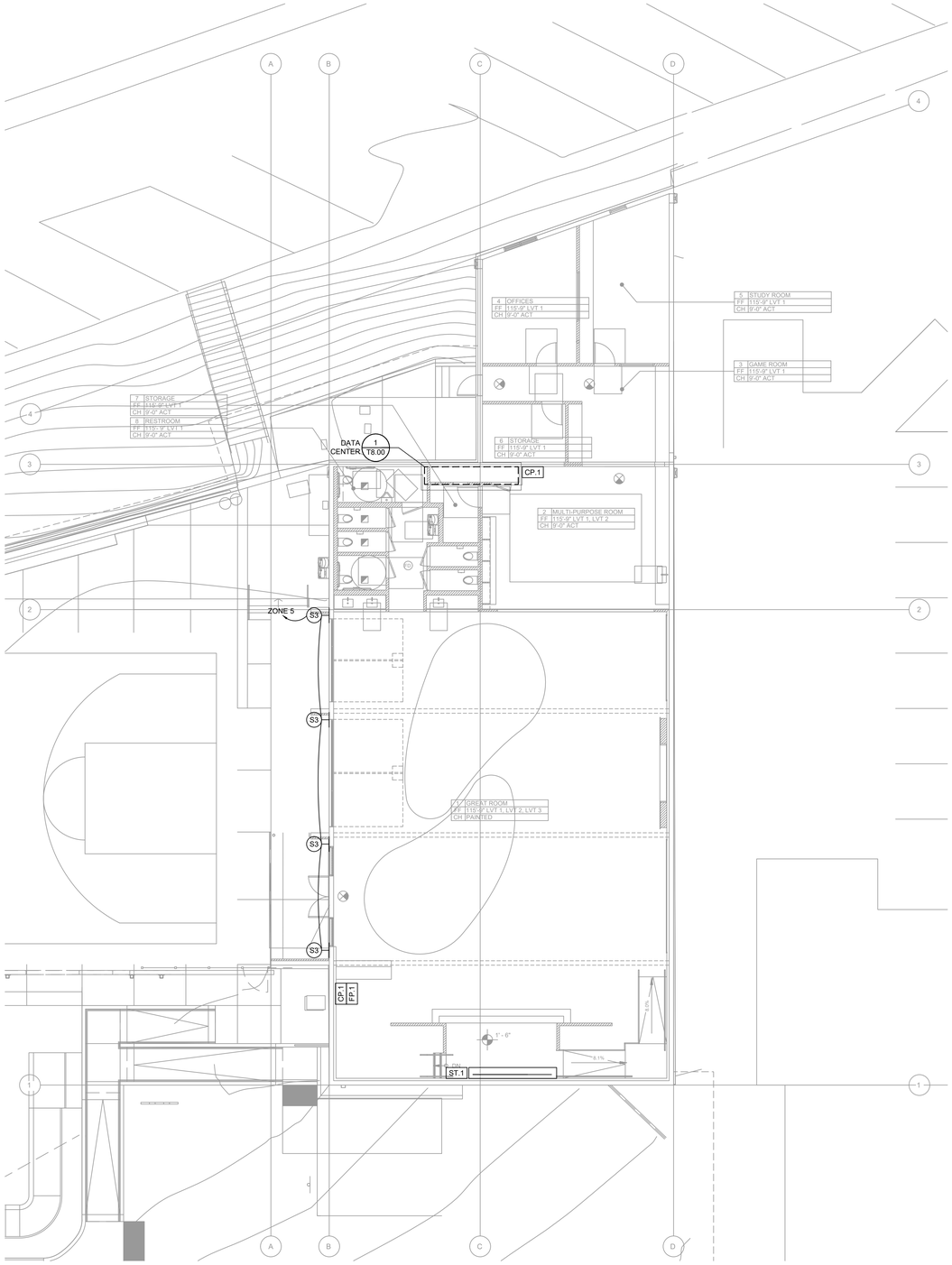
SYMBOLS & LEGENDS

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

TA0.01

Plotted by: kayla.wagner_nticons Dec. 15, 2025 12:22 PM G:\Shared drives\NTI Projects 2025\25D00762 TEEN CENTER AT EL SEGUNDO\02-DWG\TA000_TA001.dwg

CABLE ZONING NOTE
HOMERUN ALL CABLES ON THIS LEVEL TO AV/DV RACK IN DATA CENTER, THIS LEVEL.



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

2025-12-11 PLAN

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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
	02/09/26	PLAN CHECK RESUBMITTAL #4

Sheet title:

GROUND LEVEL PLAN

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

TA1.10

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BY: Mulham Fuwaidi DATE: 03/25/2026

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FEBRUARY 9, 2026 - PLAN CHECK RESUBMITTAL #4

Plotted by: kayla.wagner_nticons Dec. 15, 2025 12:22 PM G:\Shared drives\NTI Projects 2025\25D00762 TEEN CENTER AT EL SEGUNDO\02-DWG\TA1.10.dwg

CABLE ZONING NOTE
HOMERUN ALL CABLES ON THIS LEVEL TO AV/DV RACK IN DATA CENTER, THIS LEVEL.



NOTE: SEE TA DRAWINGS FOR SPEAKER, PROJECTOR, AND SCREEN LOCATIONS.

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

2025-12-11 PLAN

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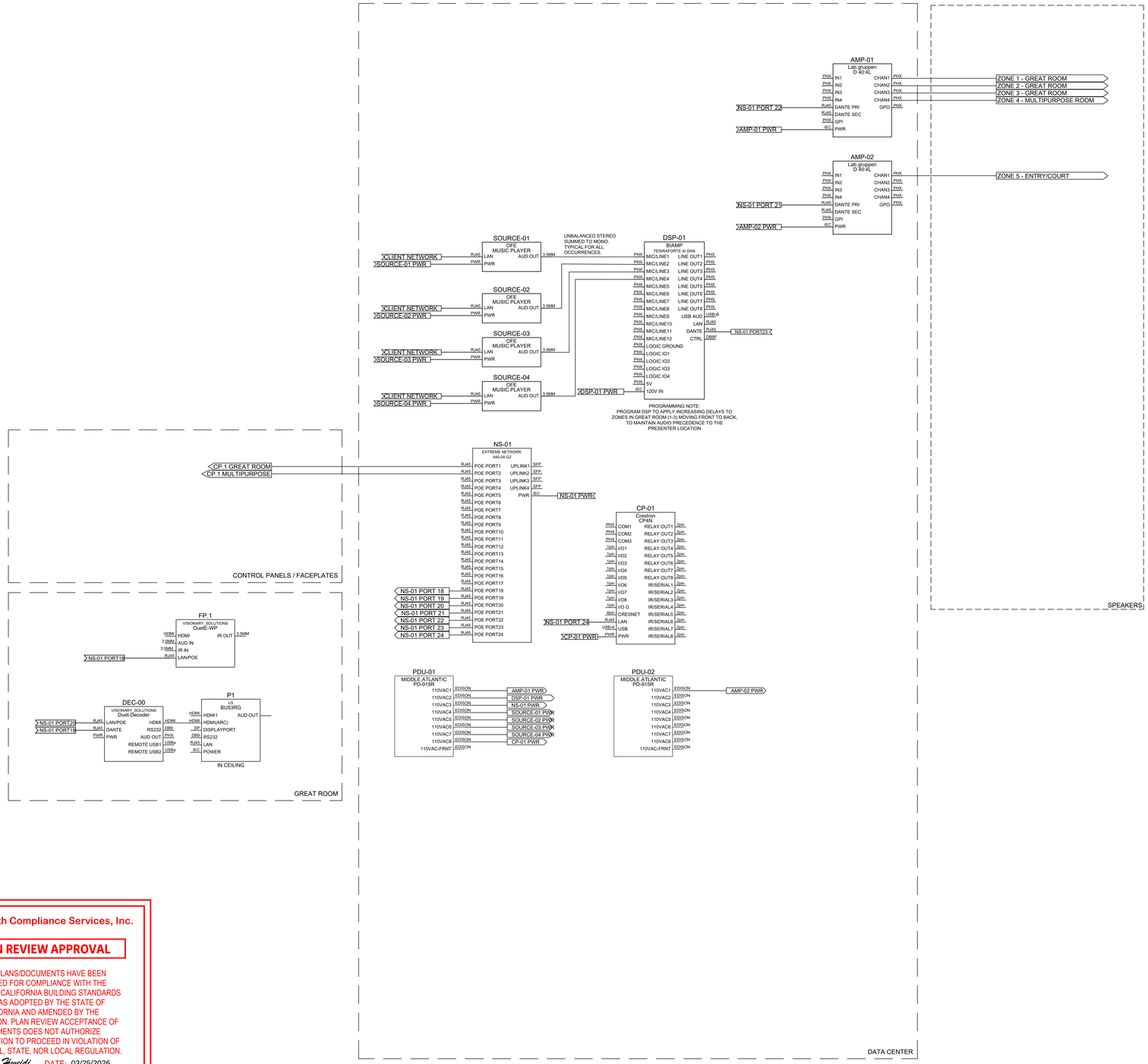
Sheet title:

GROUND LEVEL REFLECTED CEILING PLAN

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

TA2.10

Plotted by: kayla.wagner_nticons Dec. 15, 2025 12:22 PM G:\Shared drives\NTI Projects 2025\25D00762 TEEN CENTER AT EL SEGUNDO\02-DWG\TA1-10.dwg



AV RACK EQUIPMENT:

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 IN RACK. TEMPERATURE SHALL NOT EXCEED 85 DEGREES F.
PROVIDE CUSTOM SHELVES FOR ALL NONE 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.

AV / DV RACK

42	
41	
40	
39	
38	
37	
36	
35	
34	
33	
32	
31	
30	SPACE FOR DV EQUIPMENT
29	
28	
27	
26	
25	
24	
23	
22	
21	
20	
19	
18	
17	
16	
15	
14	
13	
12	
11	DSP-01
10	
9	OFE MUSIC SOURCE
8	
7	
6	NS-01
5	CP-01
4	AMP-01
3	AMP-02
2	PDU-01
1	PDU-02

FRONT VIEW

SEE SHEET T8.00 FOR MORE DETAILS.

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BY: *Mutkam Hweidi* DATE: 03/25/2026

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1 EQUIPMENT AND CONNECTIVITY SHEET
NOT TO SCALE

2 RACK ELEVATION
NOT TO SCALE

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Sheet title:

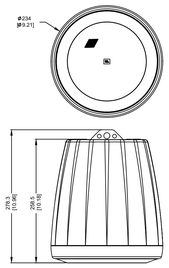
EQUIPMENT & CONNECTIVITY SHEET

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

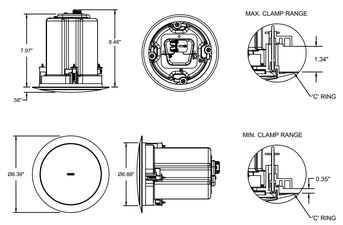
TA7.01

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Plotted by: kayla.wagner_nticons Dec. 15, 2025 12:22 PM G:\Shared drives\NTI Projects 2025\25000762 TEEN CENTER AT EL SEGUNDO\02-DWG\TA7.00 EQUIPMENT & CONNECTIVITY SHEET.dwg



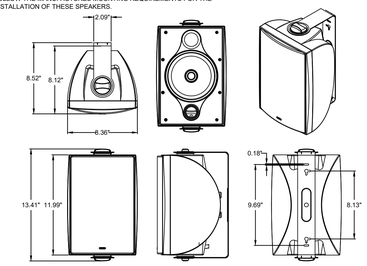
1 (S1) JBL CONTROL 64P/T PENDANT MOUNT SPEAKER
NOT TO SCALE



TEMPLATE HOLE CUTOUT SIZE = Ø7.09"

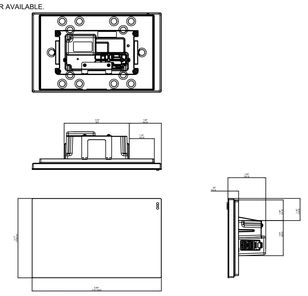
2 (S2) TANNOY CVS4 CEILING SPEAKER
NOT TO SCALE

FOLLOW THE MANUFACTURES MOUNTING REQUIREMENTS FOR THE INSTALLATION OF THESE SPEAKERS.



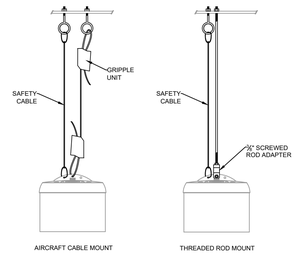
3 (S3) TANNOY DVS 6T SURFACE MOUNT SPEAKER
NOT TO SCALE

OPTIONAL ALTERNATE COLOR AVAILABLE.



4 (CP.1) CRESTRON TSW-770-B-S
NOT TO SCALE

FOLLOW THE MANUFACTURES MOUNTING REQUIREMENTS FOR MAIN MOUNT AND SAFETY CABLE FOR THE INSTALLATION OF THESE SPEAKERS.



5 TYPICAL PENDANT MOUNT SPEAKER DETAIL
NOT TO SCALE

(1) VISIONARY SOLUTIONS DUETE-WP

6 (FP.1) AUDIO/VISUAL FACEPLATE
NOT TO SCALE

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Sheet title:

INSTALLATION DETAILS

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

TA9.01

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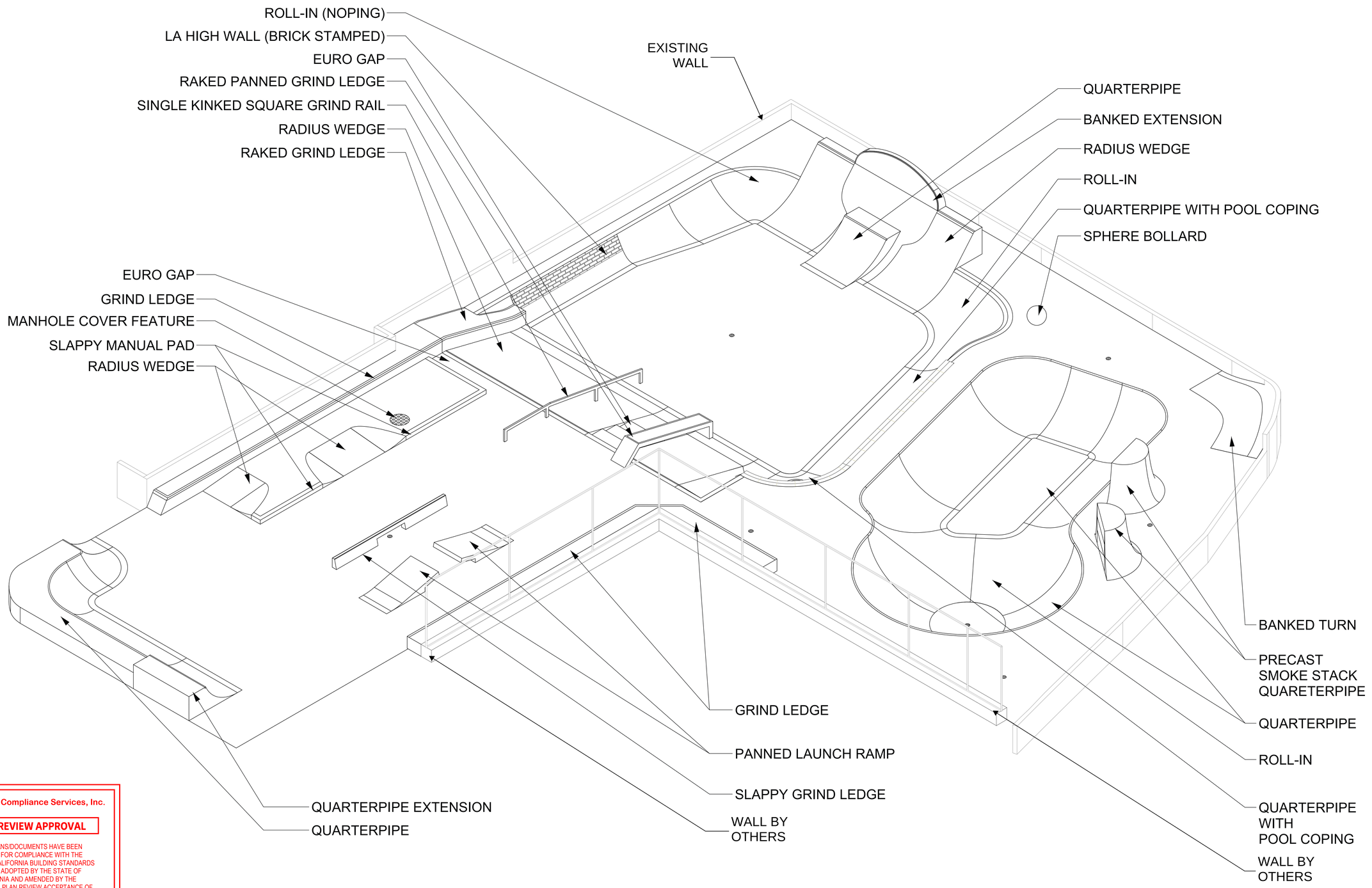
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BY: Mulham Hweidi DATE: 03/25/2026

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Plotted by: kayla.wagner_nticons Dec. 15, 2025 12:22 PM G:\Shared drives\NTI Projects 2025\25000762 TEEN CENTER AT EL SEGUNDO\02-DWG\TA900 INSTALLATION DETAIL SHEET.dwg



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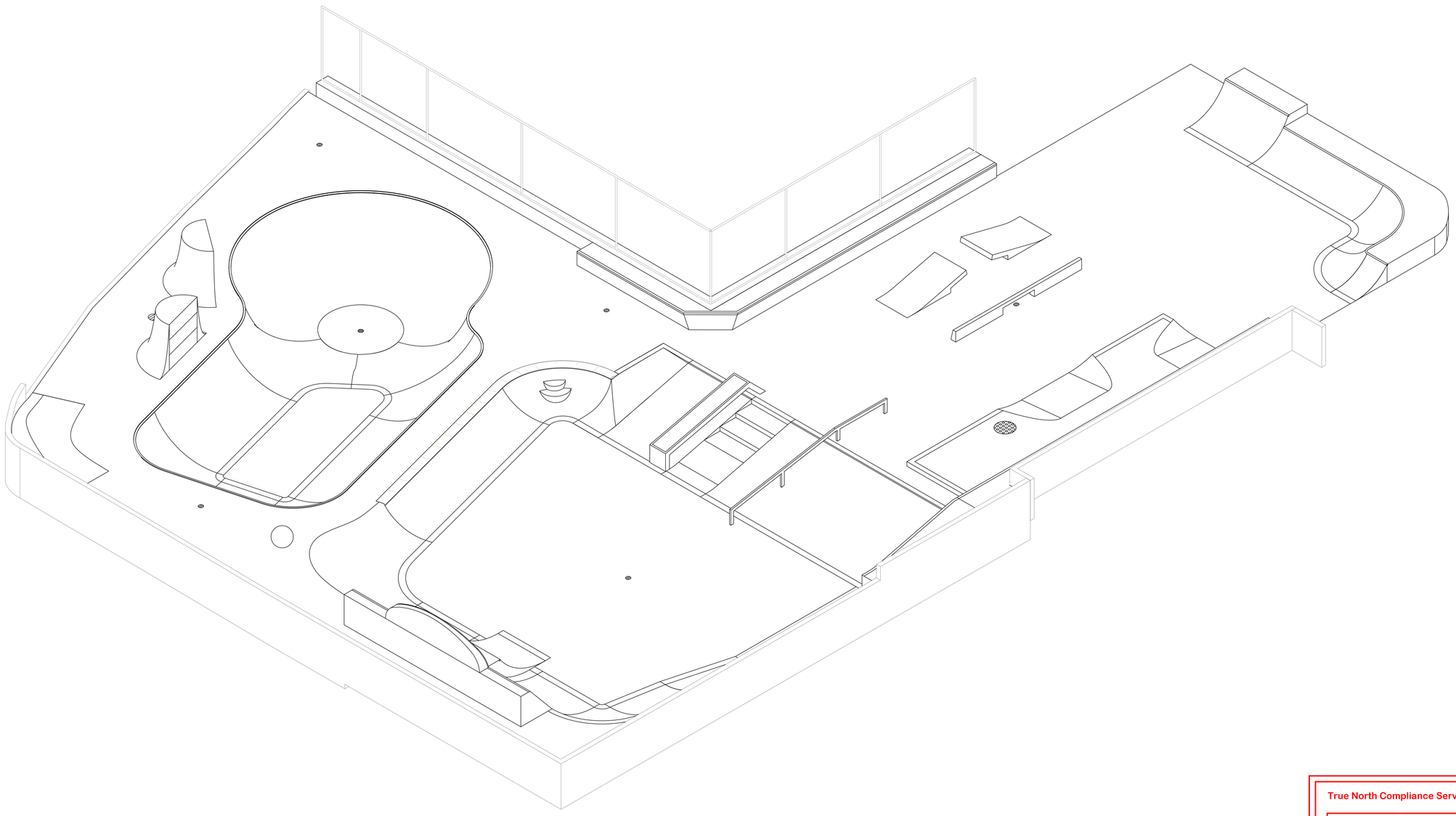
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Sheet title:

3D PERSPECTIVE

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

SK1.0



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

SK1.1

LIMIT OF WORK	AREA
	7,125 SF

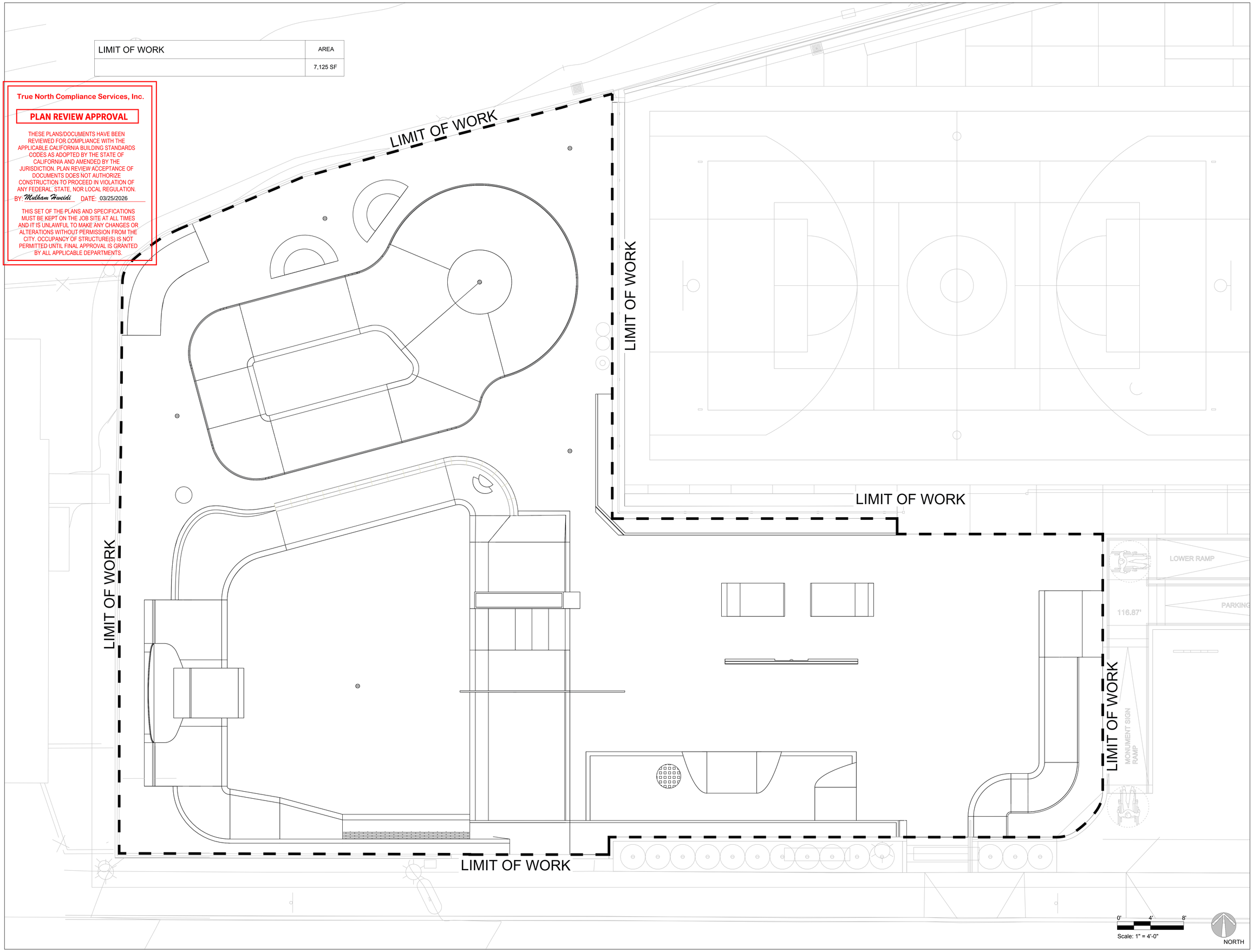
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BY: Mudhan Awaidi DATE: 03/25/2026

