SAN BERNARDINO COUNTY PROBATION DEPARTMENT WEST VALLEY REGIONAL TRAINING CENTER INDOOR GUN RANGE AIR CONDITIONING AND HEATING INSTALLATION

PROJECT # 10.10.1151

9478 ETIWANDA AVE. RANCHO CUCAMONGA, CA 91730

10 102 103 164 BUILDING 2 BUILDING BLDG 3 BUILDING I BUILDING 4 UTILITY YARD #I

REFERENCE SITE PLAN

LIST OF APPLICABLE CODES

ALL WORK SHALL COMPLY WITH CURRENTLY ADOPTED:

2019 CALIFORNIA BUILDING CODE (CBC), PART 2, TITLE 24 C.C.R. (2018 INTERNATIONAL BUILDING CODE)

2019 CALIFORNIA ELECTRICAL CODE (CEC), PART 3, TITLE 24 C.C.R. (2018 NATIONAL ELECTRICAL CODE)

2019 CALIFORNIA MECHANICAL CODE (CMC) PART 4, TITLE 24 C.C.R. (2018 UNIFORM MECHANICAL CODE)

2019 CALIFORNIA PLUMBING CODE (CPC), PART 5, TITLE 24 C.C.R. (2018 UNIFORM PLUMBING CODE)

2019 CALIFORNIA GREEN BUILDING STANDARDS CODE

2019 CALIFORNIA ENERGY CODE

AMERICANS WITH DISABILITIES ACT 1990 WITH 2010 ADA STANDARDS FOR ACCESSIBLE DESIGN AND 2010 REVISIONS TO TITLE II

CODE ANALYSIS

GENERAL CONTRACTOR SHALL PROVIDE SECURITY/TEMPORATY FENCING FOR DURATION OF THE PROJECT AS REQUIRED AT NO ADDITIONAL COST TO OWNER.

2. GENERAL CONTRACTOR SHALL PROVIDE AND PAY FOR ANY REQUIRED SURVEY WORK BY A LICENSED CALIFORNIA SURVEYOR.

GENERAL CONTRACTOR SHALL PROVIDE BUILDING ACCESS TO THE STAFF DURING NORMAL OPERATING HOURS DURING CONSTRUCTION - COORDINATE WITH OWNER.

<u>OWNER</u>

SAN BERNARDINO COUNTY REAL ESTATE SERVICES DEPARTMENT PROJECT MANAGEMENT DIVISION MARIAN MICHAEL, PROJECT MANAGER 385 N. ARROWHEAD AVE., THIRD FLOOR SAN BERNARDINO, CA 92415 PHONE: (909) 531-1582 EMAIL: Marian.Michael@res.sbcounty.gov

ARCHITECTURAL

STK ARCHITECTURE, INC. TONY FINALDI, ARCHITECT 42095 ZEVO DR., SUITE AI5 TEMECULA, CA 92590 PHONE: (951) 296-9110 FAX: (951) 296-6079

EMAIL: Tfinaldiestkinc.com

CIVIL ENGINEER

A.J. FRICK CIVIL ENGINEERING ARNIE FRICK 42095 ZEVO DR., SUITE AI5 TEMECULA, CA 92590 PHONE: (951) 296-9110 FAX: (951) 296-6079 EMAIL: Tfinaldiostkinc.com

MPE ENGINEERING

SALAS O'BRIEN MISTY DuPRE, P.E. 3220 EXECUTIVE RIDGE, STE. 210 VISTA, CA 9208I PHONE: (760) 560-0100

PROJECT TEAM

TI.I - TITLE SHEET / REFERENCE SITE PLAN

C-I - PRECISE GRADING PLAN

ARCHITECTURAL

AI.I - SITE PLANS & DETAILS

Al.2 - SITE DETAILS

STRUCTURAL

SCS - STRUCTURAL COVER SHEET

SNI - STRUCTURAL NOTES

SN2 - STRUCTURAL NOTES

- FOUNDATION PLAN

S2 - ROOF FRAMING PLAN SDI - STRUCTURAL FOUNDATION DETAILS

SD2 - STRUCTURAL FRAMING DETAILS

<u>PLUMPING</u>

PO.I - PLUMBING LEGEND AND GENERAL NOTES

PO.2 - PLUMBING CALCULATIONS AND SCHEDULES

PI.I - PLUMBING SITE PLAN

P5.I - PLUMBING DETAILS

<u>MECHANICAL</u>

MO.I - MECHANICAL LEGEND AND GENERAL NOTES

MO.2 - MECHANICAL SCHEDULES

MI.I - MECHANICAL SITE PLAN M2.01 - MECHANICAL DEMOLITION FLOOR PLAN

M2.02 - MECHANICAL DEMOLITION ROOF PLAN

M2.I - MECHANICAL FLOOR PLAN

M2,2 - MECHANICAL ROOF PLAN

M5.I - MECHANICAL DETAILS

ELECTRICAL

EO.I - ELECTRICAL LEGEND AND GENERAL NOTES

EO.2 - INTERIOR TITLE 24

EI.I - ELECTRICAL SITE PLAN

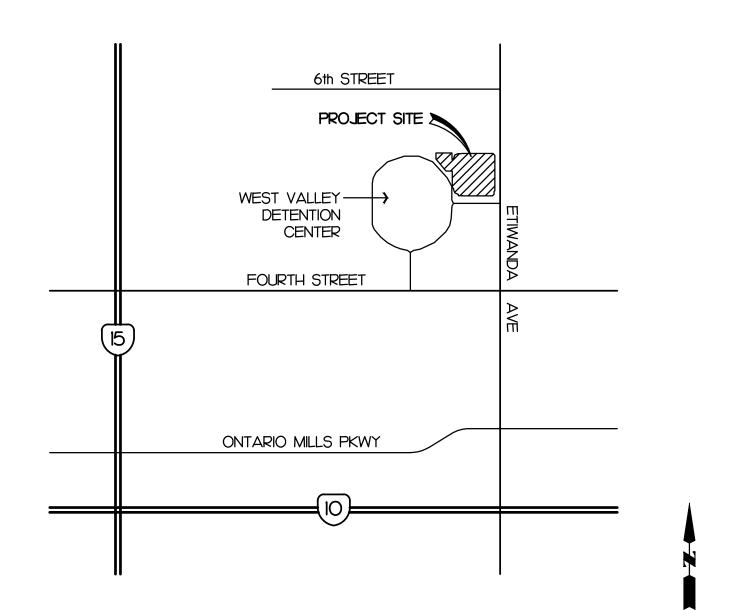
E2,01 - LIGHTING DEMOLITION FLOOR PLAN

E2.I - LIGHTING FLOOR PLAN

E2.2 - POWER FLOOR PLAN E2.3 - ELECTRICAL ROOF PLAN

E4.1 - SINGLE LINE DIAGRAM AND PANEL SCHEDULES

SHEET INDEX



CONSULTANT:

PROJECT FOR: SAN BERNARDINO REAL ESTATE SERVICES -PROJECT MANAGEMENT

DIVISION

385 N. ARROWHEAD AVE SAN BERNARDINO, CA 92415

PROJECT NAME:

PROBATION DEPT. WEST VALLEY TRAINING CENTER: INDOOR GUN

CONDITIONING AND **HEATING**

9478 ETIWANDA AVENUE

RANCHO CUCAMONGA.

RANGE AIR

CALIFORNIA 91739

PROJECT NO.: 10.10.1151

ISSUE INFO	RMATION:
DATE:	INFORMATION:

SHEET INFORMATION:

STK PROJECT NO.: 374-147-21 AS NOTED JULY 2021

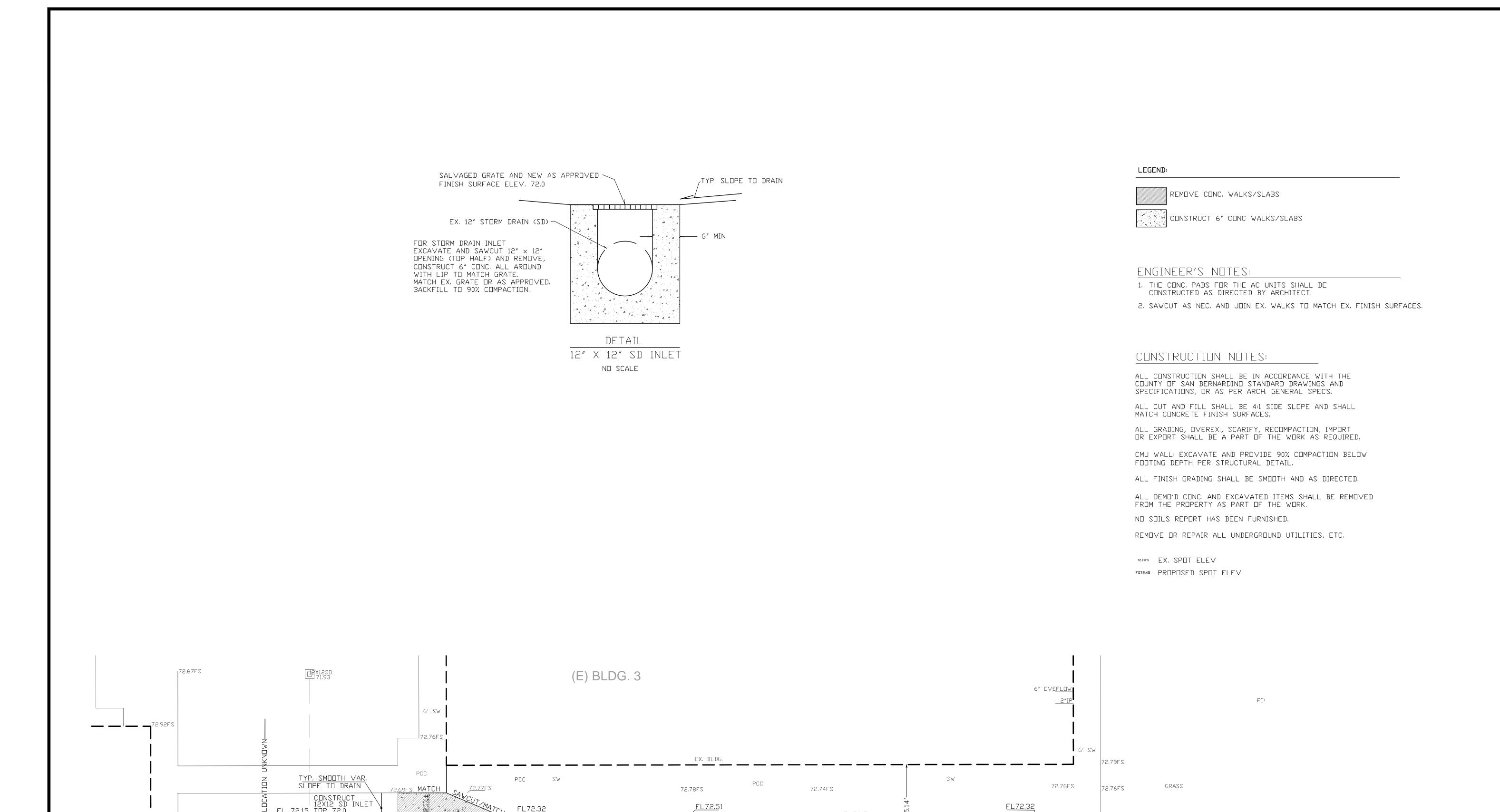
PLOT DATE: DRAWING NAME:



TITLE SHEET & REFERENCE SITE PLAN

NOTES TO GENERAL CONTRACTOR

VICINITY MAP



FS 72.96 FS 72.96 FS 72.96 FS 72.96

INDOOR GUN RANGE FF 73.0

FS 72.70 AT PAD BEHIND NEW WALL

TYPICAL

S72.7 PADS TO BE CONSTRUCTED MONOLITHIC.

DRAINAGE PATTERN, EXCEPT FOR PADS

6″0VERFL0W

(E) CLASSROOM BLDG. 4

GRADE SMOOTH
TO DRAIN,
ALL AROUND
RE-GRAVEL AS
DIRECTED IN
KIND

REMOVE GRATE FOR SALVAGE, CAP WITH 1/4" GALV. PLATE UNDER CONC. SURFACING.

REMOVE TREES, BOULDERS AND

BUSHES, REPLANT TREES IF

12" DRAIN, EX. —

POSSIBLE AS DIRECTED,
RELOCATE BOULDERS AND ROCK
BASIN AS DIRECTED.

SEWER CO

72.89FS 72.87FS

FS CONS PAD 73.0 4 MIN

72.63FS

72.51 FF

3483 @040%

FS CONC PAD 73.0

FS 72.88

<u>FS 72.</u>96

F<u>S72.8</u>8

F<u>\$72.92</u>

F<u>S72.96</u>

FS 73.00

<u>FL71.98</u>

72.31FS

6' SW

6″0VERFL0W

(E) TRAILER BLDG.

EX. BLDG. EX. BLDG.

SCALE: I" = 10'



CONSULTANT:

A.J. FRICK CIVIL **ENGINEERING**

42095 ZEVO DR., SUITE AI5 TEMECULA, CA 92590 PHONE: (951) 296-9110 FAX: (951) 296-6079

PROJECT FOR: SAN BERNARDINO COUNTY REAL ESTATE SERVICES -PROJECT MANAGEMENT DIVISION

385 N. ARROWHEAD AVE. SAN BERNARDINO, CA 92415

PROJECT NAME:

PROBATION DEPT. WEST VALLEY REGIONAL TRAINING CENTER: INDOOR GUN RANGE AIR CONDITIONING AND HEATING

> 9478 ETIWANDA AVENUE RANCHO CUCAMONGA, CALIFORNIA 91739

PROJECT NO.: 10.10.1151

155UE INFO	ISSUE INFORMATION:				
DATE:	INFORMATION:				
	_				

SHEET INFORMATION:

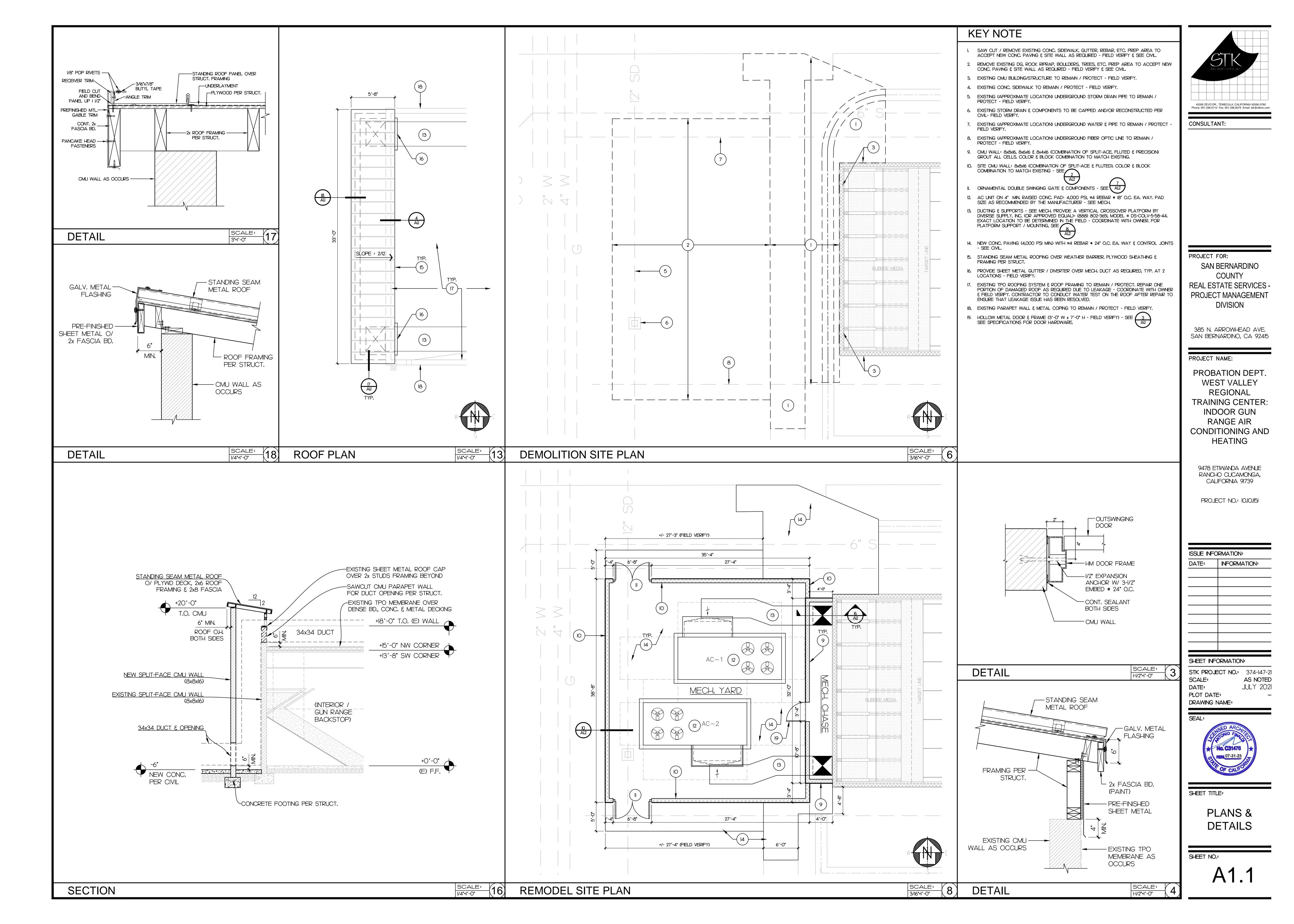
STK PROJECT NO.: 374-147-21 AS NOTED SCALE: JULY 2021 DATE: PLOT DATE:

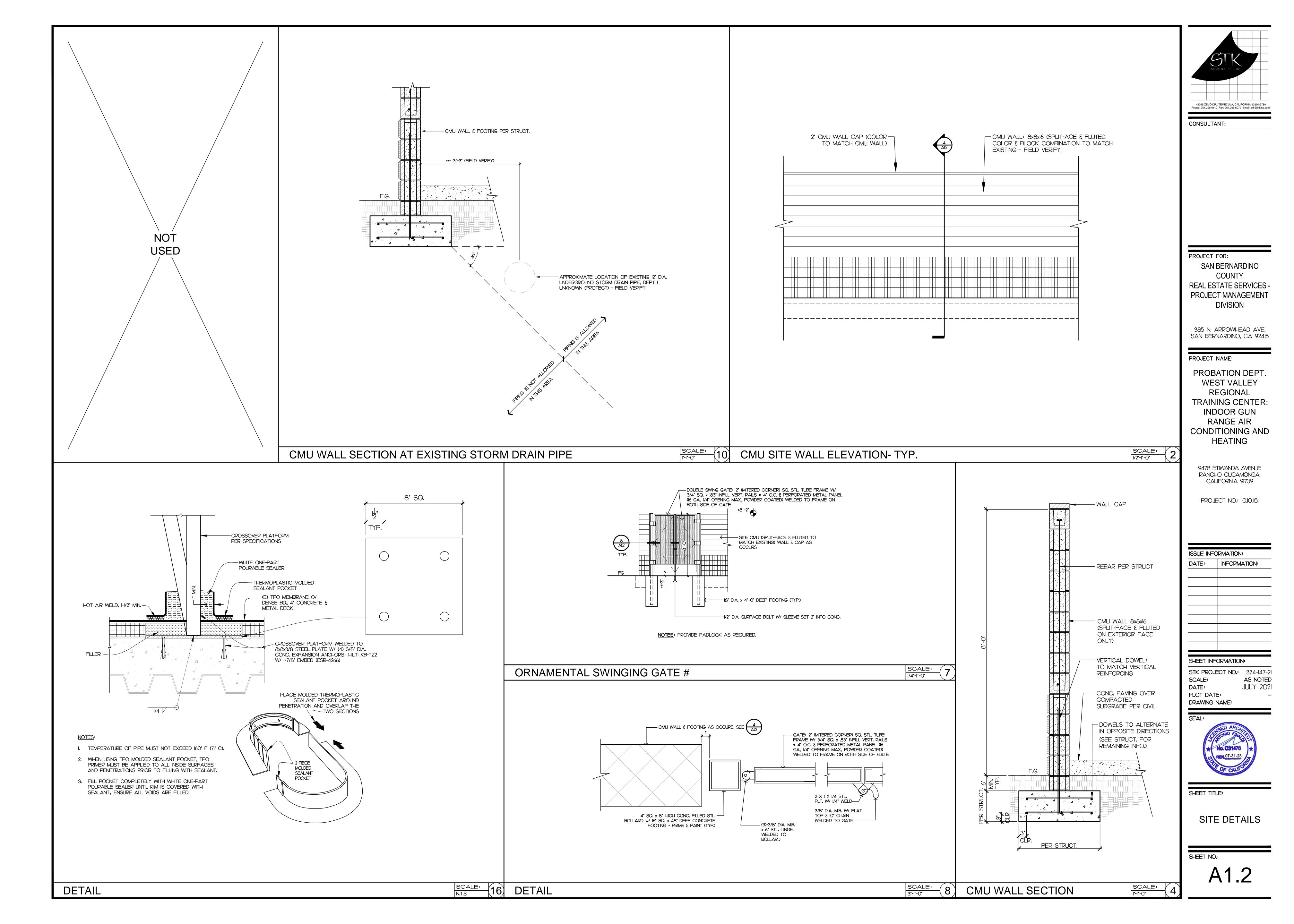
DRAWING NAME:

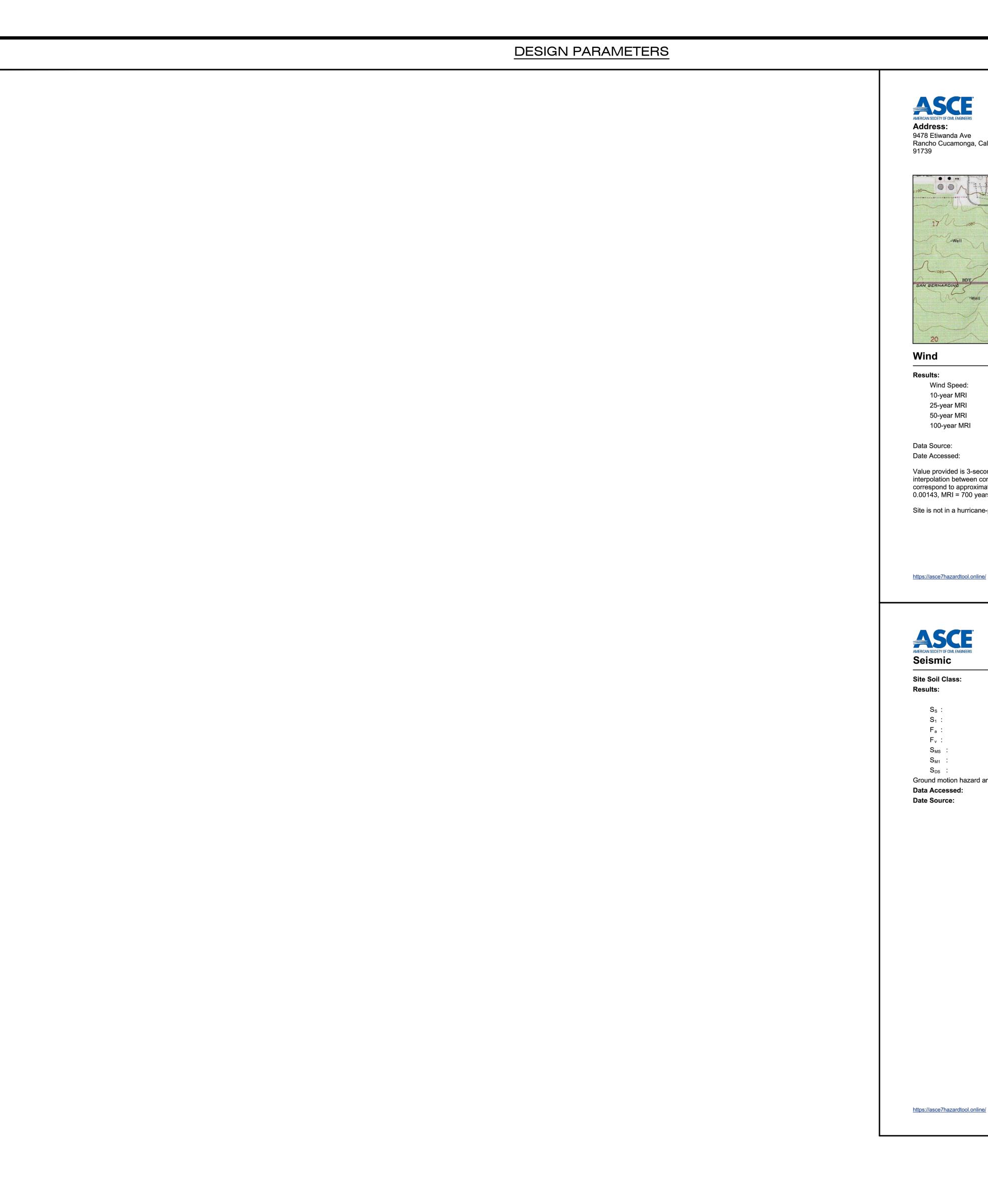


GRADING PLAN

GUN RANGE AC UNITS







SHEET INDEX

ASCE 7 Hazards Report

ASCE/SEI 7-16 **Elevation:** 1058.52 ft (NAVD 88) Address: Standard: Risk Category: ^Ⅱ 9478 Etiwanda Ave Rancho Cucamonga, California Class: D - Default (see Longitude: -117.524069 Section 11.4.3)



Latitude: 34.079921

96 Vmph Wind Speed: 66 Vmph 10-year MRI 72 Vmph 25-year MRI 77 Vmph 50-year MRI

ASCE/SEI 7-16, Fig. 26.5-1B and Figs. CC.2-1–CC.2-4, and Section 26.5.2 Mon Jun 28 2021 Date Accessed:

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 7-16 Standard. Wind speeds correspond to approximately a 7% probability of exceedance in 50 years (annual exceedance probability = 0.00143, MRI = 700 years).

Site is not in a hurricane-prone region as defined in ASCE/SEI 7-16 Section 26.2.

82 Vmph

Page 1 of 3 Mon Jun 28 2021 https://asce7hazardtool.online/

ite Soil Class:	D - Default (se	ee Section 11.4.3)
esults:		
S _s :	1.743	S _{D1} :

0.74 0.888 PGA_M:

Ground motion hazard analysis may be required. See ASCE/SEI 7-16 Section 11.4.8. Mon Jun 28 2021 Data Accessed: USGS Seismic Design Maps Date Source:

> Page 2 of 3 Mon Jun 28 2021

GENERAL NOTES

SCS STRUCTURAL COVER SHEET

SN1 STRUCTURAL GENERAL NOTES

SN2 STRUCTURAL GENERAL NOTES

<u>PLANS</u>

S1 FOUNDATION PLAN

ROOF FRAMING PLAN

STRUCTURAL DETAILS

SD1 STRUCTURAL FOUNDATION DETAILS

SD2 STRUCTURAL FRAMING DETAILS

SOILS ENGINEER: NOT PROVIDED REPORT NUMBER: --DATE: --ALLOWABLE SOIL BEARING PRESSURE: 1,500PSF ALLOWABLE PASSIVE PRESSURE: 150PCF EXPANSION POTENTIAL: NOT PROVIDED NOT PROVIDED PLASTICITY INDEX: LIQUEFACTION POTENTIAL: NOT-PROVIDED TOTAL SETTLEMENT: NOT-PROVIDED DIFFERENTIAL SETTLEMENT POTENTIAL: NOT-PROVIDED NOT-PROVIDED CORROSIVITY: SULFATE CONTENT: NOT-PROVIDED CHLORIDE CONTENT: NOT-PROVIDED SEISMIC DESIGN PARAMETERS: RISK CATEGORY: D (DEFAULT) SITE CLASS: SHORT PERIOD SPECTRAL ACCELERATION, Ss: 1.743 1s PERIOD SPECTRAL ACCELERATION, S1: 0.649 SPECTRAL RESPONSE COEFFICIENT, S_{D1}: 0.74 1.394 SHORT PERIOD SPECTRAL RESPONSE, S_{DS} SITE COEFFICIENT, Fa: 1.2 SITE COEFFICENT, Fv: 1.70 SEISMIC DESIGN CATEGORY: D SEISMIC IMPORTANCE FACTOR, Ie: RESPONSE MODIFICATION, R & SEISMIC 5.0 - SPECIAL REINFORCED MASONRY FORCE RESISTING SYSTEM: SHEAR WALLS DESIGN BASE SHEAR: 0.279ρW SEISMIC RESPONSE COEFFICIENT, Cs: 0.279 EQUIVALENT LATERAL FORCE DESIGN PROCEDURE: REDUNDANCY FACTOR, ρ: SYSTEM OVERSTRENGTH FACTOR, Ω : 2.5

WIND DESIGN PARAMETERS:

GRAVITY DESIGN PARAMETERS: (PSF, SERVICE LOADS)

20

DEAD ROOF LIVE SNOW LIVE TOTAL

PROJECT DESIGN CRITERIA

GEOTECHNICAL PARAMETERS:

2019 CBC

34.079921, -117.524069

3.5

NONE

NONE

110

85 MPH

±0.18

- 31.7

BUILDING CODE:

LOCATION (LATITUDE / LONGITUDE):

DEFLECTION AMPLIFICATION FACTOR, C_d:

HORIZONTAL STRUCTURAL IRREGULARITIES:

VERTICAL STRUCTURAL IRREGULARITIES:

RISK CATEGORY: WIND EXPOSURE CATEGORY:

ULTIMATE DESIGN WIND SPEED (3-SECOND

NOMINAL DESIGN WIND SPEED (3-SECOND

GUST), V_{ASD}: INTERNAL PRESSURE COEFFICIENT, GC,:

11.7

84

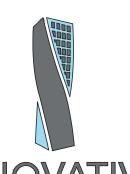
ROOF:

CMU WALL:



42095 ZEVO DR., TEMECULA, CALIFORNIA 92590-3780 Phone: 951.296.9110 Fax: 951.296.6079 Email: stk@stkinc.com

CONSULTANT:



INNOVATIVE STRUCTURAL ENGINEERING 27369 VIA INDUSTRIA T E M E C U L A , C A 9 2 5 9 0 T E L E : 9 5 1 . 6 0 0 . 0 0 3 2 WWW.ISEENGINEERS.COM SOCAL | NORCAL | COLORADO

ISE PROJECT NO.: 21-7205

PROJECT FOR:

SAN BERNARDINO COUNTY REAL ESTATE SERVICES -PROJECT MANAGEMENT DIVISION

385 N. ARROWHEAD AVE. SAN BERNARDINO, CA 92415

PROJECT NAME:

PROBATION DEPT. WEST VALLEY REGIONAL INDOOR GUN RANGE AIR CONDITIONING AND

> 9478 ETIWANDA AVENUE RANCHO CUCAMONGA, CALIFORNIA 91739

HEATING

PROJECT NO.: 10.10.1151

ISSUE INFOR	ISSUE INFORMATION:				
DATE:	INFORMATION:				