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Sheet title:
SITE PLAN

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

SK2.0

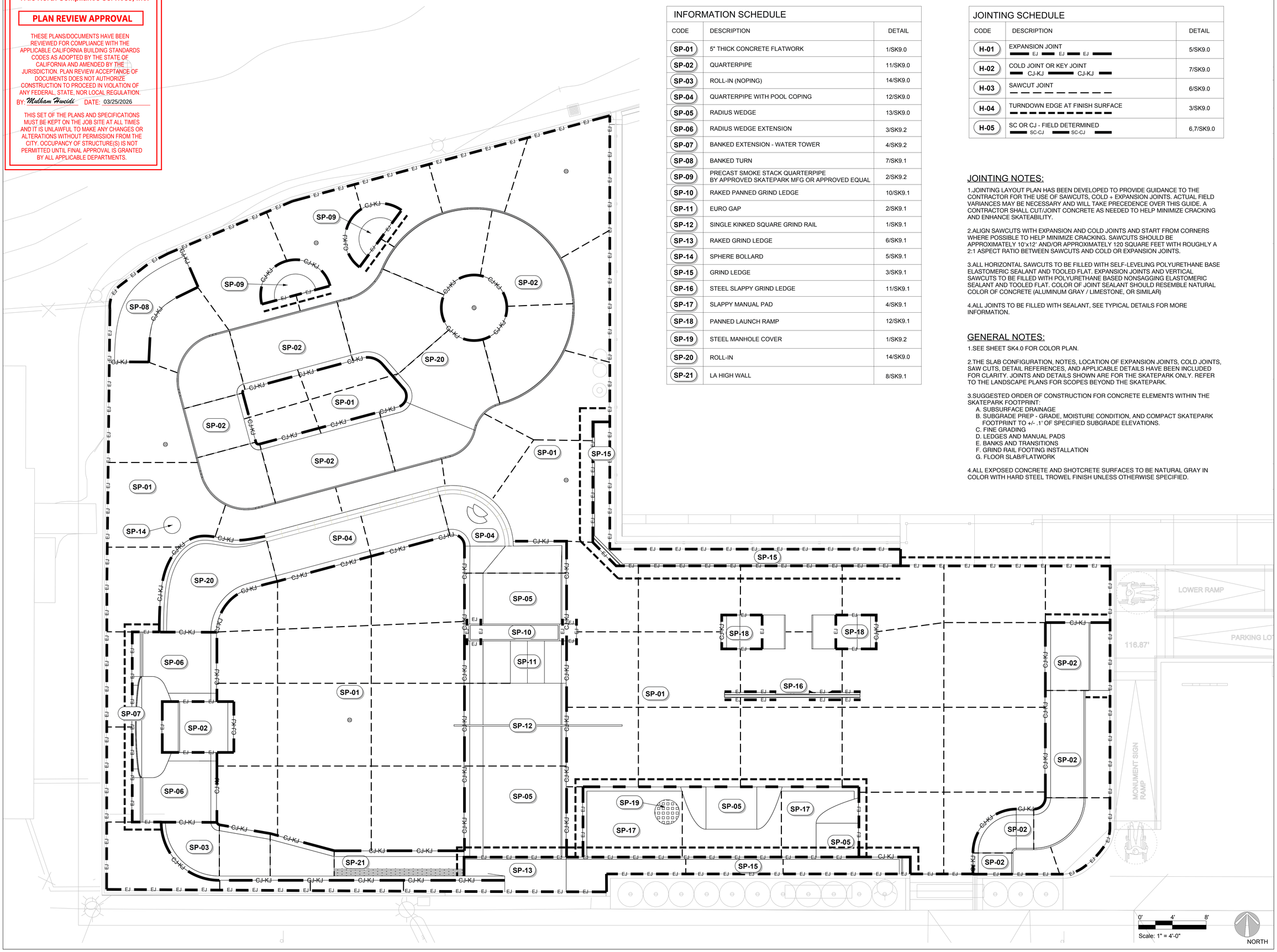
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INFORMATION SCHEDULE

CODE	DESCRIPTION	DETAIL
SP-01	5" THICK CONCRETE FLATWORK	1/SK9.0
SP-02	QUARTERPIPE	11/SK9.0
SP-03	ROLL-IN (NOPING)	14/SK9.0
SP-04	QUARTERPIPE WITH POOL COPING	12/SK9.0
SP-05	RADIUS WEDGE	13/SK9.0
SP-06	RADIUS WEDGE EXTENSION	3/SK9.2
SP-07	BANKED EXTENSION - WATER TOWER	4/SK9.2
SP-08	BANKED TURN	7/SK9.1
SP-09	PRECAST SMOKE STACK QUARTERPIPE BY APPROVED SKATEPARK MFG OR APPROVED EQUAL	2/SK9.2
SP-10	RAKED PANNED GRIND LEDGE	10/SK9.1
SP-11	EURO GAP	2/SK9.1
SP-12	SINGLE KINKED SQUARE GRIND RAIL	1/SK9.1
SP-13	RAKED GRIND LEDGE	6/SK9.1
SP-14	SPHERE BOLLARD	5/SK9.1
SP-15	GRIND LEDGE	3/SK9.1
SP-16	STEEL SLAPPY GRIND LEDGE	11/SK9.1
SP-17	SLAPPY MANUAL PAD	4/SK9.1
SP-18	PANNED LAUNCH RAMP	12/SK9.1
SP-19	STEEL MANHOLE COVER	1/SK9.2
SP-20	ROLL-IN	14/SK9.0
SP-21	LA HIGH WALL	8/SK9.1

JOINTING SCHEDULE

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 SKATEABILITY.

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 BASE 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 JOINTS, 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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1/15/26

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Sheet title:
INFORMATION PLAN

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

SK3.0

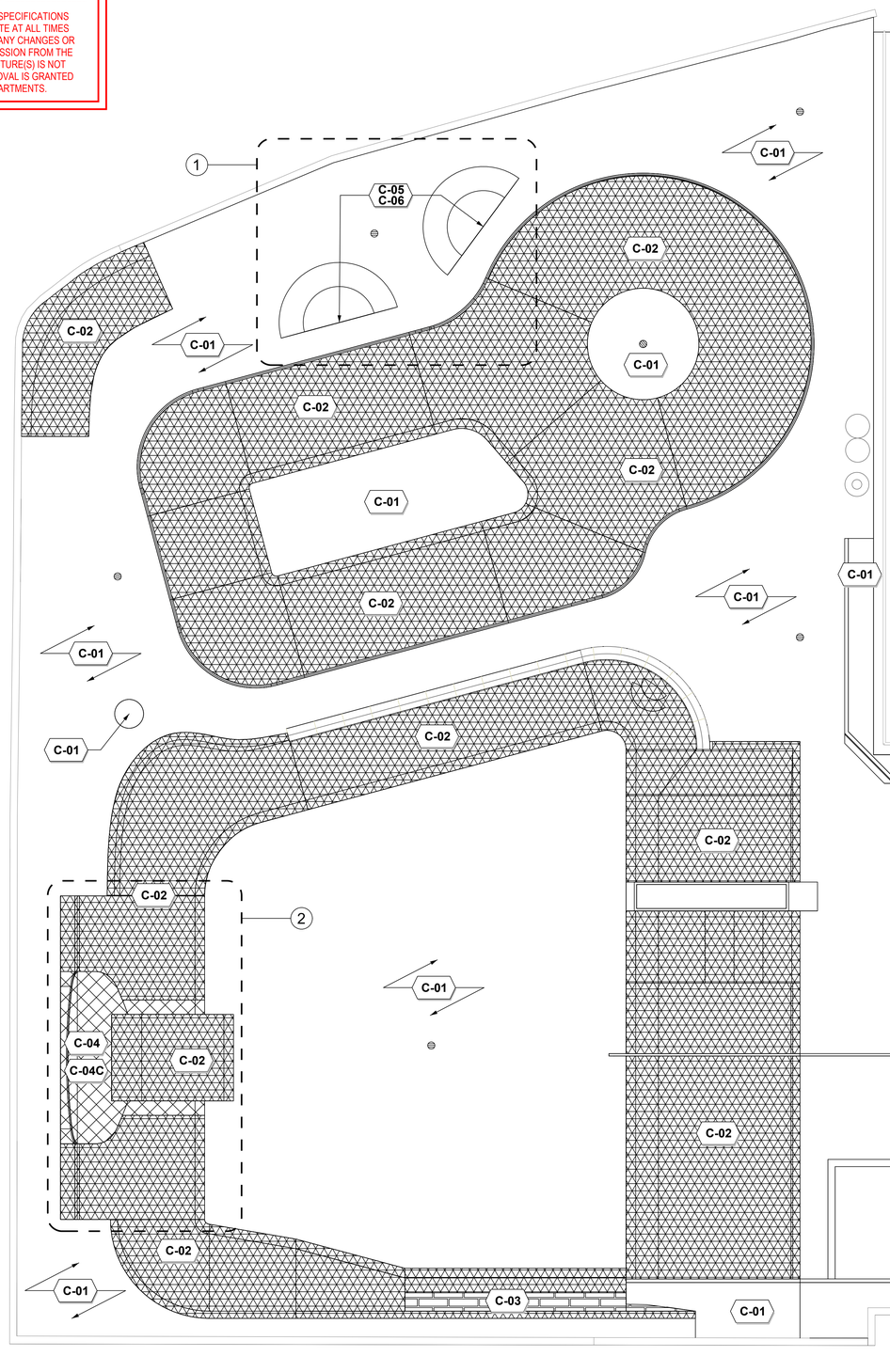
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PLAN REVIEW APPROVAL

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BY: Mulham Hweidi DATE: 03/25/2026

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COLOR SCHEDULE

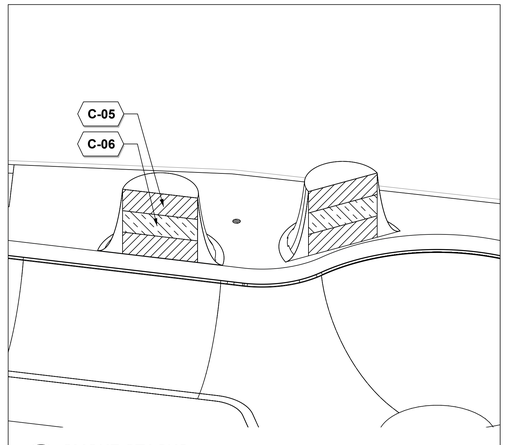
HATCH	CODE		QTY	DETAIL
	C-01	CAST-IN-PLACE CONCRETE TO BE NATURAL GRAY	4,730 SF	———
	C-02	COLORED CAST-IN-PLACE CONCRETE TO BE "SOMBRA" BY INCRETE COLOR SYSTEMS OR APPROVED EQUAL	2,807 SF	———
	C-03	BRICK-STAMPED COLORED CAST-IN-PLACE CONCRETE TO BE "SOMBRA" BY INCRETE COLOR SYSTEMS OR APPROVED EQUAL	87 SF	———
	C-04	STANDARD PAINT TO BE "WATER TOWER BLUE"	127 SF	3/SK9.3
	C-04C	ADD ALTERNATE B: COLORED CAST-IN-PLACE CONCRETE TO BE "PHILLY BLUE" BY INCRETE COLOR SYSTEMS OR APPROVED EQUAL	127 SF	4/SK9.3
	C-05	STANDARD PAINT TO BE "SMOKESTACK RED"	34 SF	1/SK9.3
	C-06	STANDARD PAINT TO BE "WHITE"	17 SF	1/SK9.3
	C-07	STANDARD PAINT TO BE "BLACK"	13 SF	2/SK9.3

COLOR NOTES:

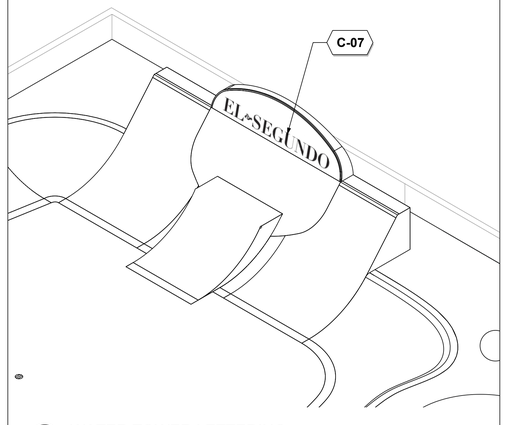
1. CONCRETE COLOR AVAILABLE FROM INCRETE COLOR SYSTEMS OR APPROVED EQUAL.

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.



1 SMOKE STACKS
PAINT APPLICATION



2 WATER TOWER LETTERING
PAINT APPLICATION

0' 4' 8'
Scale: 1" = 4'-0"

NORTH

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Sheet title:
COLOR PLAN

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

SK4.0

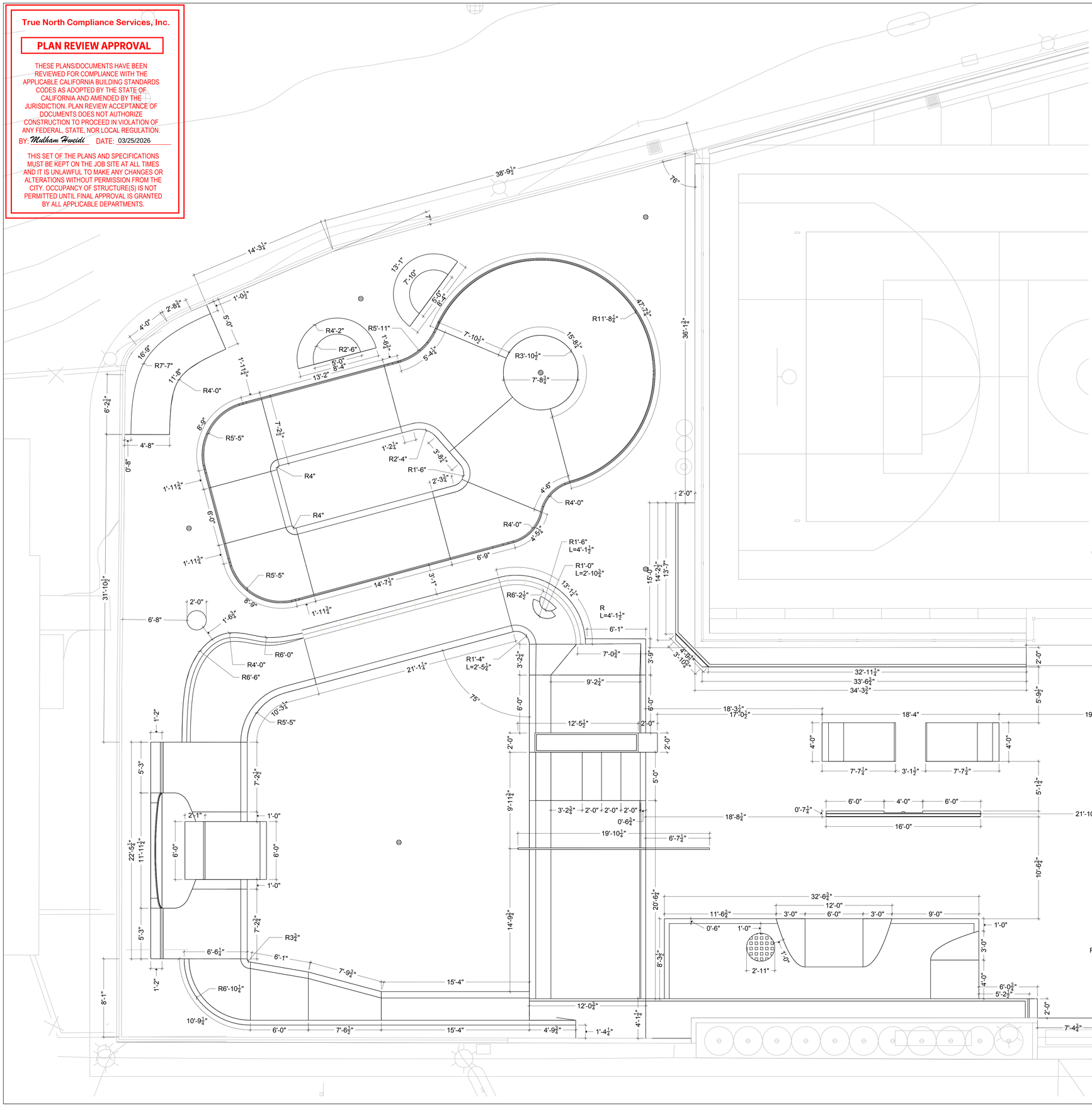
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BY: Mutham Hweidi DATE: 03/25/2026

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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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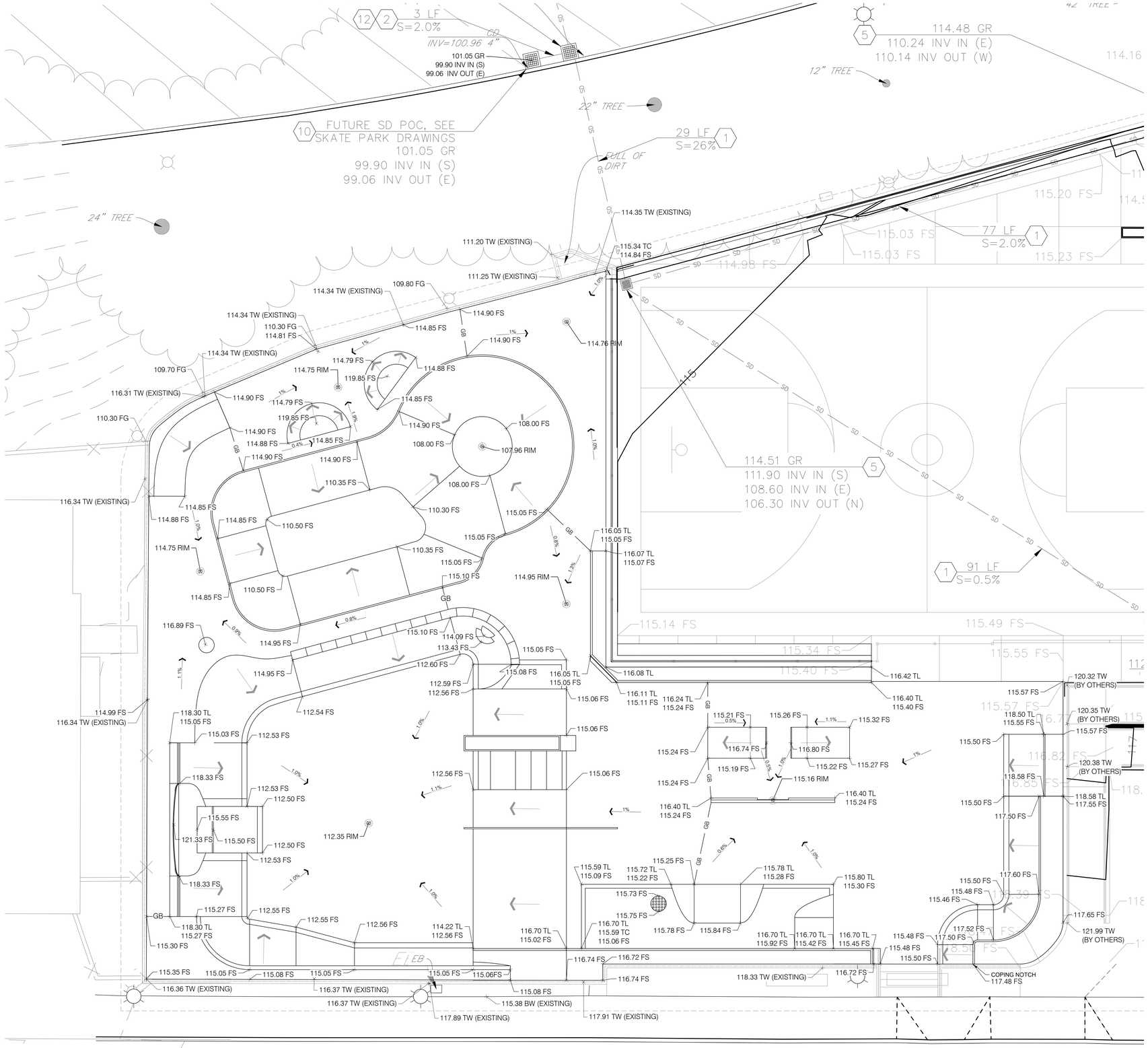
Sheet title:

LAYOUT PLAN

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

SK5.0

FEBRUARY 9, 2026 - PLAN CHECK RESUBMITTAL #4



DRAINAGE SCHEDULE

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

GRADING NOTES

1. ALL GRADING SHALL BE IN ACCORDANCE WITH THE LOCAL GRADING CODE AND ANY SPECIAL REQUIREMENTS OF THE GRADING PERMIT.
2. CONTRACTOR TO VERIFY GRADES AND NOTIFY OWNER'S CONSTRUCTION ADMINISTRATOR PRIOR TO START OF GRADING WORK.
3. 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.
4. ALL PAVED AREAS SHALL SLOPE AS SHOWN ON PLANS WITH A 2% MAXIMUM FALL. PLANTED AREAS SHALL HAVE A MINIMUM 2% FALL.
5. FINISH GRADE SHALL HAVE A UNIFORM SURFACE, FREE OF LUMPS, BUMPS AND DEPRESSIONS AND ANY OBJECTS THAT MAY PREVENT A POSITIVE FLOW TO DRAIN.
6. ALL PROPOSED PAVING SURFACES SHALL MEET EXISTING PAVING SURFACES WITH SMOOTH AND CONTINUOUS TRANSITIONS AND FLUSH ALONG ENTIRE EDGE.
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11. CONTRACTOR SHALL MEET EXISTING GRADE AT GRADING LIMITS WITH A SMOOTH AND CONTINUOUS TRANSITION.