SHEET INFORMATION: STK PROJECT NO.: 374-147-21 AS NOTED JULY 2021 PLOT DATE: JULY 21, 2021



COVER SHEET

TO TOP PLATES, TOENAIL BLOCKING BETWEEN RAFTERS OR THUSS NOT AT WALL TOP PLATES, TOENAIL BLOCKING BETWEEN RAFTERS OR THUSS NOT AT WALL TOP PLATES, TOENAIL BLOCKING BETWEEN RAFTERS OR THUSS NOT AT WALL TOP PLATES, TOENAIL FLAT BLOCKING TO TRUSSWEE FILLER, FACE NAIL FLAT BLOCKING TO TRUSSWEE FILLER, FACE NAIL CEILING JOIST TO TOP PLATE, EACH JOIST, TOENAIL CEILING JOIST TO PARALLEL RAFTERS, FACE NAIL RAFTER OR ROOF TRUSS TO PLAIL RAFTER OR ROOF TRUSS TO PLAIL RAFTER OR ROOF TRUSS TO PLAIL FLOOR RAFTER TO 20 RIDGE BEAM, TOE TOENAIL TOENAIL ROOF RAFTER TO 20 RIDGE BEAM, TOE TOENAIL TOENAIL TOENAIL ROOF RAFTER TO 20 RIDGE BEAM, TOE TOENAIL		
BLOCKING BETWEEN ADISTS OF RAFTERS TO TOP DELATES, TOPIANIL	CONVENTIONAL WOOD FRAMING RE	EQUIREMENTS - CBC A TABLE 2304.10.1
TO TOP PLATES, TOENAIL ELOCKING BETWEEN RAFTERS OR THUSS NOT AT WALL TOP PLATES, FOENAIL, EACH END ELOCKING BETWEEN RAFTERS OR THUSS NOT AT WALL TOP PLATES, END NAIL FLAT BLOCKING BETWEEN RAFTERS OR THUSS STOT AT WALL TOP PLATES, END NAIL FLAT BLOCKING TO TRUSSWEE FILLER, FAGE NAIL FLAT BLOCKING TO TRUSSWEE FILLER, FAGE NAIL CEILING JOIST TO TOP PLATE, EACH JOIST, TOENAIL CEILING JOIST TO TOP PLATE, EACH JOIST, TOENAIL CEILING JOIST, LAPS PARTITION, FAGE NAIL TABLE 2308.7.3.1 COLLAR TE TO RAFTER, FACE NAIL RAFTER OR ROOF TRUSS TO PLATE, TOENAIL COLLAR TE TO RAFTER, FACE NAIL RAFTER OR ROOF TRUSS TO PLATE, TOENAIL TO RAFTER TO 2X RIDGE BEAM, END NAIL STUD TO STUD (NON-BRACED WALL PANELS), 24° 0.0. FACE NAIL STUD TO STUD (NON-BRACED WALL PANELS), 16° 0.0. FACE NAIL STUD TO STUD AT INTERSECTING CORNER (BRACED), 16° 0.0. FACE NAIL STUD TO STUD AT INTERSECTING CORNER (BRACED), 16° 0.0. FACE NAIL STUD TO STUD AT INTERSECTING CORNER (BRACED), 12° 0.0. FACE NAIL STUD TO STUD PLATE, 10° 0.0. FACE NAIL STUD TO STUD PLATE, 10° 0.0. FACE NAIL TOP PLATE TO TO PP LATE, 10° 0.0. FACE NAIL STUD TO PP PLATE, 10° 0.0. FACE NAIL STUD TO PP PLATE, 10° 0.0. FACE NAIL STUD TO PP PLATE, 10° 0.0. FACE NAIL STUD TO STUD AT INTERSECTING CORNER (BRACED), 12° 0.0. FACE NAIL STUD TO STUD AT INTERSECTING CORNER (BRACED), 12° 0.0. FACE NAIL STUD TO STUD AT INTERSECTING CORNER (BRACED), 12° 0.0. FACE NAIL STUD TO STUD AT INTERSECTING CORNER (BRACED), 12° 0.0. FACE NAIL STUD TO STUD AT INTERSECTING CORNER (BRACED), 12° 0.0. FACE NAIL STUD TO STUD AT INTERSECTING CORNER (BRACED), 12° 0.0. FACE NAIL SUBLICATION PLATE TO STUD, TOENAIL STUD TO STUD AT INTERSECTING CORNER (BRACED), 12° 0.0. FACE NAIL SUBLICATION PLATE TO STUD, TOENAIL STUD TO STUD PLATE, 10° 0.0. FACE NAIL STUD TO PLATE TO TOP PLATE, 10° 0.0. FACE NAIL STUD TO STUD RAIL STATENAIL STU	CONNECTION	NAILING
NOTAT WALL TOP PLATES, TOENAL		(3) 8d COMMON , (3) 3" x 0.131" NAILS, OR (3) 14 GAGE STAPLES
BLOCKING BETWEEN PARTERS OR TRUSS 20, 16d COMMON, (3) 27, 0, 131* NAILS, (3) ROT AT WALL TOP PLATES, END NAIL 16d COMMON, 37*, 0, 131* NAILS, (3) FACE NAIL 16d COMMON, 37*, 0, 131* NAILS, (3) RACE STAPLES 16d COMMON, 37*, 0, 131* NAILS, (3) RACE STAPLES 16d COMMON, 37*, 0, 131* NAILS, (3) RACE NAIL 16d COMMON, 37*, 0, 131* NAILS, (3) RACE NAIL 16d COMMON, 37*, 0, 131* NAILS, (3) RACE NAIL 16d COMMON, 37*, 0, 131* NAILS, (3) RACE NAIL 174 ABLE 2308, 7, 3.1 16d COMMON, (3) 3* 0, 0, 131* NAILS, (3) RACE NAIL 174 ABLE 2308, 7, 3.1 16d COMMON, (4) 3* 0, 131* NAILS, (3) RACE NAIL 174 ABLE 2308, 7, 3.1 16d COMMON, (4) 3* 0, 0, 131* NAILS, (3) RACE NAIL 174 ABLE 2308, 7, 3.1 174 ABLE 2308, 7	AT WALL TOP PLATES, TOENAIL,	(2) 8d COMMON , (2) 3" x 0.131" NAILS, (2) 3" 1 GAGE STAPLES
FLAT BLOCKING TO TRUSSWEE FILLER, FACE NAIL 196 COMMON, 3" x 0.131" NAILS, 3" 14 G	ING BETWEEN RAFTERS OR TRUSS	(2) 16d COMMON , (3) 3" x 0.131" NAILS, (3) 3" - GAGE STAPLES
CELING JOIST TO TOP PLATE, EACH JOIST, TOENAIL CELING JOIST, LAPS PARTITION, FACE NAIL CELING JOIST, LAPS PARTITION, FACE NAIL CELING JOIST TO PARALLEL RAFTERS, FACE NAIL COLLAR TIE TO RAFTER, FACE NAIL RAFTER OR ROOF TRUSS TO PLATE. COLLAR TIE TO RAFTER, FACE NAIL RAFTER OR ROOF TRUSS TO PLATE. TOENAIL - TABLE 2308.7.3.1 COLLAR TIE TO RAFTER, FACE NAIL RAFTER OR ROOF TRUSS TO PLATE. TOENAIL - TO 28 HIDGE BEAM, TOE NAIL RAFTER TO 28 HIDGE BEAM, TOE NAIL STUD TO STUD RON-BRACED WALL PANELS), 24° O.C. FACE NAIL STUD TO STUD RON-BRACED WALL PANELS), 16° O.C. FACE NAIL STUD TO STUD AT INTERSECTING CORNER (BRACED), 12° O.C. FACE NAIL STUD TO STUD AT INTERSECTING CORNER (BRACED), 12° O.C. FACE NAIL STUD TO STUD AT INTERSECTING CORNER (BRACED), 12° O.C. FACE NAIL STUD TO STUD AT INTERSECTING CORNER (BRACED), 12° O.C. FACE NAIL STUD TO STUD AT INTERSECTING CORNER (BRACED), 12° O.C. FACE NAIL STUD TO STUD AND TIEST TO 25°, 16° O.C. FACE NAIL TOP PLATE TO TOP PLATE, 16° O.C. FACE NAIL TOP PLATE TO TOP PLATE, 16° O.C. FACE NAIL BOTTOM PLATE TO JOIST, RIM JOIST, OR BLOCKIND AT TOO, BLOCK RIM JOIST, OR BLOCKIND AT TOO, BOTTOM PLATE, 16° O.C. FACE NAIL TOP OR BOTTOM PLATE, 15° O.C. FACE NAIL STUD TO TO PO BOTTOM PLATE, TO STUD, TOENAIL TOP OR BOTTOM PLATE TO STUD, TOENAIL STUD TO TO PO BOTTOM PLATE, TO STUD, TOENAIL TOP OR BOTTOM PLATE TO STUD, TOENAIL TOP OR BOTTOM PLATE TO STUD, TOENAIL STUD TO TO PO BOTTOM PLATE, TO STUD, TOENAIL STUD TO TO PO BOTTOM PLATE, TO STUD, TOENAIL STUD TO TO PO BOTTOM PLATE, TO STUD, TOENAIL STUD TO TO PO BOTTOM PLATE, TO STUD, TOENAIL STUD TO TO PO BOTTOM PLATE, TO STUD, TOENAIL STUD TO TO PO BOTTOM PLATE, TO STUD, TOENAIL STUD TO TO PO BOTTOM PLATE, TO STUD, TOENAIL STUD TO TO PO BOTTOM PLATE, TO STUD, TOENAIL STUD TO TO PO BOTTOM PLATE, TO STUD, TOENAIL TOP PLATE TO JOIST, FACE NAIL STUD TO TO PLATE TO STUD	BLOCKING TO TRUSS/WEB FILLER,	16d COMMON , 3" x 0.131" NAILS, 3" 14 GAGE
CEILING JOIST TO PAPALLE, RAFTERS, FACE NAIL. TABLE 2308.7.3.1 CEILING JOIST TO PAPALLE, RAFTERS, FACE NAIL. TABLE 2308.7.3.1 COLLAR TIE TO RAFTER, FACE NAIL. RAFTER OR ROOF TRIBE 2308.7.5.1 ROOF RAFTER TO ZE RIDGE BEAM, END NAIL. STUD TO STUD NON-BRACED WALL PAPALES, 16" O.C. FACE NAIL. STUD TO STUD NON-BRACED WALL PAPALES, 16" O.C. FACE NAIL. STUD TO STUD AT INTERSECTING CORNER (BRACED), 12" O.C. FACE NAIL. BUILT-UP HEADER (2" TO ZE), 16" O.C. FACE NAIL. BUILT-UP HEADER (2" TO ZE), 16" O.C. FACE NAIL. BOOF PLATE TO JOIST, RIM JOIST, OR BLOCKING AT NON-BRACED PANAL., 16" O.C. FACE NAIL. BOTTOM PLATE TO JOIST, RIM JOIST, OR BLOCKING AT NON-BRACED PANAL., 16" O.C. FACE NAIL. BOTTOM PLATE TO JOIST, RIM JOIST, OR BLOCKING AT NON-BRACED PANAL., 16" O.C. FACE NAIL. BOTTOM PLATE TO JOIST, RIM JOIST, OR BLOCKING AT NON-BRACED PANAL., 16" O.C. FACE NAIL. BOTTOM PLATE TO JOIST, RIM JOIST, OR BLOCKING AT NON-BRACED PANAL., 16" O.C. FACE NAIL. BOTTOM PLATE TO JOIST, RIM JOIST, OR BLOCKING AT NON-BRACED PANAL., 16" O.C. FACE NAIL. BOTTOM PLATE TO JOIST, RIM JOIST, OR BLOCKING AT NON-BRACED PANAL., 16" O.C. FACE NAIL. BOTTOM PLATE TO JOIST, RIM JOIST, OR BLOCKING AT RON-BRACED PANAL., 16" O.C. FACE NAIL. BOTTOM PLATE TO JOIST, RIM JOIST, OR BLOCKING AT RON-BRACED PANAL., 16" O.C. FACE NAIL. BOTTOM PLATE TO JOIST, RIM JOIST, OR BLOCKING AT RON-BRACED PANAL., 16" O.C. FACE NAIL. BOTTOM PLATE TO JOIST, RIM JOIST, OR BLOCKING AT RON-BRACED PANAL., 16" O.C. FACE NAIL. BOTTOM PLATE TO JOIST, RIM JOIST, OR BLOCKING AT NON-BRACED PANAL., 16" O.C. FACE NAIL. TOP PLATES, LAP AND INTERSECTIONS, FACE NAIL. 1" X 6" SHEATHING TO EACH BEARING, PACE NAIL. 1" X 6" SHEATHING TO EACH BEARING, PACE NAIL. 1" X 6" SHEATHING TO EACH BEARING, PACE NAIL. 2" SUBFLOOR TO JOIST OR GRIDER, BLIND AND FACE NAIL. 2" OLD RIMBER STAPLES STAPLES OR STAPLES OR STAPLES OR STAPLES OR STAPLES OR STAPLES OR STAPLES	JOIST TO TOP PLATE, EACH JOIST,	(3) 8d COMMON , (3) 3" x 0.131" NAILS, (3) 3" 1
FACE NAIL - TABLE 2308,7.3.1 FPH NBLE 2308,7.3.1		(3) 16d COMMON , (4) 3" x 0.131" NAILS, (4) 3" GAGE STAPLES, $\frac{7}{16}$ " CROWN
RAFTER OR ROOF TRUSS TO PLATE, TOENAIL - TABLE 2308.7.5 ROOF RAFTER TO 2× RIDGE BEAM, RND MILL ROOF RAFTER TO 2× RIDGE BEAM, RND MILL ROOF RAFTER TO 2× RIDGE BEAM, TOE MAIL STUD TO STUD (NON-BRACED WALL PANELS), 24* O.C. FACE MAIL STUD TO STUD (NON-BRACED WALL PANELS), 16* O.C. FACE MAIL STUD TO STUD AT INTERSECTING CORNER (BRACED), 16* O.C. FACE NAIL STUD TO STUD AT INTERSECTING CORNER (BRACED), 12* O.C. FACE NAIL STUD TO STUD AT INTERSECTING CORNER (BRACED), 12* O.C. FACE NAIL CONTINUOUS HEADER TO STUD, TOENAIL. TOP PLATE TO TOP PLATE, 16* O.C. FACE MAIL TOP PLATE TO TOP PLATE, 16* O.C. FACE MAIL TOP PLATE TO TOP PLATE, 16* O.C. FACE MAIL TOP PLATE TO TOP PLATE, 16* O.C. FACE MAIL TOP PLATE TO JOIST, RIM JOIST, OR BLOCKING AT NON-BRACED PANEL, 16* O.C. FACE MAIL BOTTOM PLATE TO JOIST, RIM JOIST, OR BLOCKING AT NON-BRACED PANEL, 16* O.C. FACE MAIL STUD TO TOP OR BOTTOM PLATE, TOENAIL BOTTOM PLATE TO JOIST, RIM JOIST, OR BLOCKING AT NON-BRACED PANEL, 16* O.C. FACE MAIL TOP PLATE TO JOIST, RIM JOIST, OR BLOCKING AT NON-BRACED PANEL, 16* O.C. FACE MAIL TOP PLATE TO JOIST, RIM JOIST, OR BLOCKING AT BRACED PANEL, 16* O.C. FACE MAIL TOP OR BOTTOM PLATE, TOENAIL TOP OR BOTTOM PLATE, TOENAIL TOP OR BOTTOM PLATE, TOENAIL TOP PLATE TO JOIST, RIM JOIST, OR BLOCKING AT BRACED PANEL, 16* O.C. FACE MAIL TOP PLATE TO JOIST, RIM JOIST, OR BLOCKING AT BRACED PANEL, 16* O.C. FACE MAIL TOP PLATE TO JOIST, RIM JOIST, OR BLOCKING AT BRACED PANEL, 16* O.C. FACE MAIL TOP PLATE TO JOIST, RIM JOIST, OR BLOCKING AT BRACED PANEL, 16* O.C. FACE MAIL TOP PLATE, TOENAIL TOENAIL TOP PLATE, TOENAIL TOENAIL TOP PLATE, TOENAIL TOENAIL TOP PLATE, TOENAIL TOENAIL TOENAIL TOP PLATE, TOENAIL TOENAIL TOENAIL TOENAIL TOP PLATE, TOENAIL TOE		PER TABLE 2308.7.3.1
TOENAIL - TABLE 2308.7.5 ROOF RAFTER TO 2x RIDGE BEAM, RND NAIL ROOF RAFTER TO 2x RIDGE BEAM, TOE NAIL ROOF RAFTER TO 2x RIDGE BEAM, TOE NAIL STUD TO STUD (NON-BRACED WALL PANELS), 24° O.C. FACE NAIL STUD TO STUD (NON-BRACED WALL PANELS), 16° O.C. FACE NAIL STUD TO STUD (NON-BRACED WALL PANELS), 16° O.C. FACE NAIL STUD TO STUD AT INTERSECTING CORNER (BRACED), 12° O.C. FACE NAIL STUD TO STUD AT INTERSECTING CORNER (BRACED), 12° O.C. FACE NAIL BUILT-UP HEADER (2° TO 2°), 16° O.C. EACH EDGE, FACE NAIL STUD TO STUD AT INTERSECTING CORNER (BRACED), 12° O.C. FACE NAIL BUILT-UP HEADER (2° TO 2°), 16° O.C. EACH EDGE, FACE NAIL STUD TO STUD AT INTERSECTING CORNER (BRACED), 12° O.C. FACE NAIL BUILT-UP HEADER (2° TO 2°), 16° O.C. EACH EDGE, FACE NAIL STUD TO TOP PLATE, 16° O.C. FACE NAIL TOP PLATE TO TOP PLATE, 16° O.C. FACE NAIL TOP PLATE TO TOP PLATE, 16° O.C. FACE NAIL TOP PLATE TO TOP PLATE, 12° O.C. FACE NAIL STUD TO TOP OR BOTTOM PLATE, 12° O.C. FACE BLOCKING AT NON-BRACED PANEL, 16° O.C. FACE NAIL BOTTOM PLATE TO JOIST, RIM JOIST, OR BLOCKING AT NON-BRACED PANEL, 12° O.C. FACE NAIL BOTTOM PLATE TO JOIST, RIM JOIST, OR BLOCKING AT NON-BRACED PANEL, 16° O.C. FACE NAIL STUD TO TOP OR BOTTOM PLATE, END NAIL STUD TO TOP OR BOTTOM PLATE, END NAIL TOP PLATES O, SACE NAIL BOTTOM PLATE TO JOIST, RIM JOIST, OR BLOCKING AT NON-BRACED PANEL, 16° O.C. FACE NAIL BOTTOM PLATE TO JOIST, RIM JOIST, OR BLOCKING AT BRACED PANEL, 16° O.C. FACE NAIL STUD TO TOP OR BOTTOM PLATE, END NAIL TOP PLATES, 16° O.C. FACE NAIL TO TOP OR BOTTOM PLATE, END NAIL TOP PLATES, 16° O.C. FACE NAIL TO TOP OR BOTTOM PLATE, FACE NAIL TO TOP OR BOTTOM PLATE, FACE NAIL TO TOP OR BOTTOM PLATE, FACE NAIL TORNAIL TO TOP OR BOTTOM PLATE, FACE NAIL TORNAIL TO TOP OR BOTTOM PLATE, FACE NAIL TORNAIL TORNAIL	LAR TIE TO RAFTER, FACE NAIL	(3) 10d COMMON, (4) 3" x 0.131" NAILS, OR (4) 14 GAGE STAPLES
NAIL 14 GAGE STAPLES	,	(3) 10d COMMON, (4) 3" x 0.131" NAILS, OR (4) 14 GAGE STAPLES
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FACE NAIL 14 GAGE STAPLES JOIST TO BAND JOIST, FACE NAIL (3) 16d COMMON, (4) 3" x 0.131" NAILS, OR 14 GAGE STAPLES (2) 8d COMMON, (2) 3" x 0.131" NAILS, OR	UILT-UP GIRDER AND BEAMS	24" o/c, OR 3" 14 GAGE STAPLES AT 24" o/c AT TOP AND BOTTOM, STAGGERED (2) 20d COMMON, (3) 3" x 0.131" NAILS, OR (3) 14 GAGE STAPLES AT ENDS AND AT EACH
BRIDGING TO JOIST TOFNAIL FACH FND (2) 8d COMMON , (2) 3" x 0.131" NAILS, OR		(3) 16d COMMON, (4) 3" x 0.131" NAILS, OR (4) 14 GAGE STAPLES
BBIDGING TO JUST TURNAL FACE FNO. 1. '	IST TO BAND JOIST, FACE NAIL	
14 GAGE STAPLES	ING TO JOIST, TOENAIL EACH END	(2) 8d COMMON , (2) 3" x 0.131" NAILS, OR (2) 14 GAGE STAPLES (2) 8d COMMON , (2) 3" x 0.131" NAILS, OR (2)

EARTHWORK AND FOUNDATIONS

- GEOTECHNICAL REPORT: PERFORM SOILS WORK COMPLYING WITH FOUNDATION DESIGN BASED ON RECOMMENDATIONS IN SOILS REPORT. SEE STRUCTURAL COVER SHEET FOR SOILS REPORT NUMBER AND DATE.
- ALLOWABLE FOUNDATION DESIGN VALUES PER GEOTECHNICAL REPORT: VALUES BELOW MAY BE INCREASED 33 PERCENT FOR TRANSIENT LOADING. A. BEARING CAPACITY: SEE PROJECT DESIGN CRITERIA PASSIVE LATERAL BEARING PRESSURE: SEE PROJECT DESIGN CRITERIA C. COEFFICIENT OF FRICTION: SEE PROJECT DESIGN CRITERIA
- GRADING, EXCAVATIONS, BACKFILL AND COMPACTION OF BACKFILL: COMPLY WITH GEOTECHNICAL REPORT AND REQUIREMENTS OF GOVERNING CODE AUTHORITY AND PERFORMED ONLY UNDER CONTINUOUS SPECIAL INSPECTION OF GEOTECHNICAL
- PREPARATION OF SOIL UNDER BUILDING PAD: SEE GEOTECHNICAL REPORT FOR OVER-EXCAVATION OF EXISTING SOIL AND INSTALLATION OF PROPERLY COMPACTED
- FOUNDATION EXCAVATIONS: FOUNDATIONS ARE TO BEAR ON FIRM EXISTING SOIL OR APPROVED COMPACTED FILL AS INDICATED IN GEOTECHNICAL REPORT. EXCAVATIONS ARE TO BE INSPECTED BY GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT OF REINFORCING STEEL AND FORMWORK. ENSURE EXCAVATIONS ARE CLEANS, DRY AND FREE OF DEBRIS OR LOOSE SOIL. SLOPE SIDES OF EXCAVATION NOT LESS THAN MINIMUM SLOPE INDICATED IN GEOTECHNICAL REPORT. CAST CONCRETE DIRECTLY AGAINST EXCAVATED SURFACES.
- BACKFILLING OF RETAINING WALLS: PLACE AFTER COMPLETION AND INSPECTION OF WATERPROOFING. ADEQUATELY SHORE RETAINING WALLS DURING BACKFILL OPERATION. UNLESS ADEQUATELY SHORED, DO NOT PLACE BACKFILL BEHIND BUILDING STRUCTURE RETAINING WALLS (EXCLUDING SITE RETAINING WALLS) UNTIL CONCRETE AT ELEVATED FLOOR LEVELS ADJACENT TO WALLS ARE COMPLETELY POURED (IN AREA) AND HAVE CURED FOR AT LEAST 7 DAYS.
- WATER EXPOSURE AT BUILDING PERIMETER FOOTINGS: AT AREAS WHERE SIDEWALKS OR PAVING DO NOT IMMEDIATELY ADJOIN STRUCTURE, PROVIDE POSITIVE DRAINAGE AWAY FROM STRUCTURE AT BUILDING PERIMETER. LANDSCAPE IRRIGATION IS NOT PERMITTED WITHIN FIVE FEET OF BUILDING PERIMETER FOOTINGS EXCEPT WHEN ENCLOSED IN PROTECTED PLANTERS WITH DIRECT DRAINAGE AWAY FROM STRUCTURE OR WHICH COMPLIES WITH APPLICABLE CODE. DISCHARGE FROM DOWN SPOUTS, ROOF DRAINS AND SCUPPERS IS NOT PERMITTED ONTO UNPROTECTED SOILS WITHIN FIVE FEET OF BUILDING PERIMETER. REFER TO GEOTECHNICAL REPORT FOR COMPLETE REQUIREMENTS.

- DIAPHRAGM NAILING: ALL FLOOR SHEATHING, ROOF SHEATHING AND SHEAR PANELS CONSTRUCTED USING WOOD-BASED STRUCTURAL-USE PANELS SHALL BE FASTENED WITH COMMON NAILS. HARDWARE SHALL BE NAILED PER MANUFACTURER'S REQUIREMENTS, OTHERWISE SHORT NAILS MAY BE USED. NAILING SHALL BE PER THE BUILDING CODE UNLESS NOTED OTHERWISE ON THE PLANS OR DETAILS.
- NAIL GUNS: MUST BE EQUIPPED WITH A FLUSH NAILER ATTACHMENT FOR NAILING OF PLYWOOD SHEAR WALLS, FLOOR SHEATHING AND ROOF SHEATHING.
- NAIL MANUFACTURING: ALL NAILS MUST BE DOMESTICALLY MANUFACTURED & MEET THE REQUIREMENTS OF THE CURRENT BUILDING CODE.
- GALVANIZED NAILS: ALL NAILS INTO PRESSURE TREATED LUMBER SHALL BE HOT DIPPED GALVANIZED OR OTHER APPROVED COATING TO RESIST CORROSION UNLESS PRESSURE TREATED PLATE IS TREATED WITH BORATE.

WOOD FRAMING

SAWN LUMBER: ALL STRUCTURAL SAWN LUMBER SHALL BE DOUGLAS FIR LARCH WITH 19% MAXIMUM MOISTURE CONTENT OF THE FOLLOWING GRADES, CONFORMING TO STANDARD GRADING RULES FOR WEST COAST LUMBER NO. 17, UNLESS NOTED OTHERWISE. THE LUMBER GRADES AS SPECIFIED BELOW MEET MINIMUM REOLIBEMENTS:

REQUIREMENTS:					
LUMBER GRADES					
CONDITION	GRADE				
PLATES & BLOCKING	STANDARD OR BETTER				
STUDS TO 10'-0" IN HEIGHT	STANDARD OR BETTER				
STUDS OVER 10'-0" IN HEIGHT	#2				
2x RAFTER JOISTS	#2				
4x6 THROUGH 4x12 BEAMS, HEADER & POSTS	#2				
4x14 BEAMS, HEADERS & POSTS	#1				
4x4 POSTS, HEADERS	#2				
6x AND LARGER POSTS, BEAMS, STRINGERS	#1				

- GRADE STAMPS: WHERE POSSIBLE ALL LUMBER GRADE STAMPS SHALL REMAIN ON LUMBER AFTER INSTALLATION. CONVENTIONAL LUMBER SHALL MEET DOC PS 20 REQ.
- PRESSURE TREATED LUMBER: ALL EXPOSED EXTERIOR WOOD AND WOOD BEARING ON CONCRETE OR MASONRY SHALL BE PRESSURE TREATED FIR. ALL NAILS TO PLATES TREATED W/ BORATE MAY BE STANDARD NAILS, FOR ALL OTHER PRESSURE TREATED PLATES, USE HOT DIP GALVANIZED NAILS.
- PLYWOOD/OSB: EACH WOOD-BASED STRUCTURAL-USE PANEL USED FOR DIAPHRAGM CONSTRUCTION SHALL BE IDENTIFIED BY A REGISTERED STAMP OR BRAND OF AN ICC-APPROVED COMPLIANCE ASSURANCE AGENCY. WOOD-BASED STRUCTURAL-USE PANELS SHALL MEET THE REQUIREMENTS OF DOC PS 1 OR PS 2. ALL PANELS SHALL BE GLUED WITH EXTERIOR TYPE GLUE MEETING APA SPECIFICATIONS, PANELS PERMANENTLY EXPOSED TO THE OUTDOORS SHALL BE EXTERIOR TYPE.
- METAL CONNECTORS: ALL METAL CONNECTORS SHALL BE THOSE MANUFACTURED BY SIMPSON STRONG TIE OR USP LUMBER CONNECTORS. THE NAILS FOR THESE CONNECTORS SHALL BE AS SPECIFIED BY THE MANUFACTURERS FOR CAPACITY OF THE HARDWARE. ALL CALLOUTS REFER TO SIMPSON PRODUCT CODES AND NAMES. REFEF TO CROSS REFERENCE TABLES PROVIDED BY USP IN THEIR PRODUCT CATALOGS.
- FIRE STOPS: PROVIDE FIRE STOPS AT ALL INTERSECTIONS OF STUD WALLS AT FLOOR, CEILING AND ROOF. FIRE STOPS SHALL BE 2x NOMINAL THICKNESS OF WOOD AND SHALL BE THE FULL WIDTH OF THE ENCLOSED SPACE. PLACE FIRESTOPS AT A MAXIMU SPACING OF 10'-0" IN THE VERTICAL DIRECTION. PROVIDE 2x FIRE STOPS IN ALL FURRED SPACES VERTICAL AND HORIZONTAL AND AT A MAXIMUM SPACING OF 10'-0" IN EACH DIRECTION AND AT THE SAME LINES AS FIRE STOPS IN ADJACENT STUD WALLS.
- BOLT HOLES: IN WOOD SHALL BE 1/32" TO 1/16" LARGER THAN THE NOMINAL BOLT DIAMETER . ALL BOLTS SHALL HAVE A STANDARD CUT WASHER UNDER HEAD AND NUT UNLESS NOTED OTHERWISE.
- BOLTS: ALL BOLTS USED FOR WOOD CONNECTIONS SHALL BE ASTM A307, U.N.O. ALL NUTS AND BOLTS SHALL BE RE-TIGHTENED PRIOR TO THE APPLICATION OF SHEATHING,
- NOTCHING & CUTTING: STRUCTURAL MEMBERS SHALL NOT BE CUT FOR PIPES, ETC. UNLESS SPECIFICALLY DETAILED. NOTCHING OF HORIZONTAL STRUCTURAL MEMBERS SHALL CONFORM TO THE BUILDING CODE. NOTCHING AND BORING OF STUDS AND TOP PLATES SHALL CONFORM TO THE BUILDING CODE.
- . JOIST BLOCKING: PROVIDE 2x BLOCKING BETWEEN JOISTS AND RAFTERS AT ALL BEARING SUPPORTS U.N.O. CROSS BRIDGING OR SOLID BLOCKING SHALL BE PROVIDED AT 8'-0" O.C. MAXIMUM FOR ALL JOISTS UNLESS BOTH EDGES ARE HELD IN LINE FOR THEIR ENTIRE LENGTH.
- JOIST HANGERS: FOR I-JOISTS, PROVIDE SIMPSON "IUS" HANGER. FOR CONVENTIONAL JOIST, USE SIMPSON "LUS" HANGER, OR EQUIVALENT.
- 2. BEAM BEARING: ALL BEAMS TO BE SUPPORTED WITH FULL BEARING UNLESS NOTED
- 13. CONVENTIONAL FRAMING: ALL CONVENTIONAL FRAMED PORTIONS OF THE STRUCTURE ARE TO BE CONSTRUCTED PER CBC SECTION 2308.
- 14. WALLS ON WOOD FLOOR: PROVIDE SINGLE FLOOR JOIST BELOW NON-BEARING, PARALLEL WALLS 10'-0" OR LONGER.
- 15. FINGER JOINTED STUDS: IT IS STRUCTURALLY ACCEPTABLE TO USE STRUCTURAL GLUED FINGER-JOINTED) LUMBER. ALL FINGER-JOINTED LUMBER MUST BE "CER EXT JNT; AND CONFORM WITH THE WWPA'S GLUED PRODUCTS PROCEDURES AND QUALITY CONTROL. FINGER-JOINTED LUMBER IS TO BE STAMPED WITH "CER EXT JNTS" AND MAY BE USED INTERCHANGEABLE WITH ANY SOLID-SAWN LUMBER PRODUCT OF THE SAME SPECIES AND GRADES. PLEASE REFER TO LUMBER SPECIFICATION IN THE STRUCTURAL GENERAL NOTES AND CALCULATIONS.
- 6. PLATE WASHERS AT NON-SILL PLATE APPLICATION: MINIMUM SIZE FOR SQUARE PLATE WASHERS: (REFER TO PLANS FOR SILL PLATE WASHER REQUIREMENTS.)

WOOD HARDWARE NAILING SCHEDULE

PLATE \	PLATE WASHERS NON SILL PLATE APPLICATION				
BOLT	SIZE	PLATE WASHER SIZE			
2	<u>[</u>	3" x 2" x 2"			
38	<u>2</u> 11 3	$\frac{1}{4}$ " x 2 $\frac{1}{2}$ " x 2 $\frac{1}{2}$ "			
3 2	<u>B</u>	$\frac{5}{16}$ " x 2 $\frac{3}{4}$ " x 2 $\frac{3}{4}$ "			
7.8	<u>7</u> 11 3	5 " x 3" x 3"			
1	П	³ / ₈ x 3 ½ x 3 ½			

		HOLDOWNS		
		SIMPSON		USP
MODEL NAME	CAPACITY (LBS)	FASTENER SCHEDULE	APPLICATION	MODEL NAME
STHD14	3,500	(24) 10d Nails (0.148" x 3-1/4")	HOLDOWN	
HTT4	4,455	(18) SD #10 1-½"	HOLDOWN	
HDU4	4,565	(10) 1/4" x 2-1/2" SDS	HOLDOWN	
HDU5	5,645	(14) 1/4" x 2-1/2" SDS	HOLDOWN	
HDU8	6,765	(20) 1/4" x 2-1/2" SDS	HOLDOWN	
HDU11	9,335	(30) 1/4" x 2-1/2" SDS	HOLDOWN	
HDU14	10,770	(36) 1/4" x 2-1/2" SDS	HOLDOWN	
		ANCHOR BOLTS		
SSTB20	4,785	5/8"	HOLDOWN ANCHOR	
SSTB24	5,790	5/8"	HOLDOWN ANCHOR	
SSTB28	11,645	7/8"	HOLDOWN ANCHOR	
SB1x30	13,090	1"	HOLDOWN ANCHOR	
	l .	HARDWARE	l l	
A34	465	(8) 8d Nails (0.131" x 1-½")	AT BLOCKING OR RIM	MPA1
A35	650	(12) 8d Nails (0.131" x 1-½")	AT BLOCKING OR RIM	MPA1
LTP4	625	(12) 8d Nails (0.131" x 1-½")	AT BLOCKING OR RIM	MP4F
LTP5	565	(12) 8d Nails (0.131" x 1-½")	AT BLOCKING OR RIM	MP4F
LS50	560	(8) 8d Nails (0.131" x 1-½")	AT BLOCKING OR RIM	MP5
		STRAPS		
MODEL NAME	CAPACITY (LBS)	FASTENER SCHEDULE	APPLICATION	MODEL NAME
CS16	1,705	(22) 8d Nails (0.131" x 2-1/2")	DIRECTLY TO TIMBER	RS150
CS16	1,705	(22) 8d Nails (0.131" x 2-1/2")	THRU PLYWOOD	RS150
CS14	2,490	(30) 8d Nails (0.131" x 2-½")	DIRECTLY TO TIMBER	
CMSTC16	4,690	(50) 10d Nails (0.148" x 3-1/4")	DIRECTLY TO TIMBER	
CMST14	6,475	(66) 10d Nails (0.148" x 2-½")	DIRECTLY TO TIMBER DIRECTLY TO	
CMST12	9,215	(86) 10d Nails (0.148" x 2-½")	TIMBER	
		SHEAR WALLS		
NAIL TYPE	SHEAR WALL TYPE	NAIL SIZE		
d COMMON	SW 2, 3, 4, 6	2-1/2" x .131"		
10d COMMON	SW 2B	2-1/4" x .148"		

CONCRETE EXPOSURE REQUIREMENTS

							-			
		ACI 318	8-14 T	ABL	E 19.3	.1.1 - EXF	POSURE CA	TEGO	RIES AND CLAS	SES
	CATEGORY			CL	LASS					
				F0		CONCRETE NOT EXPOSED TO FREEZING-AND-THAWI CYCLES				
	F				F1	CY	CLES WITH	LIMIT	TO FREEZING-AI ED EXPOSURE 1	O WATER
F		NG AND VING			F2				TO FREEZING-AI ENT EXPOSURE	
					F3		S WITH FRE	EQUEN	TO FREEZING-AI IT EXPOSURE TO DEICING CHEMI	O WATER AND
						SULFAT	TER SOLUBI E (SO4²-) IN ENT BY WEI	SOIL,		SULFATE (SO4 ²⁻) FER, PPM
	Ç	3	Ì		S0	S	O4 ²⁻ < 0.10		SO4 ²	< 150
	SULF		İ		S1	0.10	< SO4 ²⁻ < 0	.20	150 < SO4 ²⁻ < SEA\	1500 OR WATER
			Ī		S2	0.20	SO4 ²⁻ ≤ 2	2.0	1500 <u><</u> S0	04 ²⁻ <u><</u> 10,000
					S3	S	$O4^{2-} > 2.00$		SO4 ²⁻ 2	> 10,000
	V IN COI	-		١	WO	CON	ICRETE IN C	CONTA	DRY IN SERVIC CT WITH WATE Y IS NOT REQUII	R AND LOW
	WITH V	VATER		,	W1	CON			CT WITH WATE Y IS NOT REQUII	
					C0	CON	CRETE DRY	OR P	ROTECTED FROM	M MOISTURE
	C CORROSION				C1 CONCRETE EXPOSED TO MOISTURE E EXTERNAL SOURCES OF CHLOR					
	ROTEC	TION OF CEMEN			CONCRETE EXPOSED TO MOISTURE AND SOURCE OF CHLORIDES FROM DEICING SALT, BRACKISH WATER, SEAWATER, OI THESE SOURCES		G CHEMICALS,			
A	ACI 318	3-14 TAE	BLE 19	9.3.2	2.1 - RE	QUIREM	ENTS FOR (CONC	RETE BY EXPOS	URE CLASS
	SURE ASS	MAX W/CM	MIN	fc		AD	DITIONAL N	MINIM	JM REQUIREME	NTS
						AIR CONTENT CEMENT MATER			LIMITS ON CEMENTITIOUS MATERIALS	
F	0	N/A	250	00			N/A		N/A	
	-1	0.55	350				PER TABLE 19.3.3.1		N/A	
	-2	0.45	450				PER TABLE			N/A
F	-3	0.40 (2)	5000) (2)		F	PER TABLE	19.3.3.	1	26.4.2.2(b)
							TIOUS MAT			CALCIUM CHLORIDE
						VDE	ASTM C		ASTM C1157	ADMIXTURE
S	30	N/A	250)O I ::-		TYPE RICTION	NO TYP	ΠΟΝ	NO TYPE RESTRICTION	NO RESTRICTION
S	S1	0.50	400	4000 I		l _(4,5)	TYPES IP OR IT WI (MS) DESIGNAT	İTH	MS	NO RESTRICTION
S	S2	0.45	450	4500		V (5)	TYPES IP OR IT WITH DESIGNAT	H (HS)	HS	NOT PERMITTED
S	83	0.45	450	00	POZ OR	PLUS ZOLAN SLAG 1ENT (6)	TYPES IP OR IT WITH DESIGNAT PLUS POZZOLAN SLAG CEM	H (HS) TION N OR	HS PLUS POZZOLAN OR SLAG CEMENT ®	NOT PERMITTED

WO	N/A	2500		NONE				
W1	0.50	4000		NONE				
			CHLORIDE ION IN CONCRETE	ATER SOLUBLE I (CL ⁻) CONTENT E, PERCENT BY F CEMENT (7) PRESTRESSED CONCRETE	ADDITIONAL PROVISIONS			
CO	N/A	2500	1.00	0.06	NONE			
C1	N/A	2500	0.30	0.06	INOINE			

C2 0.40 5000 0.15 0.06 CONCRETE COVER (8)

THE MAXIMUM W/CM LIMITS IN TABLE 19.3.2.1 DO NOT APPLY TO LIGHTWEIGHT CONCRETE. 2. FOR PLAIN CONCRETE, THE MAXIMUM W/CM SHALL BE 0.45 AND THE MINIMUM fc SHALL \parallel 3. ALTERNATIVE COMBINATIONS OF CEMENTITIOUS MATERIALS TO THOSE LISTED IN TABLE 19.3.2.1 ARE PERMITTED WHEN TESTED FOR SULFATE RESISTANCE AND MEETING THE 4. FOR SEAWATER EXPOSURE, OTHER TYPES OF PORTLAND CEMENTS WITH TRI-CALCIUM ALUMINATE (C3A) CONTENTS UP TO 10 PERCENT ARE PERMITTED IF THE W/CM DOES NOT 5. OTHER AVAILABLE TYPES OF CEMENT SUCH AS TYPE LOR TYPE III ARE PERMITTED IN EXPOSURE CLASSES S1 OR S2 IF THE C3A CONTENTS ARE LESS THAN 8 PERCENT FOR EXPOSURE CLASS S1 OR LESS THAN 5 PERCENT FOR EXPOSURE CLASS S2. 6. THE AMOUNT OF THE SPECIFIC SOURCE OF THE POZZOLAN OR SLAG CEMENT TO BE USED SHALL BE AT LEAST THE AMOUNT THAT HAS BEEN DETERMINED BY SERVICE RECORD TO IMPROVE SULFATE RESISTANCE WHEN USED IN CONCRETE CONTAINING TYPE / CEMENT. ALTERNATIVELY, THE AMOUNT OF THE SPECIFIC SOURCE OF THE POZZOLAN OR SLAG CEMENT TO BE USED SHALL BE AT LEAST THE AMOUNT TESTED IN ACCORDANCE WITH ASTM C1012 AND MEETING THE CRITERIA IN 26.4.2.2(c) 7. WATER-SOLUBLE CHLORIDE ION CONTENT THAT IS CONTRIBUTED FROM THE NGREDIENTS INCLUDING WATER, AGGREGATES, CEMENTITIOUS MATERIALS, AND ADMIXTURES SHALL BE DETERMINED ON THE CONCRETE MIXTURE BY ASTM C1218 AT AGE BETWEEN 28 AND 42 DAYS.

PROPRIETARY ANCHORAGES AND FASTENERS

3. CONCRETE COVER SHALL BE IN ACCORDANCE WITH 20.6.

- DRILL AND EPOXY ANCHORS: SIMPSON SET-XP EPOXY ADHESIVE SYSTEM USING THREADED STEEL RODS CONFORMING TO ASTM-F1554, GRADE 36, OR REINFORCING STEEL CONFORMING TO ASTM A615 OR A706, GRADE 60, COMPLYING WITH ICC ES ESR 2508. INSTALLERS TO BE CERTIFIED BY MANUFACTURER.
- 1.B. MECHANICAL ANCHORS 1.B.1. HILTI KWIK BOLT-III CARBON STEEL EXPANSION ANCHORS COMPLYING WITH ICC ESR-1385. 1.B.2. SIMPSON TITEN HD ANCHORS STEEL SCREW ANCHORS COMPLYING WITH ICC 1.B.2.1. TITEN HD ANCHORS SHALL BE STAINLESS STEEL IN EXPOSED WET ENVIROMENTS.
- 1.C. WELDED SHEAR STUDS: NELSON 3SL FLUX FILLED, HEADED STUD ANCHORS, 60,000 I MINIMUM ULTIMATE TENSILE STRENGTH, AUTOMATICALLY END WELDED IN FIELD CONFIRMING TO ASTM A108 AND COMPLYING WITH ICC ES REPORT NO. 2614. 1.D. WELDED DEFORMED ANCHORS: NELSON D2L, COLD ROLLED, DEFORMED STEEL
- REINFORCING BARS CONFORMING TO ASTM A496 AND COMPLYING WITH ICC ES REPORT NO. 5217.
- 2.A. POWDER ACTUATED FASTENERS: HILTI XCP, COMPLYING WITH CURRENT ICC ES REPORT NO. 2379. PROVIDE APPROPRIATE WASHER BETWEEN FASTENER HEAD AND LIGHT GAUGE METAL OR WOOD SURFACE. 2.A.1. POWER-DRIVEN FASTENERS SHALL NOT BE USED TO ANCHOR SILL PLATES EXCEPT AT INTERIOR NON-BEARING WALL NOT DESIGN AS SHEAR WALLS.
- 2.B. SELF-DRILLING METAL SCREWS (INDICATED "SCREWS" ON DRAWINGS): MINIMUM 0.292-INCH HEAD DIAMETER SELF-DRILLING/SELF-TAPPING STEEL SCREWS COMPLYING WITH ICC ES REPORT. MINIMUM YIELD STRESS, FY=33 KSI.

2.A. FASTENERS, INCLUDING NUTS AND WASHERS, IN CONTACT WITH

- PRESERVATIVE-TREATED WOOD SHALL BE HOT DIPPED ZINC-COATED GALVANIZED STEEL, STAINLESS STEEL, SILICON BRONZE OR COPPER. STAPLES SHALL BE OF STAINLESS STEEL. FASTENERS OTHER THAN NAILS, STABLES, TIMBER RIVETS, WOOD SCREWS AND LAG SCREWS SHALL BE PERMITTED TO BE OF MECHANICALLY DEPOSITED ZINC-COATED STEEL WITH COATING WEIGHTS IN ACCORDANCE WITH ASTM B695, CLASS 55 MINIMUM. 2.A.1. EXCEPTION: PLAIN CARBON STEEL FASTENERS, INCLUDING NUTS AND WASHERS, IN SBX/DOT AND ZINC BORATED PRESERVATIVE WOOD IN AN
- INTERIOR, DRY ENVIRONMENT SHALL BE PERMITTED. INSTALLATION: SEE MANUFACTURER'S WRITTEN INSTRUCTIONS AND REFERENCED ICC
- MATERIALS NOT TO BE PENETRATED BY FASTENERS OR ANCHORAGES: POST-TENSIONED CONCRETE AND PRECAST, PRESTRESSED CONCRETE UNLESS SPECIFICALLY DETAILED HEREIN OR AS ACCEPTED IN WRITING BY ARCHITECT (STRUCTURAL ENGINEER). WHEN INSTALLATION IS PERMITTED, LOCATE PRESTRESSING AND POST-TENSIONED TENDONS ACCURATELY PRIOR TO INSTALLATION.
- DRILLING HOLES IN EXISTING CONCRETE OR MASONRY FOR ANCHORAGES: USE NON-PNEUMATIC, ROTARY HAMMER TOOLS WITH ANSI COMPLIANT NON-REBAR CUTTING DRILL BITS TO DRILL HOLES OF PROPER TOLERANCES. LOCATE EXISTING BEBAR INCLUDING PRESTRESSING AND POST-TENSIONING TENDONS USING NON-HAZARDOUS, NONDESTRUCTIVE 1 METHODS WITH ACCURATE LOCATION TOLERANCES (PLUS OR MINUS INCH PRIOR TO DRILLING 4 HOLES TO AVOID CUTTING OR DAMAGING. HOLES SHALL BE THOROUGHLY CLEANED PER MANUFACTURERS WRITTEN RECOMMENDATIONS PRIOR TO INSTALLATION OF ANCHORAGES.
- 6. DELETERIOUS MATERIALS: KEEP ANCHORAGES, INCLUDING HOLES FOR DRILL AND EPOXY ANCHORS AND MECHANICAL ANCHORS, FREE OF DUST, GREASE, AND OTHER MATERIALS THAT IMPAIR BOND.
- 6. TESTING FOR DRILL AND EPOXY ANCHORS: 6.A. SPECIAL INSPECTION: SPECIAL INSPECTOR WILL PERFORM CONTINUOUS SPECIAL INSPECTION DURING INSTALLATION.

HAVE AT LEAST TWO GALVANIZED NUTS ABOVE THE BASE PLATE.

EXTERIOR PROPRIETARY ANCHORS & FASTENERS: 7.A. FOR EXTERIOR APPLICATIONS & CORROSIVE ENVIRONMENTS, ALL ANCHORS SHOULD BE GALVANIZED OR STAINLESS STEEL. CONTRACTOR TO VERIFY AND PROVIDE GALVANIZED OR STAINLESS STEEL ANCHORAGE PER MANUFACTURER REQUIREMENTS. CONTRACTOR TO IMMEDIATELY NOTIFY THE STRUCTURAL EOR OF ANY DISCREPANCIES, PRIOR TO THE START OF CONSTRUCTION 7.B. EXTERIOR ANCHOR BOLTS AND POST BASES SHALL BE GALVANIZED AND SHALL

REINFORCING STEEL

A. ALL BARS, U.N.O.: ASTM A615, GRADE 60

- B. BARS TO BE WELDED: ASTM A706, GRADE 60 C. ADDITIONAL REQUIREMENTS FOR BARS, EXCLUDING TIES, IN DUCTILE MOMENT RESISTING FRAMES AND BOUNDARY ELEMENTS IN SHEAR WALLS: NO ADDITIONAL REQUIREMENTS IF ASTM A706, GRADE 60 BARS USED. ASTM615, GRADE 60 BARS ARE PERMITTED PROVIDED ACTUAL YIELD STRENGTH BASED ON MILL TESTS DOES NOT EXCEED SPECIFIED YIELD STRENGTH BY MORE THAN 18,000 PSI (RETESTS SHALL NOT EXCEED THIS VALUE BY MORE THAN AN ADDITIONAL 3,000 PSI) AND RATIO OF ACTUAL ULTIMATE TENSILE STRESS TO ACTUAL TENSILE YIELD STRENGTH IS NOT
- A. SMOOTH WELDED WIRE FABRIC (W.W.F.): ASTM A185, FY=65 KSI, FLAT SHEETS ONLY. DO NOT USE ROLLED MESH. LAP SPACES (1 FOOT MINIMUM). OFFSET LAPS IN ADJACENT SHEETS TO AVOID CONTINUOUS LAPS B. <u>DEFORMED WIRE STIRRUPS</u> (D4 AND LARGER ONLY): ASTM A497, FY=65 KSI. C. <u>SPIRAL REINFORCING:</u> ASTM A82, GRADE 60
- SHOP DRAWINGS: ACI 315, PART B. SHOW REINFORCING STEEL PLACEMENT INCLUDING SIZES, QUANTITIES, SPACING, CLEARANCES, SPLICE LOCATIONS, LAP LENGTHS, AND CONCRETE COVERAGE AND SUBMIT TO ARCHITECT (STRUCTURAL ENGINEER). PROMPTLY NOTIFY ARCHITECT (STRUCTURAL ENGINEER) PRIOR TO DEVELOPING SHOP DRAWINGS IF INSUFFICIENT CLEAR DISTANCES BETWEEN REINFORCING STEEL AND OTHER CONGESTION IS ENCOUNTERED. NOTIFY SPECIAL INSPECTOR OF ADJUSTMENTS MADE FORM APPROVED CONTRACT DOCUMENTS WHICH ARE INDICATED ON ACCEPTED SHOP DRAWINGS THAT FACILITATE FIELD PLACEMENT OF REINFORCING STEEL AND CONCRETE.
- SPLICE LOCATIONS: SPLICE #5 BARS AND LARGER ONLY AT LOCATIONS INDICATED. IF ADDITIONAL SPLICE LOCATIONS ARE PROPOSED, PROMPTLY NOTIFY ARCHITECT (STRUCTURAL ENGINEER) PRIOR TO DEVELOPING SHOP DRAWINGS. A. SPLICES IN WALLS: LOCATE SPLICES IN HORIZONTAL BARS AT WELL-STAGGERED LOCATIONS. DO NOT SPLICE VERTICAL BARS EXCEPT AT HORIZONTAL SUPPORTS SUCH AS FLOOR AND ROOF DIAPHRAGMS.
- MINIMUM CLEARANCES BETWEEN PARALLEL REINFORCING STEEL INCLUDING DISTANCE BETWEEN SETS OF SPLICED BARS: 1" OR 1 db, WHICHEVER IS GREATER. 1 2" OR 1½ db WHICHEVER IS GREATER, AT COLUMNS, PIERS, AND PILASTERS ONLY. FOR BUNDLED BARS, MINIMUM CLEAR DISTANCES BETWEEN UNITS OF BUNDLED BARS SHALL BE SAME AS SINGLE BARS EXCEPT BAR DIAMETER IS DERIVED FROM EQUIVALENT TOTAL AREA OF BUNDLE.
- DOWELS AT CONSTRUCTION JOINTS: PROVIDE DOWELS MATCHING SIZE AND QUANTITY OF REINFORCING STEEL INTERRUPTED AT CONSTRUCTION JOINTS, UNLESS DETAILED
- PLACEMENT OF BARS IN WALLS: PLACE VERTICAL BARS CLOSEST TO WALL SURFACES AT CURTAINS CONTAINING VERTICAL AND HORIZONTAL BARS OF THE SAME SIZE. IN CURTAINS WHICH VERTICAL AND HORIZONTAL BARS ARE OF DIFFERENT SIZES OR SPACING, PLACE LAYER WITH MOST STEEL AREA CLOSEST TO NEAR WALL SURFACE.
- BARS TERMINATING AT WALLS, COLUMNS, BEAMS, AND FOUNDATIONS: EXTEND BARS TO WITHIN 2" (3" AT CONCRETE POURED AGAINST EARTH) OF FAR FACE OF WALL, COLUMN, BEAM OR FOUNDATION AND PROVIDE STANDARD ACI 90-DEGREE HOOK UNLESS DETAILED OTHERWISE.
- . BARS INTERRUPTED BY STRUCTURAL STEEL: EXTEND BARS TO WITHIN 2" OF STEEL FACE AND PROVIDE STANDARD ACI 90-DEGREE HOOK UNLESS DETAILED OTHERWISE.
- WELDING: AWS D1.4, EXCEPT AS MODIFIED BY APPLICABLE CODE STANDARD 19-1. SEE RGA #3-77 OF CITY OF LOS ANGELES "R" BOOK FOR ADDITIONAL REQUIREMENTS IF GOVERNING CODE AUTHORITY IS CITY OF LOS ANGELES DEPARTMENT OF BUILDING AND
- A. ACCEPTABLE REINFORCING STEEL FOR WELDING ASTM A706: IF WELDING OF REINFORCING STEEL OTHER THAN A706 IS DESIRED, SUBMIT PROPOSED PROCEDURE, INDICATING CONFORMANCE TO APPLICABLE CODE AND REQUIREMENTS OF GOVERNING CODE AUTHORITY, TO ARCHITECT (STRUCTURAL ENGINEER) FOR ACCEPTANCE AND TO GOVERNING CODE AUTHORITY FOR APPROVAL PRIOR TO EXECUTION.
- B. WELDER CERTIFICATION: GOVERNING CODE AUTHORITY.
- BENDING: BEND COLD UNLESS OTHERWISE ACCEPTED BY ARCHITECT (STRUCTURAL ENGINEER). DO NOT FIELD-BEND REINFORCING STEEL BARS EMBEDDED IN CONCRETE UNLESS OTHERWISE ACCEPTED IN WRITING BY ARCHITECT (STRUCTURAL ENGINEER).
- 13. LAP SPLICES: PROVIDE CLASS B SPLICES UNLESS INDICATED OTHERWISE.

CONCRETE

- CONCRETE COMPRESSIVE STRENGTH: ALL CONCRETE SHALL ATTAIN A MINIMUM COMPRESSIVE STRENGTH AS SHOWN IN THE TABLE 2 BELOW AT 28 DAYS, U.N.O. ON PLANS. SEE ALSO SULFATE CONTENT NOTES.
- AGGREGATES IN CONCRETE: SHALL BE NATURAL SAND AND ROCK (150 LB/CU. FT) CONFORMING TO ASTM C33. AGGREGATE SHALL HAVE PROVEN SHRINKAGE CHARACTERISTICS OF LESS THAN 0.04% PER ASTM C-157. DO NOT CHANGE SOURCE OF AGGREGATE DURING COURSE OF WORK WITHOUT WRITTEN CONSENT OF ENGINEER.
- CEMENT: SHALL BE PORTLAND CEMENT CONFORMING TO ASTM C150. CEMENT SHALL BE TYPE II OR AS REQUIRED TO SATISFY SITE SOIL CONDITIONS. REFER TO TABLE 4 FOR CONCRETE CEMENT REQUIREMENTS ON SOIL CONTAINING SULFATE. REFER TO TABLE 2 FOR MAXIMUM WATER TO CEMENT BATIO

TOTTWAKINOW WATER TO GEWENT HATTO.							
CONCRETE STRENGTH							
CONDITION STRENGTH, fc WATER / CEMENT RATIO MAX. SLUMP							
SLAB ON GRADE	AB ON GRADE 2,500 PSI 0.65 6"						
FOOTING & GRADE BM	6"						
REBAR CLEAR COVER IN CON	CRETE: THE FOLLOWING	G MINIMI IM CLEAF	R DISTANCES				

BETWEEN REINFORCING STEEL AND FACE OF CONCRETE SHALL BE MAINTAINED

UNLESS NOTED OTHERWISE:						
REBAR CLEAR COVER FOR CAST-IN-PLACE CONCRETE MEMBERS						
CONCRETE EXPOSURE	MEMBER	REINFORCEMENT	SPECIFIED COVER			
SLAB ON GRADE	ALL	ALL	CENTER OF SLAB OR 2" MIN			
CONCRETE AGAINST & PERMANENTLY IN CONTACT WITH GROUND:	ALL	ALL	3"			
EXPOSED TO WEATHER		No. 6 THROUGH No. 18 BARS	2"			
OR IN CONTACT WITH GROUND	ALL	No. 5 BAR, W31 OR D31 WIRE, AND SMALLER	1-1/2"			
	SLABS, JOISTS,	No. 14 AND No. 18 BARS	1-1/2"			
NOT EXPOSED TO	AND WALLS	No. 11 BAR AND SMALLER	<u>3</u> 11			
WEATHER OR IN CONTACT WITH GROUND	BEAMS, COLUMNS, PEDESTALS, AND TENSION TIES	PRIMARY REINFORCEMENT, STIRRUPS, TIES, SPIRALS, AND HOOPS	1-1/2"			

VIBRATION: VIBRATION OF CONCRETE SHALL BE IN ACCORDANCE WITH GENERAL PROVISIONS OUTLINED IN PORTLAND CEMENT ASSOCIATION SPECIFICATION ST26.

CURING: CONCRETE SHALL BE MAINTAINED AT IN A MOIST CONDITION FOR A MINIMUM

OF FIVE DAYS AFTER ITS PLACEMENT. FOR CONCRETE OTHER THAN SLAB ON GRADE,

- APPROVED CURING COMPOUNDS MAY BE USED IN LIEU OF MOIST CURING. ONLY IF APPROVED BY THE ENGINEER OR ARCHITECT. INSPECTIONS, TESTING & QUALITY ASSURANCE: REFER TO STRUCTURAL NOTE SHEETS FOR DEPUTY SPECIAL INSPECTION, TESTING & STRUCTURAL OBSERVATION
- REQUIREMENTS. A MINIMUM OF ONE COMPRESSION TEST AT 7 DAYS AND 2 TESTS AT 28 DAYS FOR ALL CONCRETE SAMPLES. TAKE TEST AT A FREQUENCY OF ONCE EVERY 150 CU. YDS OR 5.000 SQ. FT MINIMUM. ANCHOR BOLTS, DOWELS, INSERTS: SHALL BE TIED IN PLACE PRIOR TO POURING
- CONSTRUCTION AND POUR JOINTS: LOCATIONS SHALL BE APPROVED BY ENGINEER
- PRIOR TO POURING CONCRETE. 0. FLY ASH: SHALL NOT BE USED IN CONCRETE.
- . FORMWORK: FORMWORK TOLERANCE SHALL IN ACCORDANCE WITH THE C.B.C. AND A.C.I. STANDARDS.
- 2. HOT AND COLD WEATHER CONCRETING HOT WEATHER CONCRETING: WHEN AIR TEMPERATURE RISES ABOVE 80° F AND HUMIDITY FALLS BELOW 25. THE CONTRACTOR SHALL FOLLOW HOT WEATHER CONCRETING IN ACCORDANCE WITH ACI 305 5-77. CONTRACTOR SHALL BE PREPARED TO USE FOG SPRAY OR OTHER PRECAUTIONS ACCEPTABLE TO ARCHITECT WHEN RATE OF EVAPORATION EQUALS OR EXCEEDS 0.2 POUNDS PER SQUARE FOOT PER HOUR. B. COLD WEATHER CONCRETING: ADEQUATE EQUIPMENT SHALL BE PROVIDED FOR HEATING CONCRETE MATERIALS AND PROTECTING CONCRETE DURING FREEZING OR NEAR FREEZING WEATHER, ALL CONCRETE MATERIALS AND ALL REINFORCEMENT, FORMS FILLERS AND GROUND WITH WHICH THE CONCRETE IS

TO CONTACT SHALL BE FREE FROM FROST. FROZEN MATERIAL OR MATERIALS

CONTAINING ICE SHALL NOT BE USED. COLD WEATHER CONCRETING SHALL BE

- PIPES IN CONCRETE: PIPES MAY PASS THROUGH STRUCTURAL CONCRETE IN SLEEVES. BUT SHALL NOT BE EMBEDDED THEREIN. PIPES OR DUCTS EXCEEDING ONE-THIRD THE SLAB OR WALL THICKNESS SHALL NOT BE PLACED IN THE STRUCTURAL CONCRETE UNLESS SPECIFICALLY DETAILED.
- 4. EXPOSED CORNERS: PROVIDE 3/4" CHAMFERS AT ALL EXPOSED CORNERS. 5. ARCHITECTURAL DETAILS: REFER TO ARCHITECTURAL DRAWINGS FOR REVEALS, AREAS OF TEXTURED CONCRETE OR SPECIAL FINISHES, ITEMS REQUIRED TO BE CAST INTO THE CONCRETE, CURBS AND SLAB DEPRESSIONS.

DONE IN ACCORDANCE WITH ACI 306 R-78. (LATEST EDITION)

6. DRYPACK OR GROUT: SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 2,000 PSI AND BE COMPOSED OF ONE PART PORTLAND CEMENT TO NOT MORE THAN THREE PARTS SAND.

GENERAL NOTES

- FIELD VERIFICATION: FIELD VERIFY EXISTING CONDITIONS AND DIMENSIONS PRIOR TO CONSTRUCTION. PROMPTLY NOTIFY ARCHITECT (STRUCTURAL ENGINEER) IN CASE OF
- DESIGN INTENT: CONTRACT DOCUMENTS INDICATE DESIGN INTENT FORE STRUCTURE IN ITS COMPLETED STATE. THEY DO NOT INDICATE METHOD OF CONSTRUCTION. WORK, IF DESIGN INTENT REQUIRES FURTHER CLARIFICATION.
- PROMPTLY NOTIFY ARCHITECT (STRUCTURAL ENGINEER), PRIOR TO PROCEEDING WITH DEVIATIONS, MODIFICATIONS AND SUBSTITUTIONS TO APPROVED STRUCTURAL PRAWINGS: MUST BE ACCEPTED IN WRITING BY ARCHITECT (STRUCTURAL ENGINEER)

AND APPROVED BY GOVERNING CODE AUTHORITY. NO DEVIATION, MODIFICATION OR

- SUBSTITUTION WILL BE ACCEPTED VIA SHOP DRAWING REVIEW. PROCEDURES OF CONSTRUCTION: CONTRACTOR IS RESPONSIBLE FOR PROCEDURES OF CONSTRUCTION COMPLYING WITH NATIONAL, STATE AND LOCAL SAFETY ORDINANCES. SITE VISITS (INCLUDING STRUCTURAL OBSERVATION) BY ARCHITECT (STRUCTURAL ENGINEER) DO NOT CONSTITUTE SUPERVISIONS OF METHODS OF CONSTRUCTION.
- A. PROTECTION OF UTILITIES: LOCATE EXISTING UTILITIES, INCLUDING THOSE NOT SHOWN ON CONTRACT DOCUMENTS, AND PROTECT THEM FROM DAMAGE. CONTRACTOR BEARS EXPENSE OF REPAIR OR REPLACEMENT OF UTILITIES IN CONJUNCTION WITH EXECUTION OF WORK.
- . EXCAVATIONS: PROTECT STRUCTURE, ADJACENT STRUCTURES, ADJACENT PROPERTIES, STREETS, AND UTILITIES DURING EXCAVATION UTILIZING LAGGING, SHORING, UNDERPINNING AT SIDES AND RELATED PROCEDURES AS MAY BE REQUIRED. PROVIDE NECESSARY SUPPORTS FOR SOIL EXCAVATIONS. CONTRACTOR AND AFFECTED TRADES SHALL REFER TO GEOTECHNICAL REPORT FOR MORE INFORMATION.
- PROTECTION OF STRUCTURE: PROVIDE NECESSARY MEASURES TO PROTECT STRUCTURE DURING EXECUTION OF WORK.
- . CONTRACTOR PROPOSED REVISIONS: WHERE A REVISION OF STRUCTURAL DESIGN OR CONNECTION IS PROPOSED BY CONTRACTOR TO ACCOMMODATE CONSTRUCTION TOLERANCES, CONSTRUCTION SEQUENCE AND/OR DIMENSION MODIFICATIONS, CONTRACTOR SHALL RETAIN A STRUCTURAL ENGINEER LICENSED IN STATE OF CALIFORNIA TO PERFORM DESIGN. SUBMIT STAMPED AND SIGNED DESIGN DRAWINGS AND CALCULATIONS TO THE ARCHITECT (STRUCTURAL ENGINEER) FOR REVIEW AND THE GOVERNING CODE AUTHORITY FOR APPROVAL.
- ERECTION PLANS: DETERMINE PHASES OF WORK REQUIRING ERECTION PLANS ACCORDING TO APPLICABLE SAFETY REGULATIONS. MAINTAIN CERTIFIED COPIES OF ERECTION PLANS AT SITE DURING CONSTRUCTION.
- SHORING, BRACING, AND OTHER TEMPORARY SUPPORTS: DESIGN AND ERECT SHORING, BRACING, AND OTHER TEMPORARY SUPPORTS WHERE STRUCTURE HAS NOT ATTAINED DESIGN STRENGTH AND AS REQUIRED FOR SAFE ERECTION. ENSURE FLOOR, ROOF, AND WALL MEMBERS ARE SECURELY SHORED AND BRACED DURING CONSTRUCTION. PROVIDE SHORING AT ELEVATED BEAMS AND SLABS SUPPORTING CONCRETE OR MASONRY WALLS DURING AND AFTER WALL POUR UNTIL WALL ATTAINS DESIGN STRENGTH.
- G. TEMPORARY LOADING: ENSURE CONSTRUCTION LOADS DO NOT EXCEED INDICATED DESIGN LIVE LOAD VALUES. NOTIFY AFFECTED SUB-CONTRACTOR TRADES OF THESE DESIGN LOAD LIMITS.
- H. FABRICATION, SHIPMENT, AND ERECTION OF STRUCTURAL STEEL: ENSURE STRESSES OCCURRING DURING FABRICATION, SHIPMENT, AND ERECTION OF STRUCTURAL STEEL ARE TEMPORARY AND ARE LESS THAN DESIGN AND ALLOWABLE STRESS CAPACITIES OF INDIVIDUAL MEMBERS. DO NOT IMPAIR FULL DESIGN AND LOAD CARRYING CAPACITY OF MEMBERS DUE TO FABRICATION, SHIPMENT, OR ERECTION. CONTRACTOR IS RESPONSIBLE FOR CONTROLLING ERECTION SEQUENCE, ERECTION PROCEDURE, TEMPERATURE DIFFERENTIALS AND WELD SHRINKAGE TO MINIMIZE RESIDUE STRESSES. PROVIDE ADDITIONAL MATERIALS FOR THE ERECTION OF STRUCTURAL STEEL SUCH AS TEMPORARY BRACING AND GUY CABLES AS MAY BE NECESSARY AT NO ADDITIONAL COST. REMOVE THESE MATERIALS UNLESS APPROVED IN WRITING BY OWNER. DO NOT TIGHTEN BOLTS IN TYPICAL BEAM TO COLUMN CONNECTIONS FOR ERECTION
- SECURING REINFORCING STEEL, DOWELS, ANCHOR BOLTS AND EMBEDS: FIRMLY SUPPORT AND ACCURATELY PLACE COMPLYING WITH ACI STANDARDS PRIOR TO CASTING CONCRETE OR GROUT IN MASONRY WALLS. USE TIES AND SUPPORT BARS IN ADDITION TO REINFORCING STEEL SHOWN WHERE NECESSARY. NO WELDING OR REINFORCING STEEL, INCLUDING TACK WELDING, IS PERMITTED UNLESS OTHERWISE ACCEPTED IN WRITING BY ARCHITECT (STRUCTURAL ENGINEER). PROVIDE PLASTIC OR PLASTIC COATED CHAIRS AND SPACERS WHEN RESTING ON EXPOSED SURFACES
- COORDINATION RESPONSIBILITY: CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF WORK INCLUDING THAT OF SUB-CONTRACTOR TRADES.
- SUBMITTALS: SUBMIT TO ARCHITECT (STRUCTURAL ENGINEER) AS INDICATED ON STRUCTURAL DRAWINGS AND SPECIFICATIONS. GENERAL CONTRACTOR SHALL REVIEW SUBMITTAL FOR COMPLETENESS AND COMPLIANCE WITH CONTRACT DOCUMENTS PRIOR TO SUBMISSION.
 - A. REQUEST FOR INFORMATION (RFI) SUBMITTALS: ACCOMPANY RFI'S WITH PARTIAL STRUCTURAL FOUNDATION OR FRAMING PLANS SHOWING LOCATION IN QUESTION AND AFFECTED STRUCTURAL MEMBERS. COPY PARTIAL PLAN FROM STRUCTURAL DRAWINGS AND INDICATE GRID LINE LOCATIONS AND FLOOR LEVEL. ALSO PROVIDE PROPERLY DRAWN ENGINEERING SKETCHES ILLUSTRATING ISSUES AND CONTRACTOR'S PROPOSED SOLUTIONS. PHOTOGRAPHS ARE NOT ACCEPTABLE SUBSTITUTES TO ENGINEERING SKETCHES.
- CONTRACT DOCUMENTS USE: REVIEW CONTRACT DOCUMENTS IN THEIR ENTIRETY BEFORE PERFORMING STRUCTURAL RELATED WORK AND BEFORE DEVELOPING SHOP DRAWINGS. BRING DISCREPANCIES TO THE IMMEDIATE ATTENTION OF ARCHITECT (STRUCTURAL ENGINEER) BEFORE STARTING WORK.
- A. SCALING OF DRAWINGS: NOT PERMITTED.
- B. ADDITIONAL STRUCTURAL REQUIREMENTS: SEE SPECIFICATIONS.
- C. BUILDING GEOMETRY: SEE ARCHITECTURAL DRAWINGS FOR BUILDING GEOMETRY INCLUDING, BUT NOT LIMITED TO, TOP OF FLOOR AND ROOF ELEVATIONS; DEPRESSIONS; SLOPES; CURBS; DRAINS; TRENCHES; SLAB AND DECK EDGE LOCATIONS; WALL OVERALL DIMENSIONS; AND SIZE AND LOCATIONS OF OPENINGS IN FLOORS, ROOF AND WALLS.
- D. NON-STRUCTURAL ITEMS REQUIRING SPECIAL PROVISIONS: SEE ARCHITECTURAL, MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS FOR NON-STRUCTURAL ITEMS REQUIRING SPECIAL PROVISIONS DURING CONSTRUCTION. THEY INCLUDE BUT ARE NOT LIMITED TO, NON-STRUCTURAL WALLS; SIZE AND LOCATIONS OF OPENINGS AND SLEEVES PENETRATING STRUCTURE; SIZE AND LOCATION OF CONCRETE CURBS AND PADS; AND SIZE AND LOCATION OF PIPING, DUCTWORK AND EQUIPMENT ANCHORAGES MOUNTED OR SUSPENDED FROM STRUCTURE. VERIFY EXACT SIZE AND LOCATION OF EQUIPMENT WITH EQUIPMENT MANUFACTURER.
- MATERIALS: FURNISH AND INSTALL IN COMPLIANCE WITH LEGALLY CONSTITUTED PUBLIC AUTHORITIES HAVING JURISDICTION INCLUDING COUNTY AND LOCAL ORDINANCES AND SAFETY ORDERS OF STATE INDUSTRIAL ACCIDENT COMMISSION,
- PENETRATIONS, EMBEDMENT, AND OPENINGS IN STRUCTURAL MEMBERS: NO PENETRATION, EMBEDMENT, OPENING, SLEEVE, PIPE, OR CONDUIT SHALL OCCUR IN STRUCTURAL MEMBERS INCLUDING FOOTINGS, SLABS, WALLS, COLUMNS, AND BEAMS UNLESS SPECIFICALLY SHOWN OR INDICATED ON STRUCTURAL DRAWINGS.
- TYPICAL DETAILS: DETAILS ON SD SERIES SHEETS ARE APPLICABLE THROUGHOUT PROJECT WHEREVER THE DESCRIBED CONDITION OCCURS AND MAY OR MAY NOT BE SPECIFICALLY REFERENCED ON STRUCTURAL DRAWINGS. CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING THESE DETAILS AND UNDERSTANDING EXTENT OF THEIR APPLICATION PRIOR TO PERFORMING WORK.