GRADING LEGEND:

- EXISTING CONTOURS
- PROPOSED CONTOURS
- GB 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

XXXX — EXISTING ELEVATION (VERIFY IN FIELD)

NORTH

0 1' 5' 10'

Scale: 3/16" = 1'-0"

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BY: Mulham Hweidi DATE: 03/25/2026

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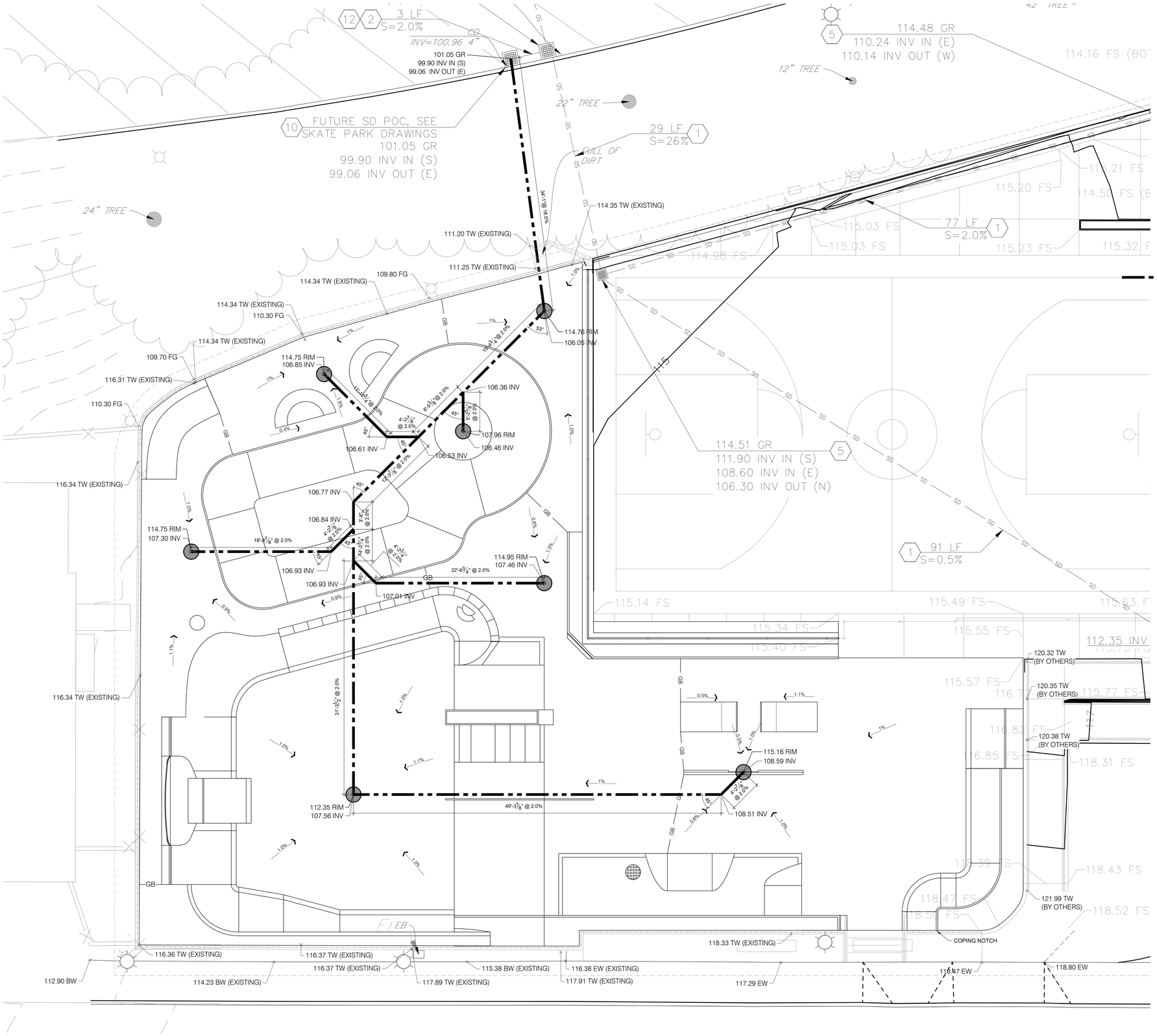
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Sheet title:

GRADING & DRAINAGE PLAN

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

SK6.0



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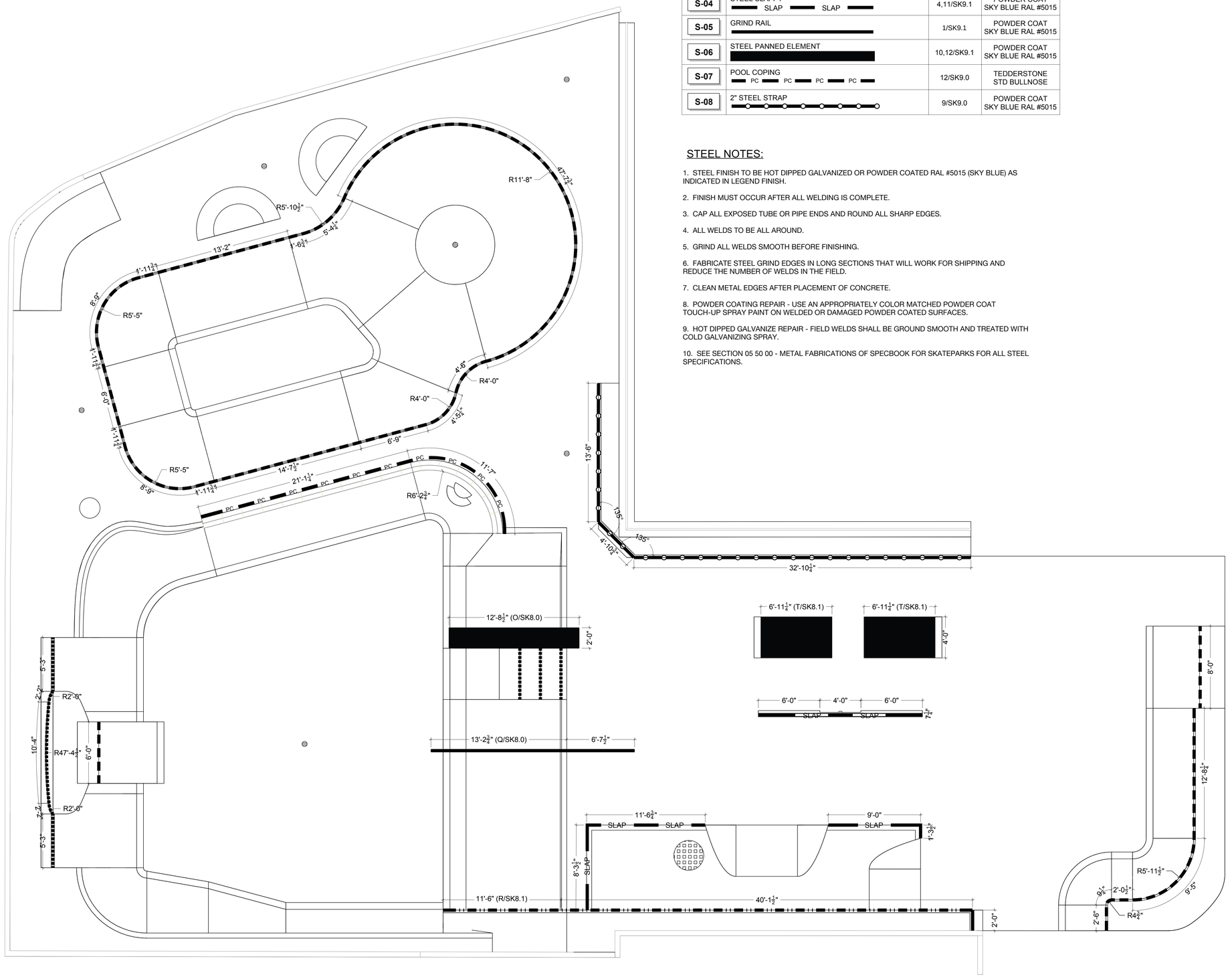
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Sheet title:

GRADING & DRAINAGE PLAN

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

SK6.1



STEEL SCHEDULE

CODE	DESCRIPTION	DETAIL	FINISH
S-01	2-3/8" O.D. SCH. 40 STEEL COPING	10/SK9.0	HOT DIPPED GALVANIZED
S-02	1.5 X 2 X 3/16" THICK STEEL EDGING	8/SK9.0	HOT DIPPED GALVANIZED
S-03	FOLDED STEEL EDGING	9/SK9.1	POWDER COAT SKY BLUE RAL #5015
S-04	STEEL SLAPPY — SLAP — SLAP	4,11/SK9.1	POWDER COAT SKY BLUE RAL #5015
S-05	GRIND RAIL	1/SK9.1	POWDER COAT SKY BLUE RAL #5015
S-06	STEEL PANNED ELEMENT	10,12/SK9.1	POWDER COAT SKY BLUE RAL #5015
S-07	POOL COPING — PC — PC — PC — PC	12/SK9.0	TEDDERSTONE STD BULLNOSE
S-08	2" STEEL STRAP	9/SK9.0	POWDER COAT SKY BLUE RAL #5015

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.

0' 4' 8'
Scale: 1" = 4'-0"

NORTH

True North Compliance Services, Inc.

PLAN REVIEW APPROVAL

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BY: Mutham Hweidi DATE: 03/25/2026

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Issue dates

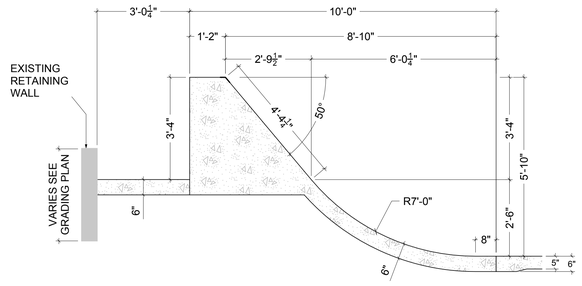
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	10/28/25	PLAN CHECK RESUBMITTAL #1
	11/14/25	PLAN CHECK RESUBMITTAL #2
	01/16/26	PLAN CHECK RESUBMITTAL #3
	02/09/26	PLAN CHECK RESUBMITTAL #4

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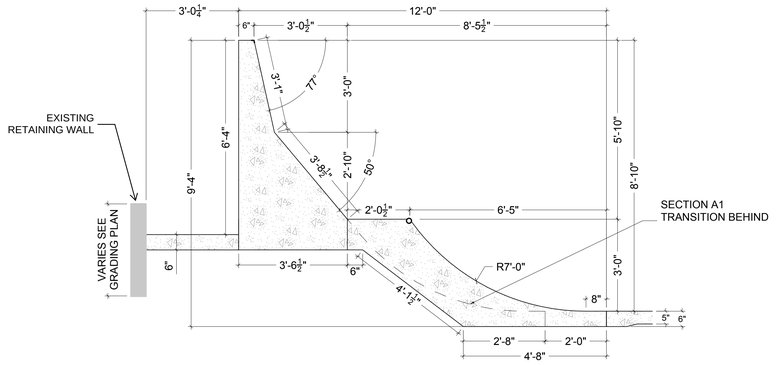
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Checked by:
Project number: 124011

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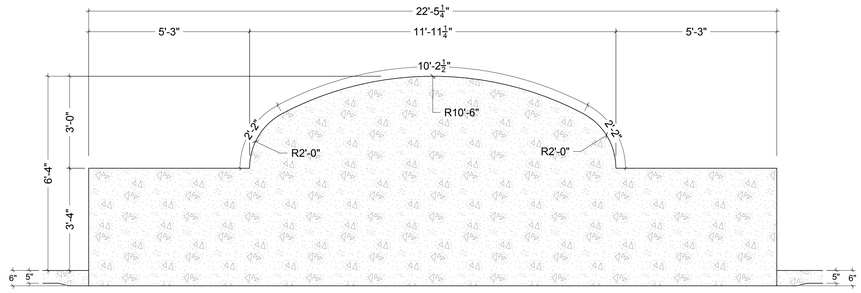
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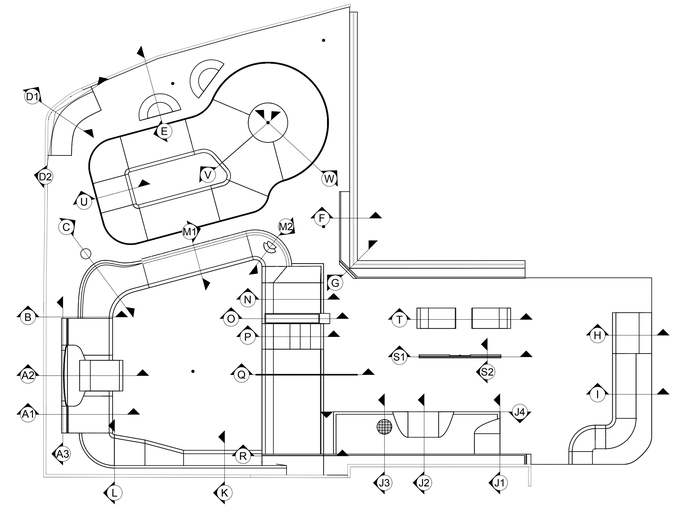
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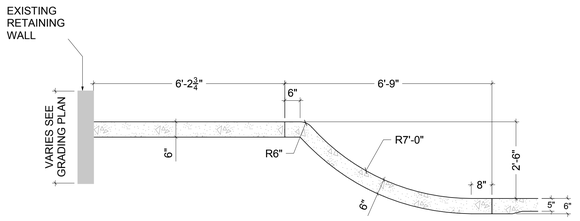


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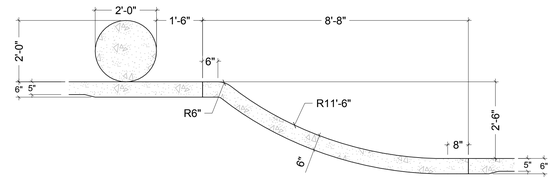


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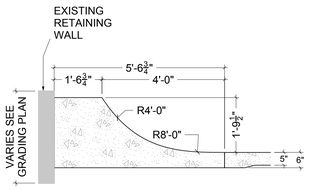




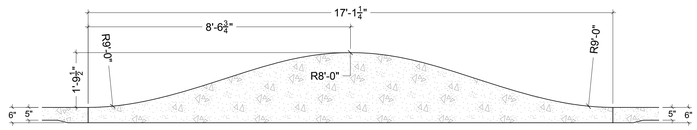
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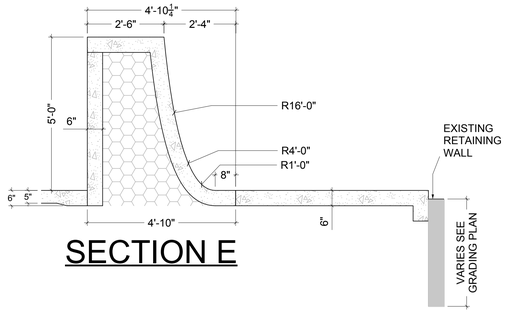
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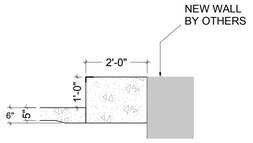
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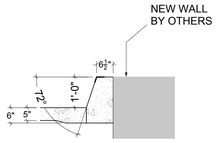
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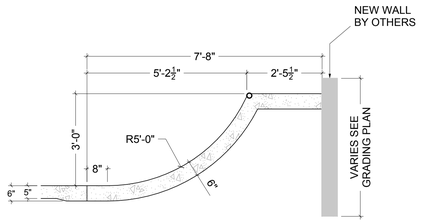
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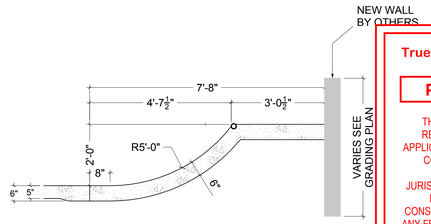
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SECTION G



SECTION H



SECTION I

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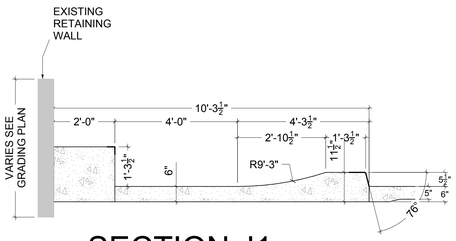
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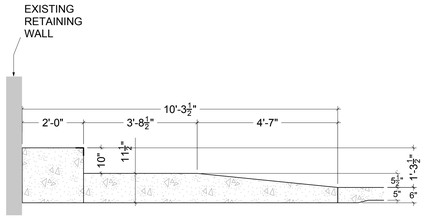
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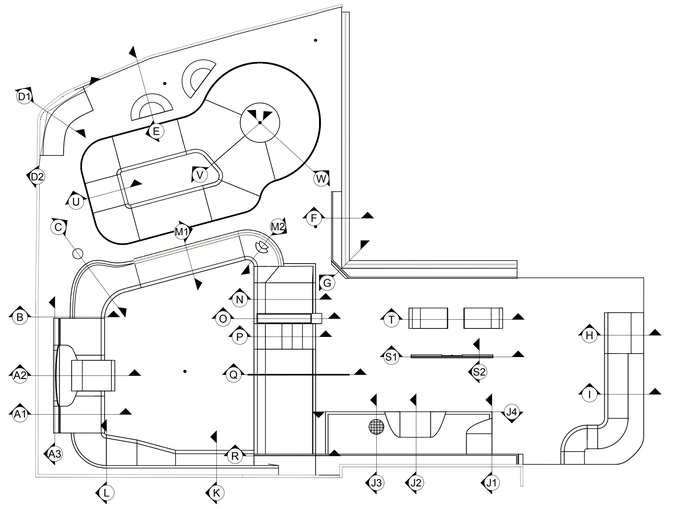
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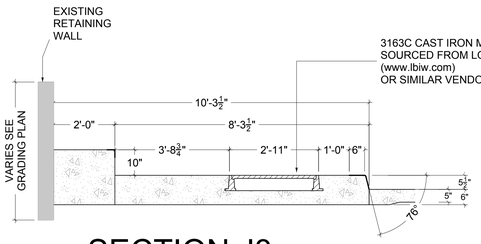


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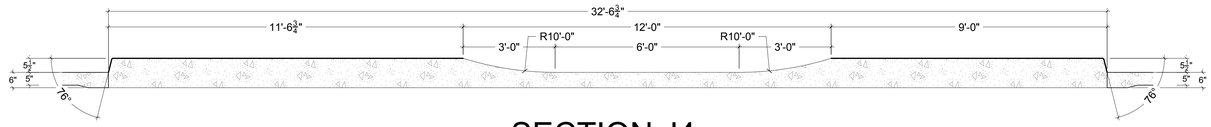


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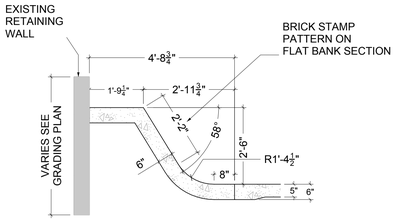




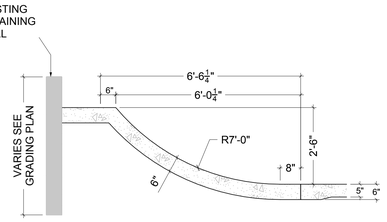
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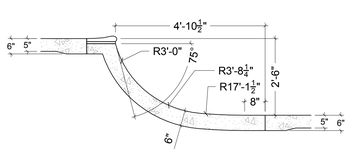
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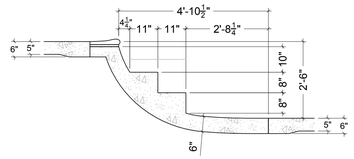
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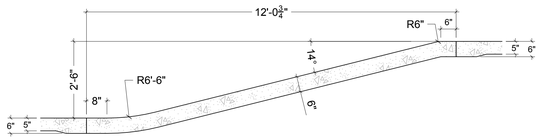
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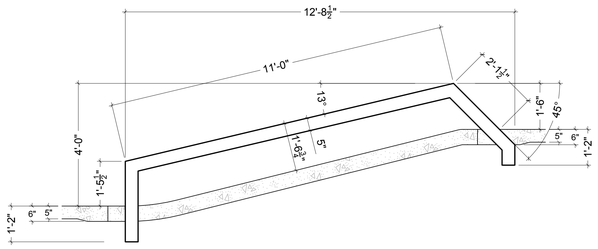
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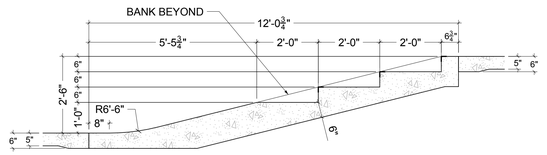
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SECTION N



SECTION O



SECTION P

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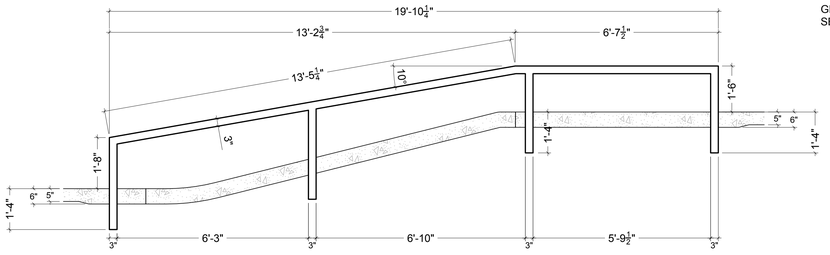
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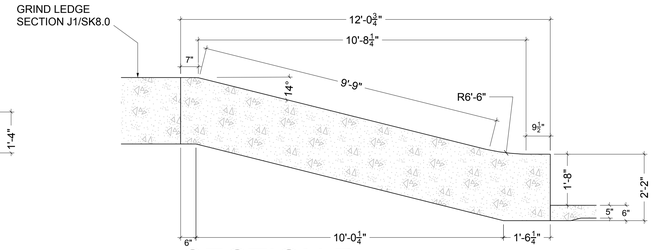
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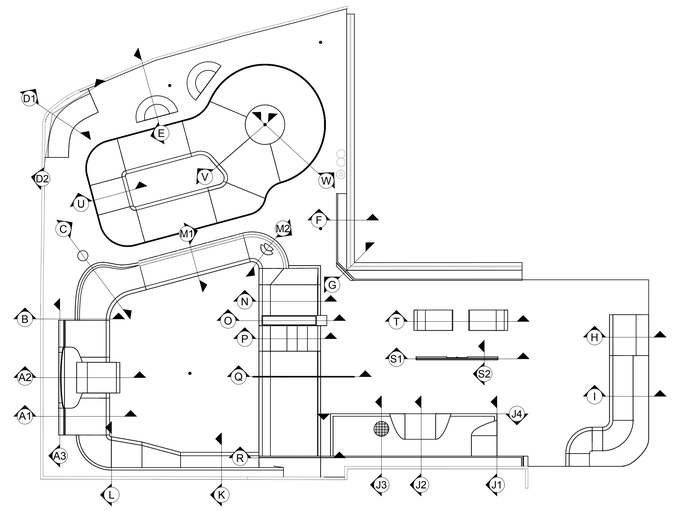
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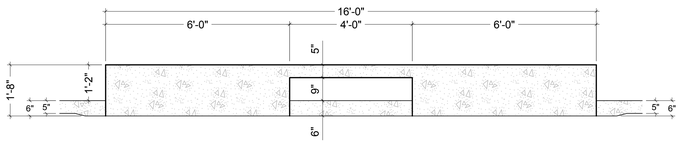


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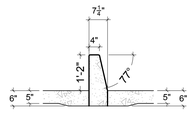


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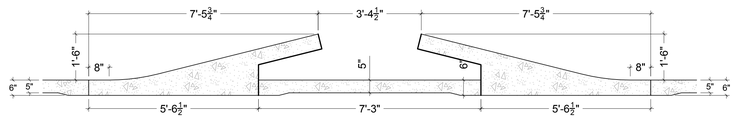




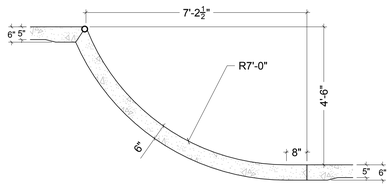
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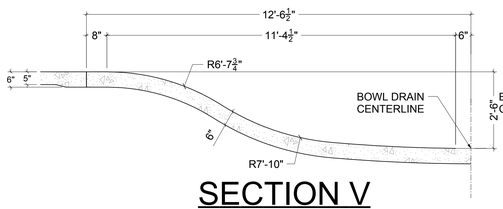
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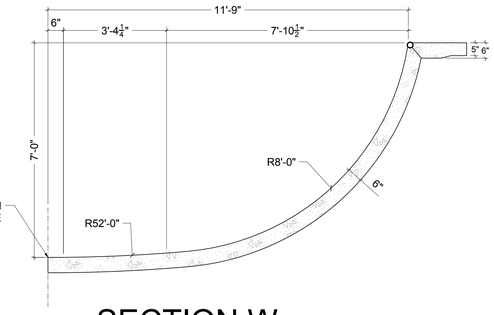
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SECTION U



SECTION V



SECTION W

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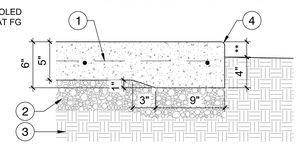
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Project number: 124011

SK8.2

1. *4000 PSI CONCRETE FLATWORK WITH #3 REBAR @ 16" O.C. BW
2. BASE COURSE, 4" DEEP MIN.
3. COMPACTED SUBGRADE
4. 1/2" TOOLED EDGE AT FG ONLY

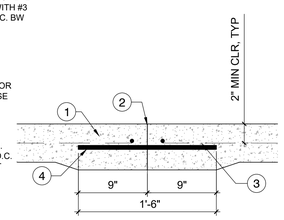
*SKATEPARK SURFACE TO HAVE STEEL HARD-TROWEL FINISH. CEASE TROWELING BEFORE SURFACE BECOMES GLOSSY. DO NOT TROWEL BURN SURFACE.

**DIMENSION SHALL BE 1" BELOW FINISH SURFACE IF SLAB EDGE IS ADJACENT TO TURF OR 2" BELOW FINISH SURFACE IF SLAB EDGE IS ADJACENT TO PLANTING AREA



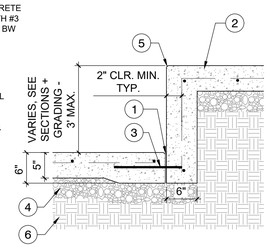
1 SLAB EDGE
1 1/2" = 1'-0" P-PIP-ELS-01

1. 4000 PSI CONCRETE FLATWORK WITH #3 REBAR 16" O.C. BW
2. COLD OR EXPANSION JOINT
3. SLEEVE FOR SLIP DOWEL OR WRAP/GREASE ONE END
4. 1/2" SMOOTH DOWEL OR REBAR DROP. SPACE 2'-6" O.C. ALONG JOINT



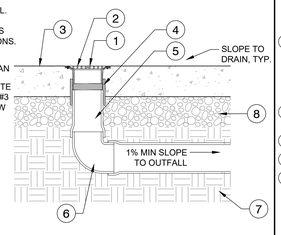
2 SLIP DOWEL
1 1/2" = 1'-0" P-PIP-ELS-07

1. EXPANSION JOINT
2. 4000 PSI CONCRETE FLATWORK WITH #3 REBAR 16" O.C. BW
3. SLIP DOWEL
4. BASE COURSE
5. 1/2" TOOLED EDGE OR STEEL EDGING. SEE STEEL PLAN FOR LOCATION.
6. COMPACTED SUBGRADE



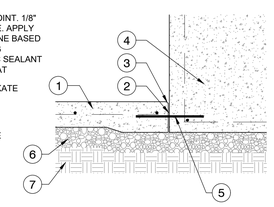
3 TURNDOWN EDGE AT FS
1" = 1'-0" P-PIP-ELS-02

1. ZURN FD2210-PV4-NT ADJUSTABLE FLOOR DRAIN WITH 5" "TYPE B" NICKEL BRONZE STRAINER, OR APPROVED EQUAL. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
2. TOP OF DRAIN. SEE GRADING PLAN
3. 4000 PSI CONCRETE FLATWORK WITH #3 REBAR 16" O.C. BW
4. ADJUSTABLE PVC OUTLET CONNECTION
5. SDR-35 DRAIN LINE, TYP. SEE GRADING + DRAINAGE PLAN FOR MORE INFO.
6. PVC DRAINLINE, 90 DEG ELBOW. INVERT ELEVATION PER GRADING PLAN.
7. COMPACTED SUBGRADE
8. BASE COURSE



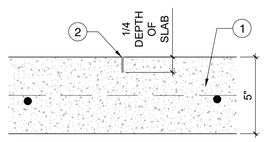
4 AREA DRAIN
1 1/2" = 1'-0" P-PIP-ELS-10

1. 4000 PSI CONCRETE FLATWORK WITH #3 REBAR 16" O.C. BW
2. PRE-COMPRESSED EXPANSION MATERIAL 1/2" DECK-O-FOAM OR SIMILAR
3. EXPANSION JOINT. 1/8" TOOLED EDGE. APPLY POLYURETHANE BASED NON-SAGGING ELASTOMERIC SEALANT AND TOOL FLAT
4. CONCRETE SKATE ELEMENT
5. SLIP DOWEL
6. BASE COURSE
7. COMPACTED SUBGRADE



5 EXPANSION JOINT
1" = 1'-0" P-PIP-ELS-05

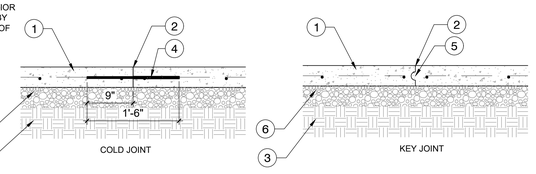
1. 4000 PSI CONCRETE FLATWORK WITH #3 REBAR 16" O.C. BW
2. 1/8" SAW CUT - FILL JOINT WITH SELF LEVELING SEALANT AND TOOL FLAT. PROTECT SURROUNDING SURFACE FROM EXCESS SEALANT.



6 SAWCUT JOINT
3" = 1'-0" P-PIP-ELS-06

1. *4000 PSI CONCRETE FLAT WORK WITH #3 REBAR @ 16" O.C. BW
2. 1/8" TOOLED EDGE BOTH SIDES. FILL JOINT WITH SELF LEVELING SEALANT AND TOOL FLAT. PROTECT SURROUNDING SURFACE FROM EXCESS SEALANT. PRIOR TO SEALING JOINT, PREP CONCRETE BY CUTTING JOINT 1/8" WIDE x 1/4 DEPTH OF CONCRETE
3. COMPACTED SUBGRADE
4. SLIP DOWEL
5. KEY JOINT 1-5/8" O.D.
6. BASE COURSE

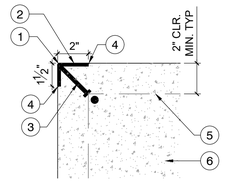
NOTE: CONSTRUCTION JOINT MAY BE BUILT AS EITHER COLD JOINT OR KEY JOINT OPTION. IT IS UP TO THE CONTRACTOR'S DISCRECTION.



7 COLD JOINT / KEY JOINT
1" = 1'-0" P-PIP-ELS-33

1. 1/8" MIN. ROUTED EDGE GROUND SMOOTH
2. 1.5" x 2" x 3/16" THICK STEEL EDGING -SEE STEEL PLAN FOR LOCATION
3. COPING ANCHOR, 3/8" X 4" MIN. NELSON STUD OR SIMILAR @ 18" O.C.
4. 1/8" TOOLED EDGE BOTH SIDES
5. TYPICAL STEEL REINFORCEMENT
6. SKATE ELEMENT

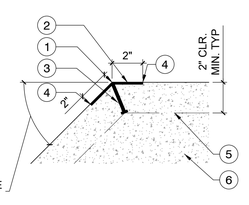
SEE STEEL PLAN FOR FABRICATION + FINISH NOTES



8 STEEL EDGING
3" = 1'-0" P-PIP-ELS-19

1. 1/8" MIN. ROUTED EDGE GROUND SMOOTH
2. 2" x 2" x .120" THICK STEEL STRAP EDGING -SEE STEEL PLAN FOR LOCATION
3. COPING ANCHOR, 3/8" X 4" MIN. NELSON STUD OR SIMILAR @ 18" O.C.
4. 1/8" TOOLED EDGE BOTH SIDES
5. TYPICAL STEEL REINFORCEMENT
6. SKATE ELEMENT

SEE STEEL PLAN FOR FABRICATION + FINISH NOTES

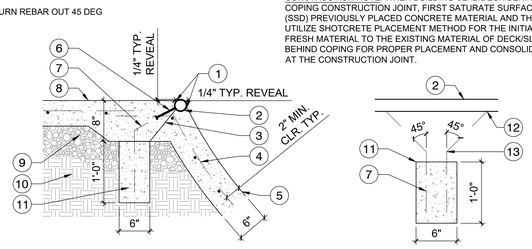


9 STEEL STRAP
3" = 1'-0" P-PIP-ELS-27

1. 1/8" TOOLED EDGE BOTH SIDES OF COPING
2. STEEL COPING - SEE STEEL PLAN FOR LOCATION
3. CONSTRUCTION JOINT HAND SHAPED PRIOR TO CONCRETE CURING
4. TYPICAL STEEL REINFORCEMENT
5. BOWL TRANSITION
6. COPING ANCHOR, 3/8" X 4" MIN. NELSON STUD OR SIMILAR@ 18" O.C.
7. (2) #3 REBAR TIES TO SUPPORT COPING PRIOR TO CONCRETE PLACEMENT
8. 4000 PSI CONCRETE FLATWORK WITH #3 REBAR 16" O.C. BW
9. BASE COURSE
10. COMPACTED SUB-GRADE
11. CONCRETE CYLINDER FOOTING. 8' O.C. ALONG BACK OF COPING & WHERE NEEDED ALONG SMALLER RADII
12. SPOT WELD TO COPING
13. TURN REBAR OUT 45 DEG

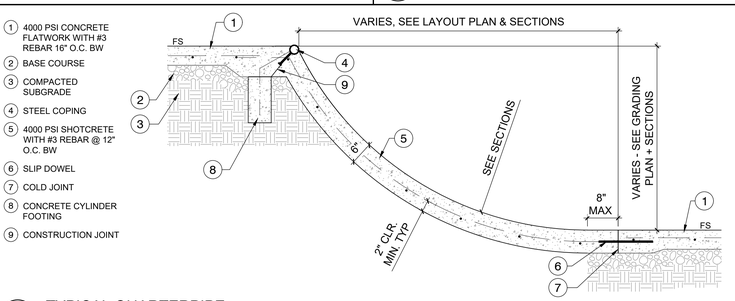
SEE STEEL PLAN FOR FABRICATION + FINISH NOTES

CONSTRUCTION NOTE: WHEN BUILDING SLAB/DECK BEHIND COPING CONSTRUCTION JOINT, FIRST SATURATE SURFACE DRY (SSD) PREVIOUSLY PLACED CONCRETE MATERIAL AND THEN UTILIZE SHOTCRETE PLACEMENT METHOD FOR THE INITIAL FRESH MATERIAL TO THE EXISTING MATERIAL OF DECK/SLAB BEHIND COPING FOR PROPER PLACEMENT AND CONSOLIDATION AT THE CONSTRUCTION JOINT.



10 STEEL COPING
1" = 1'-0" P-PIP-ELS-21

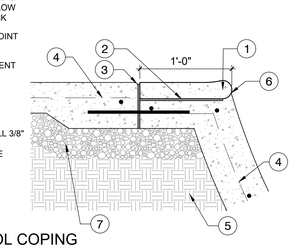
1. 4000 PSI CONCRETE FLATWORK WITH #3 REBAR 16" O.C. BW
2. BASE COURSE
3. COMPACTED SUBGRADE
4. STEEL COPING
5. 4000 PSI SHOTCRETE WITH #3 REBAR @ 12" O.C. BW
6. SLIP DOWEL
7. COLD JOINT
8. CONCRETE CYLINDER FOOTING
9. CONSTRUCTION JOINT



11 TYPICAL QUARTERPIPE
3/4" = 1'-0" P-PIP-ELS-08

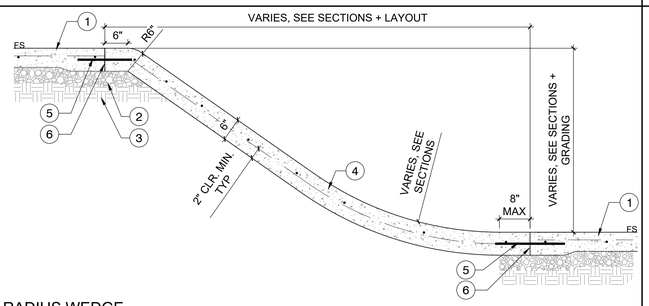
1. POOL COPING BLOCK. INSTALL PER MANUFACTURERS RECOMMENDATIONS.
2. APPLY 1/4" BED OF SPEC MIX BELOW COPING BLOCK
3. EXPANSION JOINT
4. TYPICAL REINFORCEMENT
5. COMPACTED SUBGRADE
6. COPING TO OVERHANG FINISHED WALL 3/8"
7. BASE COURSE

POOL COPING BLOCK
MFR: TEDDER STONE OR APPROVED EQUAL
COLOR: NATURAL GRAY



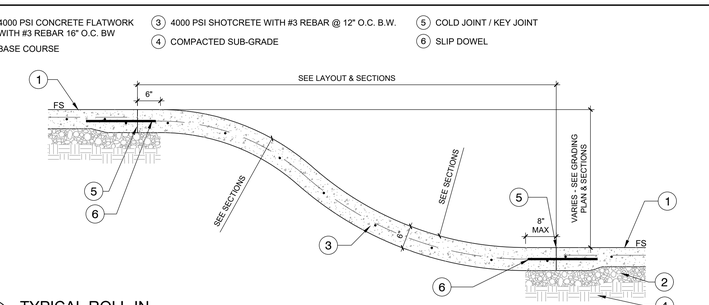
12 POOL COPING
1 1/2" = 1'-0" P-PIP-ELS-60

1. 4000 PSI CONCRETE FLATWORK WITH #3 REBAR 16" O.C. BW
2. BASE COURSE
3. COMPACTED SUBGRADE
4. 4000 PSI SHOTCRETE WITH #3 REBAR @ 12" O.C. BW
5. SLIP DOWEL
6. COLD JOINT / KEY JOINT



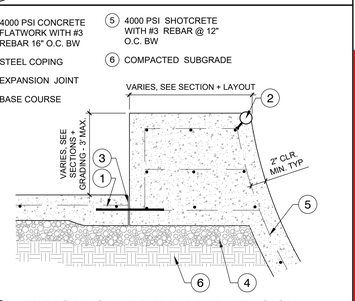
13 TYPICAL RADIUS WEDGE
3/4" = 1'-0" P-PIP-ELS-31

1. 4000 PSI CONCRETE FLATWORK WITH #3 REBAR 16" O.C. BW
2. BASE COURSE
3. 4000 PSI SHOTCRETE WITH #3 REBAR @ 12" O.C. B.W.
4. COMPACTED SUB-GRADE
5. COLD JOINT / KEY JOINT
6. SLIP DOWEL



14 TYPICAL ROLL-IN
3/4" = 1'-0" P-PIP-ELS-32

1. 4000 PSI CONCRETE FLATWORK WITH #3 REBAR 16" O.C. BW
2. STEEL COPING
3. EXPANSION JOINT
4. BASE COURSE
5. 4000 PSI SHOTCRETE WITH #3 REBAR @ 12" O.C. BW
6. COMPACTED SUBGRADE



15 TYPICAL QUARTERPIPE EXTENSION
1" = 1'-0" P-PIP-ELS-30

True North Compliance Services, Inc.

PLAN REVIEW APPROVAL

THESE PLANS/DOCUMENTS HAVE BEEN REVIEWED FOR COMPLIANCE WITH THE APPLICABLE CALIFORNIA BUILDING STANDARDS CODES AS ADOPTED BY THE STATE OF CALIFORNIA AND AMENDED BY THE JURISDICTION. PLAN REVIEW ACCEPTANCE OF DOCUMENTS DOES NOT AUTHORIZE CONSTRUCTION TO PROCEED IN VIOLATION OF ANY FEDERAL, STATE, NOR LOCAL REGULATION.

BY: *Matham Hwidi* DATE: 03/25/2026

THIS SET OF THE PLANS AND SPECIFICATIONS MUST BE KEPT ON THE JOB SITE AT ALL TIMES AND IT IS UNLAWFUL TO MAKE ANY CHANGES OR ALTERATIONS WITHOUT PERMISSION FROM THE CITY. OCCUPANCY OF STRUCTURE(S) IS NOT PERMITTED UNTIL FINAL APPROVAL IS GRANTED BY ALL APPLICABLE DEPARTMENTS.

This plan has been reviewed by Converse Consultants and appears to be in general conformity with the recommendations of the Geotechnical Investigation Report and Supplements. We make no representation as to accuracy of dimensions, measurements, calculations, or any portion of design.

Project No. 24-31-126-01 Dated 3/6/2026

By Engineer GE2708 License No. 3/6/2026 Date

REGISTERED PROFESSIONAL ENGINEER MATHANGI PILLAI SIVAGNANAM No. 2708 Exp. 6-30-26 GEOTECHNICAL STATE OF CALIFORNIA

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REGISTERED PROFESSIONAL ENGINEER KEVIN S. BERRINGER C 87904 CIVIL STATE OF CALIFORNIA 1/15/26

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

SPOHN RANCH SKATEPARKS
6824 S Centinela Ave.
Los Angeles, CA 90230
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Fax: 626-330-5503

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
	02/09/26	PLAN CHECK RESUBMITTAL #4

Sheet title:
CONSTRUCTION DETAILS

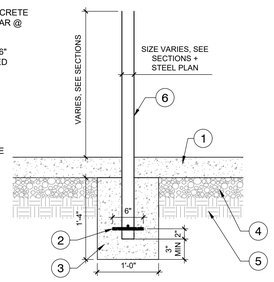
Designed by:
Drawn by:
Checked by:
Project number: 124011

SK9.0

FEBRUARY 9, 2026 - PLAN CHECK RESUBMITTAL #4

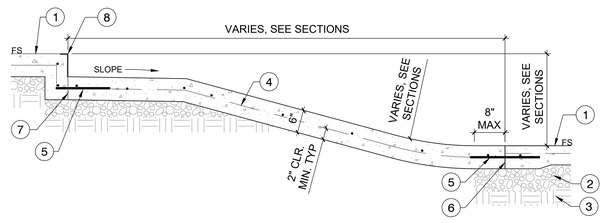
8/18/2025 1:43 PM EL SEGUNDO_SKATEPARK_070825-11.3dm

1. 4000 PSI CONCRETE WITH #3 REBAR @ 16" O.C. B.W.
2. (2) #3 REBAR 6" LONG. DRILLED THROUGH + CROSSED ABOVE TO STABILIZE
3. CONCRETE FOOTING
4. BASE COURSE
5. COMPACTED SUBGRADE
6. GRIND RAIL



1 TYPICAL GRIND RAIL FOOTING
1" = 1'-0" — P-PIP-ELS-15

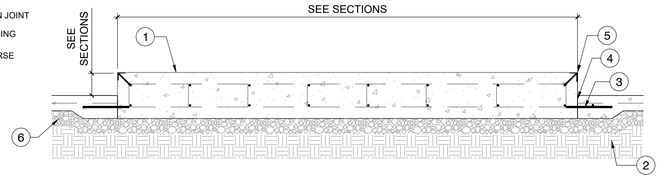
1. 4000 PSI CONCRETE WITH #3 REBAR @ 16" O.C. B.W.
2. BASE COURSE
3. COMPACTED SUBGRADE
4. 4000 PSI SHOTCRETE WITH #3 REBAR @ 12" O.C. BW
5. SLIP DOWEL
6. COLD JOINT / KEY JOINT
7. EXPANSION JOINT
8. FOLDED STEEL EDGING



2 TYPICAL EURO GAP
3/4" = 1'-0" — P-PIP-ELS-22

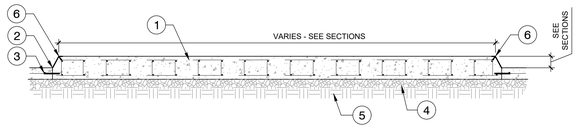
1. 4000 PSI CONCRETE WITH #3 REBAR @ 12" O.C. B.W.
2. COMPACTED SUBGRADE
3. SLIP DOWEL
4. EXPANSION JOINT
5. STEEL EDGING
6. BASE COURSE

SEE STEEL PLAN FOR FABRICATION + FINISH NOTES



3 GRIND LEDGE
3/4" = 1'-0" — P-PIP-ELS-63

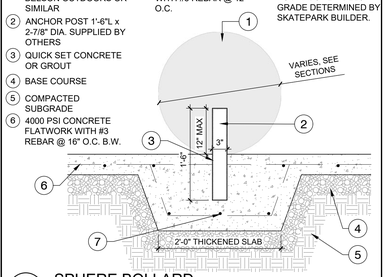
1. 4000 PSI CONCRETE WITH #3 REBAR @ 12" O.C. B.W.
2. EXPANSION JOINT
3. SLIP DOWEL
4. BASE COURSE
5. COMPACTED SUB-GRADE
6. FOLDED STEEL EDGING



4 SLAPPY MANUAL PAD
3/8" = 1'-0" — P-PIP-ELS-54

1. PRECAST BOLLARD BY BELSON OUTDOORS OR SIMILAR
2. ANCHOR POST 1'-6"L x 2-7/8" DIA. SUPPLIED BY OTHERS
3. QUICK SET CONCRETE OR GROUT
4. BASE COURSE
5. COMPACTED SUBGRADE
6. 4000 PSI CONCRETE FLATWORK WITH #3 REBAR @ 16" O.C. B.W.
7. 4000 PSI CONCRETE WITH #3 REBAR @ 12" O.C.

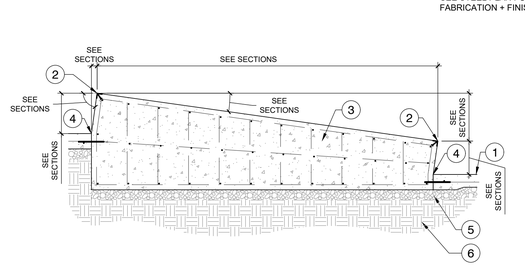
DISTANCE OF ANCHOR POST ABOVE + BELOW GRADE DETERMINED BY SKATEPARK BUILDER.



5 SPHERE BOLLARD
1" = 1'-0" — P-PIP-ELS-67

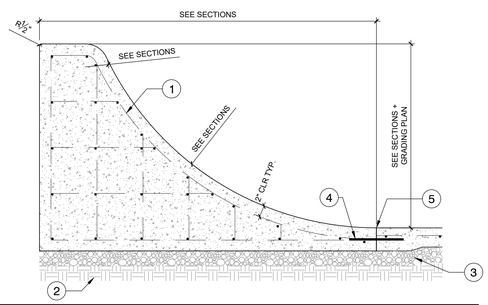
1. 4000 PSI CONCRETE FLATWORK WITH #3 REBAR @ 12" O.C. BW
2. STEEL EDGING
3. 4000 PSI CONCRETE WITH #3 REBAR @ 12" O.C. BW
4. EXPANSION JOINT
5. BASE COURSE
6. COMPACTED SUBGRADE

SEE STEEL PLAN FOR FABRICATION + FINISH NOTES



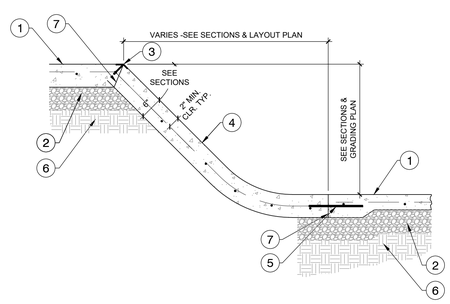
6 RAKED GRIND LEDGE
1/2" = 1'-0" — P-PIP-ELS-09

1. 4000 PSI CONCRETE WITH #3 REBAR CONTINUOUS BW @ 12" O.C.
2. COMPACTED SUB-GRADE
3. BASE COURSE
4. SLIP DOWEL
5. COLD JOINT



7 BANKED TURN
3/4" = 1'-0" — P-PIP-ELS-97

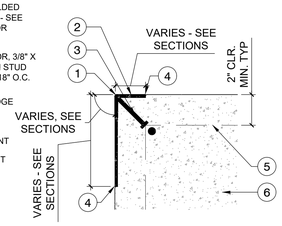
1. 4000 PSI CONCRETE FLATWORK WITH #3 REBAR @ 16" O.C. BW
2. BASE COURSE
3. STEEL STRAP
4. 4000 PSI SHOTCRETE WITH #3 REBAR @ 12" O.C. BW
5. SLIP DOWEL
6. COMPACTED SUB-GRADE
7. COLD JOINT



8 LA HIGH WALL
3/4" = 1'-0" — P-PIP-ELS-52

1. 1/8" MIN. ROUTED EDGE GROUND SMOOTH
2. 3/16" THICK FOLDED STEEL EDGING - SEE STEEL PLAN FOR LOCATION
3. COPING ANCHOR, 3/8" X 4" MIN. NELSON STUD OR SIMILAR @ 18" O.C.
4. 1/8" TOOLED EDGE BOTH SIDES
5. TYPICAL STEEL REINFORCEMENT
6. SKATE ELEMENT

SEE STEEL PLAN FOR FABRICATION + FINISH NOTES

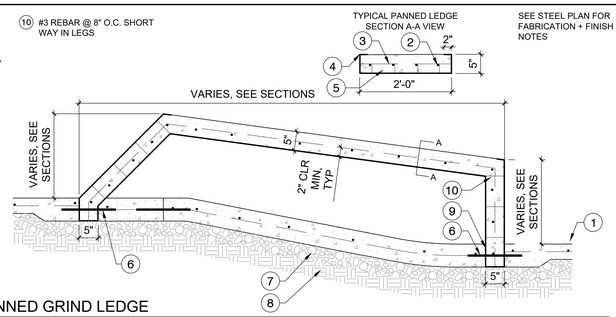


9 FOLDED STEEL EDGING
3" = 1'-0" — P-PIP-ELS-18

1. 4000 PSI CONCRETE FLATWORK WITH #3 REBAR @ 16" O.C. BW
2. #3 REBAR LONG BAR @ 6" O.C.
3. #3 REBAR SHORT BAR @ 12" O.C.
4. 11GA .120" THICK STEEL WALL WITH 1/8" MIN. ROUTED EDGE GROUND SMOOTH
5. PROVIDE VERT. BAR SUPPORTS WELDED TO STEEL PAN @ 18" O.C. ALONG LONG BARS
6. SLIP DOWEL @ 16" O.C.
7. BASE COURSE
8. COMPACTED SUBGRADE
9. EXPANSION JOINT
10. #3 REBAR @ 8" O.C. SHORT WAY IN LEGS

TYPICAL PANNED LEDGE SECTION A-A VIEW

SEE STEEL PLAN FOR FABRICATION + FINISH NOTES

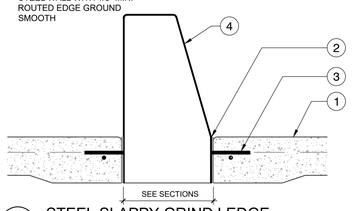


10 RAKED PANNED GRIND LEDGE
3/4" = 1'-0" — P-PIP-ELS-12

1. 4000 PSI CONCRETE WITH #3 REBAR @ 16" O.C. B.W.
2. EXPANSION JOINT
3. SLIP DOWEL
4. STEEL SLAPPY CURB. 1/8" / 11 GA STEEL WALL WITH 1/8" MIN. ROUTED EDGE GROUND SMOOTH

SEE STEEL PLAN FOR FABRICATION + FINISH NOTES

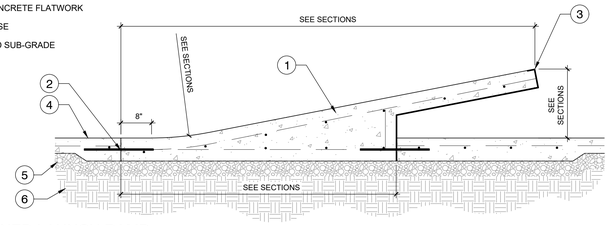
SLAPPY LEDGE TO BE FILLED WITH CONCRETE OR EXPANSION FOAM PRIOR TO SETTING



11 STEEL SLAPPY GRIND LEDGE
1 1/2" = 1'-0" — P-PIP-ELS-13

1. 4000 PSI CONCRETE WITH #4 REBAR CONTINUOUS BOTH WAYS @ 12" O.C. BW
2. SLIP DOWEL
3. .125" STEEL WALL WITH 1/8" MIN. ROUTED EDGE GROUND SMOOTH
4. 4000 PSI CONCRETE FLATWORK
5. BASE COURSE
6. COMPACTED SUB-GRADE

SEE STEEL PLAN FOR FABRICATION AND FINISH NOTES



12 PANNED LAUNCH RAMP
3/4" = 1'-0" — P-PIP-ELS-46

M I G

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REGISTERED PROFESSIONAL ENGINEER — KELLAN S. BEERINGER — C 87904 — CIVIL — STATE OF CALIFORNIA
1/15/26

CITY OF EL SEGUNDO
350 Main St, El Segundo, CA 90245

EL SEGUNDO RECREATION PARK PHASE 1 IMPROVEMENT PROJECT

TEEN CENTER AND TEEN PLAZA
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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
	02/09/26	PLAN CHECK RESUBMITTAL #4

Sheet title:
CONSTRUCTION DETAILS

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

SK9.1

True North Compliance Services, Inc.