. WATERPROOFING & DRAINAGE: WATERPROOFING AND DRAINAGE IS OUTSIDE INNOVATIVE STRUCTURAL ENGINEERING'S SCOPE, EXPERIENCE, AND PROFESSIONAL EXPERTISE. INNOVATIVE STRUCTURAL ENGINEERING RECOMMENDS HIRING A WATERPROOFING & DRAINAGE PROFESSIONAL. IF NO WATERPROOFING PROFESSIONAL IS HIRED, OWNER AND CONTRACTOR ASSUME RESPONSIBILITY OF ALL WATERPROOFING & DRAINAGE REQUIREMENTS. INNOVATIVE STRUCTURAL ENGINEERIN ACCEPTS NO LIABILITY AND SHALL BE HELD HARMLESS FOR ALL WATERPROOFING AND DRAINAGE REQUIREMENTS.

		ABBRE	VIATIONS	<u>3</u>
	AB	= ANCHOR BOLT	HDR	= HEADER
	ABV	= ABOVE	HDWR	= HARDWARE
	ADD'L	= ADDITIONAL	HGR	= HANGER
	ALT	= ALTERNATE	IBC	= INTERNATIONAL BUILDING CODE
	AWA	= ALIGN WITH ABOVE	IN	= INCH
	BEW	= BOTTOM EACH WAY	INFO	= INFORMATION
	BLK	= BLOCK	INT	= INTERIOR
	BLKG	= BLOCKING	JST	= JOIST
	BLW	= BELOW	LSL	= LAMINATED STRAND LUMBER
	BM BN	= BEAM = BOUNDARY NAILING = BEARING	LVL MAX MFR	= LAMINATED VENEER LUMBER = MAXIMUM = MANUFACTURER
	BRG BTM BTWN	= BOTTOM = BETWEEN	MIN MULT	= MINIMUM = MULTIPLE
	BTR CBC CLG	= BETTER = CALIFORNIA BUILDING CODE = CEILING	N/A N/P O/C	= NOT APPLICABLE = NOT PROVIDED = ON CENTER
	CONC DBL DF	= CONCRETE = DOUBLE = DOUGLAS FIR	PI PLT PLYWD	PLASTICITY INDEX = PLATE = PLYWOOD
	DIA	= DIAMETER	PNL	= PANEL
	DJ	= DECK JOIST	PSL	= PARALLEL STRAND LUMBER
	DP	= DEEP	PT	= PRESSURE TREATED
	DR	= DROP	REV	= REVISION
	EA	= EACH	REQ	= REQUIRED
	EI	= EXPANSION INDEX	RF	= ROOF
	EMBED	= EMBEDMENT	RR	= ROOF RAFTER
	EN	= EDGE NAILING	SHTG	= SHEATHING
	EW	= EACH WAY	SIM	= SIMILAR
S	EWB	= ENGINEERED WOOD BEAM	SPN	= SOLE PLATE NAILING
	EXT	= EXTERIOR	SQ	= SQUARE
E	FA	= FROM ABOVE	SQSH	= SQUASH
	FDN	= FOUNDATION	STD	= STANDARD
	FH	= FULL HEIGHT	SW	= SHEAR WALL
	FJ FL FLR FNGR	= FLOOR JOIST = FLUSH = FLOOR = FINGER	TP TSL TYP UBC	= TOP PLATE = TRIANGULAR STRAND LUMBER = TYPICAL = UNIFORM BUILDING CODE
	FRMG	= FRAMING	UNO	= UNLESS NOTED OTHERWISE
	FT	= FEET	WWM	= WELDED WIRE MESH
	GA	= GAGE	W/	= WITH
	GLB GT	= GLU-LAM = GIRDER TRUSS	W/O	= WITHOUT



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ISSUE INFORMATION: INFORMATION:

SHEET INFORMATION: STK PROJECT NO.: 374-147-21 SCALE: AS NOTED **JULY 2021** DATE: PLOT DATE: JULY 21, 2021

DRAWING NAME



STRUCTURAL NOTES

	HORIZONTALLY OR UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS	X				F THE COMPACTED FILL IS NOT LESS THAN 90 PERCE T OPTIMUM MOISTURE CONTENT DETERMINED IN AC		H ASTM
	MECHANICAL ANCHORS AND ADHESIVE ANCHORS NOT DEFINED ABOVE			X	D1557	REQUIRED SPECIAL INSPECTIONS FOR <u>SEISMIC RESIS</u>		
X	PRIOR TO CONCRETE PLACEMENT, FABRICATE			X		STRUCTURAL STEEL PER 1705.12.	1	
X	SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE	X			CHECK IF REQUIRED	TYPE SPECIAL INSPECTIONS OF STRUCTURAL STEEL IN	CONTINUOUS	PERIODI
	INSPECT CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES VERIFY MAINTENANCE OF SPECIFIED CURING	X				THE SEISMIC FORCE-RESISTING SYSTEMS IN BUILDINGS AND STRUCTURES ASSIGNED TO		
X 	TEMPERATURE AND TECHNIQUES INSPECT PRESTRESSED CONCRETE FOR:			X		SEISMIC DESIGN CATEGORY B, C, D, E OR F SHALL BE PER-FORMED IN ACCORDANCE WITH THE QUALITY ASSURANCE REQUIREMENTS OF AISC 341.		
 	APPLICATION OF PRESTRESSING FORCES; AND	X				<u>IS:</u> IINGS AND STRUCTURES ASSIGNED TO SEISMIC DESIG ISPECTIONS ARE NOT REQUIRED FOR STRUCTURAL ST		OR C,
	GROUTING OF BONDED PRESTRESSING TENDONS	X			FORCE-RE DESIGNATI	SISTING SYSTEMS WHERE THE RESPONSE MODIFICAT ED FOR "STEEL SYSTEMS NOT SPECIFICALLY DETAILEI G CANTILEVER COLUMN SYSTEMS" IN ASCE 7, TABLE	TION COEFFICIENT D FOR SEISMIC F	RESISTANCI
	INSPECT ERECTION OF PRECAST CONCRETE MEMBERS VERIFY IN-SITU CONCRETE STRENGTH, PRIOR TO			X	DESIGN AN 2. IN STRU	ID DETAILING. CTURES ASSIGNED TO SEISMIC DESIGN CATEGORY D,	, E, OR F, SPECIA	L
	STRESSING OF TENDONS IN POST-TENSIONED CONCRETE AND PRIOR TO REMOVAL OF SHORES AND FORMS FROM BEAMS AND STRUCTURAL SLABS			X	SYSTEMS	NS ARE NOT REQUIRED FOR STRUCTURAL STEEL SEIS WHERE DESIGN AND DETAILING IN ACCORDANCE WIT ABLE 15.4-1. STRUCTURAL STEEL ELEMENTS PER 170	H AISC 360 IS PE	
 CEPTIOI	INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED NS:			X		INSPECTION OF STRUTS, COLLECTORS, CHORDS AND FOUNDATION ELEMENTS, SHALL BE PERFORMED IN ACCORDANCE WITH THE QUALITY ASSURANCE REQUIREMENTS OF AISC 341.		
	ED SPREAD FOOTINGS OF BUILDINGS THREE STORIES OF AT ARE FULLY SUPPORTED ON EARTH OR ROCK.	R LESS AB	OVE GRAD	DE	SPECIAL IN		NOT REQUIRED FO	OR SEISMIC
	NUOUS CONCRETE FOOTINGS SUPPORTING WALLS OF BU ABOVE GRADE PLANE THAT ARE FULLY SUPPORTED ON E				LESS. 2. IN STRI	SISTING SYSTEMS WITH A RESPONSE MODIFICATION OF STREET OF SEISMIC DESIGN CATEGORY DESIGN DESIGN CATEGORY DESIGN CATEGORY DESIGN D	D, E, OR F, SPECI	AL
.2. THE	FOOTINGS SUPPORT WALLS OF LIGHT FRAME CONSTRUE FOOTINGS ARE DESIGNED IN ACCORDANCE WITH 1809. STRUCTURAL DESIGN OF THE FOOTING IS BASED ON fc=	.7; OR [^]	ODLESS		FORCE-RE PERMITTED	NS OF STRUCTURAL STEEL ELEMENTS ARE NOT REQU SISTING SYSTEMS WHERE DESIGN AND DETAILING OT D BY ASCE 7, TABLE 15.4-1. SPECIAL INSPECTION SHAI	HER THAN AISC : LL BE IN ACCORI	341 IS
ARDLE	STRUCTURAL DESIGN OF THE FOOTING IS BASED ON TE ESS OF THE COMPRESSIVE STRENGTH SPECIFIED IN THE ITS OR USED IN THE FOOTING CONSTRUCTION.				THE APPLI	CABLE REFERENCED STANDARD LISTED IN ASCE 7, TA <u>STRUCTURAL WOOD</u> PER 1705.12.2		
	TRUCTURAL CONCRETE SLABS SUPPORTED DIRECTLY ON SSED SLABS ON GRADE, WHERE THE EFFECTIVE PRE-STR		,		CHECK IF REQUIRED	TYPE	CONTINUOUS	PERIOD
	RETE FOUNDATION WALLS CONSTRUCTED WITH TABLE 18					INSPECTION DURING FIELD GLUING OPERATIONS OF ELEMENTS OF THE SEISMIC FORCE-RESISTING SYSTEM.	X	
	RETE PATIOS, DRIVEWAYS AND SIDEWALKS ON GRADE. VERIFICATION REQUIREMENTS OF MASONRY CONSTRUC	CTION PEP	TMS 602	-TABLE 3	X	INSPECTION FOR NAILING, BOLTING, ANCHORING AND OTHER FASTENING OF ELEMENTS OF THE SEISMIC FORCE-RESISTING SYSTEM, INCLUDING WOOD SHEAR		Х
111		REQUIR	ED FOR G	QUALIFY	EXCEPTION	WALLS, WOOD DIAPHRAGMS, DRAG STRUTS, BRACES, SHEAR PANELS AND HOLD-DOWNS.		
	MINIMUM VERIFICATION	LEVEL 1	LEVEL 2	LEVEL 3	SPECIAL INS	EDPECTIONS ARE NOT REQUIRED FOR WOOD SHEAR WALLS IS, INCLUDING NAILING, BOLTING, ANCHORING AND OTHER OF THE SEISMIC FORCE-RESISTING SYSTEM, WHERE THE F	R FASTENING TO C	THER
BMITTA	CONSTRUCTION, VERIFICATION OF COMPLIANCE OF LS. CONSTRUCTION, VERIFICATION OF F' _M AND F' _{AAC} ,	R	R	R		IS MORE THAN 4 INCHES ON CENTER. COLD-FORMED STEEL LIGHT FRAME CONSTRUCTION		
EPT W	HERE SPECIFICALLY EXEMPTED BY THE CODE. ONSTRUCTION, VERIFICATION OF SLUMP FLOW AND	NR	R	R	CHECK IF REQUIRED	TYPE	CONTINUOUS	PERIOD
OUT IS	ABILITY INDEX (VSI) WHEN SELF-CONSOLIDATING DELIVERED TO THE PROJECT SITE. ONSTRUCTION, VERIFICATION OF F' _M AND F' _{AAC} FOR	NR	R	R	<u></u>	INSPECTION FOR WELDING OPERATIONS OF ELEMENTS OF THE MAIN WINDFORCE-RESISTING SYSTEM. INSPECTION FOR SCREW ATTACHMENT, BOLTING,		X
RY 5,0	00 SQ. FT. (465 SQ. M). ONSTRUCTION, VERIFICATION OF PROPORTIONS OF	NR	NR	R		ANCHORING AND OTHER FASTENING OF ELEMENTS OF THE MAIN WINDFORCE-RESISTING SYSTEM,		X
PRE-BI	S AS DELIVERED TO THE PROJECT SITE FOR PREMIXED LENDED MORTAR, PRESTRESSING GROUT, AND GROUT AN SELF-CONSOLIDATING GROUT.	NR	NR	R	EXCEPTION	INCLUDING SHEAR WALLS, BRACES, DIAPHRAGMS, COLLECTORS (DRAG STRUTS) AND HOLD-DOWNS. J:		
	QUIRED, NR = NOT REQUIRED	BY CONST	RUCTION		SPECIAL IN WALLS AN	 ISPECTIONS ARE NOT REQUIRED FOR COLD-FORMED D DIAPHRAGMS, INCLUDING SCREW INSTALLATION, E STENING TO COMPONENTS OF THE SEISMIC FORCE-RE	OLTING, ANCHO	RING AND
R = REC	REQUIRED SPECIAL INSPECTIONS AND TESTS OF MASONE	111 001101					ESISTING STSTEN	VI, VVNENE
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CONTINUOUS ANCE PER 1705.11.2 CONTINUOUS TON PER 1705.11.2	PERIODI AND OTHER ENER SPACI
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REQUIRED SPECIAL INSPECTIONS AND TESTS OF SOILS PER TABLE 1705.6

WHERE SECTION 1803 DOES NOT REQUIRE REPORTING OF MATERIALS AND PROCEDURES

VERIFY MATERIALS BELOW SHALLOW

ESIGN BEARING CAPACITY

COMPACTED FILL MATERIALS

BEEN PREPARED PROPERLY

COMPACTION OF COMPACTED FILL

FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE

VERIFY EXCAVATIONS ARE EXTENDED TO PROPER

DEPTH AND HAVE REACHED PROPER MATERIAL

VERIFY USE OF PROPER MATERIALS, DENSITIES

AND LIFT THICKNESS DURING PLACEMENT AND

INSPECT SUBGRADE AND VERIFY THAT SITE HAS

PERFORM CLASSIFICATION AND TESTING OF

PRIOR TO PLACEMENT OF COMPACTED FILL

REQUIRED SPECIAL INSPECTIONS AND TESTS OF CONCRETE CONSTRUCTION PER TABLE

INSPECT ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS

INSPECT REINFORCEMENT, INCLUDING

PRESTRESSING TENDONS, AND VERIFY

INSPECT ANCHORS CAST IN CONCRETE

ADHESIVE ANCHORS INSTALLED IN

VERIFY WELDABILITY OF REINFORCING BARS

INSPECT SINGLE-PASS FILLET WELDS, MAXIMUM

REINFORCING BAR WELDING:

INSPECT ALL OTHER WELDS

PLACEMENT

OTHER THAN ASTM A706;

REQUIRED

CONTINUOUS PERIODIC

REQUIRED

EXCEPTIONS:

QUALITY ASSURANCE (STRUCTURAL OBSERVATION, MATERIALS TESTING, AND SPECIAL INSPECTION)

CONTINUOUS PERIODIC STRUCTURAL OBSERVATION: A. COORDINATION RESPONSIBILITIES OF CONTRACTOR: NOTIFY ARCHITECT (STRUCTURAL ENGINEER) 48 HOURS IN ADVANCE OF CRITICAL STAGES OF CONSTRUCTION INDICATED BELOW SO VISITS MAY BE SCHEDULED BY STRUCTURAL OBSERVER. FAILURE BY CONTRACTOR TO MEET OBSERVATION SCHEDULE MAY REQUIRE REMOVAL OF SUBSEQUENT WORK FOR OBSERVATION. CONTRACTOR TO BEAR COSTS OF REMOVAL AND REPLACEMENT OF FINISHED WORK OR FRAMING DAMAGED BY REMOVAL PROCESS OR AS REQUIRED FOR CORRECTIVE ACTION.

CASTING OF CONCRETE

II. COVERING OF FRAMING

- B. PRE-CONSTRUCTION MEETING: OWNER MAY COORDINATE AND CALL FOR MEETING BETWEEN ARCHITECT (STRUCTURAL ENGINEER) RESPONSIBLE FOR STRUCTURAL DESIGN, STRUCTURAL OBSERVER, CONTRACTOR, AFFECTED SUBCONTRACTORS AND SPECIAL INSPECTOR. STRUCTURAL OBSERVER WILL PRESIDE OVER THIS MEETING. PURPOSE OF MEETING IS TO IDENTIFY MAJOR STRUCTURAL ELEMENTS AND CONNECTIONS THAT AFFECT VERTICAL AND LATERAL LOAD RESISTING SYSTEMS OF STRUCTURE AND TO REVIEW SCHEDULE OF STRUCTURAL OBSERVATION, MATERIALS TESTING, AND SPECIAL INSPECTION OF PROJECT. C. CRITICAL STAGES OF CONSTRUCTION REQUIRING STRUCTURAL OBSERVATION:
- 2. MILL TEST REPORTS CERTIFYING MATERIALS: CONTRACTOR TO SUBMIT MILL TEST REPORTS CERTIFYING REINFORCING STEEL, STRESSING TENDONS, AND STRUCTURAL STEEL ARE OF IDENTIFIABLE TESTED STOCK TO OWNER, SPECIAL INSPECTOR, ARCHITECT (STRUCTURAL ENGINEER) AND, UPON REQUEST, TO GOVERNING CODE AUTHORITY. ENSURE MATERIALS ARE PROPERLY TAGGED FOR IDENTIFICATION. IF MILL TEST REPORTS CANNOT BE MADE AVAILABLE OR IF MATERIAL CANNOT BE IDENTIFIED, TESTING LABORATORY WILL PERFORM TESTS AS DIRECTED BY ARCHITECT (STRUCTURAL ENGINEER). CONTRACTOR SHALL PAY TESTING RELATED TO TESTS AND INSPECTIONS OF UNIDENTIFIABLE MATERIALS FURNISHED WITHOUT MILL LABORATORY FOR COSTS TEST REPORTS, MATERIALS FOUND DEFICIENT AFTER INITIAL TESTS AND INSPECTIONS, OR MATERIALS REPLACING DEFICIENT MATERIALS.
 - A. ULTRASONIC EXAMINATION OF HEAVY ROLLED SHAPES AND THICK PLATES AT PROPOSED WELDED MOMENT CONNECTIONS: WHERE COMPLETE PENETRATION GROOVE WELDS OCCUR AT GROUPS 4 AND 5 STRUCTURAL STEEL SHAPES, AS DEFINED IN ASTM A6, AND PLATES EXCEEDING 2 INCHES THICK, SUBMIT MILL TEST REPORTS TO ARCHITECT (STRUCTURAL ENGINEER) AND. UPON REQUEST, TO GOVERNING CODE AUTHORITY. MILL TEST REPORTS SHALL CERTIFY THAT CHARPY V-NOTCH TESTING WAS CONDUCTED IN COMPLIANCE WITH ASTM A6, SUPPLEMENTARY REQUIREMENT S5, INCLUDING IMPACT TEST COMPLYING WITH ASTM A673 AT FREQUENCY P WITH MINIMUM AVERAGE VALUE OF 20 FT.-LBS. ABSORBED ENERGY AT 70 DEGREES FAHRENHEIT.
- CERTIFICATE OF COMPLIANCE FOR OFFSITE FABRICATION: SUBMIT FOR STRUCTURAL STEEL, GLU-LAMS, AND PLYWOOD-WEB JOISTS, PRECAST CONCRETE IN COMPLIANCE WITH APPLICABLE CODE SECTION 1701.7. SUBMIT TO OWNER, TESTING LABORATORY, ARCHITECT (STRUCTURAL ENGINEER) AND GOVERNING CODE AUTHORITY.
- WELD TESTING AND INSPECTION: TESTING LABORATORY WILL SUBMIT WELD TEST RESULTS TO OWNER, CONTRACTOR, ARCHITECT (STRUCTURAL ENGINEER) AND, UPON REQUEST, TO GOVERNING CODE AUTHORITY. SEE SPECIFICATIONS FOR TESTING REQUIREMENTS NOT INDICATED ON STRUCTURAL DRAWINGS.
- A. STRUCTURAL STEEL WELDING NOT DESTRUCTIVE TESTING REQUIREMENTS: APART FROM VISUAL INSPECTION AND REVIEW OF FABRICATION AND ERECTION REPORTS OF FABRICATOR/ERECTOR'S OWN QUALITY CONTROL TESTING AND INSPECTION, OWNER'S TESTING LABORATORY WILL PERFORM INDICATED SHOP AND FIELD INSPECTION AND TESTING. TESTING LABORATORY WILL BE AWS CERTIFIED AND WILL PROVIDE INSPECTORS FOR CONTINUOUS INSPECTION OF STEEL FABRICATION AND ERECTION AND STRUCTURAL WELDING. SHOP AND FIELD TESTING OF MATERIALS AND WELDING WILL BE AS FOLLOWS:
- . COMPLETE JOINT PENETRATION WELDS: FOR STRUCTURES IN RISK CATEGORY III OR IV ULTRASONIC TESTING (UT) SHALL BE PERFORMED BY QA ON ALL CJP GROOVE WELDS SUBJECT TO TRANSVERSELY APPLIED TENSION LOADING IN BUTT, T- AND CORNER JOINTS, IN MATERIALS 5/16 IN, THICK OR GREATER, FOR STRUCTURES IN RISK CATEGORY II, UT SHALL BE PERFORMED BY QA ON 10% OF CJP GROOVE WELDS IN BUTT. T- AND CORNER JOINTS SUBJECT TO TRANSVERSELY APPLIED TENSION LOADING, IN MATERIALS 5/16 IN THICK OR GREATER. FOR STRUCTURES IN RISK CATEGORY I, NDT OF CJP GROOVE WELDS IS NOT REQUIRED. FOR ALL STRUCTURES IN ALL RISK CATEGORIES, NDT OF CJP GROOVE WELDS IN MATERIALS LESS THAN 5/16 IN THICK IS NOT REQUIRED. ACCESS HOLES: THERMALLY CUT SURFACES OF ACCESS HOLES SHALL BE TESTED BY QA USING MT OR PT, WHEN THE FLANGE THICKNESS EXCEEDS 2 IN. 50 MM) FOR ROLLED SHAPES, OR WHEN THE WEB THICKNESS EXCEEDS 2 IN
- CONTINUOUS SPECIAL INSPECTION: UNLESS OTHERWISE INDICATED, CONTINUOUS SPECIAL INSPECTION WILL BE PERFORMED BY SPECIAL INSPECTOR COMPLYING WITH APPLICABLE CODE SECTION 1701 AND SPECIFICALLY APPROVED BY GOVERNING CODE AUTHORITY FOR EACH INSPECTION CATEGORY BELOW. PERIODIC INSPECTION IS NOT PERMITTED UNLESS INDICATED IN THE PROGRAM OR OTHERWISE ACCEPTED BY ARCHITECT (STRUCTURAL ENGINEER). SEE SPECIFICATIONS FOR ADDITIONAL SPECIAL INSPECTION REQUIREMENTS.

FOR BUILT-UP SHAPES. ANY CRACK SHALL BE DEEMED UNACCEPTABLE

ENGINEER OF RECORD - STRUCTURAL OBSERVATION PROGRAM STRUCTURAL OBSERVATIONS FOR SEISMIC & WIND RESISTANCE:

REGARDLESS OF SIZE OR LOCATION.

THE OWNER SHALL EMPLOY THE ENGINEER OR ARCHITECT REGISTERED/LICENSED IN THE STATE OF CALIFORNIA WHO IS RESPONSIBLE FOR THE STRUCTURAL DESIGN TO PERFORM STRUCTURAL OBSERVATION(S).

ENGINEER IN RESPONSIBLE CHARGE/ENGINEER OF RECORD:

NAME: SHAWN LOTHROP, SE LIC #: S5627

OBSERVER DESIGNATED BY E.O.R. RESPONSIBLE FOR STRUCTURAL OBSERVATION(S):

SHAWN LOTHROP, SE

- STRUCTURAL OBSERVATIONS SHALL BE PROVIDED BY THE DESIGNATED STRUCTURAL OBSERVER FOR ALL BUILDINGS AT THE FOLLOWING STAGES OF CONSTRUCTION, UNLESS OTHERWISE AUTHORIZED OR REQUESTED IN WRITING BY THE BUILDING OFFICIAL:
- A. PRE-CONCRETE POUR REBAR OBSERVATION B. WOOD FRAMING OBSERVATION PRIOR TO COVERING W/ FINISH & AFTER ROOF
- PRIOR TO COMMENCEMENT OF OBSERVATION, THE STRUCTURAL OBSERVER
- SHALL SUBMIT TO THE BUILDING DEPARTMENT A WRITTEN STATEMENT IDENTIFYING THE FREQUENCY AND EXTENT OF THE STRUCTURAL OBSERVATION.
- . AT THE CONCLUSION OF WORK, THE STRUCTURAL OBSERVER SHALL SUBMIT TO THE BUILDING DEPARTMENT A WRITTEN STATEMENT THAT THE STRUCTURAL OBSERVATION VISITS HAVE BEEN MADE AND IDENTIFY ANY REPORTED DEFICIENCIES WHICH, TO THE BEST OF THE STRUCTURAL OBSERVER'S KNOWLEDGE, HAVE NOT BEEN RESOLVED.

DEPUTY SPECIAL INSPECTOR

1. DEPUTY SPECIAL INSPECTIONS SHALL BE PROVIDED BY:

PHONE NUMBER:

2. SPECIAL INSPECTOR SHALL BE HIRED BY THE OWNER TO PROVIDE SPECIAL INSPECTIONS AS REQUIRED PER THE PLANS.

3. SPECIAL INSPECTOR: A QUALIFIED PERSON, EMPLOYED BY THE OWNER, WHO HAS DEMONSTRATED COMPETENCE TO THE SATISFACTION OF THE BUILDING OFFICIAL FOR INSPECTION OF THE PARTICULAR TYPE OF CONSTRUCTION OR OPERATION REQUIRING SPECIAL INSPECTION. DUTIES INCLUDE VISUAL INSPECTIONS AND FIELD MEASUREMENTS OF MATERIALS, OBTAINING SPECIMENS FOR TESTS AND RELATED ACTIONS INCLUDING PREPARATION OF REPORTS.

4. CONTINUOUS INSPECTION: ON SITE INSPECTION BY THE SPECIAL INSPECTOR ON A CONTINUOUS BASIS OBSERVING ALL WORK REQUIRING SPECIAL INSPECTION.

- 5. PERIODIC INSPECTION: INTERMITTENT INSPECTION AS PERMITTED BY THE PLAN, SPECIFIED AT PRE-DETERMINED INTERVALS OR MORE FREQUENTLY AS WORK PROGRESSES, NO SIGNIFICANT ELEMENTS OR AREAS SHALL BE COVERED BY ADDITIONAL WORK UNTIL APPROVED BY THE BUILDING OFFICIAL AND/OR SPECIAL
- 6. REPORTS SHALL BE SUBMITTED TO THE BUILDING OFFICIAL IN A TIMELY MANNER AS DETERMINED BY THE BUILDING OFFICIAL.

STRUCTURAL STEEL NOTES

- FABRICATION & ERECTION: ALL FABRICATION & ERECTION SHALL CONFORM TO THE LATEST STANDARDS OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC)
- SPECIFICATIONS FOR STRUCTURAL STEEL BUILDINGS. ASTM SPECIFICATIONS: STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING ASTM

TABLE 1 - STEEL MATERIAL	SPECIFICATIONS
STEEL SHAPE	ASTM SPECIFICATION
W	A992 OR A572 GRADE 50
M, S, HP	A36 OR A572 GRADE 50
C - CHANNEL	A572 GRADE 50
L - ANGLE	A36
PLATES & BAR	A36
STEEL PIPE	A53 GRADE B
ROUND HSS	A500 GRADE B OR C
SQ. & RECT. HSS	A500 GRADE B OR C
MACHINE BOLTS	A325, A490, F1852, F2280
NUTS	A563, A194
WASHERS	F436
ANCHOR RODS	F1554-A36

STEEL EXPOSED TO WEATHER OR CORROSIVE ENVIRONMENT: ALL STEEL EXPOSED TO WEATHER OR CORROSIVE ENVIRONMENT SHALL BE HOT DIP GALVANIZED AFTER FABRICATION IN COMPLIANCE WITH ASTM A123. ALL FIELD WELDS ON GALVANIZED

A108

- STEEL SHALL BE TREATED WITH ZINC-RICH PAINT IN COMPLIANCE WITH ASTM A780. STEEL FABRICATION: ALL STEEL FABRICATION SHALL BE PERFORMED IN A SHOP APPROVED BY THE GOVERNING JURISDICTION DEPARTMENT OF BUILDING & SAFETY.
- STEEL FABRICATOR: THE STRUCTURAL STEEL FABRICATOR SHALL PROVIDE A SET OF SHOP FABRICATION DRAWINGS FOR APPROVAL TO THE ENGINEER OF RECORD. THE FABRICATOR SHALL NOT FABRICATE THE STEEL UNTIL THE ENGINEER OF RECORD HAS APPROVED THE SHOP DRAWINGS.
- WELDING: ALL WELDING SHALL BE IN CONFORMANCE WITH THE LATEST AISC & AMERICAN WELDING SOCIETY (AWS) STANDARDS. ALL WELDING SHALL BE PERFORMED USING A SHIELDED ARC PROCESS USING APPROVED ELECTRODES CONFORMING TO AWS SPECIFICATION E70XX (LOW HYDROGEN). WELD MATERIAL SHALL COMPLY WITH AWS CERTIFICATION AND POSSESS A CHARPY V-NOTCH TOUGHNESS OF 20 FT-LBS AT -20 DEGREES F. WELDING SHALL BE PERFORMED BY ONLY AWS CERTIFIED WELDERS.
- WELDING PROCEDURES: A WRITTEN WELDING PROCEDURE SPECIFICATIONS (WPS) PER AWS D1.1 SHALL BE DEVELOPED BY THE FABRICATOR/ERECTOR AND REVIEWED BY THE ENGINEER OF RECORD AND THE BUILDING DEPARTMENT.
- ERECTION AIDS: THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ERECTION AIDS AND JOINT PREPARATIONS THAT INCLUDE. BUT ARE NOT LIMITED TO, ERECTION ANGLES, LIFT HOLES AND OTHER AIDS, WELDING PROCEDURES, REQUIRED ROOT OPENINGS, ROOT FACE DIMENSIONS, GROOVE ANGLES, BACKING BARS, COPES, SURFACE ROUGHNESS AND UNEQUAL PARTS.
- FIELD WELDING: FIELD WELDING SHALL BE PERFORMED BY A BUILDING DEPARTMENT CERTIFIED WELDERS. FIELD WELDING REQUIRES CONTINUOUS SPECIAL INSPECTION. PERIODIC FIELD SPECIAL INSPECTION IS ACCEPTABLE FOR FLOOR AND ROOF DECK WELDING, STUD WELDING & WELDING OF STAIR/HANDRAIL SYSTEMS
- BOLTING: BOLTING OF STRUCTURAL STEEL SHALL MEET THE RESEARCH COUNCIL ON STRUCTURAL CONNECTIONS (RCSC) 2000 EDITION SPECIFICATIONS FOR STRUCTURAL
- CAMBER: ALL STEEL BEAMS SHALL HAVE STANDARD MILL CAMBER UNLESS NOTED OTHERWISE ON THE STRUCTURAL PLANS.