PLAN REVIEW APPROVAL

THESE PLANS/DOCUMENTS HAVE BEEN REVIEWED FOR COMPLIANCE WITH THE APPLICABLE CALIFORNIA BUILDING STANDARDS CODES AS ADOPTED BY THE STATE OF CALIFORNIA AND AMENDED BY THE JURISDICTION. PLAN REVIEW ACCEPTANCE OF DOCUMENTS DOES NOT AUTHORIZE CONSTRUCTION TO PROCEED IN VIOLATION OF ANY FEDERAL, STATE, NOR LOCAL REGULATION.

BY: Mutham Fawaidi DATE: 03/25/2026

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This plan has been reviewed by Converse Consultants and appears to be in general conformity with the recommendations of the Geotechnical Investigation Report and Supplements. We make no representation as to accuracy of dimensions, measurements, calculations, or any portion of design.

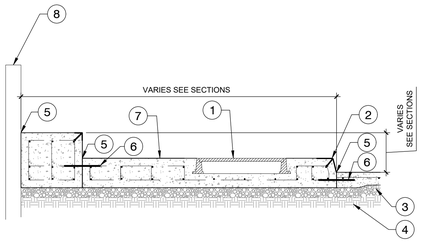
Project No. 24-31-126-01 Dated 3/6/2026

By Engineer — GE2708 License No. — 3/6/2026 Date

REGISTERED PROFESSIONAL ENGINEER — ARIBABANGI PILLAI SIVAGNANAM — No. 2708 Exp. 6-30-26 — GEOTECHNICAL — STATE OF CALIFORNIA

8/18/2025 1:43 PM EL SEGUNDO_SKATEPARK_070825-11.3dm

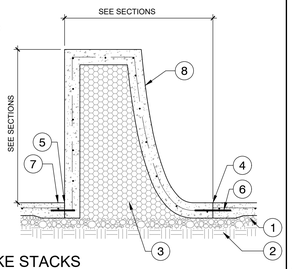
1. 3163C CAST IRON MANHOLE COVER SOURCED FROM LONG BEACH IRON WORKS (www.lbiw.com) OR SIMILAR VENDOR
2. FOLDED STEEL EDGING
3. BASE COURSE
4. COMPACTED SUBGRADE
5. EXPANSION JOINT
6. SLIP DOWEL
7. 4000 PSI CONCRETE WITH #3 REBAR CONTINUOUS BW @ 12" O.C.
8. EXISTING RETAINING WALL



1 STEEL MANHOLE COVER

1/2" = 1'-0" P-PIP-ELS-98

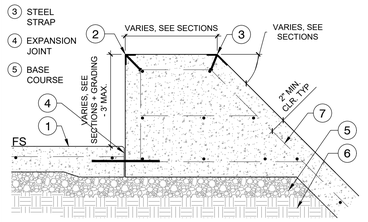
1. BASE COURSE
2. COMPACTED SUBGRADE
3. STRUCTURAL FOAM FILL - TO BE EPS15 OR SIMILAR
4. COLD JOINT
5. EXPANSION JOINT
6. SLIP DOWEL
7. 4000 PSI CONCRETE FLATWORK WITH #3 REBAR @16" O.C. BW
8. 4000 PSI CONCRETE WITH #3 REBAR @12" O.C. BW



2 SMOKE STACKS

1/2" = 1'-0" P-PIP-ELS-99

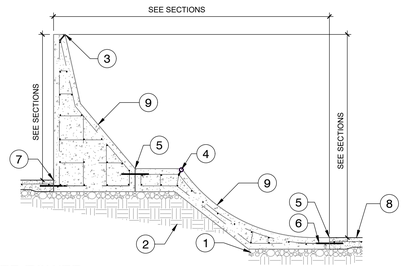
1. 4000 PSI CONCRETE FLATWORK WITH #3 REBAR @ 16" O.C. B.W.
2. STEEL EDGING
3. STEEL STRAP
4. EXPANSION JOINT
5. BASE COURSE
6. COMPACTED SUBGRADE
7. 4000 PSI SHOTCRETE WITH #3 REBAR @ 12" O.C. BW



3 TYPICAL RADIUS WEDGE EXTENSION

1" = 1'-0" P-PIP-ELS-16

1. BASE COURSE
2. COMPACTED SUBGRADE
3. FOLDED STEEL EDGING
4. STEEL COPING
5. COLD JOINT
6. SLIP DOWEL
7. EXPANSION JOINT
8. 4000 PSI CONCRETE FLATWORK WITH #3 REBAR @ 16" O.C. B.W.
9. 4000 PSI CONCRETE WITH #4 REBAR @ 12" O.C. B.W.



4 BANKED EXTENSION - WATER TOWER

3/8" = 1'-0" P-PIP-ELS-100

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BY: Mutham Hweidi DATE: 03/25/2026

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Project No. 24-31-126-01 Dated 3/6/2026

By Engineer GE2708 License No. 3/6/2026 Date

REGISTERED PROFESSIONAL ENGINEER MATHUMEETHILLAI SIVASUBRAMANIAM No. 2708 Exp. 6-30-26 GEOTECHNICAL STATE OF CALIFORNIA

10/21/2025 3:50 PM EL SEGUNDO_SKATEPARK_102025-17.3dm

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REGISTERED PROFESSIONAL ENGINEER KEVIN S. BOEHRINGER C 87904 CIVIL STATE OF CALIFORNIA 1/15/26

CITY OF EL SEGUNDO

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TEEN CENTER AND TEEN PLAZA

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	02/09/26	PLAN CHECK RESUBMITTAL #4

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

SK9.2

FEBRUARY 9, 2026 - PLAN CHECK RESUBMITTAL #4

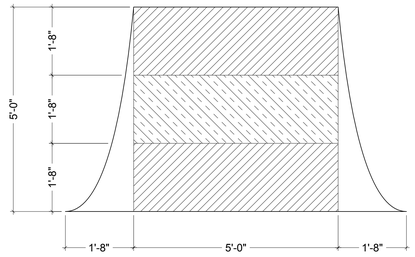
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BY: Mulham Hweidi DATE: 03/25/2026

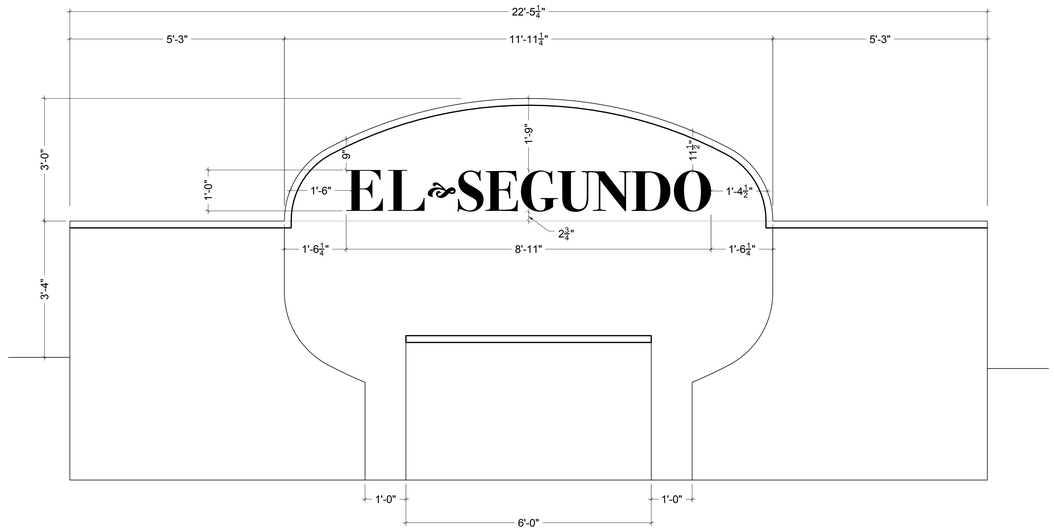
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1 SMOKE STACKS PAINT APPLICATION
1" = 1'-6"

STANDARD PAINT TO BE "SMOKESTACK RED"

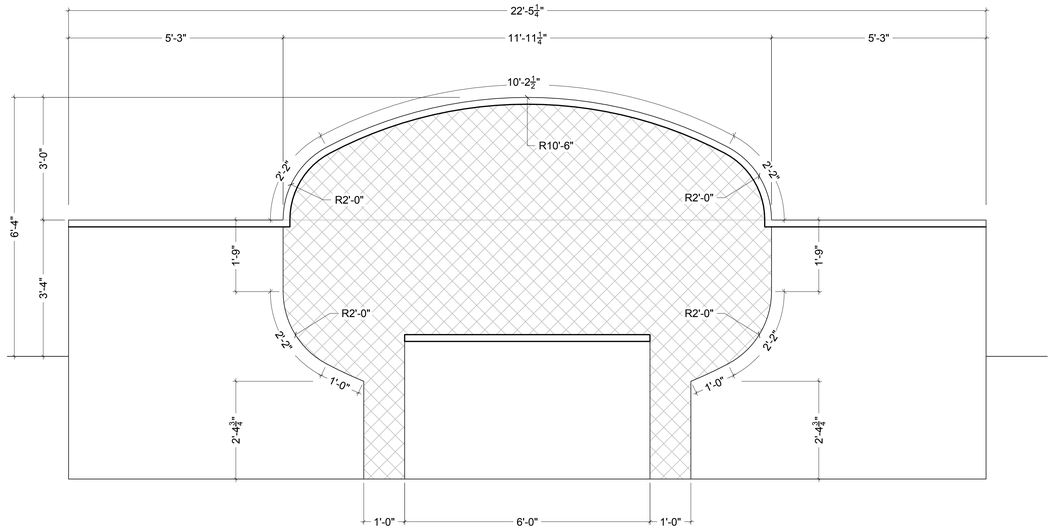
STANDARD PAINT TO BE "WHITE"



2 "EL SEGUNDO" TEXT PAINT APPLICATION
1" = 1'-6"

STANDARD PAINT TO BE "BLACK"

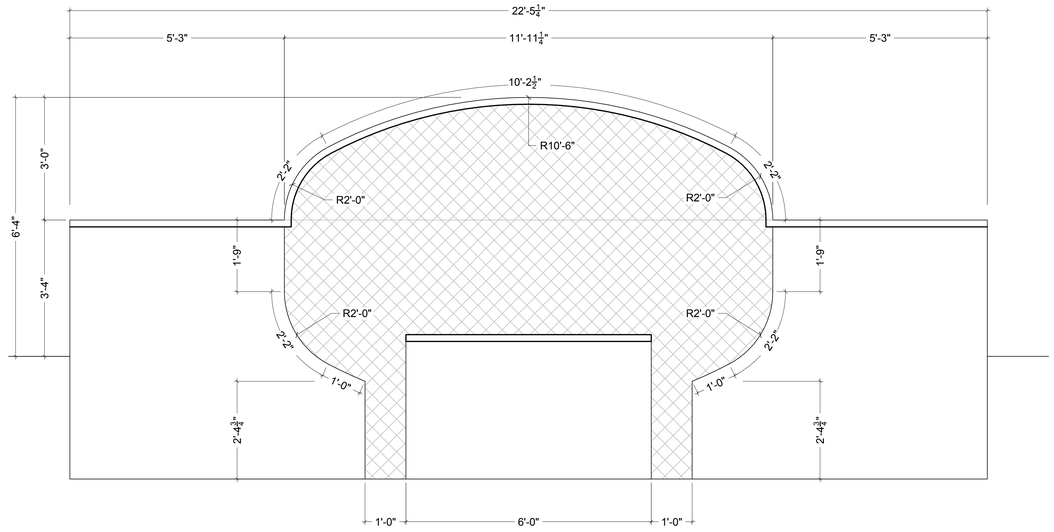
"EL SEGUNDO" TYPEFACE IS BODONI BOLD. LETTERS @ 12" TALL



3 WATER TOWER BLUE PAINT
1" = 1'-6"

STANDARD PAINT TO BE "WATER TOWER BLUE" (68.5 SF)

CAST-IN-PLACE CONCRETE TO BE NATURAL GRAY



4 ADD ALTERNATE B: WATER TOWER BLUE CONCRETE
1" = 1'-6"

ALT OPTION: COLORED CAST-IN-PLACE CONCRETE
TO BE "PHILLY BLUE" BY INCRETE COLOR SYSTEMS OR APPROVED EQUAL

CAST-IN-PLACE CONCRETE TO BE NATURAL GRAY

0' 3' 6'

Scale: 1" = 1'-6"

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CITY OF
EL SEGUNDO
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Designed by:
Drawn by:
Checked by:
Project number: 124011

SK9.3

EL SEGUNDO RECREATION PARK (RETROFIT)

EL SEGUNDO, CA

ELECTRICAL CONSTRUCTION NOTES

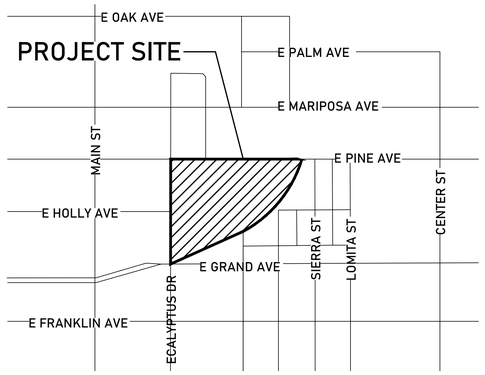
1. THE GENERAL CONDITIONS AND SUPPLEMENTARY GENERAL CONDITIONS SHALL BE CONSIDERED AS PART OF THE SPECIFICATION.
2. FURNISH ALL LABOR, MATERIALS, EQUIPMENT AND TOOLS TO PERFORM ELECTRICAL WORK SHOWN, NOTED OR SCHEDULED FOR A COMPLETE AND FINISHED INSTALLATION.
   A. ALL MATERIALS AND EQUIPMENT SHALL 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 ELECTRIC CODE AND OTHER APPLICABLE CODES, WHICHEVER ARE MORE STRINGENT.
3. THE WORD "PROVIDE" AS USED HEREIN MEANS TO FURNISH AND INSTALL COMPLETE.
4. THIS PROJECT 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 600 VOLT INSULATION. ALUMINUM CONDUCTORS ARE NOT PERMITTED. #12 AND SMALLER SHALL BE SOLID. #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.
   A. GENERAL WIRING SHALL BE THWN OR THHN.
8. ABOVE GRADE WIRE CONNECTORS SHALL BE BY "SCOTCHLOCK" OR EQUAL FOR #8 OR SMALLER AND T&B "LOCK-TITE" FOR #6 AND LARGER.
9. THIS CONTRACTOR SHALL DO ALL CUTTING, CHASING OR CHANNELING AND PATCHING REQUIRED FOR ANY WORK UNDER THIS DIVISION. ANY CUTTING SHALL HAVE PRIOR APPROVAL OF THE OWNER.
10. 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.
11. JUNCTION, PULL BOXES AND COVERS WITHIN BUILDING SHALL BE GALVANIZED STEEL, CODE GAUGE SIZE AND ACCESSIBLE.
12. ELECTRICAL CONTRACTOR SHALL RECORD ALL FIELD CHANGES IN HIS WORK AS THE JOB PROGRESSES, AND UPON COMPLETION SHALL TURN OVER TO THE OWNER A "RECORD" SET OF PRINTS SHOWING THE CHANGES.
13. 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 CONDUITS SHALL BE IN STRAIGHT LINES PARALLEL WITH OR AT RIGHT ANGLES TO COLUMN LINES OR BEAMS AND SEPARATED AT LEASED 3" 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 TOGETHER WITH APPROVED CONNECTOR AT PULL BOXES AND CONNECTED TO GROUND LUG INSIDE POLE.
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 ACTUAL SCALE, THE SYMBOLS REFERENCED ARE 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 CITY PRIOR TO START OF CONSTRUCTION AND DURING STAKING. REFER TO LIGHT STANDARD DETAIL FOR STANDARDS. CONTRACTOR SHALL CONTACT "DIG ALERT" FOR MARK-OUT PRIOR TO TRENCHING AS REQUIRED.
22. 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 B/EL1.04
24. CONTRACTOR SHALL LABEL EACH CIRCUIT WITH PHENOLIC PLASTIC LABEL TAGS IN ANY DEVICE THAT HAS ACCESS. THIS SHALL INCLUDE LIGHT POLES, 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 FL12T (OR EQUAL) WITH BOLT DOWN COVER MARKED "ELECTRICAL". LEAVE 2' SLACK OF CONDUCTORS IN PULLBOX. SIZE PER SECTION 314-28, CEC. SEE DETAIL C/EL1.04
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

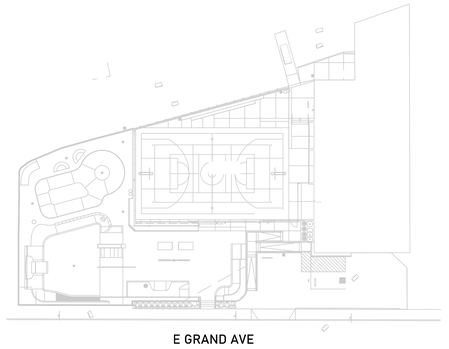
- BELOW GRADE ELECTRICAL CONDUIT AND WIRE RUN. SEE PLANS FOR TYPE AND NUMBER OF WIRES.
- A-1 CIRCUIT DESIGNATION. 1ST LETTER INDICATES PANEL. REMAINING NUMBER'S INDICATE CIRCUIT POSITIONS.
- EXISTING ELECTRICAL BUILDING PANEL. SEE DETAIL E/EL1.04 FOR PANEL SCHEDULE.
- BELOW GRADE PULLBOX. SEE SPEC. 1 AND DETAIL C/EL1.04.
- TYPE 'P1' SKATE PARK LIGHT. SEE LUMINAIRE SCHEDULE AND DETAIL A/EL1.04
- TYPE 'P2' SKATE PARK LIGHT. SEE LUMINAIRE SCHEDULE AND DETAIL A/EL1.04
- TYPE 'P3' SKATE PARKLIGHT. SEE LUMINAIRE SCHEDULE AND DETAIL D/EL1.04
- TYPE 'P4' SKATE PARK LIGHT. SEE LUMINAIRE SCHEDULE AND DETAIL D/EL1.04



VICINITY MAP

N.T.S.

NORTH



KEY MAP

N.T.S.

NORTH

SCOPE OF WORK

REMOVE AND RETURN EXISTING POLE MOUNTED FLOOD LIGHTS AND INSTALL NEW LED SPORTS LIGHTS. SEE LUMINAIRE SCHEDULE FOR FIXTURE AND POLE TYPES.
LIGHTS SHALL BE CONTROLLED BY THE EXISTING LIGHTING CONTROLS LOCATED IN THE ELECTRICAL CLOSET.

SHEET INDEX

SHEET #	DESCRIPTION
EL1.01	TITLE SHEET
EL1.02	LIGHTING PLAN
EL1.03	PHOTOMETRIC STUDY
EL1.04	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	CBCP	KELVIN	FLOUR	INDUC	LED	LPS	MH	HPS	12	120	208	240	277	480	NO.	TYPE	WATTS	WELL	SURF	SPECIAL	WALL	POLE		
P1	3		52590		3000													1	MULTI LED	400						METEOR LIGHTING BOLT MINI SEE DETAIL A/EL1.04	(1): BLTM-200-507-UNV-STV-30-BLK-BRK-GSV-SLP-OUT (1): BLTM-200-507-UNV-STV-60-BLK-BRK-GSV-SLP-OUT POLE TENON ADAPTER: RT5.0S-2-BLK POLE TOP MOUNT: FASQ2180-36-DM-BLK-2
P2	1		52590		3000													1	MULTI LED	400						METEOR LIGHTING BOLT MINI SEE DETAIL A/EL1.04	(2) :BLTM-200-507-UNV-STV-60-BLK-BRK-GSV-SLP-OUT POLE TENON ADAPTER: RT5.0S-2-BLK POLE TOP MOUNT: FASQ2180-36-DM-BLK-2
P3	1		78885		3000													1	MULTI LED	600						METEOR LIGHTING BOLT MINI SEE DETAIL D/EL1.04	(1): BLTM-200-507-UNV-STV-30-BLK-BRK-GSV-SLP-OUT (2): BLTM-200-507-UNV-STV-60-BLK-BRK-GSV-SLP-OUT POLE TENON ADAPTER: RT5.0S-2-BLK POLE TOP MOUNT: FASQ3180-30-DM-BLK-2
P4	1		78885		3000													1	MULTI LED	600						METEOR LIGHTING BOLT MINI SEE DETAIL D/EL1.04	(3): BLTM-200-507-UNV-STV-30-BLK-BRK-GSV-SLP-OUT POLE TENON ADAPTER: RT5.0S-2-BLK POLE TOP MOUNT: FASQ3180-30-DM-BLK-2

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

True North Compliance Services, Inc.

PLAN REVIEW APPROVAL

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BY: Mulham Nweidi DATE: 03/25/2026

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REGISTERED PROFESSIONAL ENGINEER — MARIO A. PEREZ — E22246 — ELECTRICAL — STATE OF CALIFORNIA

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

VCL Visual Concepts Lighting
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
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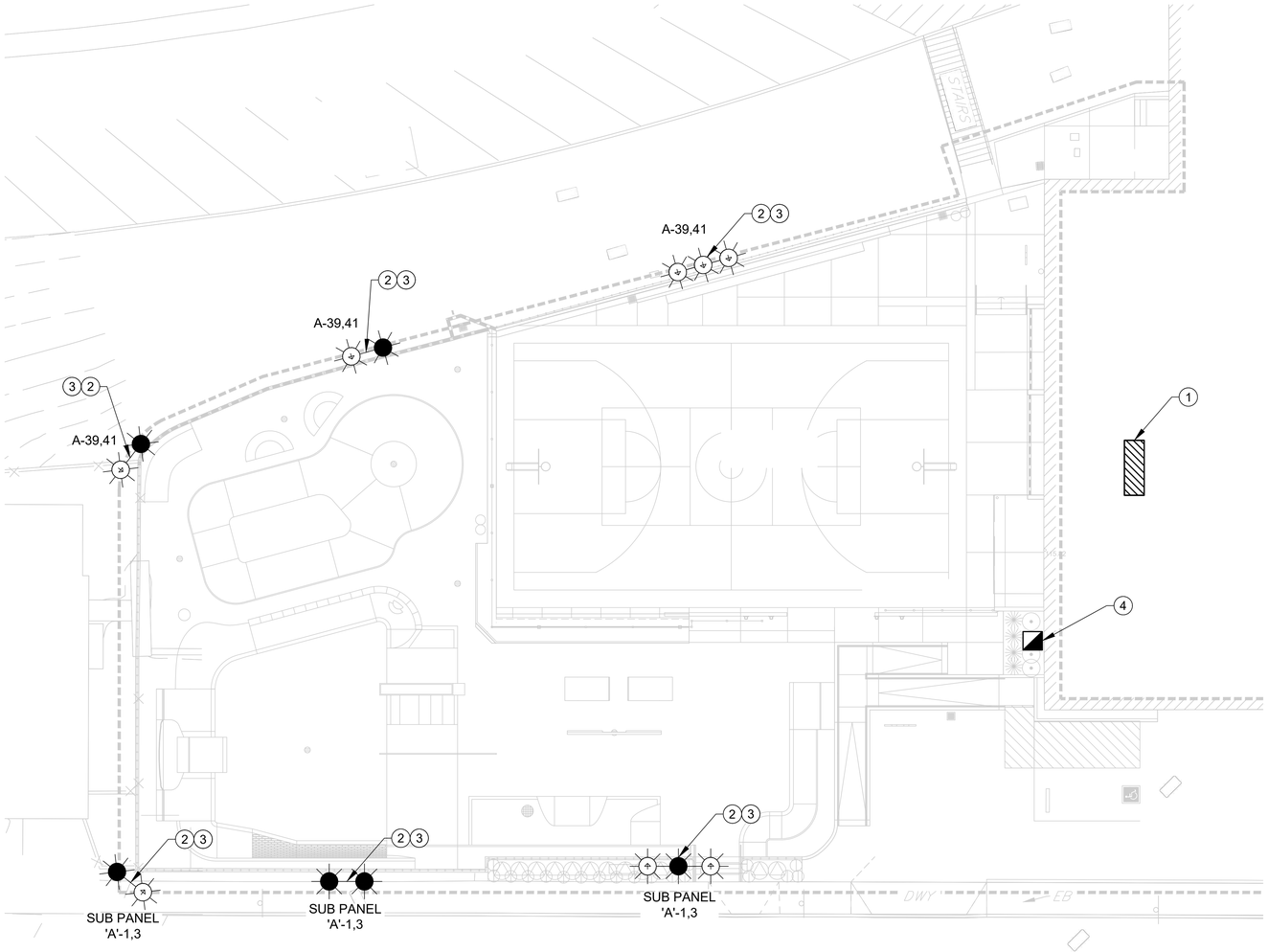
Sheet title:

TITLE SHEET

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

EL1.01

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E GRAND AVE

PLAN NOTES

1. EXISTING 120/240V, 200A, 1 PHASE, 3 WIRE ELECTRICAL BUILDING PANEL 'A'. VERIFY EXACT LOCATION. SEE DETAIL E/EL1.04.
2. EXISTING POLE AND LIGHT FIXTURES. REMOVE AND RETURN TO THE CITY FOR DISPOSAL. PATCH EXISTING POLE PENETRATIONS AND PAINT TO MATCH. (TYP. ALL)
3. 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.
4. 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.

ELECTRICAL PLAN

NORTH

0' 5' 10' 20'
SCALE: 1"=10'-0"

DIGALERT
Call Toll Free
811
2 Working Days Before You Dig

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BY: Mulham Hweidi DATE: 03/25/2026

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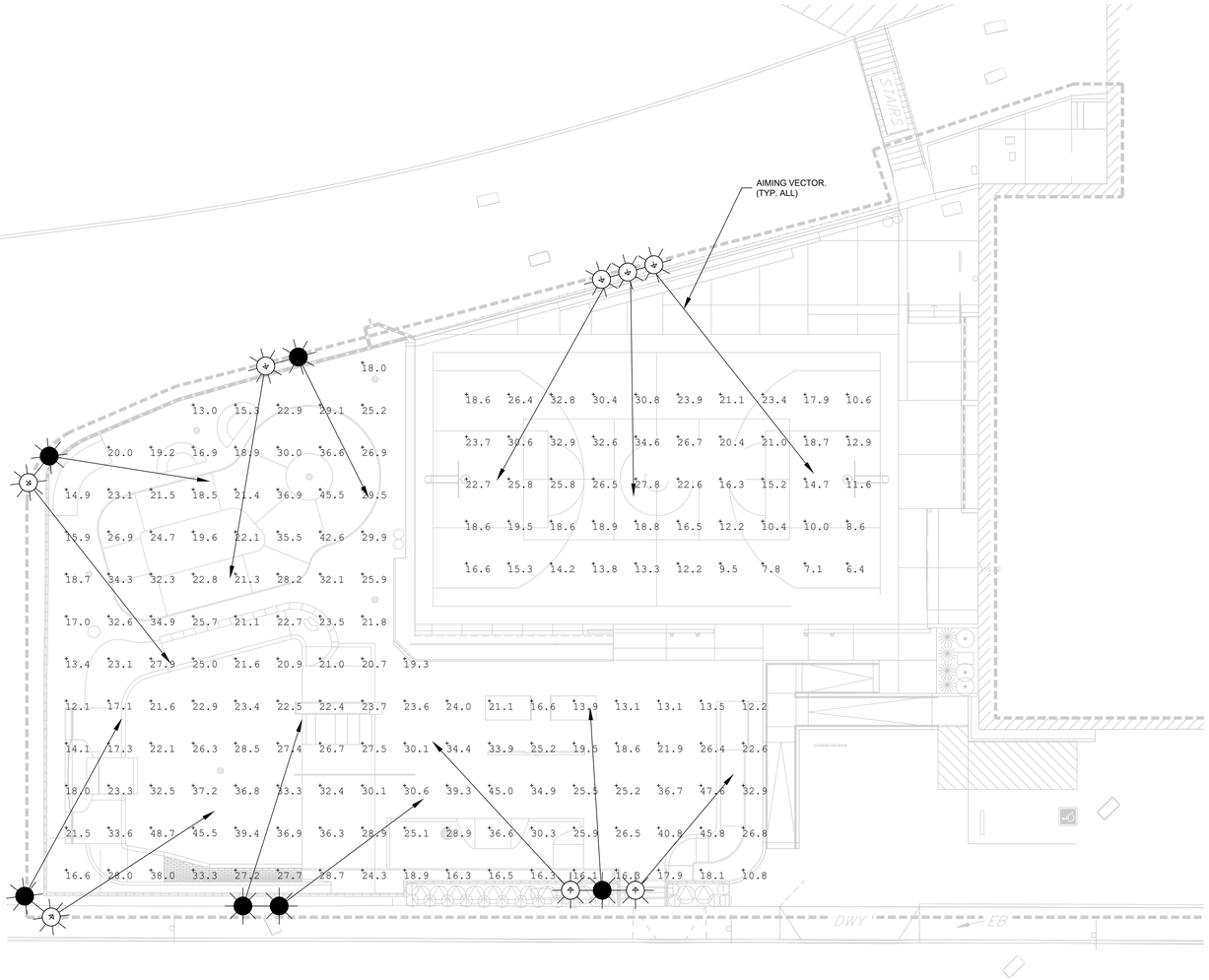
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LIGHTING PLAN

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

EL1.02

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E GRAND AVE

PHOTOMETRIC STUDY

NORTH

0' 5' 10' 20'

SCALE: 1"=10'-0"

Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
BASKETBALL COURT	Illuminance	Fc	19.35	34.6	6.4	3.02	5.41
SKATEPARK	Illuminance	Fc	25.74	48.7	10.8	2.38	4.51

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

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BY: Mutkam Awaidi DATE: 03/25/2026

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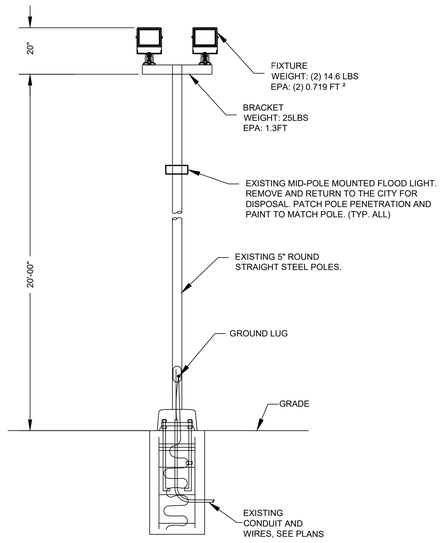
Sheet title:

PHOTOMETRIC STUDY

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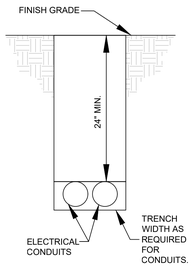
EL1.03

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NO SCALE

A TYPE 'P1' & 'P2' SKATE PARK LIGHT INSTALLATION DETAIL



BACKFILL MATERIAL:
THE MATERIAL USED FOR BACKFILLING THE TRENCH ABOVE THE SHADING MATERIAL AND EXTENDING UPWARD TO THE SUBGRADE SHALL BE FREE OF ROCKS OR CLODS LARGER THAT 6" IN ANY DIMENSION. THE COARSE MATERIAL SHALL BE WELL DISTRIBUTED THROUGHOUT THE FINER MATERIAL. THE AMOUNT OF ROCKS OR CLODS SHALL BE LIMITED, IN THE OPINION OF THE INSPECTOR, THE BACKFILL MATERIAL SHALL MEET THE REQUIREMENTS OF ALL APPLICABLE CODES, ORDINANCES AND CITY STANDARDS AND BE FREE OF DEBRIS AND ORGANIC MATTER.

SHADING MATERIAL AND INSTALLATION:
NATURAL SAND, MANUFACTURED SAND, DECOMPOSED GRANITE, ROCK FREE SANDY LOAM, EXISTING NATIVE MATERIAL OR COMBINATION THEREOF. AGGREGATE MATERIAL SHALL BE CAPABLE OF PASSING THROUGH A ½" SIEVE. GRAVEL SHALL NOT AMOUNT TO MORE THAN 50% OF MIXTURE. SCREENING OR OTHER SUITABLE MEANS MAY BE REQUIRED AT THE INSPECTORS DISCRETION.
THE EARTH TRENCH BOTTOM SHALL BE STABLE WITH A UNIFORM GRADE CONTAINING NO HARD CLODS, ROCKS, AND ETCETERA. THAT MAY DAMAGE THE CONDUIT. IF IN THE OPINION OF THE INSPECTOR, THE CONDUIT MAY BE DAMAGED DURING COMPACTION, A 3" SHADE OF MATERIAL ABOVE AND BELOW THE CONDUIT MAY BE REQUIRED.

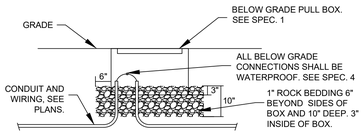
COMPACTION:
SHADING AND BACKFILL SHOULD BE COMPACTED IN ACCORDANCE WITH GOVERNMENTAL AGENCIES AND SHALL HAVE A MINIMUM OF 90% RELATIVE COMPACTION. VERIFY REQUIREMENTS WITH INSPECTOR.

NOTE TO CONTRACTOR:
MAINTAIN PROPER SEPARATION FROM ALL WET AND DRY UTILITIES PER THE UTILITY COMPANY AND CITY JURISDICTION.

NO SCALE

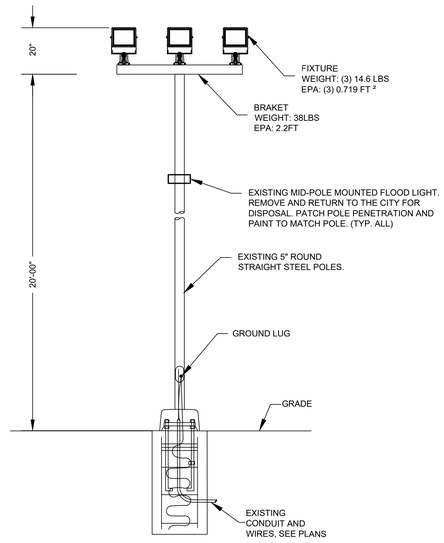
B TRENCH AND CONDUIT INSTALLATION DETAIL

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



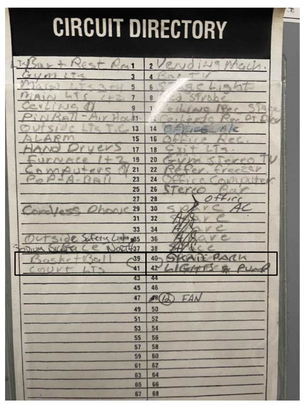
NO SCALE

C BELOW GRADE PULLBOX INSTALLATION DETAIL



NO SCALE

D TYPE 'P3' & 'P4' SKATE PARK LIGHT INSTALLATION DETAIL

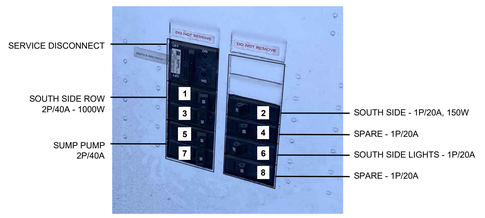




NO SCALE

E EXISTING BUILDING PANEL 'A'





NO SCALE

F EXISTING PEDESTAL SUB PANEL 'A'

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	02/09/26	PLAN CHECK RESUBMITTAL #4

Sheet title:

DETAILS

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

EL1.04

True North Compliance Services, Inc.

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BY: Mukam Howidi DATE: 03/25/2026

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EL SEGUNDO RECREATION PARK NEW POLES

EL SEGUNDO, CA

ELECTRICAL CONSTRUCTION NOTES

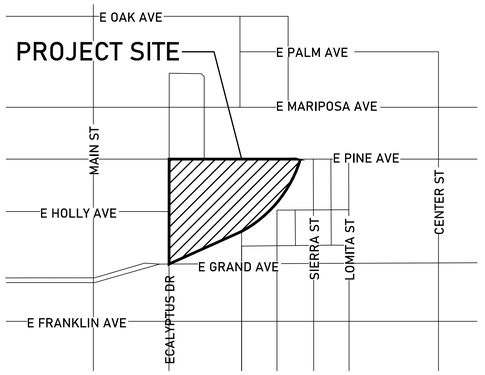
1. THE GENERAL CONDITIONS AND SUPPLEMENTARY GENERAL CONDITIONS SHALL BE CONSIDERED AS PART OF THE SPECIFICATION.
2. FURNISH ALL LABOR, MATERIALS, EQUIPMENT AND TOOLS TO PERFORM ELECTRICAL WORK SHOWN, NOTED OR SCHEDULED FOR A COMPLETE AND FINISHED INSTALLATION.
   A. ALL MATERIALS AND EQUIPMENT SHALL 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 ELECTRIC CODE AND OTHER APPLICABLE CODES, WHICHEVER ARE MORE STRINGENT.
3. THE WORD "PROVIDE" AS USED HEREIN MEANS TO FURNISH AND INSTALL COMPLETE.
4. THIS PROJECT 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 600 VOLT INSULATION. ALUMINUM CONDUCTORS ARE NOT PERMITTED. #12 AND SMALLER SHALL BE SOLID. #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.
   A. GENERAL WIRING SHALL BE THWN OR THHN.
8. ABOVE GRADE WIRE CONNECTORS SHALL BE BY "SCOTCHLOCK" OR EQUAL FOR #8 OR SMALLER AND T&B "LOCK-TITE" FOR #6 AND LARGER.
9. THIS CONTRACTOR SHALL DO ALL CUTTING, CHASING OR CHANNELING AND PATCHING REQUIRED FOR ANY WORK UNDER THIS DIVISION. ANY CUTTING SHALL HAVE PRIOR APPROVAL OF THE OWNER.
10. 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.
11. JUNCTION, PULL BOXES AND COVERS WITHIN BUILDING SHALL BE GALVANIZED STEEL, CODE GAUGE SIZE AND ACCESSIBLE
12. ELECTRICAL CONTRACTOR SHALL RECORD ALL FIELD CHANGES IN HIS WORK AS THE JOB PROGRESSES, AND UPON COMPLETION SHALL TURN OVER TO THE OWNER A "RECORD" SET OF PRINTS SHOWING THE CHANGES.
13. 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 CONDUITS SHALL BE IN STRAIGHT LINES PARALLEL WITH OR AT RIGHT ANGLES TO COLUMN LINES OR BEAMS AND SEPARATED AT LEASED 3" 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 TOGETHER WITH APPROVED CONNECTOR AT PULL BOXES AND CONNECTED TO GROUND LUG INSIDE POLE.
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 ACTUAL SCALE, THE SYMBOLS REFERENCED ARE 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 CITY PRIOR TO START OF CONSTRUCTION AND DURING STAKING. REFER TO LIGHT STANDARD DETAIL FOR STANDARDS. CONTRACTOR SHALL CONTACT "DIG ALERT" FOR MARK-OUT PRIOR TO TRENCHING AS REQUIRED.
22. 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 B/EL2.04.
24. CONTRACTOR SHALL LABEL EACH CIRCUIT WITH PHENOLIC PLASTIC LABEL TAGS IN ANY DEVICE THAT HAS ACCESS. THIS SHALL INCLUDE LIGHT POLES, 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 FL12T (OR EQUAL) WITH BOLT DOWN COVER MARKED "ELECTRICAL". LEAVE 2' SLACK OF CONDUCTORS IN PULLBOX. SIZE PER SECTION 314-28, CEC. SEE DETAIL C/EL2.04.
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

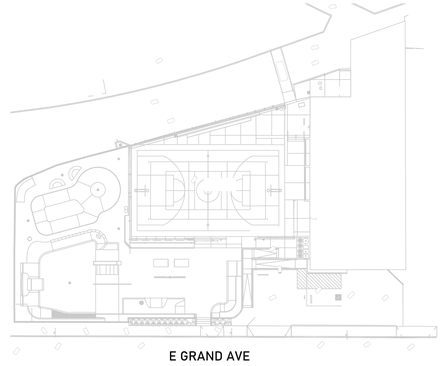
- BELOW GRADE ELECTRICAL CONDUIT AND WIRE RUN. SEE PLANS FOR TYPE AND NUMBER OF WIRES.
- A-1 CIRCUIT DESIGNATION, 1ST LETTER INDICATES PANEL. REMAINING NUMBER'S INDICATE CIRCUIT POSITIONS.
- EXISTING ELECTRICAL BUILDING PANEL. SEE DETAIL D/EL2.04 FOR PANEL SCHEDULE.
- BELOW GRADE PULLBOX. SEE SPEC. 1 AND DETAIL C/EL2.04.
- TYPE 'P1' PARK LIGHT. SEE LUMINAIRE SCHEDULE AND DETAIL A/EL2.04.
- TYPE 'P2' PARK LIGHT. SEE LUMINAIRE SCHEDULE AND DETAIL A/EL2.04.
- TYPE 'P2.1' PARK LIGHT. SEE LUMINAIRE SCHEDULE AND DETAIL A/EL2.05.
- TYPE 'P3' PARK LIGHT. SEE LUMINAIRE SCHEDULE AND DETAIL A/EL2.04.



VICINITY MAP

N.T.S.

NORTH



KEY MAP

N.T.S.

NORTH

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.

SHEET INDEX

SHEET #	DESCRIPTION
EL2.01	TITLE SHEET
EL2.02	LIGHTING PLAN
EL2.03	PHOTOMETRIC STUDY
EL2.04	DETAILS
EL2.05	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	CBCP	KELVIN	FLOUR	INDUC	LED	LPS	MH	HPS	12	120	208	240	277	480	NO.	TYPE	WATTS	WELL	SURF	SPECIAL	WALL	POLE	
P1	6		(2)26295		5000													1	MULTI LED	(2) 200						METEOR LIGHTING COLT MINI SEE DETAIL A/EL2.04	(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	1		(3)26295		5000													1	MULTI LED	(3) 200						METEOR LIGHTING COLT MINI SEE DETAIL A/EL2.04	(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
P2.1	1		(3)26295		5000													1	MULTI LED	(3) 200						METEOR LIGHTING COLT MINI SEE DETAIL A/EL2.05 SEAT WALL	(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		(4)26295		5000													1	MULTI LED	(4) 200						METEOR LIGHTING COLT MINI SEE DETAIL A/EL2.04	(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

True North Compliance Services, Inc.

PLAN REVIEW APPROVAL

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BY: Mitham Howeidi DATE: 03/25/2026

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Suite 675
Los Angeles, CA 90012

213-694-3800
www.migcom.com

REGISTERED PROFESSIONAL ENGINEER
MARIO A. PEREZ
E22246
ELECTRICAL
STATE OF CALIFORNIA

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

VCL
Visual Concepts Lighting

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

Issue dates

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	08/20/25	90% CD SUBMITTAL
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	11/14/25	PLAN CHECK RESUBMITTAL #2
	01/16/26	PLAN CHECK RESUBMITTAL #3
	02/09/26	PLAN CHECK RESUBMITTAL #4

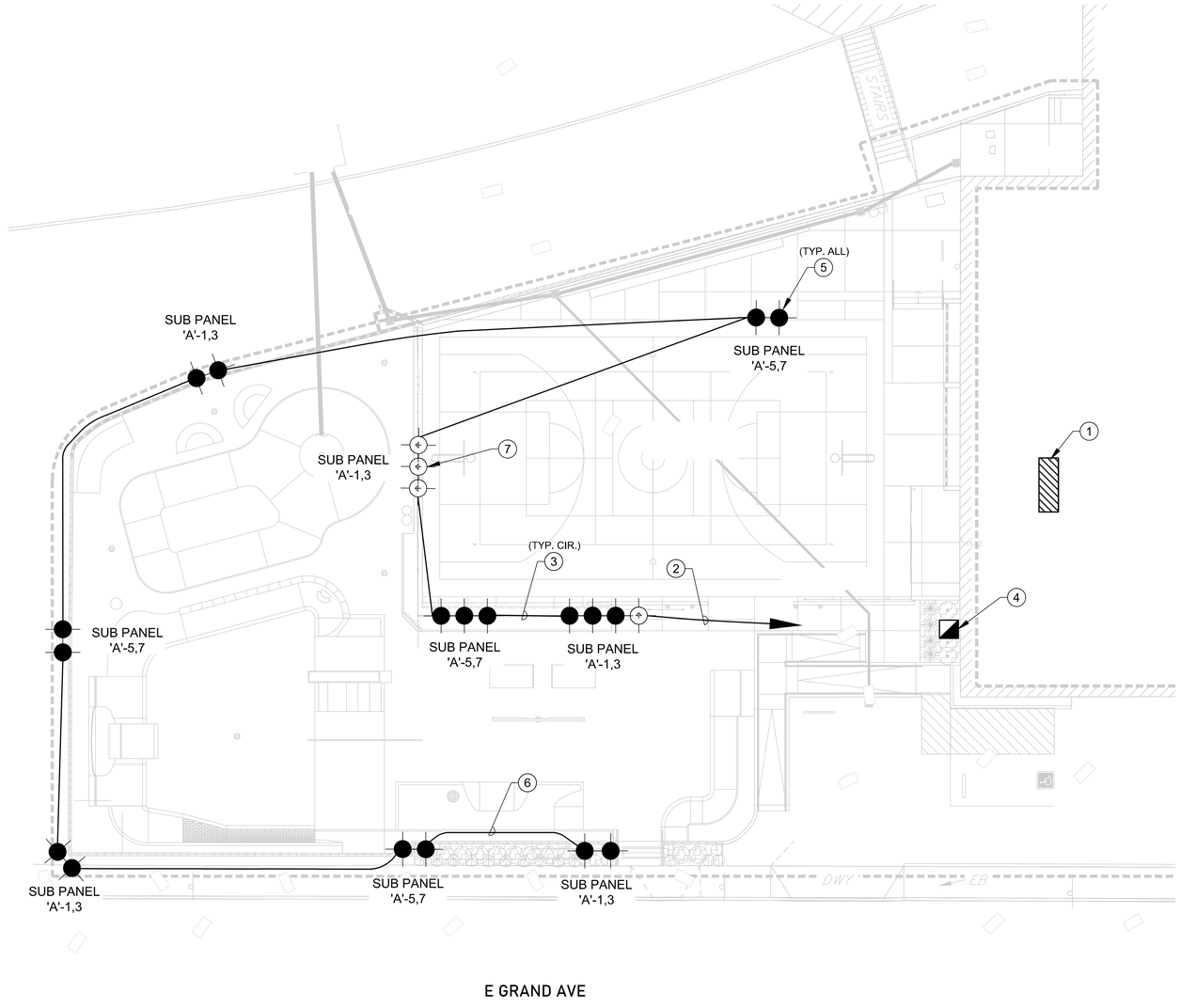
Sheet title:

TITLE SHEET

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

EL2.01

Plotted by: kburns Feb. 10, 2026 02:55 PM C:\Users\Drafter\AppData\Local\Temp\AcPublish_11592\El segundo recreation park - New Poles - EDWG.dwg



E GRAND AVE

ELECTRICAL PLAN

NORTH

0' 5' 10' 20'

SCALE: 1"=10'-0"

PLAN NOTES

1. EXISTING ELECTRICAL BUILDING PANEL 'A'. VERIFY EXACT LOCATION. SEE DETAIL D/EL2.04.
2. PROVIDE 1" C-4#6, 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 2/P 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-4#6, 1#10, GND. BURY 24" BELOW GRADE.
4. EXISTING 120/240V, 200A, 1 PHASE, 3 WIRE ELECTRICAL SUB PANEL 'A'. VERIFY EXACT LOCATION. SEE DETAIL F/EL2.04.
5. CONTRACTOR SHALL PERFORM A NIGHT-TIME ADJUSTMENT OF THE FLOOD LIGHTS. SEE AIMING VECTORS SHEET EL2.03.
6. PROVIDE 1" C-2#6, 1#10, GND. BURY 24" BELOW GRADE.
7. SITE LIGHT POLE INSTALLED ON SEAT WALL - SEE DETAIL A/EL2.05 FOR INSTALLATION.