JOINTS USING A325 & A490 BOLTS FOR TYPES X, N & SC.

MASONRY

SPECIFIED COMPRESSIVE STRENGTH OF MASONRY (fm): 1,500 PSI TYPICAL UNLESS

- VERIFYING SPECIFIED COMPRESSIVE STRENGTH OF MASONRY (fm): USE MASONRY PRISM TESTING METHODS UNLESS OTHERWISE ACCEPTABLE TO ARCHITECT (STRUCTURAL ENGINEER). FULL ALLOWABLE STRESSES ARE USED IN DESIGN. SUBMIT MASONRY PRISM DATA FOR EACH TYPE AND COMPRESSIVE STRENGTH OF MASONRY REQUIRED, WITH A PROFESSIONAL ENGINEER'S SIGNATURE AND STATE OF CALIFORNIA SEAL, TO ARCHITECT (STRUCTURAL ENGINEER). COMPLIANCE WITH MINIMUM REQUIRED COMPRESSIVE STRENGTH SHALL BE BASED ON APPLICABLE CODE SECTION 2105.3.
- CONCRETE BLOCK: ASTM C90, MEDIUM WEIGHT, GRADE N-I AND APPLICABLE CODE STANDARD 21-4 ATTAINING A MINIMUM COMPRESSIVE STRENGTH AS REQUIRED TO MEET SPECIFIED COMPRESSIVE STRENGTH OF MASONRY (fm).
- FACE BRICK: ASTM C216 AND APPLICABLE CODE STANDARD 21-1.
- PORTLAND CEMENT FOR MORTAR AND GROUT: ASTM C150, TYPE I OR II. USE OF MASONRY CEMENT OR PLASTIC CEMENT IS NOT PERMITTED.
- AGGREGATES FOR MORTAR AND GROUT A. AGGREGATES FOR MORTAR: ASTM C144

B. AGGREGATES FOR GROUT: C404, COARSE TYPE.

- MORTAR: ASTM C270, TYPE S. MIX IN PROPORTIONS ACCORDING TO APPLICABLE CODE TABLE 21-A TYPE S. (2,000 PSI MINIMUM).
- GROUT: ASTM C476, COARSE TYPE, ATTAINING A MINIMUM COMPRESSIVE STRENGTH AS REQUIRED TO MEET SPECIFIED COMPRESSIVE STRENGTH OF MASONRY (fm). HOWEVER. IN NO CASE SHALL GROUT COMPRESSIVE STRENGTH BE LESS THAN 2,000 PSI AT 28
- REINFORCING STEEL: REINFORCING STEEL SECTION OF GENERAL NOTES UNLESS INDICATED OTHERWISE.
- COMPOSITE MASONRY WALL PENETRATION SUBMITTAL: SUBMIT FOR EACH WALL INDICATING SIZE AND LOCATION OF EACH WALL PENETRATION AND OPENING AS NECESSARY BY AFFECTED TRADES. SUBMIT TOGETHER WITH APPROPRIATE REINFORCING STEEL SHOP DRAWINGS. SUBMIT WRITTEN STATEMENT FROM SPECIAL INSPECTOR THAT NO ADDITIONAL PENETRATIONS OR OPENINGS WERE ADDED TO THOSE SHOWN IN PENETRATION SUBMITTAL.
- REINFORCING STEEL SPLICES: LAP REINFORCING STEEL AT SPLICES A MINIMUM OF 48 BAR DIAMETERS, EXCEPT DOWELS IN FOOTINGS AT BASE OF WALLS SHALL SPLICE A MINIMUM OF 72 BAR DIAMETERS, UNLESS NOTED OTHERWISE. WHERE MINIMUM CLEAF DISTANCE BETWEEN BARS AT ADJACENT SPLICES IS 3 INCHES OR LESS, INCREASE LAP LENGTH 30 PERCENT UNLESS SPLICES ARE STAGGERED AT LEAST 24 BAR DIAMETERS.
- DOWELS FOR WALLS, COLUMNS, PILASTERS, AND PIERS: MATCH SIZE AND SPACING OF VERTICAL REINFORCING STEEL, UNLESS NOTED OTHERWISE. SET DOWELS TO ALIGN

WITH CELLS CONTAINING REINFORCING STEEL. 3. MINIMUM REINFORCING STEEL CLEARANCES:

- A. MINIMUM CLEARANCES BETWEEN REINFORCING AND OUTSIDE FACE OF MASONRY: 2" EXCEPT IN NO CASE SHALL CLEARANCE BE LESS THAN 1 $\frac{1}{2}$ db. B. MINIMUM CLEARANCE BETWEEN REINFORCING AND INSIDE FACE OF GROUT CELL:
- C. MINIMUM CLEARANCE DISTANCE BETWEEN PARALLEL REINFORCING: 1" OR db, WHICHEVER IS LESS. INCREASE TO 1 ½ OR 1 ½ db, WHICHEVER IS LESS, AT COLUMNS, PILASTERS, AND PIERS ONLY.
- 4. PLACEMENT: SET COURSES IN RUNNING BOND PATTERN UNLESS INDICATE OTHERWISE SET CELLS IN VERTICAL ALIGNMENT. PROVIDE FLUSH MORTAR JOINTS AT SURFACES TO RECEIVE WATERPROOFING OR DAMP-PROOFING.

C. GROUT COVER AROUND REINFORCING STEEL, ANCHOR BOLTS AND INSERTS

- GROUTING: GROUT SOLID ALL CELLS. MECHANICALLY VIBRATE GROUT IN CELLS. A. GROUT HEIGHT LIMITS: APPLICABLE CODE TABLE 21-C B. HORIZONTAL CONSTRUCTION JOINTS: HOLD GROUT 1 1/2 INCHES BELOW TOP OF MASONRY UNIT IF WORK IS STOPPED ONE HOUR OR LONGER.
- 6. HORIZONTAL BAR TERMINATING AT WALL ENDS AND OPENING JAMS: EXTEND BARS TO WITHIN 2 INCHES OF END OF WALL AND PROVIDE STANDARD AI 90-DEGREE HOOK UNLESS DETAILED OTHERWISE.

PENETRATING MASONRY SHELL: 1" MINIMUM.

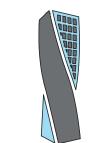
METAL DECKING

- METAL DECKING AND ACCESSORIES: VERCO MANUFACTURING COMPANY, TYPE AND GAUGE AS INDICATED ON STRUCTURAL DRAWINGS, ASTM A653, GRADE 33, G60 COATING, UNLESS HEAVIER GALVANIZED COATING INDICATED IN SPECIFICATIONS, COMPLYING WITH IAPMO EVALUATION REPORT ER-2018. MINIMUM VERTICAL LOAD CARRYING AND DIAPHRAGM SHEAR CAPACITIES CORRESPONDING TO WELD PATTERNS SHOWN ON STRUCTURAL DRAWINGS ARE AS INDICATED IN ICBO REPORT. RUN DECK UNITS CONTINUOUS OVER THREE OR MORE SPANS WHERE POSSIBLE. PROVIDE VENTED DECKING WHERE VAPOR-IMPERVIOUS MEMBRANE OCCURS OVER CONCRETE FILL.
- WELDED SHEAR STUDS: SEE PROPRIETARY ANCHORAGES AND FASTENERS SECTION OF
- DECK WELDING AND INSTALLATION OF WELDED SHEAR STUDS: AWS D1.3 USING PRE-QUALIFIED PROCEDURES.
- A. QUALIFICATION OF WELDERS: WELDERS SHALL BE EXPERIENCED IN WELDING LIGHT-GAUGE STEEL AND USING PRE-QUALIFIED PROCEDURES. ERECTOR SHALL ESTABLISH WELDING PROCEDURE FOR ARC SPOT WELDING OF METAL DECKING TO STRUCTURAL STEEL, AND INSTALLATION OF WELDED SHEAR STUDS IF APPLICABLE, FOR EACH GAUGE OF DECKING TO BE USED. PRIOR TO DECK ERECTION, EACH WELDER SHALL BE QUALIFIED USING THIS PROCEDURE AND WITNESSED BY SPECIAL INSPECTOR. SEE APPLICABLE CODE CBC CHAPTER 22, FOR ADDITIONAL QUALIFICATION REQUIREMENTS.
- . SHOP DRAWINGS: SUBMIT TO ARCHITECT (STRUCTURAL ENGINEER) FOR REVIEW.
- LIMITS TO NON-STRUCTURAL ITEMS SUSPENDED FROM CONCRETE FILLED METAL DECKING: HANGERS SUPPORTED BY METAL DECKING WITH STRUCTURAL CONCRETE FILL MAY BE INSTALLED USING ICBO APPROVED ANCHORAGE SYSTEMS. LIMIT HANGER: TO SUPPORTING DUCT WORK 54 INCHES x 16 INCHES MAXIMUM, 4-INCH DIAMETER PIPE MAXIMUM, AND ACOUSTICAL CEILINGS. LOCATE HANGERS TWO FLUTES APART ON SAME DECK SPAN. SUPPORT LARGER DUCT WORK AND PIPING FROM STRUCTURAL BEAMS OR COLUMNS. ADD ADDITIONAL STEEL BEAMS AT INTERMEDIATE SUPPORTS AS REQUIRED, DETERMINED BY THE CONTRACTOR'S LICENSED STRUCTURAL ENGINEER PER THE CRITERIA IN SECTION B OF THIS SHEET.
- PRE-PUNCHED HOLES IN METAL DECKING AND ACCESSORIES: METAL DECK WELDING AND INSTALLATION OF WELDED SHEAR STUDS ARE NOT PERMITTED THROUGH SINGLE LAYER SHEETS GREATER THAN 16 GAUGE, NOR THROUGH DOUBLE LAYER SHEETS GREATER THAN 18 GAUGE, NOR THROUGH SHEETS WITH TOTAL GALVANIZED COATING THICKNESS GREATER THAN 1.25 OUNCES PER SQUARE FOOT. PROVIDED PRE-PUNCHED HOLES AS NECESSARY.
- EXCESS STRUCTURAL CONCRETE: CONCRETE FILLED METAL DECKING AND FRAMING WILL DEFLECT DURING PLACEMENT OF CONCRETE. THESE DEFLECTIONS WILL REQUIRE PLACEMENT OF CONCRETE IN EXCESS OF AMOUNT BASED ON NOMINAL DIMENSIONS IN ORDER TO BRING SLAB WITHIN TOLERANCES OF A HORIZONTAL PLANE. PROVIDE EXCESS CONCRETE AT NO COST TO OWNER.
- SPRAY APPLIED FIREPROOFING: SAME AS STRUCTURAL STEEL SECTION, EXTENT PER ARCHITECTURAL



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SOCAL | NORCAL | COLORADO ISE PROJECT NO.: 21-7205

PROJECT FOR:

REAL ESTATE SERVICES

385 N. ARROWHEAD AVE. SAN BERNARDINO, CA 92415

INDOOR GUN **RANGE AIR CONDITIONING AND**

> 9478 ETIWANDA AVENUE RANCHO CUCAMONGA,

CALIFORNIA 91739

HEATING

PROJECT NO.: 10.10.1151

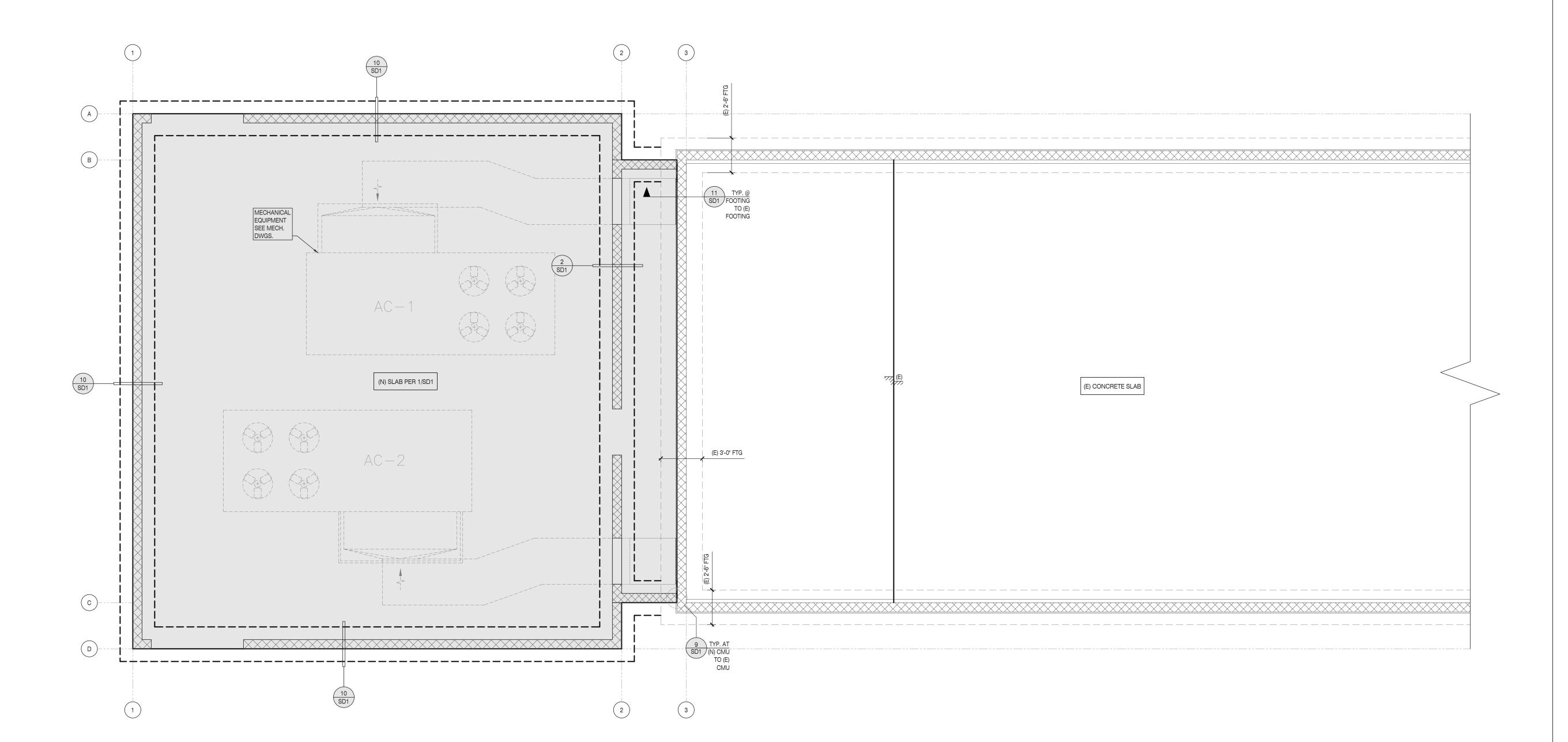
ISSUE INFOR	RMATION:
DATE:	INFORMATION:

SHEET INFORMATION:

STK PROJECT NO.: SCALE: DATE: PLOT DATE: JULY 21, 2021



STRUCTURAL NOTES



FOUNDATION PLAN

SCALE: 1/4" = 1'-0"

DO NOT SCALE PLANS FOR CONSTRUCTION DIMENSIONS. ALL CONSTRUCTION

DIMENSIONS SHOULD BE VERIFIED WITH THE ARCHITECTURAL SET OF PLANS

GEOTECHNICAL INFORMATION

. REFER TO STRUCTURAL COVER SHEET (SCS) FOR ASSUMED SOIL VALUES OR VALUES BASED ON THE PROVIDED GEOTECHNICAL (SOILS) REPORT:

THE OWNER/DEVELOPER AND SUBCONTRACTORS ARE TO REVIEW THE SOILS REPORT PRIOR TO COMMENCING CONSTRUCTION AND VERIFY THE PLANS COMPLY WITH THE CURRENT SOILS REPORT RECOMMENDATIONS. THE STRUCTURAL ENGINEER SHALL BE NOTIFIED IF THE SOILS REPORT DATE SHOWN ON SHEET (SCS) DOES NOT MATCH THE CURRENT REPORT DATE. THE OWNER/DEVELOPER IS RESPONSIBLE FOR UPDATING THE STRUCTURAL ENGINEER WITH CURRENT GEOTECHNICAL ENGINEERING REQUIREMENTS.

FOUNDATION NOTES

. FOR GENERAL NOTES & DETAILS REFER TO THE SN & SD SHEETS.

DETAILED ON THE STRUCTURAL DRAWINGS.

- . SEE ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS FOR TOP OF STRUCTURAL CONCRETE SLAB ELEVATIONS, DEPRESSIONS, SLOPES, CURBS, DRAINS, PADS, DECK EDGE LOCATIONS, ALL OVERALL DIMENSIONS, AND LOCATIONS OF OPENINGS IN WALLS AND SLABS NOT INDICATED ON STRUCTURAL
- 3. CENTER CONTINUOUS FOOTINGS UNDER WALLS U.N.O. CENTER SPREAD FOOTINGS UNDER COLUMNS U.N.O.

. IN NO CASE SHALL PIPES, CONDUITS, OR SLEEVES BE EMBEDDED IN SPREAD FOOTINGS UNLESS SPECIFICALLY

FOUNDATION LEGEND & SYMBOLS

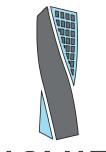
- . BUILDING SLAB-ON-GRADE: MINIMUM 6" THICK SLAB W/ #4 AT 18" O.C. EACH WAY AT CENTER OF SLAB. 5. CONSTRUCT CONTINUOUS FOOTINGS AT CORNERS AND INTERSECTIONS PER DETAIL 13/SD1.
- 6. DIMENSIONS TO CMU WALLS ARE TO FACE OF MASONRY UNLESS NOTED OTHERWISE.

	CONCRETE SLAB & FOOTING. FOOTING SIZE AND REINFORCING PER DETAIL SHEET SD1
	INDICATES: EXISTING CONCRETE SLAB & FOOTING.
	INDICATES: 8" CMU (fm = 1500 psi) WALL WITH #5 AT 16" O.C. VERTICAL & #5 AT 16" O.C. HORIZONTAL WITH SOLID GROUT. REFER TO PLANS & DETAILS.
	INDICATES: EXISTING 8" CMU (fm = 1500 psi) WALL
ANCHOR AT XX" O.C. /SPACING X XX DETAIL # SHEET #	INDICATES: DETAIL CUT LOCATION. REFER TO DETAIL # AND STRUCTURAL SHEET NUMBER FOR MORE INFORMATION. TEXT ABOVE BUBBLE INDICATES REVISED HARDWARE OTHER THAN NOTED IN DETAIL



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ISE PROJECT NO.: 21-7205

SAN BERNARDINO REAL ESTATE SERVICES -PROJECT MANAGEMENT DIVISION

385 N. ARROWHEAD AVE. SAN BERNARDINO, CA 92415

REGIONAL INDOOR GUN RANGE AIR CONDITIONING AND **HEATING**

> 9478 ETIWANDA AVENUE RANCHO CUCAMONGA, CALIFORNIA 91739

PROJECT NO.: 10.10.1151

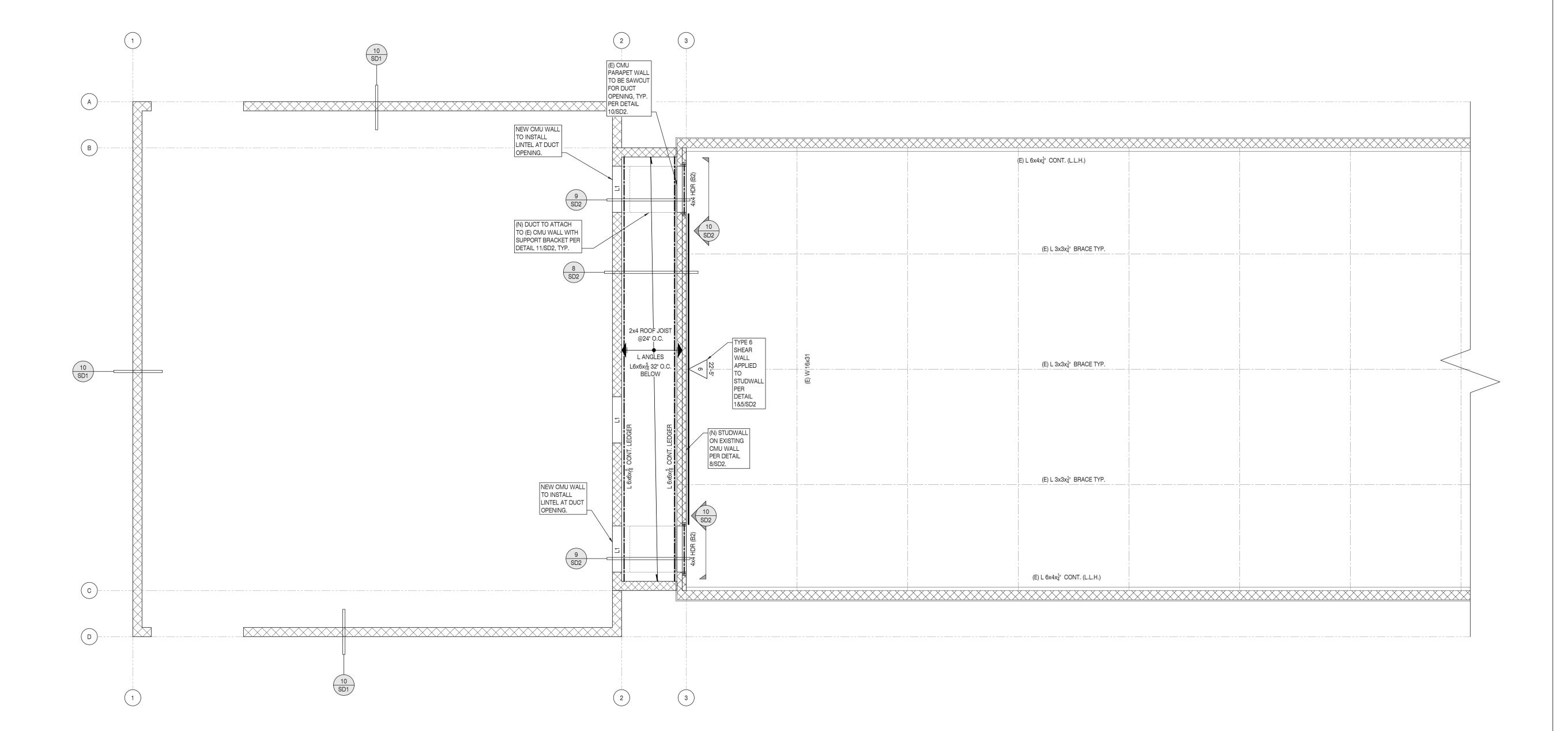
INFORMATION:

SHEET INFORMATION: STK PROJECT NO.:

JULY 2021 PLOT DATE: JULY 21, 2021



FOUNDATION PLAN



ROOF FRAMING PLAN

SCALE: 1/4" = 1'-0"

DO NOT SCALE PLANS FOR CONSTRUCTION DIMENSIONS. ALL CONSTRUCTION DIMENSIONS SHOULD BE VERIFIED WITH THE ARCHITECTURAL SET OF PLANS

FRAMING NOTES

- REFER TO STRUCTURAL GENERAL NOTE SHEET (SN SERIES) AND DETAILS (SD SERIES) FOR INFORMATION NOT SHOWN ON THE MAIN FRAMING PLANS.
- 2. REFER TO MAIN FRAMING PLAN FOR ALL INFORMATION NOT SHOWN ON THE ALTERNATE ELEVATIONS AND OPTIONS.
- 3. FRAMER TO COORDINATE JOIST SPACING WITH M.E.P. DESIGNS. FRAMER TO REVIEW MECH. AND ELECTRIC PLANS BEFORE FINAL PLACEMENT OF JOISTS. WHERE ALIGNED JOIST INTERFERES w/ FUTURE INSTALLATION OF M.E.P. INSTALLATION, CONTACT STRUCTURAL ENGINEER.
- 4. ROOF SHOULD BE FULLY LOADED PRIOR TO NAILING THE TOP PLATE HARDWARE TO ROOF TRUSS BOTTOM CHORD.
- 5. CONTRACTOR TO FIELD VERIFY EXISTING FRAMING PRIOR TO THE START OF CONSTRUCTION. EXISTING FRAMING INFORMATION BASED ON PROVIDED AS-BUILT STRUCTURAL PLANS DATED 12/121/2016 .CONTRACTOR TO IMMEDIATELY NOTIFY STRUCTURAL EOR/ ARCHITECT IF ANY DISCREPANCIES OCCUR BETWEEN THE STRUCTURAL PLANS AND AS-BUILT CONDITIONS, PRIOR TO THE START OF CONSTRUCTION.

FRAMING LEGEND & SYMBOLS

REQUIRED AT XX" O.C. ANCHOR/SPACING X XX DETAIL # SHEET #	INDICATES DETAIL CUT LOCATION. REFER TO DETAIL # AND STRUCTURAL SHEET NUMBER FOR MORE INFORMATION. TEXT ABOVE BUBBLE INDICATES REVISED HARDWARE OTHER THAN NOTED IN DETAIL
	INDICATES: NEW 8" CMU (fm = 1500 psi) WALL WITH #5 AT 16" O.C. VERTICAL & #5 AT 16" O.C. HORIZONTAL WITH SOLID GROUT. REFER TO PLANS & DETAILS .
	INDICATES: EXISTING 8" CMU (fm = 1500 psi) WALL
L#	INDICATES: <u>NEW</u> CMU LINTEL ABOVE WALL OPENING PER DETAIL 5/SD1 U.N.O. ON PLAN.
XX III	INDICATES: 1. WALL OPENING HEADER PER FRAMING SCHEDULE BELOW 2. PROVIDE (1) 2x TRIMMER EACH SIDE U.N.O. ON PLAN 3. PROVIDE KING STUDS PER PLAN.
⊠— - — — — — — — — — — — — — — — — — — —	INDICATES: 1. <u>EXISTING</u> BEAM AS NOTED ON PLANS
(INDICATES SPAN AND DIRECTION OF <u>NEW</u> ROOF RAFTERS PER PLAN
	INDICATES: DRAG TIE STRAP PER PLAN OR DETAIL SHOWN ON PLANS.



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ISE PROJECT NO.: 21-7205

SOCAL | NORCAL | COLORADO

PROJECT FOR:

SAN BERNARDINO COUNTY REAL ESTATE SERVICES -PROJECT MANAGEMENT DIVISION

385 N. ARROWHEAD AVE. SAN BERNARDINO, CA 92415

DJECT NAME:

PROBATION DEPT.
WEST VALLEY
REGIONAL
TRAINING CENTER:
INDOOR GUN
RANGE AIR

HEATING

9478 ETIWANDA AVENUE
RANCHO CUCAMONGA,

CONDITIONING AND

PROJECT NO.: 10.10.1151

CALIFORNIA 91739

ISSUE INFORMATION:

DATE: INFORMATION:

SHEET INFORMATION:

STK PROJECT NO.: 374-147-21
SCALE: AS NOTED

SCALE: AS NOTED

DATE: JULY 2021

PLOT DATE: JULY 21, 2021

SEAL

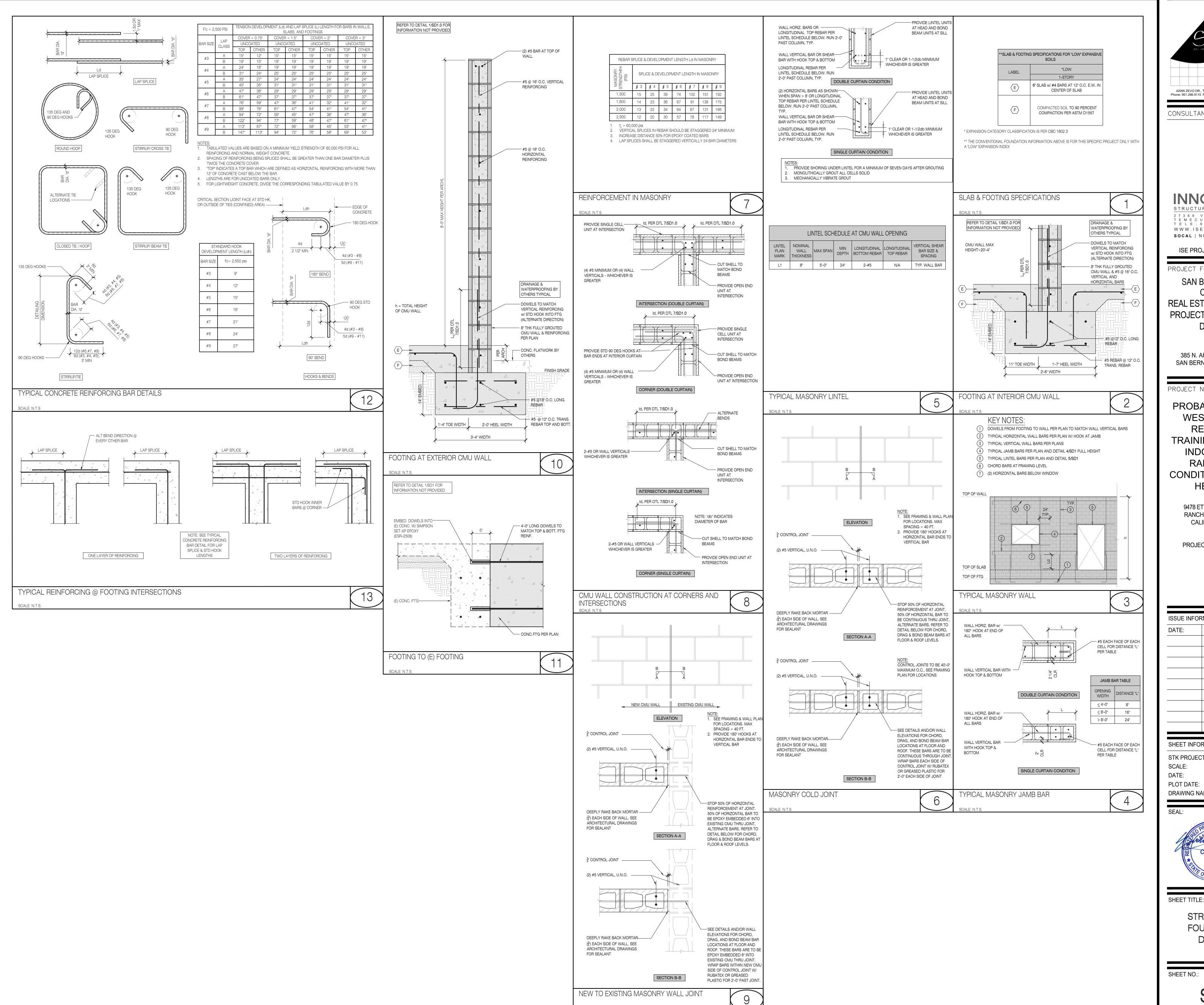


SHEET TITLE

ROOF FRAMING PLAN

SHEET NO.:

S2





CONSULTANT:



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PROJECT FOR: SAN BERNARDINO **REAL ESTATE SERVICES -**DIVISION

385 N. ARROWHEAD AVE. SAN BERNARDINO, CA 92415

PROJECT NAME:

REGIONAL TRAINING CENTER: INDOOR GUN RANGE AIR CONDITIONING AND HEATING

> 9478 ETIWANDA AVENUE RANCHO CUCAMONGA, CALIFORNIA 91739

PROJECT NO.: 10.10.1151

ISSUE INFORMATION: INFORMATION:

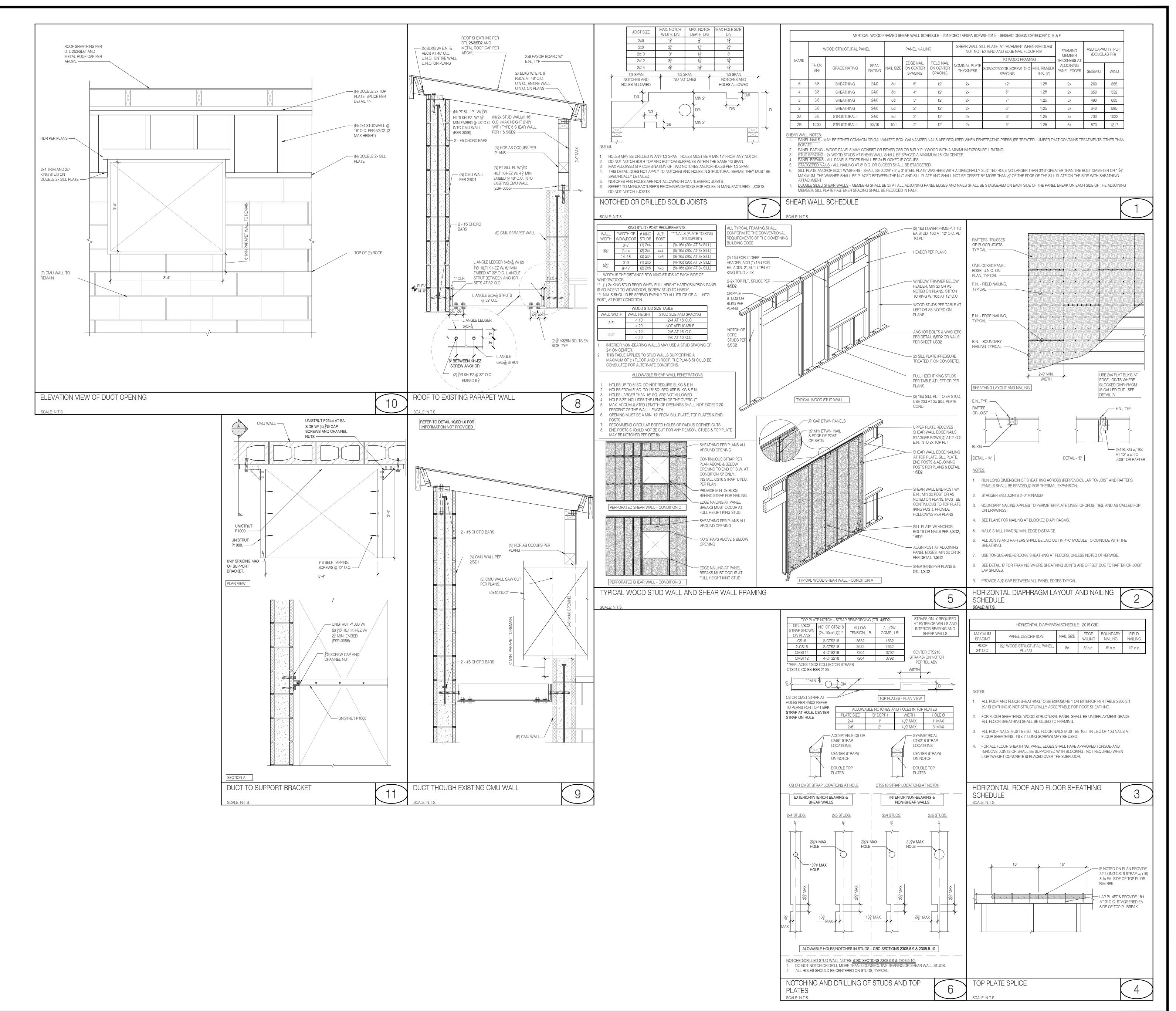
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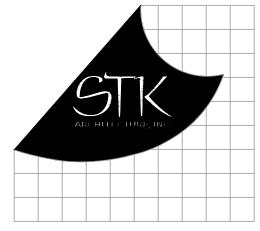
DRAWING NAME



JULY 21, 2021

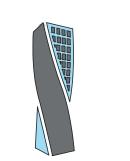
STRUCTURAL **FOUNDATION DETAILS**





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CONSULTANT:



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REGIONAL TRAINING CENTER: INDOOR GUN RANGE AIR CONDITIONING AND **HEATING**

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PROJECT NO.: 10.10.1151

DATE:	INFORMATION:

SHEET INFORMATION: 374-147-21 STK PROJECT NO.:

AS NOTED SCALE: JULY 2021 DATE: PLOT DATE: JULY 21, 2021 DRAWING NAME:



STRUCTURAL FRAMING DETAILS

		PLUMBING LEG	END	
SYMBOL	ABBREVIATION	DESCRIPTION	ABBREVIATION	DESCRIPTION
	S	SEWER PIPE	ABV A/C	ABOVE ABOVE CEILING
OW	OW	OILY WASTE PIPE	AGA ANSI	ABOVE CEILING AMERICAN GAS ASSOCIATION AMERICAN NATIONAL STANDARD INSTITUTE
GW	GW	GREASE WASTE PIPE	ASME ASSE	AMERICAN SOCIETY FOR MECHANICAL ENGINEERS AMERICAN SOCIETY FOR SANITARY ENGINEERS
——————————————————————————————————————	PW	PUMPED (FORCED) WASTE PIPE	ASTM ADA	AMERICAN SOCIETY FOR TESTING AND MATERIALS AMERICANS WITH DISABILITIES ACT
IW	IW	INDIRECT WASTE PIPE	AFF AFG A/G	ABOVE FINISHED FLOOR ABOVE FINISHED GRADE ABOVE GRADE
	V	VENT PIPE	AP ARCH	ACCESS PANEL ARCHITECT OR ARCHITECTURAL
	CW	COLD WATER PIPE	BT BEL	BATH TUB BELOW
ICW	ICW	INDUSTRIAL COLD WATER PIPE	B/F B/G BOP	BELOW FLOOR BELOW GRADE BOTTOM OF PIPE
SCW	SCW	SOFT COLD WATER PIPE	B/S BTU	BELOW SLAB BRITISH THERMAL UNIT
	HW	HOT WATER PIPE	BTUH CBC	BRITISH THERMAL UNITS PER HOUR CALIFORNIA BUILDING CODE
IHW	IHW	INDUSTRIAL HOT WATER PIPE	CEC CFC CMC	CALIFORNIA ELECTRICAL CODE CALIFORNIA FIRE CODE CALIFORNIA MECHANICAL CODE
	HWR	HOT WATER RETURN PIPE	CPC CI	CALIFORNIA MECHANICAL CODE CALIFORNIA PLUMBING CODE CAST IRON
1 40 	140	140°F HOT WATER PIPE	CISPI CLG	CAST IRON SOIL PIPE INSTITUTE CEILING
R	R	RECLAIMED WATER PIPE	CP CL	CIRCULATION PUMP CLARIFIER
	G	LOW PRESSURE NATURAL GAS PIPE	CLR CONC CONN	CLEAR CONCRETE CONNECT OR CONNECTION
MPG	MPG	MEDIUM PRESSURE NATURAL GAS PIPE	CONN CONTR CFH	CONNECT OR CONNECTION CONTRACTOR CUBIC FEET PER HOUR
HPG	HPG	HIGH PRESSURE NATURAL GAS PIPE	CFM °C	CUBIC FEET PER MINUTE DEGREES CELSIUS
LPG-	LPG	LIQUEFIED PETROLEUM GAS PIPE	F DIV	DEGREES FAHRENHEIT DIVISION DRAWING(S)
CD	CD	CONDENSATE DRAIN PIPE	DWG(S) EA (E)	DRAWING(S) EACH EXISTING
SCD	SCD	SECONDARY CONDENSATE DRAIN PIPE	ELEC ELEV	ELECTRICAL ELEVATION
PCD	PCD	PUMPED CONDENSATE DRAIN PIPE	ET FF	EXPANSION TANK FINISHED FLOOR
RD	RD	ROOF DRAIN PIPE	FPM FLR FT	FEET PER MINUTE FLOOR FEET OR FOOT
ORD	ORD	OVERFLOW ROOF DRAIN PIPE	FU FOG	FIXTURE UNIT FAT, OIL, AND GREASE
CA	CA	COMPRESSED AIR PIPE	GA GALV	GAUGE GALVANIZED
——ф——	FCO	FLOOR CLEAN OUT	GPC GPF	GALLONS PER CYCLE GALLONS PER FLUSH
<u> — Ф — </u>	GCO	GRADE CLEAN OUT	GPH GPM GD	GALLONS PER HOUR GALLONS PER MINUTE GARBAGE DISPOSAL
_	wco	WALL CLEAN OUT	HD GI	HEAD GREASE INTERCEPTOR
	FC	FLEXIBLE CONNECTION	HDR HR	HEADER HOUR
——⋈——	SOV	SHUT OFF VALVE	IM IES IND	ICE MAKER SUPPLY BOX ILLUMINATING ENGINEERS SOCIETY INDIRECT
	GC	GAS COCK	IAPMO	INTERNATIONAL ASSOCIATION OF PLUMBERS AND MECHANICAL OFFICIALS
<u></u>	CV	CHECK VALVE	IBC IMC	INTERNATIONAL BUILDING CODE INTERNATIONAL MECHANICAL CODE
	BV	BALL VALVE	IPC INV IE	INTERNATIONAL PLUMBING CODE INVERT INVERT ELEVATION
	PRV	PRESSURE REDUCING VALVE	KEC KG	KITCHEN EQUIPMENT CONTRACTOR KILOGRAMS
	BLV	BALANCING VALVE	KPQ KS	KILOPASCALS KITCHEN SINK
———PTR—————————————————————————————————	PTR	PRESSURE AND TEMPERATURE RELIEF VALVE	LS L, LAV	LAUNDRY SINK LAVATORY
——————————————————————————————————————	U	UNION	L/S LPF MH	LITERS PER SECOND LITERS PER FLUSH MANHOLE
		CAPPED PIPE	MFR MSS	MANUFACTURER MANUFACTURERS STANDARDIZATION SOCIETY
<u> </u>	CONT	CONTINUED OR CONTINUATION	MAX MECH	MAXIMUM MECHANICAL
TP	TP	TRAP PRIMER LINE	MSA MIL mm	MEDIUM PRESSURE GAS METER SET ASSEMBLY 0.001 INCH MILLIMETER
	WHA	WATER HAMMER ARRESTOR	MIN MS	MINIMUM MOP SINK
——е Щ э——	RPBP	REDUCED PRESSURE BACKFLOW PREVENTER	MTD NSF	MOUNTED NATIONAL SANITATION FOUNDATION
	НВ	HOSE BIBB	NPSH NOM NIC	NET POSITIVE SUCTION HEAD NOMINAL NOT IN CONTRACT
		PIPE UD OR PICE	NTS NO	NOT TO SCALE NUMBER
		PIPE UP OR RISE	PLBG PDI	PLUMBING PLUMBING AND DRAINAGE INSTITUTE
<u> </u>		VALVE ON DROP	PE LBS PSIG	POLYETHYLENE POUNDS POUNDS PER SQUARE INCH GAUGE
	Т	VALVE ON RISE	PD QTY	PRESSURE DROP QUANTITY
	AS	THERMOMETER AQUASTAT	REQ'D RI	REQUIRED ROUGH-IN
	P.O.D.	POINT OF DISCONNECT	SCH SH SOV	SCHEDULE SHOWER SHUT—OFF VALVE
lacksquare	POC	POINT OF DISCONNECTION	SPEC SF	SHUT-OFF VALVE SPECIFICATION SQUARE FEET
•	AD, FD	AREA DRAIN OR FLOOR DRAIN	SS STRUC	STAINLESS STEEL STRUCTURAL
	FS, RR	FLOOR SINK OR ROOF RECEPTOR	TEMP MBH THRU	TEMPERATURE THOUSANDS OF BRITISH THERMAL UNITS PER HOUR THROUGH
• • • • • • • • • • • • • • • • • • •	VTR	VENT THROUGH ROOF	TDH TDL	THROUGH TOTAL DEVELOPED HEAD TOTAL DEVELOPED LENGTH
<u> </u>	DEMO	DEMOLITION OR DEMOLISH	TEL TYP	TOTAL EQUIVALENT LENGTH TYPICAL
.\\\\\\\\	RELO	RELOCATE	UNO UL	UNLESS NOTED OTHERWISE UNDERWRITERS LABORATORIES
♣⊘ •	CIRC PUMP	CIRCULATING PUMP	UBC UMC UPC	UNIFORM BUILDING CODE UNIFORM MECHANICAL CODE UNIFORM PLUMBING CODE
ø	DIA, DIAM	DIAMETER	UR VCP	URINAL VITRIFIED CLAY PIPE
			V/PH/Hz WB, WSB	VOLTS/PHASE/HERTZ WASHING MACHINE SUPPLY BOX
			WC WHA WH	WATER CLOSET WATER HAMMER ARRESTOR WATER HEATER

PLUMBING GENERAL NOTES:

- THESE DOCUMENTS MAY NOT BE USED FOR ANY REPRODUCTION. BIDDING. OR CONSTRUCTION UNLESS AUTHORIZED, IN WRITING, BY SALAS O'BRIEN AND THE ENGINEER OF RECORD RESPONSIBLE FOR THEIR PREPARATION.
- 2. CONTRACTOR SHALL FIELD VERIFY THE LOCATIONS OF ALL EXISTING UTILITY PIPES PRIOR TO START OF WORK. NECESSARY ADJUSTMENTS TO THE PLUMBING LAYOUT SHALL BE DONE AT
- CONTRACTOR SHALL NOTIFY ALL LOCAL UTILITY COMPANIES INCLUDING BUT NOT LIMITED TO THE GAS COMPANY, ELECTRIC COMPANY, TELEPHONE COMPANY, AND THE WATER DEPARTMENT, ABOUT THE EXTENT OF PLUMBING WORK. ALL EXCAVATION WORK SHALL BE APPROVED BY ALL UTILITY COMPANIES TO ASSURE PREVENTION OF INTERRUPTION OF EXISTING SERVICES PRIOR TO START OF WORK.
- ALL PLUMBING WORK SHALL MEET OR EXCEED THE REQUIREMENTS OF THE CALIFORNIA PLUMBING CODE, CALIFORNIA BUILDING CODE, CALIFORNIA MECHANICAL CODE, CALIFORNIA ADMINISTRATIVE CODE. TITLE 24, AMERICANS WITH DISABILITIES ACT (ADA), NATIONAL FIRE PROTECTION ASSOCIATION (NFPA), THE LOCAL CITY AND COUNTY CODES, AND ALL OTHER CODES HAVING JURISDICTION. IN CASE OF CONFLICT, THE MORE STRICT REGULATIONS SHALL
- ALL PLUMBING WORK SHALL BE COORDINATED WITH THE WORKS OF OTHER TRADES PRIOR TO START OF WORK. NECESSARY ADJUSTMENTS SHALL BE MADE AT NO EXTRA COST. 6. FOR MINIMUM PIPE SIZE CONNECTIONS TO EACH PLUMBING FIXTURE SEE PLUMBING FIXTURE SCHEDULE. THESE VALUES ARE MINIMUM; LARGER CONNECTIONS MAY RESULT BASED ON THE DIFFERENT MANUFACTURER'S RECOMMENDATIONS.
- MANUFACTURER'S NAMES AND MODEL NUMBERS SHOWN FOR PLUMBING FIXTURES AND EQUIPMENT ARE FOR REFERENCE ONLY. OTHER MANUFACTURERS WHICH CAN MEET THE DESIGN REQUIREMENTS OF THE PLUMBING SYSTEM MAY BE SUBSTITUTED UPON APPROVAL FROM THE ARCHITECT AND THE OWNER.
- 8. PROVIDE DIELECTRIC FITTINGS FOR DISSIMILAR METALS IN CONTACT.
- 9. PROVIDE HANGERS AND SUPPORTS FOR PIPING IN ACCORDANCE WITH THE
- RECOMMENDATIONS OF MSS SP-69-2003. 10. PROVIDE VALVES AT THE FOLLOWING LOCATIONS:
- A. WATER MAIN SHUT-OFF VALVE IN VALVE BOX.
- B. VALVE WITH HOSE CONNECTION ON DOWNSTREAM SIDE OF THE MAIN SHUT-OFF VALVE.
- C. SHUT-OFF VALVE ON EACH SUPPLY TO EACH FIXTURE AND EQUIPMENT ITEM NOT PROVIDED WITH CONTROL STOP OR OTHER AUXILIARY SHUT-OFF VALVE. INSTALL SHUT-OFF VALVES SO THAT STEMS EITHER ARE VERTICAL WITH HANDWHEELS OR OPERATORS ON TOP OR ARE HORIZONTAL AND SO THAT VALVES ARE EASILY ACCESSIBLE FOR OPERATION, SERVICE, REMOVAL AND REPLACEMENT.
- 11. PROVIDE SLEEVES FOR ALL PIPE AND TUBING PASSING THROUGH FLOORS, ROOFS, AND WALLS. PACK CAULK INTO THE SPACE AROUND THE PIPE OR TUBING. PROVIDE FLASHING FOR ALL PIPES EXTENDING THROUGH THE ROOF.
- 12. ALL VENT TERMINATIONS AT ROOF SHALL BE AT LEAST 10 FEET AWAY FROM OUTSIDE AIR INTAKES, OPERABLE WINDOWS, AND BUILDING OPENINGS.
- 13. FILL CRACKS BETWEEN FIXTURES AND WALL/FLOORS WITH SILICONE RUBBER SEALANT. 14. LOCATE, SIZE, AND INSTALL WATER HAMMER ARRESTERS IN ACCORDANCE WITH PLUMBING
- AND DRAINAGE INSTITUTE STANDARD NO. WH-201. 15. INSTALL FIXTURES IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND ALL APPLICABLE CODES. SECURE FLOOR OUTLET OF FLOOR-MOUNTED FIXTURES TO DRAINAGE CONNECTIONS AND FLOOR IN A RIGID MANNER. RIGIDLY SUPPORT WALL-HUNG FIXTURES BY MEANS OF METAL SUPPORTING MEMBERS. USE CHROMIUM-PLATED BRASS BOLTS, NUTS, AND WASHERS WHERE EXPOSED. ALL CONNECTIONS SHALL BE MADE GAS-TIGHT AND WATER-TIGHT. USE OF PUTTY AND PLASTICS FOR GASKETS WILL NOT BE PERMITTED.
- 16. PROVIDE ALL FIXTURE COMPONENTS AS INDICATED ON DRAWINGS. PROVIDE ADDITIONAL COMPONENTS AS PER MANUFACTURER'S RECOMMENDATIONS FOR PROPER OPERATION OF THE
- 17. PROVIDE EACH PLUMBING FIXTURE (INCLUDING HOSE BIBBS) WITH AN INDIVIDUAL STOP OR COMPRESSION VALVE OF POLISHED CHROME-PLATED LOOSE KEY TYPE.
- 18. WHERE DEPTHS OR INVERTS ELEVATIONS ARE NOT INDICATED, PROVIDE MINIMUM COVERAGE (ABOVE TOP OF PIPES) AS FOLLOWS:
- A. ANY PIPING UNDER SLAB (TOP OF PIPE TO UNDERSIDE OF SLAB): 18 INCHES.
- B. CAST IRON AND COPPER PIPES IN OTHER LOCATIONS: 18 INCHES.
- C. EXCAVATE TO UNDISTURBED EARTH: CUT LEVEL AND FORM TRUE. REMOVE DEBRIS, RUBBISH AND SOFT MATERIAL (SUCH AS MUD). WHERE ROCK IS ENCOUNTERED, UNDERCUT TRENCHES 6-INCHES AND FILL WITH WELL TAMPED NEUTRAL SAND AND PEA GRAVEL TO PROPER PIPE ELEVATION. DURING EXCAVATION FREE OF STANDING WATER. UNDERCUT TRENCH 6-INCHES AND INSTALL PIPING IN A 6-INCH NEUTRAL SAND
- 19. BACKFILL TO A POINT 12-INCHES ABOVE TOP OF PIPING WITH EARTH (EXCAVATED MATERIAL MAY BE USED) FREE OF CLAY, DEBRIS, RUBBISH, ROCKS, OR CLODS OVER 4-INCHES IN THE GREATEST DIMENSION. BACKFILL ABOVE 12-INCHES FROM TOP OF PIPING MAY BE WITH EXCAVATED MATERIAL. APPLY BACKFILL BY HAND IN 6-INCH DEEP LAYERS THE FULL WIDTH OF THE TRENCH. MOISTEN EACH LAYER (DO NOT FLOOD OR PUDDLE), AND HAND TAMP TO A MINIMUM 90 PERCENT COMPACTION BEFORE PROCEEDING WITH THE NEXT LAYER OF
- 20. DO NOT EXCAVATE UNDER FOUNDATIONS OR FOOTINGS EXCEPT IN MANNER PERMITTED BY THE ARCHITECT. DO NOT BACKFILL UNTIL INSTALLED PIPING HAS BEEN SUCCESSFULLY
- 21. VERIFICATION OF WATER AGENCY APPROVAL SHALL BE SUBMITTED TO THE BUILDING AND SAFETY DIVISION PRIOR TO ISSUANCE OF A PLUMBING PERMIT FOR THIS PROJECT.
- 22. ALL PENETRATIONS THRU FIRE RATED ASSEMBLIES SHALL BE PACKED WITH APPROVED FIRE PROOFING. FOR LOCATIONS OF FIRE RATED ASSEMBLIES, SEE ARCHITECTURAL PLANS.
- 23. ROUTE ALL PIPES AS HIGH AS POSSIBLE IN EXPOSED LOCATIONS. COORDINATE ROUTING
- WITH ALL OTHER TRADES PRIOR TO START OF WORK. 24. NO SPRAY FOAM INSULATION SHALL BE APPLIED TO AREAS CONTAINING PEX PIPING.

PLUMBING MANDATORY MEASURES

- ALL PLUMBING SYSTEM COMPONENTS SHALL MEET OR EXCEED THE REQUIREMENTS OF CURRENT CBC, CMC, CPC, NEC, NFPA, ASTM, ANSI, AND ALL LOCAL AND STATE CODE REQUIREMENTS. (SEE BELOW)
- ALL PLUMBING EQUIPMENT LISTED IN OF THE 2019 CALIFORNIA CODE OF REGULATIONS (CCR), TITLE-24, PART 6, SECTION 110.3 ENERGY EFFICIENCY STANDARDS MUST BE CERTIFIED BY THE MANUFACTURER TO MEET OR EXCEED SPECIFICATIONS OR EFFICIENCIES ADOPTED BY THE CEC.
- ALL HEATERS FOR DOMESTIC HOT WATER MUST BE CERTIFIED BY THE MANUFACTURER TO MEET THE SPECIFICATIONS OR EFFICIENCIES AS ADOPTED BY THE CEC IN ACCORDANCE WITH THE 2019 CALIFORNIA CODE OF REGULATIONS (CCR), TITLE-24, PART 6, SECTION 110.3 RESIDENTIAL NON-RESIDENTIAL.
- ALL GAS APPLIANCES MUST HAVE PILOTLESS IGNITION SYSTEM IN ACCORDANCE WITH SECTION 110.5 OF THE 2019 CALIFORNIA CODE OF REGULATIONS, TITLE-24, PART 6,
- ENERGY EFFICIENCY STANDARDS, TABLE 4-4. ALL INSULATING MATERIALS INSTALLED MUST BE CERTIFIED BY CALIFORNIA ENERGY
- COMMISSION TO MEET 2019 CALIFORNIA CODE OF REGULATIONS, TITLE-24, PART 6, ENERGY EFFICIENCY STANDARDS, SECTION 120.3 AND TABLE 4-15.
- 6. ALL INSULATION INSTALLED SHALL MEET THE FLAME SPREAD AND SMOKE DENSITY REQUIREMENTS OF 2019 CBC, PART 1, SECTION 720 AND 2019 CMC. SECTION 602.2.
- 7. ALL PIPING EXPOSED TO WEATHER SHALL BE METALLIC.

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- 8. ALL FERROUS PIPING EXPOSED TO WEATHER SHALL BE GALVANIZED AND PAINTED. 9. ALL PIPES, FITTINGS AND FIXTURES USED TO CONVEY POTABLE WATER SHALL BE LEAD
- FREE IN COMPLIANCE WITH CPC SECTION 604.2. 10. ALL FIXTURES REQUIRED TO BE ACCESSIBLE SHALL BE INSTALLED AS PER THE LATEST
- REQUIREMENTS OF TITLE 24 AND ADA (AMERICANS WITH DISABILITIES ACT).
- . CROSS CONNECTION PROTECTION SHALL BE PROVIDED AT ALL POTABLE WATER SUPPLIED APPLIANCES AND EQUIPMENT (OTHER THAN THOSE LISTED IN INFORMATION

	P	LUMBING PIPE MATERIAL SCHEDULE	
SERVICE	LOCATION	PIPE MATERIAL	SLOPE
WATER	ABOVE GRADE	ASTM B88 TYPE "L" HARD DRAWN COPPER WITH WROUGHT COPPER FITTINGS.	1/32" PER
WATER	BELOW GRADE	ASTM B88 TYPE "K" HARD DRAWN COPPER, FACTORY INSULATED, WITH WROUGHT COPPER FITTINGS.	1/32" PER
SEWER AND VENT	ABOVE GRADE	ASTM A888 SERVICE WEIGHT CAST IRON PIPE AND DWV FITTINGS SHALL CONFORM TO CPC AND BEAR THE COLLECTIVE TRADEMARK OF CISPI AND NSF.	1/4" PER 1
	BELOW GRADE	ABS SCHEDULE 40 PIPE AND DWV FITTINGS SHALL CONFORM TO ASTM D2321-2000 AND CPC.	1/4" PER 1
	ABOVE GRADE	ASTM A53 SCHEDULE 40 GALVANIZED STEEL "BLACK" PIPE AND FITTINGS SHALL CONFORM TO CPC. EXPOSED PIPING SHALL BE PAINTED.	1/4" PER 15
NATURAL GAS	BELOW FLOOR (INTERIOR)	ASTM A53 SCHEDULE 40 GALVANIZED STEEL "BLACK" PIPE AND FITTINGS SHALL CONFORM TO CPC. PIPING INSTALLED UNDERGROUND BENEATH BUILDING SHALL CONFORM TO CPC 1210.1.6.	1/4" PER 15
	BELOW GRADE (EXTERIOR)	ASTM D2513—16a POLYETHYLENE "PE" PIPE. ALL FITTINGS SHALL BE AS PER CPC.	1/4" PER 15
CONDENSATE	ABOVE GRADE	ASTM B88 TYPE "L" HARD DRAWN COPPER WITH WROUGHT COPPER FITTINGS.	1/4" PER 1

	PI	PE INSU						SS		
FLUID	INSUL	ATION				NO	MINAL	PIPE DIAMETER	(INCHES)	
OPERATING	CONDU			<1		1 - <	1.5	1.5 - < 4	4 - < 8	8 AND LARG
TEMPERATURE RANGE (*F)	CONDUCTIVITY (IN BTU-IN/H PER SQ. FT ² *F)	TEMPERATURE				INS	ULATIC	I ON THICKNESS (IN INCHES)	I REQUIRED	
	EATING, SERVICE WATER I CONDENSATE, REFRIGE SERVICE HOT WATE	RANT, SPACE HEA						PIPE INSULATION IN INCHES OF	· ·	
ABOVE 350	0.32 - 0.34	250	INCHES	4.5		5.0		5.0	5.0	5.0
ADOVE 330	0.52 0.54		R-VALUE	R37		R41		R37	R27	R23
251-350	0.29 - 0.31	200	INCHES	3.0		4.0		4.5	4.5	4.5
	0.20		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	R2		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.		R11		R14	R11 1.5	R10
105-140	0.22 - 0.28	100	INCHES R-VALUE	1.0 R7.7		1.5 R12.		1.5 R11	1.5 R9	1.5 R8
			R-VALUE	K/./	<u>′</u>			PIPE DIAMETER		I Ro
				<=	1	1 - <		1.5 - < 4	4 - < 8	8 <
	CE COOLING SYSTEMS ER, REFRIGERANT AND	BRINE)						I PIPE INSULATION S IN INCHES OF		
40-60	0.21 - 0.27	75	INCHES	NONRES	l	NONRES		1.0	1.0	1.0
				0.5	0.5	0.5	0.5	1.0	1.0	1.0
			R-VALUE	R3	R6	R3	R5			
BELOW 40	0.20 - 0.26	50	INCHES	1.0		1.5		1.5	1.5	1.5
			R-VALUE	R8.5	5	R14	ļ.	R12	R10	R9

			PLU	MBI	NG	FIXTURE SCHEDULE
SYMBOL	FIXTURE	CW	MIN. PIF	PE SIZE V	S	REMARKS
FS 1	FLOOR SINK	_	_	2"	3"	ZURN MODEL# Z-1900 12"X12", 6" DEEP WITH DOME STRAINER, COATED CAST IRON BODY, ACID RESISTANT INTERIOR. PROVIDE WITH TOP, CAST IRON P-TRAP.

	PLUMBING EQUIPMENT SCHEDULE								
TAG	EQUIPMENT	LOCATION	MANUFACTURER	MODEL	REMARKS				
TP 1	TRAP PRIMER	VARIES	PPP	P1	PRESSURE DROP ACTIVATED, BRASS CONSTRUCTION. PROVIDE WITH DISTRIBUTION UNIT (IF APPLICABLE), PROVIDE WITH APPROVED ACCESS PANEL. SEE DETAIL 4/P5.1.				

	GAS PLUMBING EQUIPMENT SCHEDULE								
TAG	EQUIPMENT	LOCATION	MANUFACTURER	MODEL	REMARKS				
GPR 1	GAS PRESSURE REGULATOR	MECH YARD	MAXITROL	325-9L210E	MAXIMUM CAPACITY 2250 CFH WITH INLET PRESSURE OF 5 PSI AND OUTLET PRESSURE OF 10"CW. FOR OUTDOOR INSTALLATION. SEE DETAIL 3/P5.1.				

APPLICABLE CODES

- 2019 CALIFORNIA ADMINISTRATIVE CODE (CAC), CCR PART 1, TITLE 24 2019 CALIFORNIA BUILDING CODE (CBC), CCR TITLE 24, PARTS 1 & 2 (BASED ON THE 2018 EDITION INTERNATIONAL BUILDING CODE, VOLS. 1 & 2)
- 2019 CALIFORNIA ELECTRICAL CODE (CEC), CCR TITLE 24, PART 3 (BASED ON THE 2017 EDITION NATIONAL ELECTRICAL CODE WITH CALIFORNIA AMENDMENTS) 2019 CALIFORNIA MECHANICAL CODE (CMC), CCR TITLE 24, PART 4, TITLE 24 CCR (BASED ON THE 2018 EDITION UNIFORM MECHANICAL CODE WITH CALIFORNIA AMENDMENTS)
- 2019 CALIFORNIA PLUMBING CODE (CPC), CCR TITLE 24, PART 5, (BASED ON THE 2018 EDITION UNIFORM PLUMBING CODE WITH CALIFORNIA AMENDMENTS) 2019 CALIFORNIA ENERGY CODE (CEC), CCR TITLE 24, PART 6, AND ASSOCIATED

2016 ASME A17.1/CSA B44-13 SAFETY CODE FOR ELEVATORS AND ESCALATORS

ADMINISTRATIVE REGULATION IN PART 1 2019 CALIFORNIA FIRE CODE (CFC), CCR TITLE 24, PART 9 (BASED ON THE 2018 EDITION INTERNATIONAL FIRE CODE WITH CALIFORNIA AMENDMENTS)

TITLE 19 CCR, PUBLIC SAFETY, STATE FIRE MARSHAL REGULATIONS

2019 CALIFORNIA EXISTING BUILDING CODE (CEBC), CCR TITLE 24, PART 10, (BASED ON THE 2018 EDITION INTERNATIONAL EXISTING BUILDING CODE WITH CALIFORNIA AMENDMENTS) 2019 CALIFORNIA GREEN BUILDING STANDARDS CODE (CALGreen), CCR TITLE 24, PART 11 2019 CALIFORNIA REFERENCED STANDARDS CODE, CCR TITLE 24, PART 12

CONSULTANT:





PROJECT FOR: SAN BERNARDINO **REAL ESTATE SERVICES -**

PROJECT MANAGEMENT

DIVISION

385 N. ARROWHEAD AVE. SAN BERNARDINO, CA 92415

PROJECT NAME:

PROBATION DEPT. REGIONAL TRAINING CENTER: INDOOR GUN RANGE AIR CONDITIONING AND **HEATING**

> 9478 ETIWANDA AVENLE RANCHO CUCAMONGA, CALIFORNIA 91739

PROJECT NO.: 10.10.1151

CIP NO.: ____ CAFM NO.: ____

APN: 0229-28-370-0000

ISSUE INFO	RMATION:
DATE:	INFORMATION:

SHEET INFORMATION:

STK PROJECT NO.: 374-147-21 AS NOTED JULY 2021 DATE: PLOT DATE:

DRAWING NAME:



PLUMBING LEGEND AND GENERAL NOTES

P0.1

MANDATORY CALGREEN CHECKL	IST
WATER EFFICIENCY AND CONSERVATION INDOOR WATER USE	MANDATORY
5.303.1 METERS. SEPARATE METERS SHALL BE INSTALLED FOR THE USES DESCRIBED	
IN SECTIONS 5.303.1.1 AND 3.303.1.2. 5.303.1.1 BUILDINGS IN EXCESS OF 50,000 SQUARE FEET. SEPARATE	
SUBMETERS SHALL BE INSTALLED AS FOLLOWS:	
1. FOR EACH INDIVIDUAL LEASED, RENTED OR OTHER TENANT SPACE WITHIN	
THE BUILDING PROJECTED TO CONSUME MORE THAN 100GAL/DAY. 2. WHERE SEPARATE SUBMETERS FOR INDIVIDUAL BUILDINGS TENANTS ARE	
UNFEASABLE, FOR WATER SUPPLIED TO THE FOLLOWING SUBSYSTEMS:	
a. MAKEUP WATER FOR COOLING TOWERS WHERE FLOW THROUGH IS	
GREATER THAN 500 GPM (30L/S) b. MAKEUP WATER FOR EVAPORATIVE COOLERS GREATER THAN 6 GPM	
(0.04 L/S)	
c. STEAM ÁNÓ HOT-WATER BOILERS WITH ENERGY INPUT MORE THAN	
500,000 Btu/h (147 kW)	
5.303.1.2 EXCESS CONSUMPTION. ANY BUILDING OR A SPACE WITHIN A BUILDING THAT IS PROJECTED TO CONSUME MORE THAN 1,000 GAL/DAY (3800 L/DAY)	
5.303.2 20 PERCENT SAVINGS. A SCHEDULE OF PLUMBING FIXTURES AND FIXTURE	
FITTINGS THAT WILL REDUCE THE OVERALL USE OF POTABLE WATER WITHIN THE	
BUILDING BY 20 PERCENT SHALL BE PROVIDED. (CALCULATE SAVINGS BY WATER USE WORKSHEETS)	
5.303.2.1 MULTIPLE SHOWERHEADS SERVING ONE SHOWER. WHEN A SHOWER IS	
SERVED BY MORE THAN ONE SHOWERHEAD, THE COMBINED FLOW RATE OF ALL	
THE SHOWERHEADS CONTROLLED BY A SINGLE VALVE SHALL NOT EXCEED THE MAXIMUM FLOW RATE AT ≥ 20 PERCENT REDUCTION CONTAINED IN TABLE	
5.303.2.3 OR THE SHOWER SHALL BE DESIGNED TO ONLY ALLOW ONE	
SHOWERHEAD TO BE IN OPERATION AT A TIME. 5.303.4 WASTEWATER REDUCTION. EACH BUILDING SHALL REDUCE THE GENERATION	
OF WASTEWATER BY ONE OF THE FOLLOWING METHODS:	
1. THE INSTALLATION OF WATER—CONSERVING FIXTURES OR	
2. UTILIZING NONPOTABLE WATER SYSTEMS.	
5.303.6 PLUMBING FIXTURES AND FITTINGS. PLUMBING FIXTURES (WATER CLOSETS AND URINALS) AND FITTINGS (FAUCETS AND SHOWERHEADS) SHALL COMPLY WITH	
THE REQUIREMENTS LISTED FOR EACH TYPE IN ITEMS LISTED IN TABLE 5.303.6.	
1. WATER CLOSETS (TOILETS) — FLUSHOMETER TYPE	
2. WATER CLOSETS (TOILETS) — TANK TYPE 3. URINALS	
4. PUBLIC LAVATORY FAUCETS	
5. PUBLIC METERING SELF-CLOSING FAUCETS	
6. RESIDENTIAL BATHROOM LAVATORY SINK FAUCETS 7. RESIDENTAL KITCHEN FAUCETS	
8. RESIDENTIAL KITCHEN FAUCETS 8. RESIDENTIAL SHOWER HEADS	
9. SINGLE SHOWER FIXTURES SERVED BY MORE THAN ONE SHOWERHEAD	

EXTURE FLOW RATES LDING CODE - TABLE A5.303.2.3.1
MAXIMUM FLOW RATE
1.8 GPM AT 60 PSI
1.8 [RIM SPACE (IN.)/20 GPM AT 60 PSI]
0.20 GALLONS/CYCLE
0.20 GALLONS/CYCLE/20 [RIM SPACE (IN.)@ 60 PSI

EACH PLUMBING FIXTURE AND FITTING SHALL MEET THE FLOW RATE SPECIFIED IN 2019 CAL GREEN TABLE A5.303.2.3.1

	FIXTURE FLOW RATES BUILDING CODE SECTION 5.303.3
FIXTURE TYPE	MAXIMUM BASELINE FLOW RATE
WATER CLOSETS	1.28 GALLONS PER FLUSH
URINALS (FLOOR-MOUNT/WALL-MOUNT)	0.5/0.125 GALLONS PER FLUSH
SHOWERHEADS	1.8 GPM AT 80 PSI

PLUMBING FIXTURES (WATER CLOSETS AND URINALS) AND FITTINGS (FAUCETS AND SHOWERHEADS) SHALL COMPLY WITH 5.303.3.