DIGALERT
Call Toll Free
811
2 Working Days Before You Dig

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BY: Mulham Fuweidi DATE: 03/25/2026

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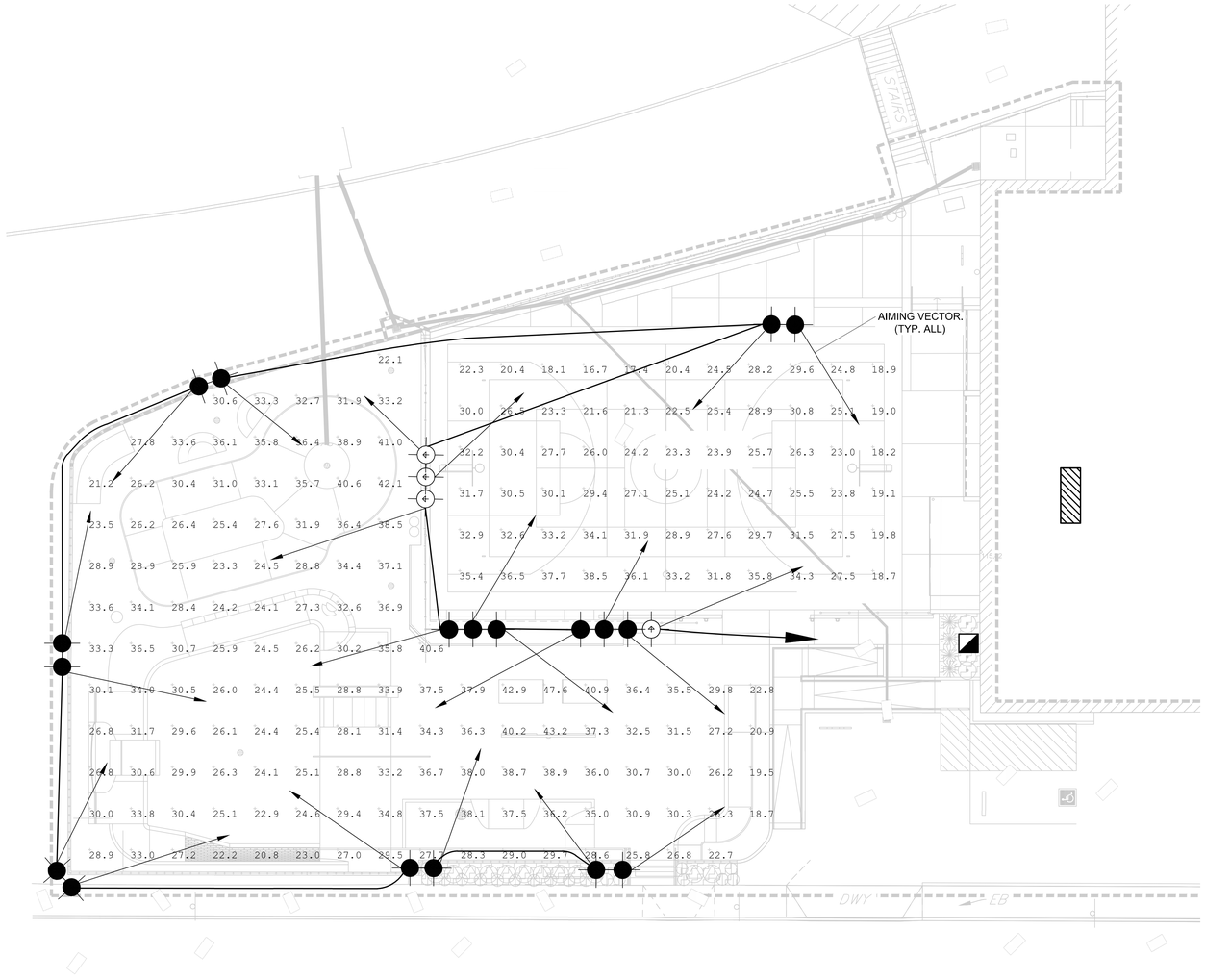
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LIGHTING PLAN

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

EL2.02

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E GRAND AVE

PHOTOMETRIC STUDY

NORTH

SCALE: 1"=10'-0"

Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
BASKETBALL COURT	Illuminance	Fc	27.02	38.2	16.7	1.62	2.31
SKATEPARK	Illuminance	Fc	30.78	47.6	18.7	1.65	2.55

Luminaire Schedule									
Symbol	Qty	Label	Arrangement	Description	Tag	LLF	Luminaire Lumens	Luminaire Watts	Total Watts
	21	Bolt 60 deg 5k	Single	Bolt Mini Series_ 200W_ 5000K(CRI75)_ 60deg	60	0.920	25525	200	4200
	1	Bolt 30 deg 5k	Single	Bolt Mini Series_ 200W_ 5000K(CRI75)_ 30deg	30	0.920	26892	200	3150

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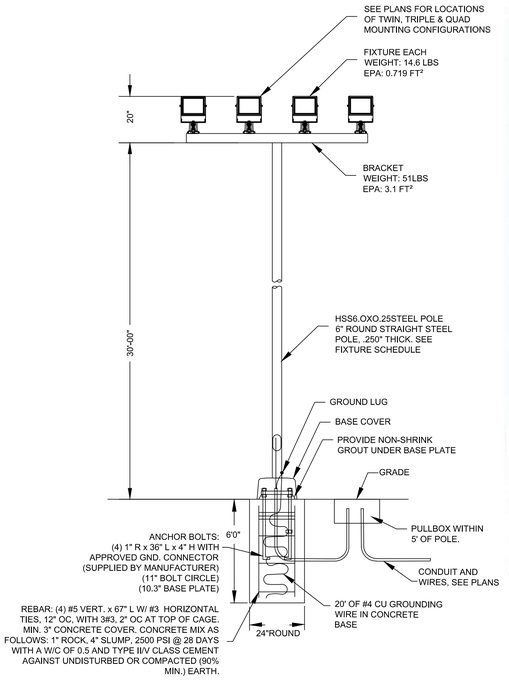
Sheet title:

PHOTOMETRIC STUDY

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

EL2.03

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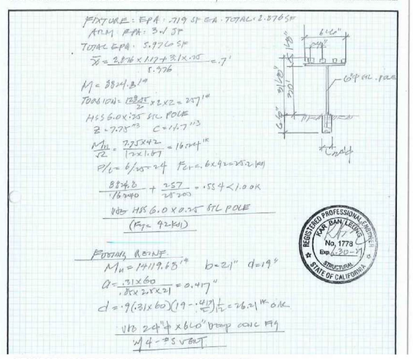


NO SCALE

A TYPE 'P1' - 'P3' SKATE PARK LIGHT INSTALLATION DETAIL

K.B. LEUNG & ASSOCIATES STRUCTURAL ENGINEERS
9320 BASELINE ROAD, SUIE D. ALTA LOMA, CA. 91701

DATE 10/7/15 SUBJECT MIG - EL SEGUNDO STATE PARK 93'-8" POLE SHEET 1 OF 2
CHKD BY DATE JOB NO.



STANDARD LIGHT POLE ANCHORS AND FOUNDATION

MIG - EL SEGUNDO STATE PARK 93'-8" POLE
WIND SPEED: 100 MPH

qh=	21.63 PSF	Cf = 1.55		EPA =	5.976 S.F.
P =	21.51 PSF (ASD)		NO. OF FIXTURES =	1 POLE (INS.)	6 ins.

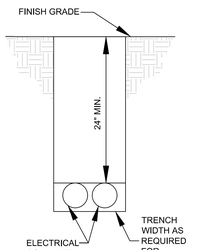
	AREA (S.F.)	LOAD (LBS.)	HT. (FT.)	MOMENT (FT-LBS)
FIXTURES	5.976	128.55	31	3984.95
POLE	15.00	322.66	30	4839.86
	TOTAL =	451.20	TOTAL M =	8824.80
EQUIV. HT. =	19.56 FT.			

FTG DESIGN
PASSIVE PRESSURE = 1(100 PSF WIDTH = 24 INCHES DEPTH = 6 FT.
S1 = 532.00 PSF A = 0.992
D = 5.12 FT.

USE 24 INCHES ROUND X 6 FT. DEEP CONC. FOOTING W/ 4 #4 VERT.

ANCHORAGE
BOLT CIRCLE = 11 INCHES BOLT = 3/4 DIAM. Ase = 0.334 IN.SQ.
MOMENT (Mu) = 14119.68 FT-LBS F = 15403.29 LBS.
ϕPn = 15.03 KIPS > 15.403 KIPS O.K.

USE 4- 3/4" BOLTS W/ 11 " BOLT CIRCLE



BACKFILL MATERIAL:
THE MATERIAL USED FOR BACKFILLING THE TRENCH ABOVE THE SHADING MATERIAL AND EXTENDING UPWARD TO THE SUBGRADE SHALL BE FREE OF ROCKS OR CLODS LARGER THAT 6" IN ANY DIMENSION. THE COARSE MATERIAL SHALL BE WELL DISTRIBUTED THROUGHOUT THE FINER MATERIAL. THE AMOUNT OF ROCKS OR CLODS SHALL BE LIMITED, IN THE OPINION OF THE INSPECTOR. THE BACKFILL MATERIAL SHALL MEET THE REQUIREMENTS OF ALL APPLICABLE CODES, ORDINANCES AND CITY STANDARDS AND BE FREE OF DEBRIS AND ORGANIC MATTER.

SHADING MATERIAL AND INSTALLATION:
NATURAL SAND, MANUFACTURED SAND, DECOMPOSED GRANITE, ROCK FREE SANDY LOAM, EXISTING NATIVE MATERIAL OR COMBINATION THEREOF. AGGREGATE MATERIAL SHALL BE CAPABLE OF PASSING THROUGH A ½" SIEVE. GRAVEL SHALL NOT AMOUNT TO MORE THAN 50% OF MIXTURE. SCREENING OR OTHER SUITABLE MEANS MAY BE REQUIRED AT THE INSPECTORS DISCRETION.
THE EARTH TRENCH BOTTOM SHALL BE STABLE WITH A UNIFORM GRADE CONTAINING NO HARD CLODS, ROCKS, AND ETCETERA. THAT MAY DAMAGE THE CONDUIT. IF IN THE OPINION OF THE INSPECTOR, THE CONDUIT MAY BE DAMAGED DURING COMPACTION, A 3" SHADE OF MATERIAL ABOVE AND BELOW THE CONDUIT MAY BE REQUIRED.

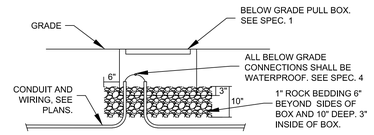
COMPACTION:
SHADING AND BACKFILL SHOULD BE COMPACTED IN ACCORDANCE WITH GOVERNMENTAL AGENCIES AND SHALL HAVE A MINIMUM OF 90% RELATIVE COMPACTION. VERIFY REQUIREMENTS WITH INSPECTOR.

NOTE TO CONTRACTOR:
MAINTAIN PROPER SEPARATION FROM ALL WET AND DRY UTILITIES PER THE UTILITY COMPANY AND CITY JURISDICTION.

NO SCALE

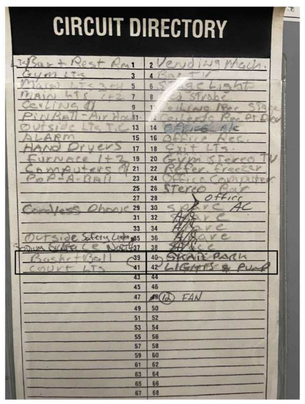
B TRENCH AND CONDUIT INSTALLATION DETAIL

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



NO SCALE

C BELOW GRADE PULLBOX INSTALLATION DETAIL

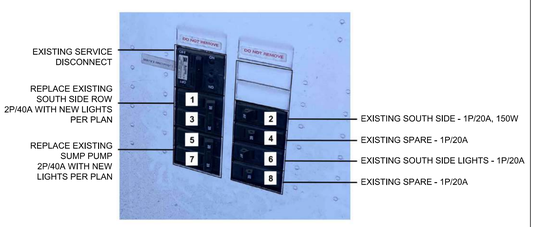




NO SCALE

D EXISTING BUILDING PANEL 'A'





NO SCALE

E EXISTING PEDESTAL SUB PANEL 'A'

True North Compliance Services, Inc.

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BY: Mulham Hweidi DATE: 03/25/2026

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This plan has been reviewed by Converse Consultants and appears to be in general conformity with the recommendations of the Geotechnical Investigation Report and Supplements. We make no representation as to accuracy of dimensions, measurements, calculations, or any portion of design.

Project No. 24-31-126-01 Dated 3/6/2026

By Engineer GE2708 License No. 3/6/2026 Date

REGISTERED PROFESSIONAL ENGINEER MATHEW STEVEN SWENSEN No. 2708 Exp. 6-30-26 GEOTECHNICAL STATE OF CALIFORNIA

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Sheet title:

DETAILS

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

EL2.04

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STRUCTURAL CALCULATIONS

FOR

LIGHT-POLE STRUCTURE

TEEN CENTER AND TEEN PLAZA
405 E. GRAND. AVE.
EL SEGUNDO, CA 90245

1ST SUBMITTAL CALCULATONS

REGISTERED PROFESSIONAL ENGINEER
BRYAN M. STREGE
S 7045
STRUCTURAL
STATE OF CALIFORNIA

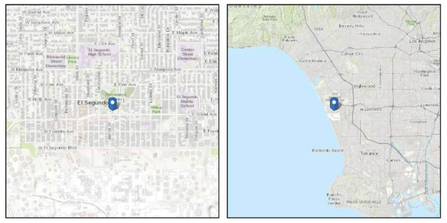
STREGE STRUCTURAL ENGINEERING
1048 IRVINE AVENUE, SUITE 1087
NEWPORT BEACH, CA 92660
(949)259-6080
WWW.STREGESTRUCTURAL.COM

ASCE Hazards Report

Address:
405 E Grand Ave
El Segundo, California
90245

Standard: ASCE/SEI 7-22
Risk Category: III
Soil Class: Default

Latitude: 33.91975
Longitude: -118.412047
Elevation: 115.45485768405665 ft (NAVD 88)



Wind

Results:

Wind Speed	101 Vmph
10-year MRI	65 Vmph
25-year MRI	71 Vmph
50-year MRI	76 Vmph
100-year MRI	81 Vmph
300-year MRI	88 Vmph
700-year MRI	94 Vmph
1,700-year MRI	101 Vmph
3,000-year MRI	105 Vmph
10,000-year MRI	114 Vmph
100,000-year MRI	132 Vmph
1,000,000-year MRI	150 Vmph

Data Source: ASCE/SEI 7-22, Fig. 26.5-1C and Figs. CC.2-1–CC.2-4, and Section 26.5.2

Value provided is 3-second gust wind speeds at 33 ft above ground for Exposure C Category, based on linear interpolation between contours. Wind speeds are interpolated in accordance with the 7-22 Standard. Wind speeds correspond to approximately a 3% probability of exceedance in 50 years (annual exceedance probability = 0.000588, MRI = 1,700 years). Values for 10-year MRI, 25-year MRI, 50-year MRI and 100-year MRI are Service Level wind speeds, all other wind speeds are Ultimate wind speeds.

Site is not in a hurricane-prone region as defined in ASCE/SEI 7-22 Section 26.2.

The ASCE Hazard Tool is provided for your convenience, for informational purposes only, and is provided "as is" and without warranties of any kind. The location data included herein has been obtained from information developed, produced, and maintained by third party providers; or has been extrapolated from maps incorporated in the ASCE standard. While ASCE has made every effort to use data obtained from reliable sources or methodologies, ASCE does not make any representations or warranties as to the accuracy, completeness, reliability, currency, or quality of any data provided herein. Any third-party links provided by this Tool should not be construed as an endorsement, affiliation, relationship, or sponsorship of such third-party content by or from ASCE.

ASCE does not intend, nor should anyone interpret, the results provided by this Tool to replace the sound judgment of a competent professional, having knowledge and experience in the appropriate field(s) of practice, nor to substitute for the standard of care required of such professionals in interpreting and applying the contents of this Tool or the ASCE standard.

In using this Tool, you expressly assume all risks associated with your use. Under no circumstances shall ASCE or its officers, directors, employees, members, affiliates, or agents be liable to you or any other person for any direct, indirect, special, incidental, or consequential damages arising from or related to your use of, or reliance on, the Tool or any information obtained therein. To the fullest extent permitted by law, you agree to release and hold harmless ASCE from any and all liability of any nature arising out of or resulting from any use of data provided by the ASCE Hazard Tool.

WIND PRESSURE CALCULATION (OTHER STRUCTURES)
LIGHTS/HEAD

V=	101	MPH
K_{zt}=	1	
K_e=	1	
K_d=	0.85	

$q_z = 0.00256(K_z)(K_{zt})(K_d)(V^2)$ (PSF) = 22.22458

	K_z (EXP. C)	q_z (PSF)
0-15'	0.85	22.197376
20'	0.9	23.503104
25'	0.94	24.5476864
30'	0.98	25.5922688
40'	1.04	27.1591424
50'	1.09	28.4648704
60'	1.13	29.5094528
70'	1.17	30.5540352
80'	1.21	31.5986176
90'	1.24	32.3820544
100'	1.26	32.9043456
120'	1.31	34.2100736
140'	1.36	35.5158016
160'	1.39	36.2992384

G =	0.85	
C_f =	2	
A_f =	4.357	FT^2

$F=q_z K_z G C_f A_f$ LBS

	F ULT. (LBS)	F ASD (LBS)
0-15'	139.75	**83.85**
20'	147.97	**88.78**
25'	154.55	**92.73**
30'	161.13	**96.68**
40'	170.99	**102.59**
50'	179.21	**107.53**
60'	185.79	**111.47**
70'	192.36	**115.42**
80'	198.94	**119.36**
90'	203.87	**122.32**
100'	207.16	**124.30**
120'	215.38	**129.23**
140'	223.60	**134.16**
160'	228.54	**137.12**

WIND PRESSURE CALCULATION (OTHER STRUCTURES)
POLE

V=	101	MPH
K_{zt}=	1	
K_e=	1	
K_d=	0.85	

$q_z = 0.00256(K_z)(K_{zt})(K_d)(V^2)$ (PSF) = 20.11456

	K_z (EXP. C)	q_z (PSF)
0-15'	0.85	22.197376
20'	0.9	23.503104
25'	0.94	24.5476864
30'	0.98	25.5922688
40'	1.04	27.1591424
50'	1.09	28.4648704
60'	1.13	29.5094528
70'	1.17	30.5540352
80'	1.21	31.5986176
90'	1.24	32.3820544
100'	1.26	32.9043456
120'	1.31	34.2100736
140'	1.36	35.5158016
160'	1.39	36.2992384

G =	0.85	
C_f =	2	
A_f =	15	FT2

$F=q_z K_z G C_f A_f$ LBS

	F ULT. (LBS)	F ASD (LBS)
0-15'	481.13	**288.68**
20'	509.43	**305.66**
25'	532.07	**319.24**
30'	554.71	**332.83**
40'	588.67	**353.20**
50'	616.98	**370.19**
60'	639.62	**383.77**
70'	662.26	**397.36**
80'	684.90	**410.94**
90'	701.88	**421.13**
100'	713.20	**427.92**
120'	741.50	**444.90**
140'	769.80	**461.88**
160'	786.79	**472.07**

BOD:

2025 CBC

LOADING:

DEAD LOAD:

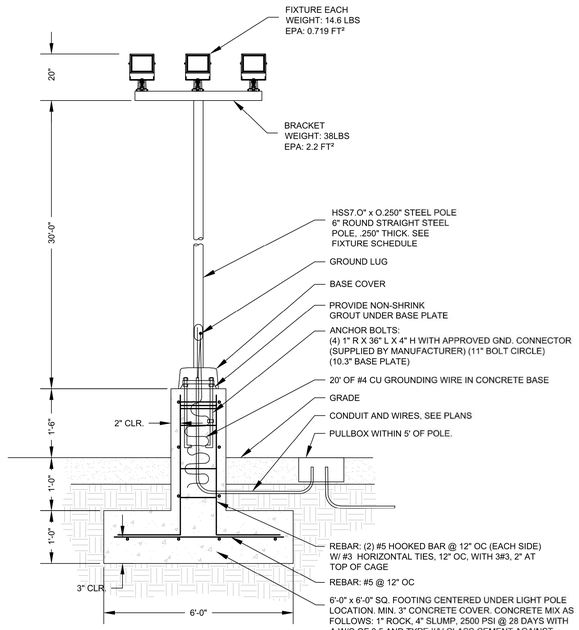
SELF-WTS. (SEE DETAILING)

Lr = N/A
L = N/A

SNOW LOADING = N/A
ICE LOADING = N/A
RAIN LOADING = N/A

SEISMIC LOADING = DOES NOT GOVERN

WIND LOADING = SEE ATTACHED



NO SCALE

A TYPE 'P2.1' SKATE PARK LIGHT AT STEM WALL FOUNDATION INSTALLATION DETAIL

Steel Beam — Project File: VCL El Sugundo Teen Center.ec6

LIC# : KW-06013140, Build:20.24.12.17 — STREGE STRUCTURAL ENGINEERING — (c) ENERCALC, LLC 1982-2026

DESCRIPTION: Pole

CODE REFERENCES

Calculations per AISC 360-16, IBC 2021
Load Combination Set : ASCE 7-22 / IBC 2024

Material Properties

Analysis Method: Load Resistance Factor Design — Fy : Steel Yield : 46.0 ksi
Beam Bracing : Completely Unbraced — E: Modulus : 29,000.0 ksi
Bending Axis : Major Axis Bending



Applied Loads — Service loads entered. Load Factors will be applied for calculations

Beam self weight calculated and added to loading
Load(s) for Span Number 1
Point Load : W = 0.1610 k @ 30.0 ft, (Wind on Head)
Uniform Load : W = 0.0180 k/ft, Tributary Width = 1.0 ft, (Wind on Pole)

DESIGN SUMMARY — Design OK

Maximum Bending Stress Ratio = 0.510 : 1 — Maximum Shear Stress Ratio = 0.018 : 1

Section used for this span	HSS7.000x0.375	Section used for this span	HSS7.000x0.375
Mu : Applied	27.272 k-ft	Vu : Applied	1.657 k
Mn * Phi : Allowable	53.475 k-ft	Vn * Phi : Allowable	90.542 k
Load Combination		Load Combination	
	+1.20D+W		+1.20D+W
Span # where maximum occurs	Span # 1	Location of maximum on span	0.000 ft
		Span # where maximum occurs	Span # 1

Maximum Deflection

Max Downward Transient Deflection	4.815 in	Ratio =	149	>=100, Span: 1 : W Only
Max Upward Transient Deflection	0 in	Ratio =	0	<100.0 n/a
Max Downward Total Deflection	6.848 in	Ratio =	105	>=100, Span: 1 : +D+0.60W
Max Upward Total Deflection	0 in	Ratio =	0	<100.0 n/a

Maximum Forces & Stresses for Load Combinations

Load Combination / Segment Length	Span #	M	V	max Mu +	max Mu -	Mu Max	Mnx	Phi*Mnx	Cb	Rm	Vu Max	Vnx	Phi*Vnx
+1.40D													
Dsgn. L = 30.00 ft	1	0.313	0.012		-16.73	16.73	59.42	53.48	1.00	1.00	1.12	100.60	90.54
+1.20D													
Dsgn. L = 30.00 ft	1	0.268	0.011		-14.34	14.34	59.42	53.48	1.00	1.00	0.96	100.60	90.54
+1.20D+0.50W													
Dsgn. L = 30.00 ft	1	0.389	0.014		-20.81	20.81	59.42	53.48	1.00	1.00	1.31	100.60	90.54
+1.20D+W													
Dsgn. L = 30.00 ft	1	0.510	0.018		-27.27	27.27	59.42	53.48	1.00	1.00	1.66	100.60	90.54
+0.90D+W													
Dsgn. L = 30.00 ft	1	0.443	0.016		-23.69	23.69	59.42	53.48	1.00	1.00	1.42	100.60	90.54
+0.90D													
Dsgn. L = 30.00 ft	1	0.201	0.008		-10.76	10.76	59.42	53.48	1.00	1.00	0.72	100.60	90.54

Overall Maximum Deflections

Span	Load Combination	Max. "-" Defl	Location in Span	Load Combination	Max. "+" Defl	Location in Span
1	+D+0.60W	6.8480	30.000		0.0000	0.000

Vertical Reactions — Support notation : Far left is # — Values in KIPS

Load Combination	Support 1	Support 2
Max Upward from all Load Conditions	1.217	

Steel Beam — Project File: VCL El Sugundo Teen Center.ec6

LIC# : KW-06013140, Build:20.24.12.17 — STREGE STRUCTURAL ENGINEERING — (c) ENERCALC, LLC 1982-2026

DESCRIPTION: Pole

Vertical Reactions — Support notation : Far left is # — Values in KIPS

Load Combination	Support 1	Support 2
Max Upward from Load Combinations	1.217	
Max Upward from Load Cases	0.797	
D Only	0.797	
+D+0.60W	1.217	
+D+0.450W	1.112	
+0.60D+0.60W	0.899	
+0.60D	0.478	
W Only	0.701	

GLOBAL STABILITY:
OTM = 97#(33.5') + 333#(23.5') = 3249.5 FT-LBS + 7825.5 FT-LBS = 11075 FT-LBS
RM = 1485#(1.125') + 8775#(3') + 1485#(4.875') = 1670.6 + 26325 + 7239.4 = 35235 FT-LBS
FOS = 35235/11075 = 3.2 > 1.1 -- OK

SOIL PRESSURE:
M = 11075 FT-LBS
P = 80# HEAD + 460# POLE + 11735# = 12275 LBS
S = (6')(6')^2/6 = 36 FT3
A = (6')(6') = 36 FT2

P/A + M/S = 341 PSF + 308 PSF = 649 PSF < 1500 PSF -- OK
P/A - M/S = 33 PSF < 1500 PSF -- OK

CONCRETE DESIGN/REINFORCEMENT:
Masd = 11075 FT-LBS(1.67) = 18495 FT-LBS (ULT) = 18.5 K-IN

STEM REIN:
b = SAY 18"
d = SAY 15"

a = (0.31 IN2)(60 KSI)/(0.85)(2.5 KSI)(18") = 18.6/38.25 = 0.49"
PHI(Mn) = 0.9(0.31 IN2)(60 KSI)(15"-(0.49"/2)) = 247 K-IN -- OK
CHOOSE (1)#5 EA. SIDE

FOOTING REIN:
b = 12"
d = SAY 8"

a = (0.31 IN2)(60 KSI)/(0.85)(2.5 KSI)(12") = 18.6/25.5 = 0.73"
PHI(Mn) = 0.9(0.31 IN2)(60 KSI)(8"-(0.73"/2)) = 127.8 K-IN -- OK
CHOOSE #5 @ 12" OC

True North Compliance Services, Inc.

PLAN REVIEW APPROVAL

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BY: Muhsen Hweidi DATE: 03/25/2026

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This plan has been reviewed by Converse Consultants and appears to be in general conformity with the recommendations of the Geotechnical Investigation Report and Supplements. We make no representation as to accuracy of dimensions, measurements, calculations, or any portion of design.