	AND FIXTURE FITTINGS MBING CODE - TABLE 1701.1
REQUIRED	STANDARDS
WATER CLOSETS (TOILETS) — FLUSHOMETER VALVE TYPE SINGLE FLUSH, MAXIMUM FLUSH VOLUME	ASME A 112.19.2/CSA B45.1 — 1.28 GPF (4.8 L)
WATER CLOSETS (TOILETS) — FLUSHOMETER VALVE TYPE DUAL FLUSH, MAXIMUM FLUSH VOLUME	ASME A 112.19.2 AND USEPA WATERSENSE TANK-TYPE HIGH-EFFICIENCY TOILET SPECIFICATION - 1.28 GPF (4.8 L) U.S. EPA WATERSENSE TANK-TYPE HIGH
WATER CLOSETS (TOILETS) — TANK TYPE	EFFICIENCY TOILET SPECIFICATION
URINALS, MAXIMUM FLUSH VOLUME	ASME A 112.19.2/CSA B45.1 - 0.5 GPF (1.9 L)
URINALS, NONWATER URINALS	ASME A 112.19.19 (VITREOUS CHINA) ANSI Z124.9-2004 OR IAPMO Z124.9 (PLASTIC)
PUBLIC LAVATORY FAUCETS: MAXIMUM FLOW RATE — 0.5 GPM (1.9 L/MIN.)	ASME A 112.18.1/CSA B125.1
PUBLIC METERING SELF—CLOSING FAUCETS: MAXIMUM FLOW RATE — 0.25 (1.0 L) PER METERING CYCLE	ASME A 112.18.1/CSA B125.1
RESIDENTIAL BATHROOM LAVATORY SINK FAUCETS: MAXIMUM FLOW RATE — 1.5 GPM (5.7L/MIN)	ASME A 112.18.1/CSA B125.1

PLUMBING FIXTURES (WATER CLOSETS AND URINALS) AND FITTINGS (FAUCETS AND SHOWERHEADS) SHALL MEET THE STANDARDS REFERENCED IN TABLE 5.303.6.

	FIXTURE DATA							
DOMESTIC WATER								
SYMBOL	DESCRIPTION	NO. OF UNITS	F.U. PER (1)		TURE UNITS	NO. OF UNITS	F.U. PER 2	TO
BT	BATHTUB	0	4.0	0.0	0.0	0	2.0	FIXTURE 0.
1\	CLOTHES WASHER				0.0		2.0	
1	SUPPLY BOX	0	4.0	0.0	0.0	0	3.0	0.
DW 1	DISHWASHER	0	1.5	0.0	0.0	0	2.0	0.
DF 1	DRINKING FOUNTAIN	0	0.5	0.0		0	0.5	0.
HB 1	HOSE BIBB	0	2.5	0.0		0		_
HB 1	ADDITIONAL HOSE BIBB	0	1.0	0.0		0		
L 1	LAVATORY	0	1.0	0.0	0.0	0	1.0	0.
BS 1	BAR SINK	0	2.0	0.0	0.0	0	2.0	0.
KS 1	KITCHEN SINK	0	1.5	0.0	0.0	0	2.0	0.
LS 1	LAUNDRY SINK	0	1.5	0.0	0.0	0	2.0	0.
MS 1	SERVICE/MOP BASIN SINK	0	3.0	0.0	0.0	0	3.0	0.
W 1	WASHUP	0	2.0	0.0	0.0	0	2.0	0.
SH 1	SHOWER	0	2.0	0.0	0.0	0	2.0	0.
UR 1	URINAL	0	4.0	0.0		0	2.0	0.
WC 1	WATER CLOSET (TANK)	0	2.5	0.0		0	4.0	0.
WC 1	WATER CLOSET (VALVE)	0	5.0	0.0		0	4.0	0.
FD 1	FLOOR DRAIN	0				0	0.0	0.
FS 1	FLOOR SINK	0				0	2.0	0.
	TOTAL			0.0	0.0			0.
	GREASE INTERCEPTOR TOTAL							0.

1 WATER FIXTURE UNITS PER CPC TABLE A 103.1 2 SEWER FIXTURE UNITS PER CPC TABLE 702.1 3 FIXTURE UNITS TO GREASE INTERCEPTOR

WAT	ER	CA	LCULA	ATIONS				
DOMESTIC COLD WATER PRESSURE (AVG PSI / 100 FT	DOMESTIC COLD WATER SIZING							
RESIDUAL PRESSURE	<u>, </u>			FRICTION LOS		PER 100 F	T AVG, AT 8	B FPS
PER CONVERSATION WITH [CONTACT] AT [DISTRICT], (### [MM/DD/YYYY]. AVAILABLE WATER PRESSURE IS [HI-LO] VERIFY STREET WATER PRESSURE PRIOR TO START OF V DISCREPANCIES NOTIFY ARCHITECT/ENGINEER PRIOR TO	PIPE SIZE		FLUSH VALVE	GPM	FPS			
MAX. SYSTEM INLET PRESSURE [AT WATER METER INLET]	=	124	PSI	1/2"	1	_	2	2.6
MIN. SYSTEM INLET PRESSURE	=	108	PSI	3/4"	6	_	5	3.4
[AT PRESSURE REDUCING VALVE INLET]				1"	15	_	11	4.1
CVCTEM DDECCUDE LOCCEC				1-1/4"	28	_	19	4.8
SYSTEM PRESSURE LOSSES 2" WATER METER @ 38 GPM (EXISTING)		2	PSI	1-1/2"	54	13	30	5.4
2" BACKFLOW PREVENTER @ 38 GPM (EXISTING)	=	13	PSI	2"	195	88	64	6.6
2" PRESSURE REDUCING VALVE @ 38 GPM	=	5	PSI	2-1/2"	455	329	115	7.7
TOTAL OF SYSTEM PRESSURE LOSSES		20.0	PSI	3"	748	700	170	8.0
RESIDUAL PRESSURE AT PRV		88				•	•	•
PRESSURE REDUCING VALVE SETPOINT		40	PSI	DOMESTIC HOT WATER SIZING			 G	
STATIC HEIGHT PRESSURE LOSS (15' x .433) = 6.			PSI	FRICTION LOSS 3.4 PSI PER 100 FT AVG, AT 5 FPS MAX. VELOCITY				
RESIDUAL PRESSURE REQUIRED AT GOVERNING FIXTURE [WATER CLOSET 25 PSI]	=	25	PSI	PIPE SIZE	WS	SFU	GPM	FPS
				TIFE SIZE	FLUSH TANK	FLUSH VALVE	GEIVI	173
TOTAL SYSTEM PRESSURE LOSSES (DOWNSTREAM OF PRV)		31.5	PSI	1/2"	1	_	2	2.6
				3/4"	6	_	5	3.4
PRESSURE AVAILABLE FOR PIPE SIZING				1"	15	_	11	4.1
(PRV SETPOINT — TOTAL SYSTEM PRESSURE LOSSES DOWNSTREAM OF PRV)	=	8.5	PSI	1-1/4"	28	_	19	4.8
				1-1/2"	49		28	5.0
ACTUAL LENGTH OF SYSTEM	=	165	FT	2"	119	_	48	5.0
DEVELOPED LENGTH OF SYSTEM (165' X 1.5)	=	248	FT			1	I	ı

= 3.4 PSI/100 FT AVG

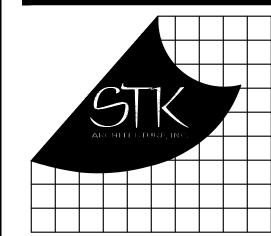
AVERAGE PRESSURE DROP

<u>SUMMARY</u>

(DEVELOPED LENGTH OF SYSTEM)

PIPE SIZING BASED UPON 3.4 PSI LOSS PER 100' AVG

(PRESSURE AVAILABLE FOR PIPE SIZING) X 100 FT / (8.5PSI ×100 / 248)



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CONSULTANT:

SAN BERNARDINO REAL ESTATE SERVICES -PROJECT MANAGEMENT DIVISION

385 N. ARROWHEAD AVE. SAN BERNARDINO, CA 92415

PROBATION DEPT. REGIONAL TRAINING CENTER: INDOOR GUN RANGE AIR CONDITIONING AND **HEATING**

9478 ETIWANDA AVENLE RANCHO CUCAMONGA, CALIFORNIA 91739

PROJECT NO.: 10.10.1151 CIP NO.: ____

CAFM NO.: ____ APN: 0229-28-370-0000

ISSUE INFORMATION: DATE: INFORMATION:

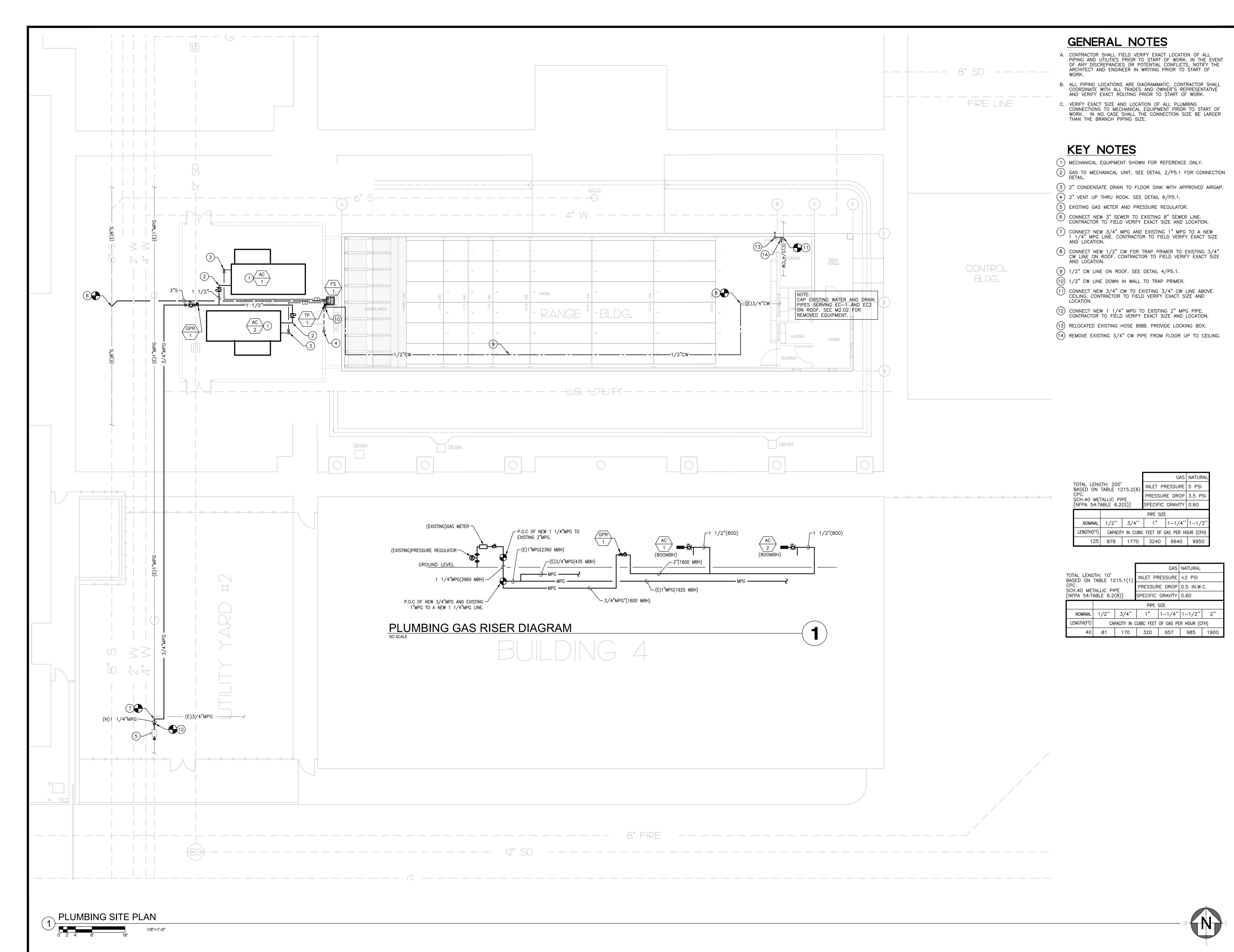
SHEET INFORMATION: STK PROJECT NO.: 374-147-21 SCALE: AS NOTED JULY 2021 DATE:

PLOT DATE: DRAWING NAME:



PLUMBING CALCULATIONS AND SCHEDULES

P0.2





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PROJECT NAME:

PROBATION DEPT. WEST VALLEY REGIONAL TRAINING CENTER: INDOOR GUN RANGE AIR **CONDITIONING AND HEATING**

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PROJECT NO.: 10,10,1151 CIP NO.: ____

CAFM NO.: ____

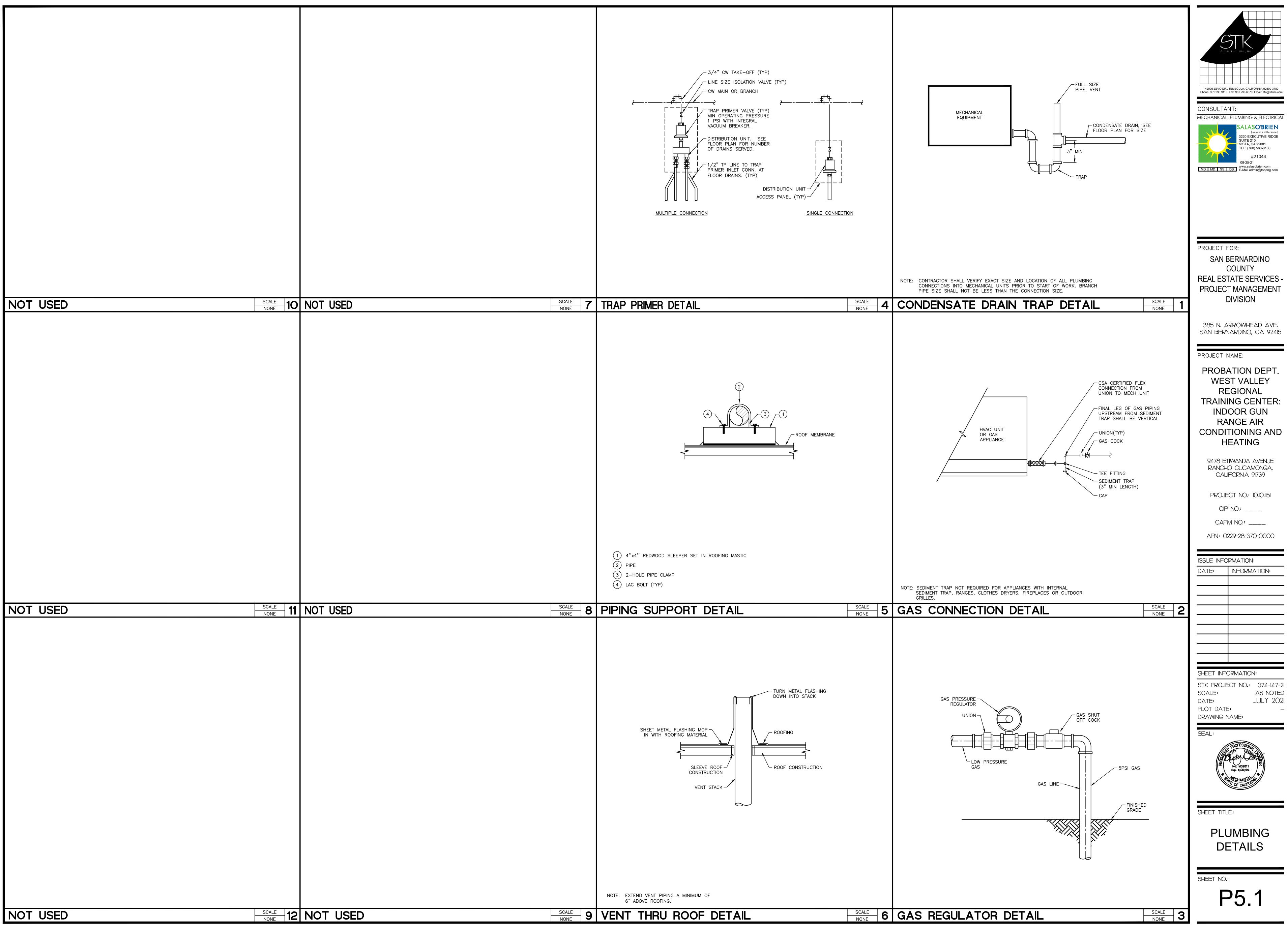
APN: 0229-28-370-0000

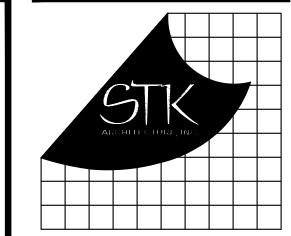
ISSUE INFORMATION:					
DATE:	INFORMATION:				

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INFORMATION:

AS NOTED JULY 2021



GENERAL NOTES

- THESE DOCUMENTS MAY NOT BE USED FOR ANY REPRODUCTION. BIDDING, OR CONSTRUCTION UNLESS AUTHORIZED, IN WRITING, BY SALAS O'BRIEN AND THE ENGINEER OF RECORD RESPONSIBLE FOR THEIR PREPARATION.
- 2. ALL BRANCH DUCTS SHALL HAVE BALANCE DAMPERS WITH QUADRANT LOCKS.
- 3. ALL DUCT SIZES SHOWN ARE NET INSIDE DIMENSIONS.
- 4. DUCTWORK SHALL BE GALVANIZED SHEET METAL IN COMPLETE CONFORMANCE WITH C.M.C., AND SMACNA HVAC DUCT CONSTRUCTION STANDARDS. FLEXIBLE DUCTS MAY BE USED TO CONNECT INTO AIR OUTLETS AND INLETS. MAXIMUM LENGTH OF FLEXIBLE DUCTWORK SHALL
- DUCTWORK ON ROOF SHALL BE INTERNALLY LINED AND PAINTED. ALL JOINTS AND SEAMS SHALL BE WEATHERPROOF.
- ALL BRACING OF DUCTS AND PIPING SHALL BE INSTALLED IN ACCORDANCE WITH SMACNA
- DUCTS SERVING TYPE 1 KITCHEN HOODS SHALL BE CONSTRUCTED OF MINIMUM 16 GAUGE CARBON STEEL OR MINIMUM 18 GAUGE STAINLESS STEEL WITH FULLY WELDED JOINTS. DISHWASHER EXHAUST SHALL BE MINIMUM 18 GAUGE STAINLESS STEEL.
- 5. ALL FLEXIBLE DUCTS SHALL BE INSULATED. MINIMUM BEND RADIUS SHALL BE TWICE THE
- DUCT DIAMETER. 6. SUPPLY AND RETURN DROPS SHALL BE LINED SHEET METAL PLENUMS.
- 7. DUCT AND PLENUM INSULATION SHALL BE IN ACCORDANCE WITH THE 2019 CALIFORNIA CODE OF REGULATIONS, TITLE-24, PART 6, ENERGY EFFICIENCY STANDARDS (E.E.S.), TABLE 150.1-A AND THE 2019 CALIFORNIA MECHANICAL CODE (C.M.C.) SECTION 604.0.
- . ALL SHEET METAL DUCTS SHALL BE INSULATED BY MEANS OF FOIL WRAP, 3/4 LB. DENSITY FIBERGLASS INSULATION. INSULATION SHALL BE UL LISTED. DUCT LINERS SHALL BE
- NON-FIBERGLASS TYPE WITH THICKNESS AS REQUIRED TO MEET T-24 REQUIREMENTS. . THERMOSTATS SHALL BE LOCATED AT 4' - 0" ABOVE FINISHED FLOOR (46" MAX. IF MOUNTED OVER CASEWORK OR OTHER OBSTRUCTION) IN ACCORDANCE WITH A.D.A.
- REQUIREMENTS, UNLESS NOTED OTHERWISE. 10. CONDENSATE DRAIN PIPING SHALL BE COPPER TYPE "L", AND SHALL BE ROUTED TO AN APPROVED RECEPTOR.
- 11. PROVIDE FLEXIBLE CONNECTIONS AT THE INLET AND OUTLET OF ALL FANS.

SECTION 717. AND UL,, LOCAL, STATE, AND N.F.P.A. FIRE CODES.

- 12. COORDINATE FINAL LOCATIONS OF AIR DISTRIBUTION DEVICES WITH THE ARCHITECTURAL REFLECTED CEILING PLANS, I.E. LIGHTS, SPEAKERS, TILES AND SPRINKLER HEADS. 13. ALL SUPPLY CEILING DIFFUSERS SHALL HAVE 4-WAY AIR FLOW DISTRIBUTION PATTERNS,
- UNLESS INDICATED OTHERWISE. 14. COORDINATE FINAL LOCATIONS OF THERMOSTATS WITH ARCHITECT AND OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION. FIELD COORDINATE LOCATIONS WITH OTHER
- TRADES INCLUDING ELECTRICAL, TELEPHONE, ETC. 15. FIRE/SMOKE DAMPERS SHALL BE INSTALLED ON ALL DUCTWORK PASSING THROUGH FIRE SEPÁRATING WALLS, AND SHALL BE INSTALLED AS PER 2019 CMC SECTION 605.0, 2019 CBC
- 16. ALL ROOF PENETRATIONS, CUTTING, PATCHING, BLOCKOUTS, STRUCTURAL SUPPORT, ROOF OPENINGS, LEVELING OF PRE-FAB CURBS SHALL BE BY GENERAL CONTRACTOR. CONTRACTOR SHALL VERIFY EXACT ROOF OPENING SIZES WITH UNIT MANUFACTURER PRIOR TO START OF
- WORK AND SHALL MAKE ALL NECESSARY ADJUSTMENTS AT NO EXTRA COST TO OWNER. 17. LOCATION OF ALL MECHANICAL EQUIPMENT SHOWN ARE SCHEMATIC. CONTRACTOR SHALL FIELD COORDINATE EXACT LOCATIONS AND REQUIRED SERVICE/MAINTENANCE CLEARANCES PRIOR TO
- 18. CONTRACTOR SHALL VERIFY WEIGHTS OF ALL MECHANICAL EQUIPMENT WITH THEIR MANUFACTURER PRIOR TO START OF WORK. IF DIFFERENT THAN THE WEIGHTS INDICATED ON DRAWINGS, CONTRACTOR SHALL INFORM THE ARCHITECT AND STRUCTURAL ENGINEER PRIOR
- 19. CONTRACTOR SHALL VERIFY ALL ELECTRICAL LOADS W/MFR. AND COORDINATE WITH THE ELECTRICAL CONTRACTOR AND THE MANUFACTURER PRIOR TO START OF WORK. NOTIFY THE ARCHITECT, IN WRITING, IN CASE OF ANY DISCREPANCIES. PRIOR TO START OF WORK.
- 20. ALL HVAC EQUIPMENT, APPLIANCES, AND DUCTWORK SHALL CONFORM TO THE LATEST GUIDELINES OF U.L., A.G.A., N.F.P.A., C.M.C., C.P.C., AND ALL OTHER LOCAL CODES HAVING
- 21. TEST AND BALANCE THE HVAC SYSTEM AS PER REQUIREMENTS OF THE MANDATORY HVAC MEASURES INDICATED ON THIS SHEET.
- 22. CONTRACTOR SHALL FIELD VERIFY EXACT CEILING SPACE AVAILABLE FOR ROUTING OF DUCT. PRIOR TO START OF WORK, INFORM ARCHITECT, IN WRITING, IN CASE OF ANY DISCREPANCY OR POTENTIAL CONFLICTS PRIOR TO FABRICATING AND/OR PURCHASE OF ANY DUCTWORK.
- 23. ALL HVAC UNITS SYSTEMS WITH 2000 CFM OR MORE OR SERVING A COMMON AIR SPACE MUST BE INTERCONNECTED TO SHUT DOWN IMMEDIATELY UPON ALARM CONDITION FROM DUCT DETECTORS (OR FIRE ALARM SYSTEM WHEN USING AREA SMOKE DETECTORS IN LIEU OF DUCT DETECTORS) WITHOUT INTERFACE FROM EMS OR ANY OTHER SYSTEMS. ALL CONTROL RELAYS USED FOR SHUT DOWN MUST BE CALIFORNIA STATE FIRE MARSHAL LISTED FOR RELEASING SERVICE.
- 24. ACCESS PANELS SHALL BE PROVIDED TO ALL EQUIPMENT, MANUAL VOLUME DAMPERS, ETC. LOCATED IN INACCESSIBLE AREAS.
- 25. MAINTAIN MINIMUM 10'-0" BETWEEN ALL OA INTAKES AND EXHAUST AIR DISCHARGES OR

		LEGENID
		LEGEND
SYMBOL	ABBREV.	DESCRIPTION
		DEMOLITION
,////		ITEM TO BE RELOCATED
		FLEXIBLE CONNECTION, DUCTWORK
	10x6	DUCT SIZE (1ST NUMBER INDICATES SIDE SHOWN)
===3	(L)	INTERNALLY LINED DUCTWORK
727279	TV	SQUARE ELBOW WITH TURNING VANES
		ROUND ELBOW
	MVD	MANUAL VOLUME DAMPER
	BD	BACKDRAFT DAMPER
·		FLEXIBLE DUCTWORK
←	FSD OA	FIRE SMOKE DAMPER OUTSIDE AIR
•	OA	ROUND DUCT UP
\boxtimes		CEILING SUPPLY AIR DIFFUSER (4—WAY THROW UNLESS NOTED OTHERWISE)
<u> </u>	SA	SUPPLY AIR
	RR/RG RA	RETURN AIR REGISTER/GRILLE RETURN AIR
	ER/EG	EXHAUST AIR REGISTER/GRILLE
- √-	EA	EXHAUST AIR
	AP	CEILING ACCESS PANEL RECTANGULAR SUPPLY DUCT UP
		RECTANGULAR RETURN DUCT UP
	EA	RECTANGULAR EXHAUST DUCT UP
T	TSTAT	THERMOSTAT
H	HSTAT	HUMIDISTAT
S		WALL SWITCH/WALL STAT
<u>©</u>	CO	CARBON MONOXIDE SENSOR
(O ₂)	CO2	CARBON DIOXIDE SENSOR
SD	SD	DUCT MOUNTED SMOKE DETECTOR INTERLOCK WITH FIRE ALARM. SEE ELECT. DWGS.
TC	TC	TIME CLOCK (ELECTRONIC PROGRAMMABLE)
TS	TS	TIMER SWITCH
lacktriangle	POC	POINT OF CONNECTION
	POD	POINT OF DISCONNECT
¢	CFM	CUBIC FEET PER MINUTE
	ACI A.D.A.	AMERICAN CONCRETE INSTITUTE AMERICANS WITH DISABILITIES ACT
	A.F.F.	ABOVE FINISH FLOOR
	A.G.A. AL	AMERICAN GAS ASSOCIATION ALUMINUM
	AMB.	AMBIENT
	APRX.	APPROXIMATE(LY)
	ARCH. ASCE	ARCHITECT OR ARCHITECTURAL AMERICAN SOCIETY OF CIVIL ENGINEERS
	ВНР	BRAKE HORSEPOWER
	BLDG BTU(H)	BUILDING BRITISH THERMAL UNIT (PER HOUR)
	B.U.R.	BUILT-UP ROOFING
	CAP. C.B.C.	CAPACITY CALIFORNIA BUILDING CODE
	С.Б.С. С.Е.С.	CALIFORNIA ENERGY COMMISSION
	C.M.C.	CALIFORNIA MECHANICAL CODE
	C.P.C. CD	CALIFORNIA PLUMBING CODE CONDENSATE DRAIN
	CGBSC	CALIFORNIA GREEN BUILDING STANDARDS COMMISSION
	CHW	CHILLED WATER
	CONC.	CONCRETE
	COND. CONN.	CONDITIONS CONNECTIONS
	COORD.	COORDINATE
	C.O.P. CORR.	COEFFICIENT OF PERFORMANCE CORRIDOR
	CU CU	COPPER
	CW	COLD WATER
	DB DET.	DRY BULB DETAIL
	DIM.	DIMENSIONS
	DN. DWG(S).	DOWN DRAWING(S)
	J., J(J).	()

LEGEND (CONT.) ABBREV. DESCRIPTION DIRECT EXPANSION EXISTING ENTERING AIR TEMPERATURE EDB. ENTERING DRY BULB ENTERING EQUAL ENTERING WATER TEMPERATURE EER ENERGY EFFICIENCY RATIO ENERGY EFFICIENCY STANDARDS **EFFICIENCY** ELEC. ELECTRICAL ESP EXTERNAL STATIC PRESSURE (INCHES OF WATER) FAB FABRICATED F.A.R. FREE AREA REQUIRED FULL LOAD AMPS FPM FEET PER MINUTE GAUGE GALV. GALVANIZED GPM GALLONS PER MINUTE GSM GALVANIZED SHEET METAL HERS HOME ENERGY RATING SYSTEM HHW HEATING HOT WATER HORSEPOWER HSPF HEATING SEASONAL PERFORMANCE FACTOR **HVAC** HEATING, VENTILATION AND AIR CONDITIONING INTERNATIONAL BUILDING CODE I.M.C. INTERNATIONAL MECHANICAL CODE INTERNATIONAL PLUMBING CODE INCHES INTEGRATED PART-LOAD VALUE **IPLV** KILOWATT LEAVING AIR TEMPERATURE LBS. POUNDS LEAVING LEAVING WATER TEMPERATURE MECH. MECHANICAL MAXIMUM MACHINE BOLT MBH 1000 BTUH MINIMUM CIRCUIT AMPACITY MANUFACTURER MFR MINIMUM MAXIMUM OVERCURRENT PROTECTION MOCP MTG. MOUNTING MVD MANUAL VOLUME DAMPER NOT APPLICABLE N.F.P.A. NATIONAL FIRE PROTECTION ASSOCIATION NOT IN CONTRACT NOISE CRITERIA NUMBER OBD OPPOSED BLADE DAMPER OPER. OPERATING OSHPD OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT QTY. QUANTITY RECT. RECTANGLE/RECTANGULAR RPM REVOLUTIONS PER MINUTE SEER SEASONAL ENERGY EFFICIENCY RATIO SQUARE FEET SQUARE SMACNA SHEET METAL AND AIR CONDITIONING CONTRACTORS' NATIONAL ASSOCIATION S.M.S. SHEET METAL SCREW S.O.V. SHUT-OFF VALVE SPD STATIC PRESSURE DROP SQFT SQUARE FEET STRUC. STRUCTURAL TEMP. TEMPERATURE THRU THROUGH TOTAL STATIC PRESSURE TYPICAL UNDERCUT DOOR UNDERWRITER'S LABORATORIES UNIFIED FACILITIES CRITERIA VOLTAGE/VOLTS

VELOCITY

WET BULB

WEIGHT

VARIABLE AIR VOLUME

VARIABLE FREQUENCY DRIVE

MANDATORY HVAC SYSTEM MEASURES

- ALL WORK INDICATED ON DRAWINGS AND/OR SPECIFICATIONS SHALL BE COORDINATED WITH WORKS OF OTHER TRADES PRIOR TO START OF WORK.
- . ALL HVAC EQUIPMENT LISTED IN SECTION 100(H) OF THE E.E.S. MUST BE C.E.C. CERTIFIED.
- 3. ALL PIPING INSULATION SHALL BE CONSISTENT WITH THE REQUIREMENTS OF C.M.C.