Project No. 24-31-126-01 Dated 3/6/2026

By Engineer — GE2708 License No. — 3/6/2026 Date

REGISTERED PROFESSIONAL ENGINEER
MAHMUTPILLAI SIVATHAYALAN
No. 2708
Exp. 6-30-26
GEOTECHNICAL
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REGISTERED PROFESSIONAL ENGINEER
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858-278-4503 | www.visualconcepts-inc.com

EL SEGUNDO RECREATION PARK PHASE 1 IMPROVEMENT PROJECT

TEEN CENTER AND TEEN PLAZA

405 E Grand Ave,
El Segundo, CA 90245

Issue dates

#	Date	Description
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	01/16/26	PLAN CHECK RESUBMITTAL #3
	02/09/26	PLAN CHECK RESUBMITTAL #4

Sheet title:

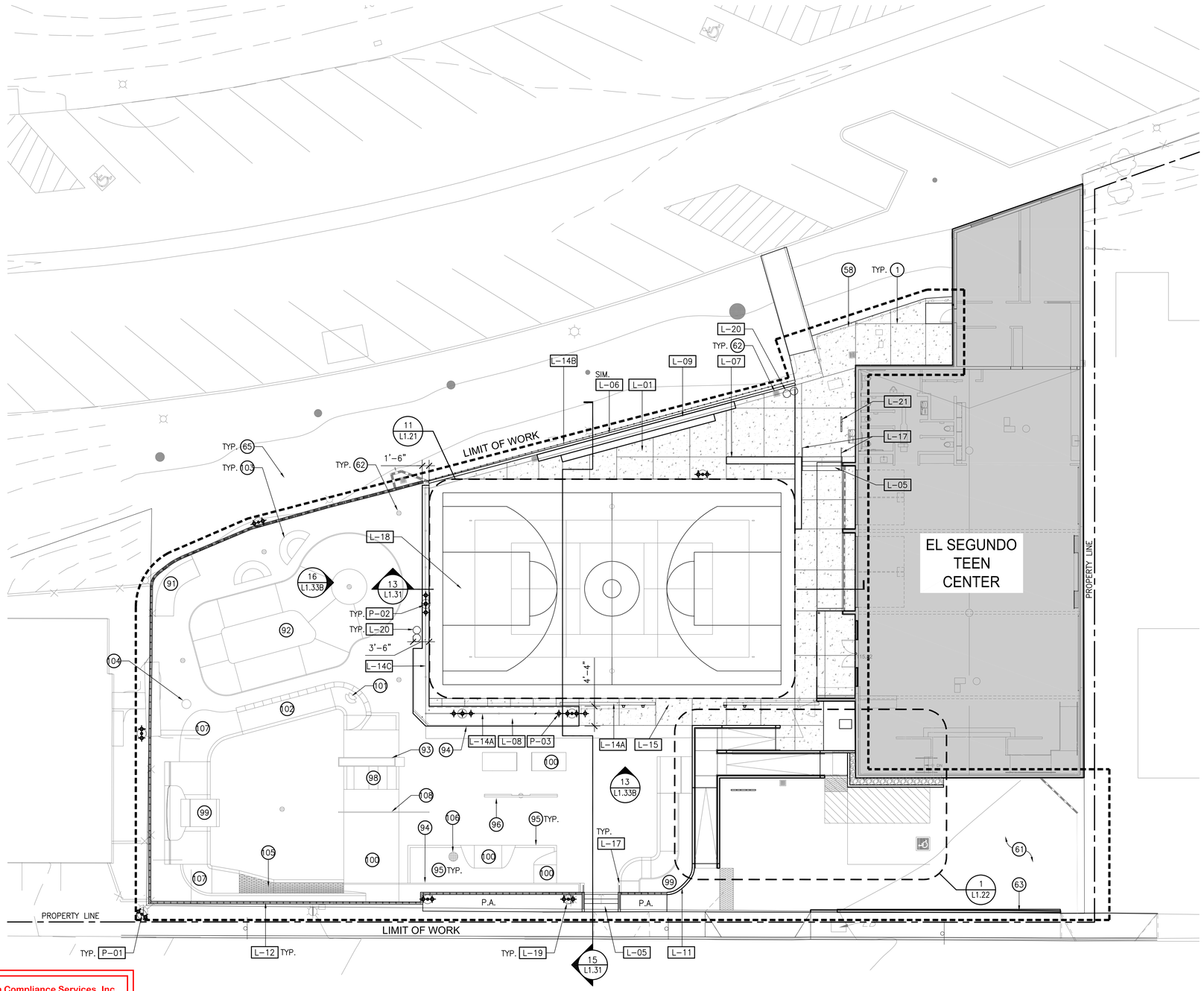
DETAILS

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

EL2.05

FEBRUARY 9, 2026 - PLAN CHECK RESUBMITTAL #4

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CONSTRUCTION KEYNOTES:

1. SCORE JOINT.
2. RAMP.

EXISTING REFERENCES:
57. UTILITY EQUIPMENT.
58. EXISTING FENCE.

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. SLAPPY MANUAL PAD.
96. STEEL SLAPPY GRIND LEDGE.
97. RADIUS WEDGE EXTENSION.
98. EUROGAP.
99. QUATERPIPE.
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 SCHED 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'

0 5' 10' 20' 40'

True North Compliance Services, Inc.

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BY: Mutham Hweidi DATE: 03/25/2026

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350 Main St, El Segundo, CA 90245

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405 E Grand Ave, El Segundo, CA 90245

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	02/09/26	PLAN CHECK RESUBMITTAL #4

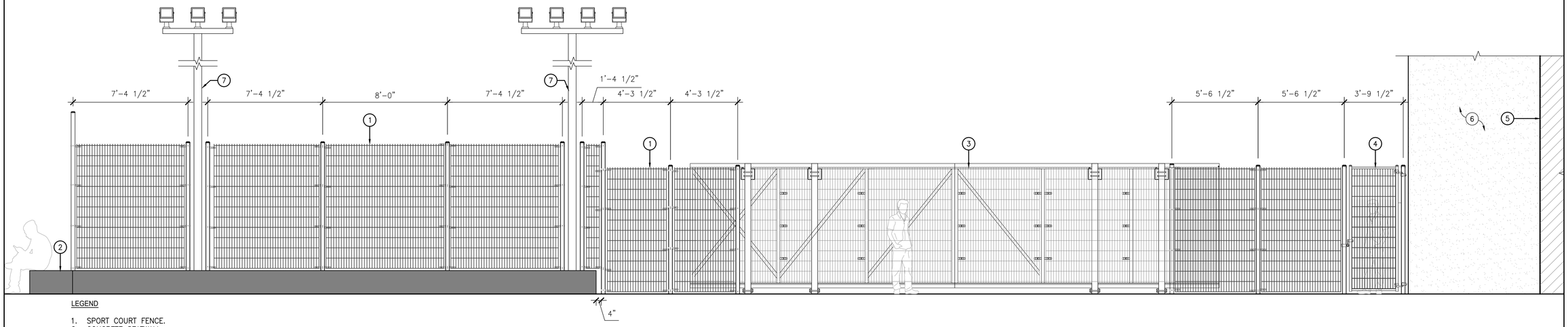
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LANDSCAPE CONSTRUCTION PLAN-ADD ALTERNATE A

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

L1.11A

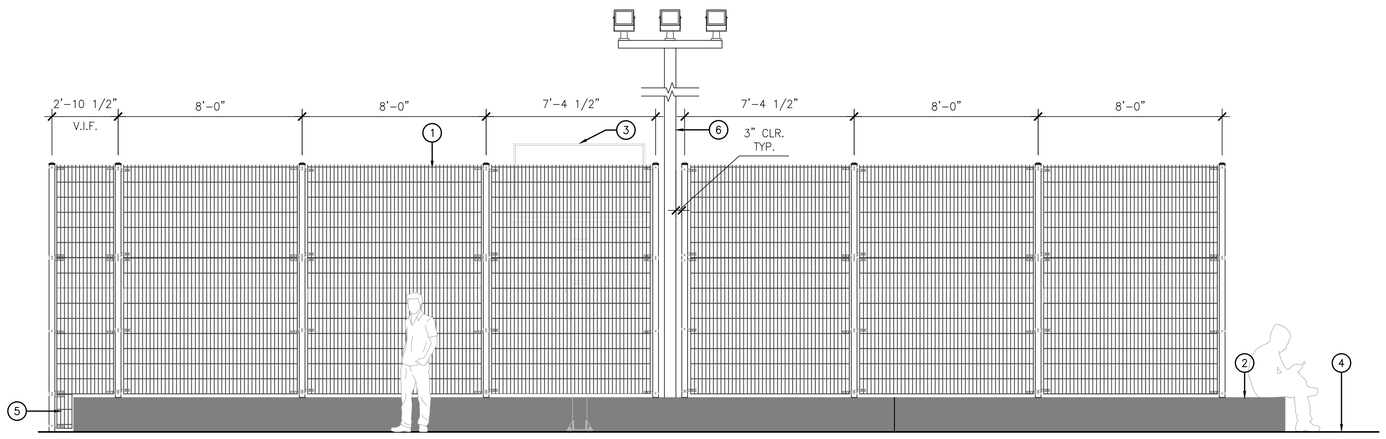
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Plotted by: abertolini



LEGEND

1. SPORT COURT FENCE.
2. CONCRETE SEATWALL.
3. DOUBLE-SLIDING GATE.
4. PEDESTRIAN SWING GATE.
5. FACE OF BUILDING.
6. BUILDING WING WALL.
7. 6" W X 30' H LIGHT POST.

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



LEGEND

1. SPORT COURT FENCE.
2. CONCRETE SEATWALL.
3. BASKETBALL GOAL (BEYOND).
4. FINISHED SURFACE.
5. CUSTOM CUT PANEL AT END OF SEATWALL.
6. 6" W X 30' H LIGHT POST.

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

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JOSEPH LANDSCAPE ARCHITECT — CIVIL DIVISION — No. 6441 — STATE OF CALIFORNIA
Signature
01/28/26
Renewal Date
11/30/2026
Date

CITY OF
EL SEGUNDO
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	01/16/26	PLAN CHECK RESUBMITTAL #3
	02/09/26	PLAN CHECK RESUBMITTAL #4

Sheet title:

LANDSCAPE ELEVATIONS-ADD ALTERNATE A

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

L1.33A

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BY: Mulham Hweidi DATE: 03/25/2026

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This plan has been reviewed by Converse Consultants and appears to be in general conformity with the recommendations of the Geotechnical Investigation Report and Supplements. We make no representation as to accuracy of dimensions, measurements, calculations, or any portion of design.

Project No. 24-31-126-01 Dated 3/6/2026

By Engineer GE2708 License No. 3/6/2026 Date

REGISTERED PROFESSIONAL ENGINEER KATHARINE (FILLA) SWEARINGEN No. 2708 Exp. 6-30-26 GEOTECHNICAL STATE OF CALIFORNIA

M I G

360 East Second Street
Suite 675
Los Angeles, CA 90012

213-694-3800
www.migcom.com

REGISTERED LANDSCAPE ARCHITECT 5622 12/31/2026

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

REGISTERED PROFESSIONAL ENGINEER MICHAEL ZAHN No. S-5054 EXP.: 09.30.27 STRUCTURAL STATE OF CALIFORNIA

Issue dates

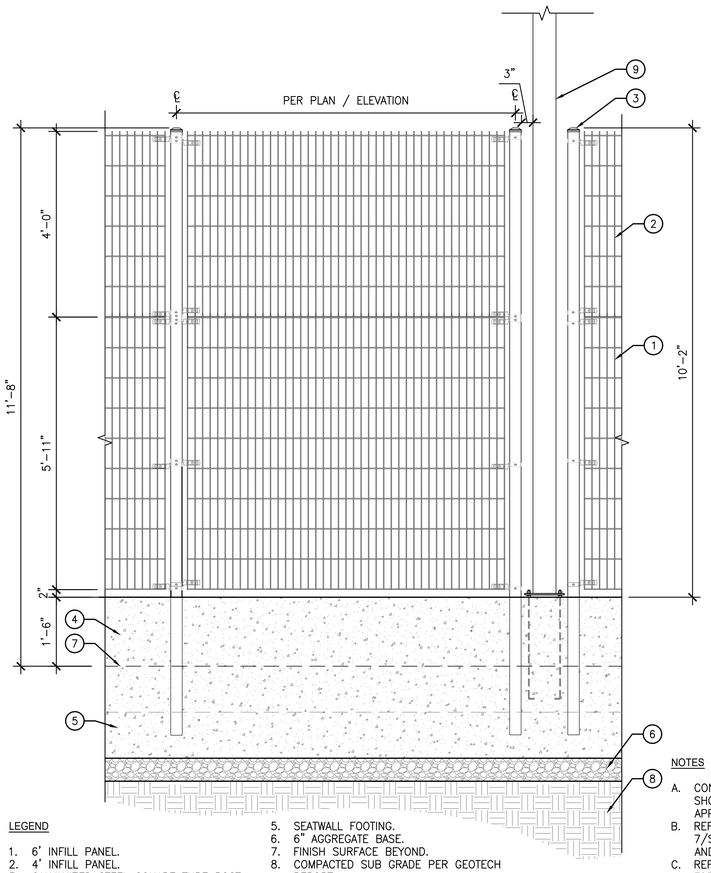
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	01/15/25	50% DD SUBMITTAL
	04/18/25	100% DD SUBMITTAL
	06/06/25	50% CD SUBMITTAL
	08/20/25	90% CD SUBMITTAL
	10/28/25	PLAN CHECK RESUBMITTAL #1
	11/14/25	PLAN CHECK RESUBMITTAL #2
	01/16/26	PLAN CHECK RESUBMITTAL #3
	02/09/26	PLAN CHECK RESUBMITTAL #4

Sheet title:

LANDSCAPE CONSTRUCTION DETAILS - ADD ALTERNATIVE A

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

L1.53A



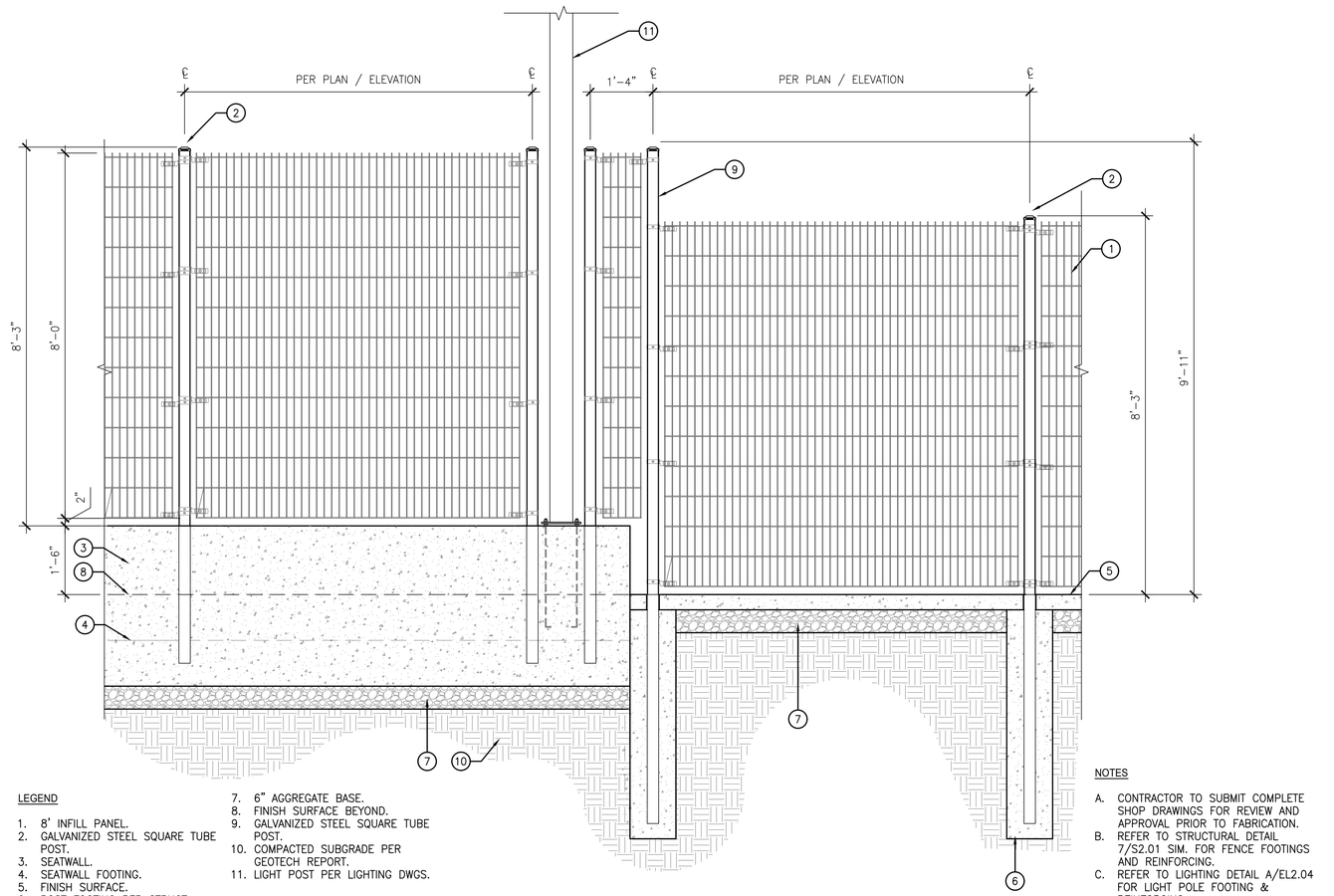
LEGEND

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 ALTERNATIVE A
SCALE: 3/4" = 1'-0"



LEGEND

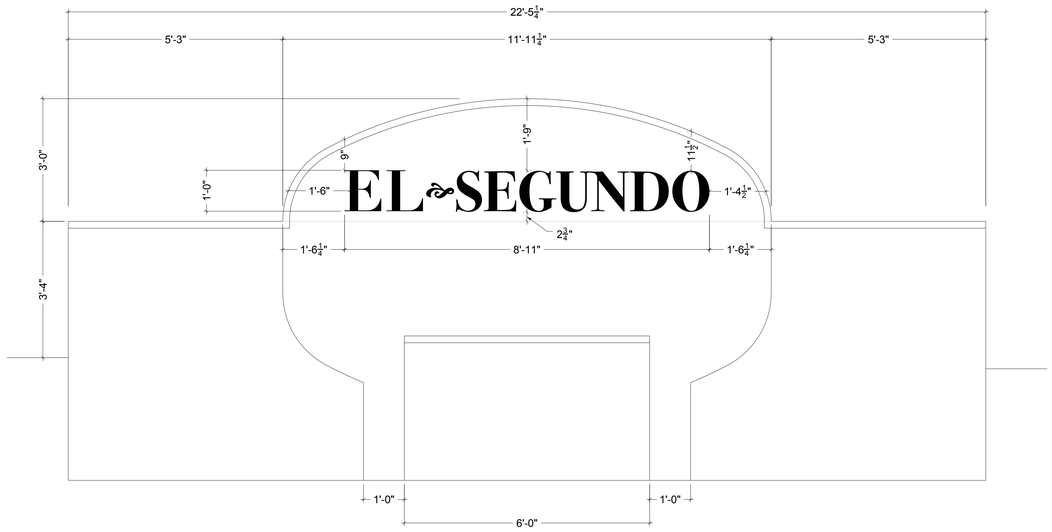
1. 8' INFILL PANEL.
2. GALVANIZED STEEL SQUARE TUBE POST.
3. SEATWALL.
4. SEATWALL FOOTING.
5. FINISH SURFACE.
6. POST FOOTING PER STRUCT.
7. 6" AGGREGATE BASE.
8. FINISH SURFACE BEYOND.
9. GALVANIZED STEEL SQUARE TUBE POST.
10. COMPACTED SUBGRADE PER GEOTECH REPORT.
11. LIGHT POST PER LIGHTING DWGS.

NOTES

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.

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

Plotted by: abertolini Feb. 06, 2026 03:08 PM Z:\Shared\Los Angeles\Production\2024\124011\CAD\124011_L1.53 B.dwg

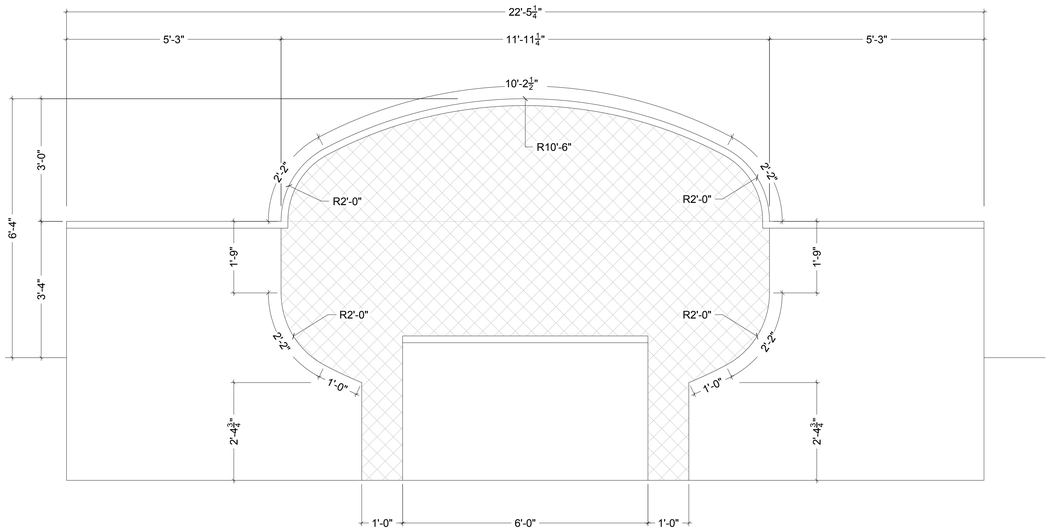


2 "EL SEGUNDO" TEXT PAINT APPLICATION

1" = 1'-6"

STANDARD PAINT TO BE "BLACK"

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



4 ADD ALTERNATE B: WATER TOWER BLUE CONCRETE

1" = 1'-6"

ALT OPTION: COLORED CAST-IN-PLACE CONCRETE
TO BE "PHILLY BLUE" BY INCRETE COLOR SYSTEMS OR APPROVED EQUAL

CAST-IN-PLACE CONCRETE TO BE NATURAL GRAY

0' 3' 6'

Scale: 1" = 1'-6"

True North Compliance Services, Inc.

PLAN REVIEW APPROVAL

THESE PLANS/DOCUMENTS HAVE BEEN REVIEWED FOR COMPLIANCE WITH THE APPLICABLE CALIFORNIA BUILDING STANDARDS CODES AS ADOPTED BY THE STATE OF CALIFORNIA AND AMENDED BY THE JURISDICTION. PLAN REVIEW ACCEPTANCE OF DOCUMENTS DOES NOT AUTHORIZE CONSTRUCTION TO PROCEED IN VIOLATION OF ANY FEDERAL, STATE, NOR LOCAL REGULATION.

BY: Mulham Fuweidi DATE: 03/25/2026

THIS SET OF THE PLANS AND SPECIFICATIONS MUST BE KEPT ON THE JOB SITE AT ALL TIMES AND IT IS UNLAWFUL TO MAKE ANY CHANGES OR ALTERATIONS WITHOUT PERMISSION FROM THE CITY. OCCUPANCY OF STRUCTURE(S) IS NOT PERMITTED UNTIL FINAL APPROVAL IS GRANTED BY ALL APPLICABLE DEPARTMENTS.

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CITY OF
EL SEGUNDO
350 Main St, El
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EL SEGUNDO
RECREATION PARK
PHASE 1 IMPROVEMENT
PROJECT

TEEN CENTER AND TEEN PLAZA

405 E Grand Ave,
El Segundo, CA 90245

SPOHN RANCH SKATEPARKS

6824 S Centinela Ave.
Los Angeles, CA 90230

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

Issue dates

#	Date	Description
	01/15/25	50% DD SUBMITTAL
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	02/09/26	PLAN CHECK RESUBMITTAL #4

Sheet title:

CONSTRUCTION DETAILS
ADD ALTERNATE B
(WATER TOWER INTEGRAL COLOR)

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

SK9.3B

APPENDIX H

ALTERNATIVE BID ITEMS

RECREATION PARK TEEN CENTER, PLAZA, AND SKATEPARK RENOVATION PROJECT
PROJECT NO.: PW 25-13

ITEM NO.	DESCRIPTION	UNIT	QTY	UNIT PRICE	AMOUNT
ALTERNATIVE BID ITEMS					
A	**Site Lighting:** Add alternate to remove existing site lighting, poles and fixtures, and install new site lighting including concrete footings, poles, fixtures, conduits, wiring, and controls	LS	1	$	$
B	**Skatepark-Water Tower** Add alternate to modify the Water Tower feature from natural gray concrete (included in the base bid) to colored concrete using white cement with blue tint. The add alternate shall represent a net adjustment, including a credit for the gray concrete and an addition for the colored concrete in accordance to Sheet SK9.3B	LS	1	$	$