SECTIONS 1201.2 AND TABLE E 502.5, AND E.E.S. SECTION 120.3-A.

- 1. ALL DUCTWORK INSULATION SHALL BE CONSISTENT WITH THE REQUIREMENTS OF SECTIONS C.M.C. SECTION 604.0 TITLE 24 E.E.S. TABLE 150.1-A.
- 5. ALL HVAC EQUIPMENT AND APPLIANCE SHALL MEET THE REQUIREMENTS PER SECTIONS
- 110.1-110.2, 110.5 AND 120.1-120.7 E.E.S.

6. ALL HVAC SYSTEMS SHALL MEET THE CONTROL REQUIREMENTS PER SECTION 110.2 AND

- ALL VENTILATION SYSTEMS SHALL BE CONSTRUCTED AND INSTALLED IN ACCORDANCE WITH
- THE C.M.C. 8. THE CONTRACTOR SHALL PROVIDE THE BUILDING OWNER, MANAGER, AND THE ORIGINAL
- MATERIALS, AND COMPONENTS INSTALLED IN THE BUILDING AND OPERATING INSTRUCTIONS. INSULATION MATERIAL SHALL MEET THE CALIFORNIA QUALITY STANDARD PER SECTION 120.3

OCCUPANTS A LIST OF THE HEATING, VENTILATION, AND AIR CONDITIONING FEATURES,

- 10. ALL SPACE CONDITIONING AND VENTILATION SYSTEMS SHALL BE BALANCED TO THE QUANTITIES SPECIFIED IN THESE PLANS, IN ACCORDANCE WITH THE NATIONAL ENVIRONMENTAL BALANCING BUREAU (NEBB) PROCEDURAL STANDARDS. OR ASSOCIATED AIR BALANCE COUNCIL (AABC) NATIONAL STANDARDS. TESTING AND BALANCING SHALL BE DONE
- 1. ALL SYSTEMS SHALL PROVIDE THE MINIMUM OUTSIDE AIR AS SHOWN ON THE MECHANICAL DRAWINGS, AND SHALL BE MEASURED AND CERTIFIED BY AN INDEPENDENT QUALIFIED TESTING AGENCY.
- 12. DUCT INSULATION SHALL HAVE A MINIMUM INSTALLED R-VALUE OF 8.0.

BY AN INDEPENDENT QUÁLIFIED AGENCY.

AND 120.4 E.E.S.

- 13. DURING CONSTRUCTION, ENDS OF DUCT OPENINGS SHALL BE SEALED AND MECHANICAL EQUIPMENT SHALL BE COVERED TO PROTECT INTEGRITY OF SYSTEM CLEANLINESS.
- 14. PRIOR TO FINAL APPROVAL OF THE BUILDING, THE LICENSED CONTRACTOR, ARCHITECT, OR ENGINEER IN RESPONSIBLE CHARGE OF THE OVERALL CONSTRUCTION MUST COMPLETE AND SIGN THE GREEN BUILDING STANDARDS CERTIFICATION FORM AND GIVE TO THE BUILDING DEPARTMENT OFFICIAL TO BE FILED WITH THE APPROVED PLANS.
- 15. PROVIDE TEMPORARY MEANS OF BUILDING VENTILATION DURING CONSTRUCTION IN ACCORDANCE WITH CGBSC SECTION 5.504.1.1.
- 16. BUILDING FLUSH-OUT SHALL BE PERFORMED AND MONITORED UPON CONSTRUCTION COMPLETION IN ACCORDANCE WITH CGBSC SECTION 5.504.2.
- 17. ALL ENVELOPE AND MECHANICAL CERTIFICATE OF ACCEPTANCE FORMS AND ALL RELATED ACCEPTANCE DOCUMENTS SHALL BE SUBMITTED TO THE FIELD INSPECTOR DURING CONSTRUCTION. CERTIFICATE OF OCCUPANCY WILL NOT BE ISSUED UNTIL THESE FORMS ARE REVIEWED AND APPROVED.
- 18. THERMOSTATIC CONTROLS FOR ALL SINGLE ZONE AIR CONDITIONERS AND HEAT PUMPS SHALL COMPLY WITH THE REQUIREMENTS OF EES SECTION 110.2(C) AND REFERENCE JOINT APPENDIX JA5. THERMOSTAT SHALL BE CAPABLE OF COMMUNICATING THROUGH EITHER (1) AT LEAST ONE EXPANSION PORT WITH A REMOVABLE MODULE TO ENABLE COMMUNICATION; OR (2) ON BOARD COMMUNICATION DEVICE.
- 19. DUCTWORK SHALL BE LEAK TESTED IN ACCORDANCE WITH SMACNA HVAC AIR DUCT LEAKAGE TEST MANUAL FOR A REPRESENTATIVE TOTAL NOT LESS THAN 10% OF INSTALLED DUCTWORK IN ACCORDANCE WITH THE REQUIREMENTS OF CMC 603.10.



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MECHANICAL, PLUMBING & ELECTRICAL

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385 N. ARROWHEAD AVE. SAN BERNARDINO, CA 92415

PROJECT NAME:

PROBATION DEPT. WEST VALLEY REGIONAL TRAINING CENTER: INDOOR GUN RANGE AIR CONDITIONING AND

HEATING

9478 ETIWANDA AVENJE RANCHO CUCAMONGA. CALIFORNIA 91739

PROJECT NO.: 10.10.1151

CIP NO.: ____ CAFM NO.: ____

APN: 0229-28-370-0000

ISSUE INFORMATION:					
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STK PROJECT NO.: 374-147-21 AS NOTED JULY 2021 DATE: PLOT DATE:



MECHANICAL LEGEND, NOTES & SCHEDULES

M0.1

										RO	OF1	TOP (GA	S/E	ELE	C. A	\IR	CC	N	DIT	IONI	NG L	INIT S	SCHE	DUL	_E				
TAG	MANUFACTURER & MODEL NO.	SERVES	NOMINAL CAP. ARI COND. (TONS)	IEER (EER)	FSP	OA CFM		FLA	COMPRE NO. RL		NO.	HP FLA				OMB. FAN				PPLY PH	TOTAL CAP (MBH)	CO SENS. CAP (MBH)	DLING EAT (*F) DB WB	AMB. TEMF		EATING MIN. AFUE (%)		FILTERS SIZE (IN.)	OPER. WEIGHT (LBS.)	REMARKS
AC 1	CARRIER 48A8W040	SHOOTING RANGE	40	14.5 (9.8) 1	1.0	11000	1 15	21	3 14. 14. 14.	8 130 8 130 8 130	4	1.0 3.3 1.0 3.3 1.0 3.3 1.0 3.3	-	-	-	2 1.1	99	110	460	3	498.0	498.0	100 70	100	800	81	8 4	16x25x2 20x25x2	6500	1234578910
AC 2	CARRIER 48A8W040	SHOOTING RANGE	40	14.5 (9.8) 1	1.0	11000	1 15	21	3 14. 14. 14.	8 130 8 130 8 130	4	1.0 3.3 1.0 3.3 1.0 3.3 1.0 3.3	-	-	-	2 1.1	99	110	460	3	498.0	498.0	100 70	100	800	81	8 4	16x25x2 20x25x2	6500	1234578910

- (1) MOUNT UNIT ON HOUSEKEEPING PAD ON GRADE PER DETAIL 2/M5.1.
- (2) PROVIDE BELT DRIVEN INDOOR FAN MOTOR.
- 3 PROVIDE 100% OA HOOD WITH MANUAL DAMPER.
- 4 PROVIDE WITH PROGRAMMABLE THERMOSTAT 33CONNECTSTAT43 WITH REMOTE PROGRAMMING CAPABILITY AND LOCAL OVERRIDE. SEE DETAIL 1/M5.1.
 - 5) PROVIDE UL900 (CLASS 1 OR 2) (MERV 13) DISPOSABLE PLEATED FILTERS.
 - 6 PROVIDE STAINLESS STEEL DRAIN PAN AND STAINLESS STEEL HEAT EXCHANGER WITH FLUE DISCHARGE DEFLECTOR.
 - 7) PROVIDE WITH FUSED DISCONNECT SWITCH. FOR CONTROL DIAGRAM, SEE 4/M5.1, SEE ELECTRICAL DRAWINGS.
- 8 PROVIDE ALL CONTROL WIRING IN CONDUIT AND ALL ACCESSORIES REQUIRED BY MANUFACTURER FOR A COMPLETE AND OPERATIONAL SYSTEM.
- 9 FIELD VERIFY EXACT ELECTRICAL REQUIREMENTS WITH MANUFACTURER AND COORDINATE WITH ELECTRICAL CONTRACTOR PRIOR TO START OF WORK.
- 10) PROVIDE WITH NON-CFC REFRIGERANT BASED SYSTEM.

	4	AIR DEVI	CE SCHE	DULE	
TAG	MANUFACTURER & MODEL NO.	TYPE	FRAME STYLE	OBD (YES/NO)	REMARKS
A	TITUS 300RL	LOUVER FACE RETURN/EXHAUST REGISTER	DUCT MOUNTED	Y	1234

3 SEE DETAIL 3/M5.1.

385 N. ARROWHEAD AVE.

PROJECT NAME:

PROJECT FOR:

PROBATION DEPT. WEST VALLEY REGIONAL TRAINING CENTER: INDOOR GUN RANGE AIR **CONDITIONING AND** HEATING

42095 ZEVO DR., TEMECULA, CALIFORNIA 92590-3780 Phone: 951.296.9110 Fax: 951.296.6079 Email: stk@stkinc.com

MECHANICAL, PLUMBING & ELECTRICAL

MD MD SS DB www.salasobrien.com E-Mail admin@tsqeng.com

SAN BERNARDINO

COUNTY

REAL ESTATE SERVICES -

PROJECT MANAGEMENT

DIVISION

SAN BERNARDINO, CA 92415

3220 EXECUTIVE RIDGE

VISTA, CA 92081

TEL: (760) 560-0100

#21044

CONSULTANT:

9478 ETIWANDA AVENLE RANCHO CUCAMONGA, CALIFORNIA 91739

PROJECT NO.: 10.10.1151

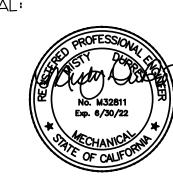
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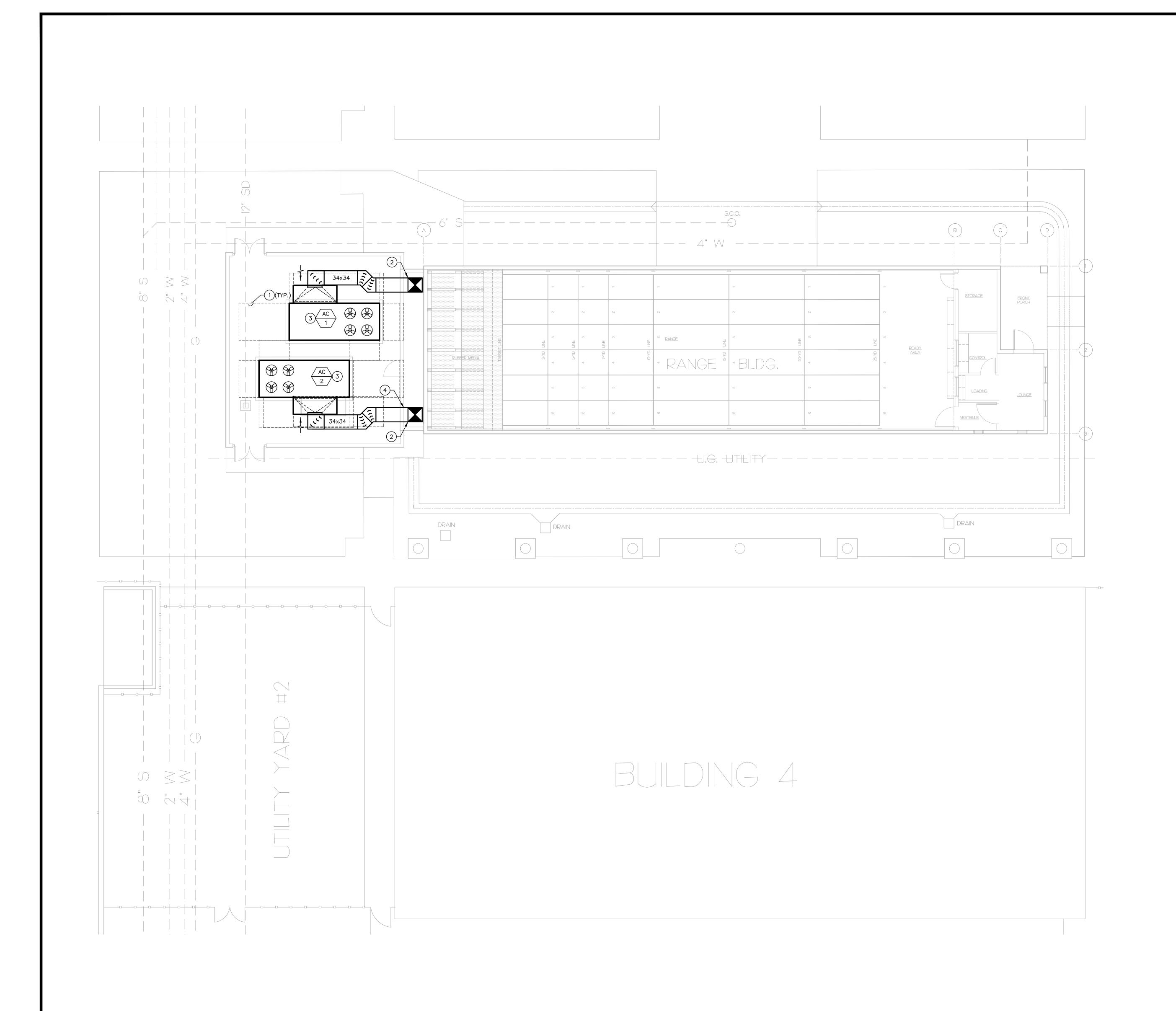
MECHANICAL SCHEDULES

M0.2

		AIR DEVI	CE SCHE	DULE	
TAG	MANUFACTURER & MODEL NO.	TYPE	FRAME STYLE	OBD (YES/NO)	REMARKS
A	TITUS 300RL	LOUVER FACE RETURN/EXHAUST REGISTER	DUCT MOUNTED	Y	1234

1) STEEL CONSTRUCTION. (2) DOUBLE DEFLECTION.

4 ARRANGE FACE BLADES TO DIRECT AIR FLOW DOWN RANGE.



GENERAL NOTES

- A. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS,
 DETERMINING EXTENT OF DEMOLITION, AND COORDINATE WITH ALL
 OTHER TRADES. IN CASE OF DISCREPANCIES OR ANY POTENTIAL
 CONFLICTS, INFORM THE ARCHITECT AND ENGINEER IN WRITING
 PRIOR TO START OF WORK.
- B. ALL EXISTING EQUIPMENT, DUCTWORK AND AIR DISTRIBUTION DEVICES, WHICH ARE TO REMAIN, SHALL BE CLEANED AND REFURBISHED TO ORIGINAL WORKING CONDITION.
- C. ALL WORK TO BE DEMOLISHED OR REMOVED SHALL NOT BE RE—INSTALLED UNLESS NOTED OTHERWISE.

KEY NOTES

- MINIMUM MANUFACTURER'S MAINTENANCE CLEARANCE. KEEP FREE OF OBSTRUCTIONS. VERIFY DIMENSIONS WITH MANUFACTURER PRIOR TO START OF WORK, TYPICAL.
- (3) SECURE UNIT TO HOUSEKEEPING PAD. SEE DETAIL 2/M5.1. (4) DUCT THROUGH WALL. SEE DETAIL 9/M5.1.
- (2) 34x34 SA DUCT UP TO ROOF. SEE M2.2 FOR CONTINUATION.

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> RANCHO CUCAMONGA, CALIFORNIA 91739

9478 ETIWANDA AVENJE

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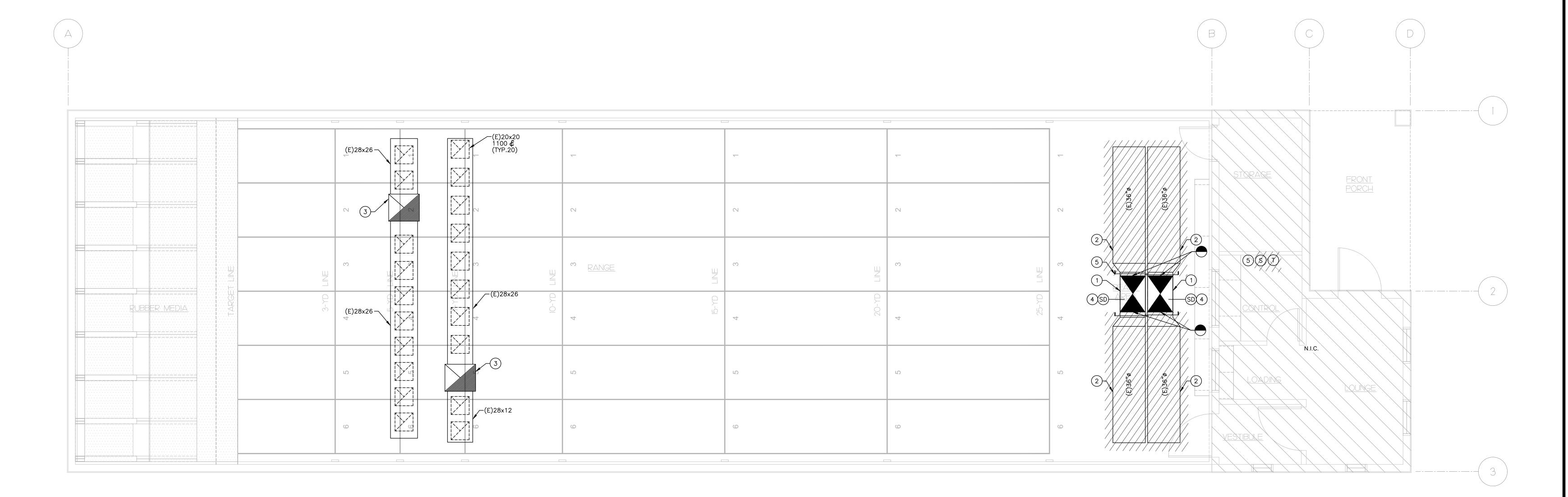
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MECHANICAL SITE PLAN



MECHANICAL DEMOLITION FLOOR PLAN

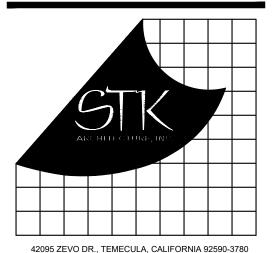




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- B. ALL EXISTING EQUIPMENT, DUCTWORK AND AIR DISTRIBUTION DEVICES, WHICH ARE TO REMAIN, SHALL BE CLEANED AND REFURBISHED TO ORIGINAL WORKING CONDITION.
- C. ALL WORK TO BE DEMOLISHED OR REMOVED SHALL NOT BE RE-INSTALLED UNLESS NOTED OTHERWISE.

KEY NOTES

- 1) EXISTING 40x28 SUPPLY AIR DUCT THRU ROOF TO REMAIN.
- 2) REMOVE EXISTING HATCHED 36"Ø DUCT SOX FLEXIBLE FABRIC DUCTWORK UP TO POINT OF DISCONNECT.
- (3) EXISTING 34x30 UP TO EXHAUST FAN ON ROOF.
- (4) EXISTING DUCT SMOKE DETECTOR IN SUPPLY AIR TO REMAIN.
- 5) REMOVE EXISTING EC UNIT CONTROLS SHOWN HATCHED.



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PROBATION DEPT. **WEST VALLEY** REGIONAL TRAINING CENTER: **INDOOR GUN** RANGE AIR CONDITIONING AND **HEATING**

9478 ETIWANDA AVENUE RANCHO CUCAMONGA, CALIFORNIA 91739

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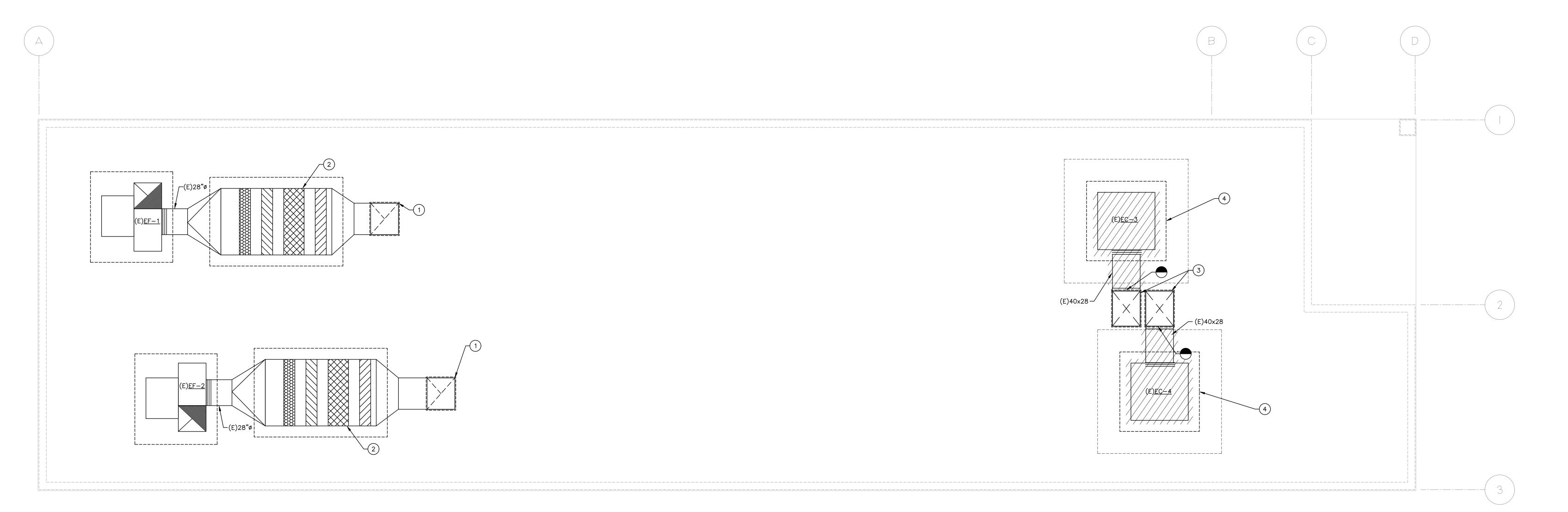
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SEAL:



MECHANICAL **DEMOLITION** FLOOR PLAN



MECHANICAL DEMOLITION ROOF PLAN



GENERAL NOTES

- A. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS,
 DETERMINING EXTENT OF DEMOLITION, AND COORDINATE WITH ALL
 OTHER TRADES. IN CASE OF DISCREPANCIES OR ANY POTENTIAL
 CONFLICTS, INFORM THE ARCHITECT AND ENGINEER IN WRITING
 PRIOR TO START OF WORK.
- B. ALL EXISTING EQUIPMENT, DUCTWORK AND AIR DISTRIBUTION DEVICES, WHICH ARE TO REMAIN, SHALL BE CLEANED AND REFURBISHED TO ORIGINAL WORKING CONDITION.
- C. ALL WORK TO BE DEMOLISHED OR REMOVED SHALL NOT BE RE—INSTALLED UNLESS NOTED OTHERWISE.

KEY NOTES

- 1) EXISTING 34x30 EXHAUST AIR DOWN THRU ROOF.
- (2) EXISTING 72x48 FILTER BANK.
- (3) EXISTING 38x30 SUPPLY AIR DOWN THRU ROOF TO REMAIN.
- 4 REMOVE EXISTING EVAPORATIVE COOLER, DUCTWORK AND ALL RELATED MECHANICAL APPURTENANCES UP TO POINT OF DISCONNECT.





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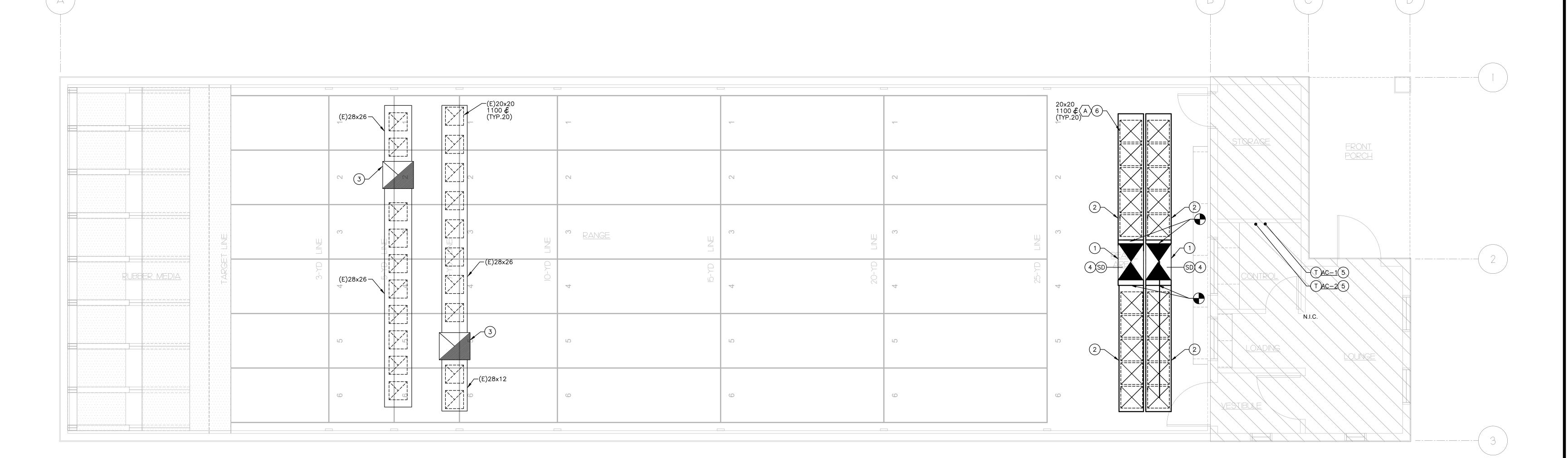
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MECHANICAL **DEMOLITION ROOF PLAN**



MECHANICAL FLOOR PLAN

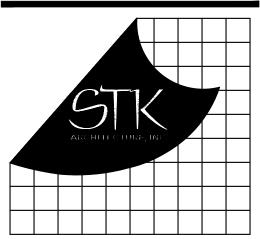


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- B. ALL EXISTING EQUIPMENT, DUCTWORK AND AIR DISTRIBUTION DEVICES, WHICH ARE TO REMAIN, SHALL BE CLEANED AND REFURBISHED TO ORIGINAL WORKING CONDITION.
- C. ALL WORK TO BE DEMOLISHED OR REMOVED SHALL NOT BE RE-INSTALLED UNLESS NOTED OTHERWISE.
- D. FOR DUCT TAKE-OFFS, SEE DETAIL 5/M5.1.

KEY NOTES

- 1) EXISTING 40x28 SUPPLY AIR UP THRU ROOF.
- 2) 28"ø SA DUCT.
- (3) EXISTING 34x30 UP TO EXHAUST FAN ON ROOF.
- (4) EXISTING DUCT SMOKE DETECTOR IN SUPPLY AIR.
- 5 PROVIDE PROGRAMMABLE THERMOSTAT WITH REMOTE CAPABILITY AND 4 HOUR OVERRIDE. COORDINATE WITH ARCHITECT FOR FINAL LOCATION PRIOR TO START OF WORK. MOUNT PER DETAIL 1/M5.1.
- 6 EXTEND 20x20 DUCT BRANCH DOWN TO ALIGN DIFFUSER FACE FLUSH WITH BOTTOM OF CEILING BAFFLE. PROVIDE MVD. ARRANGE FACE BLADES TO DIRECT AIRFLOW DOWN RANGE.



CONSULTANT:



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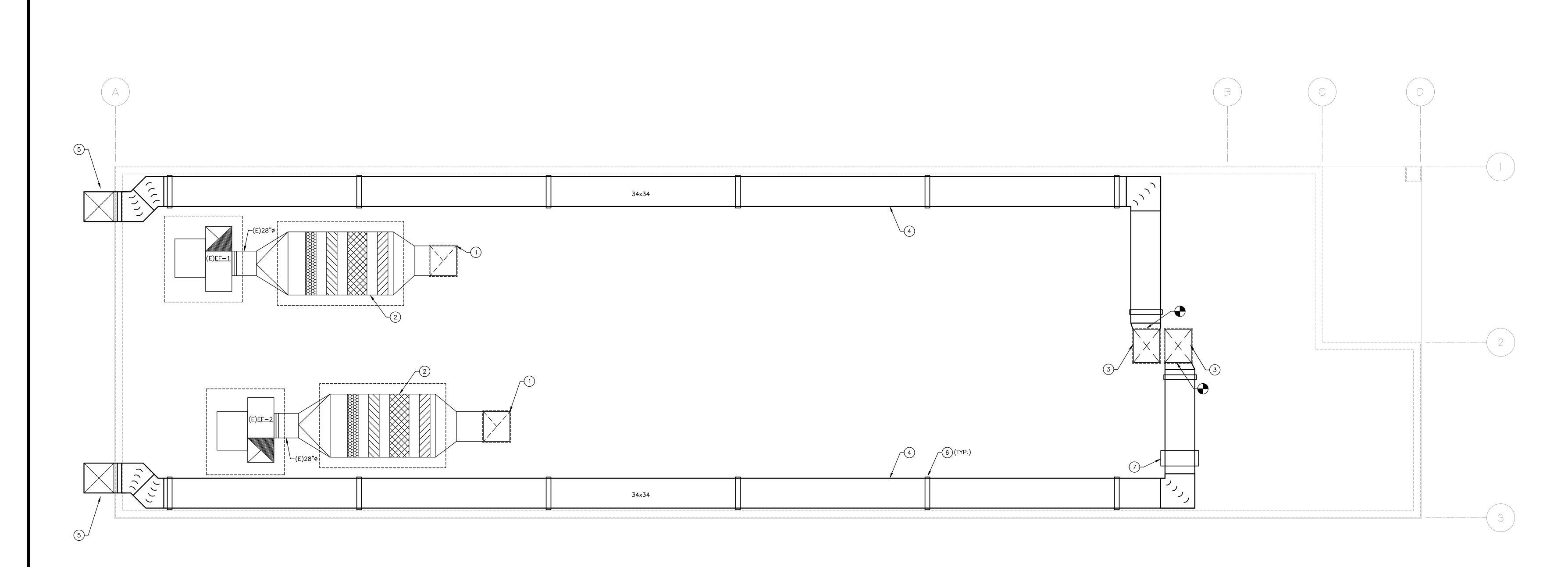
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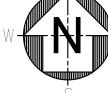
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MECHANICAL FLOOR PLAN



MECHANICAL ROOF PLAN

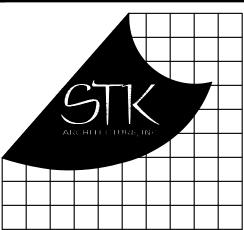


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- B. ALL EXISTING EQUIPMENT, DUCTWORK AND AIR DISTRIBUTION DEVICES, WHICH ARE TO REMAIN, SHALL BE CLEANED AND REFURBISHED TO ORIGINAL WORKING CONDITION.
- C. ALL WORK TO BE DEMOLISHED OR REMOVED SHALL NOT BE RE—INSTALLED UNLESS NOTED OTHERWISE.

KEY NOTES

- (1) EXISTING 34x30 EXHAUST AIR DOWN THRU ROOF.
- (2) EXISTING 72x48 FILTER BANK.
- (3) EXISTING 38x30 SUPPLY AIR DOWN THRU ROOF.
- 4 34x34 SA DUCT ON ROOF. TRANSITION TO EXISTING ROOF PENETRATION AT POINT OF CONNECTION. SEE DETAIL 8/M5.1.
- (5) 34x34 DUCT DOWN TO GRADE. SEE M1.1 FOR CONTINUATION.
- 6 DUCT SUPPORT, TYPICAL.
- (7) CROSSOVER PLATFORM PER ARCHITECTURAL DRAWINGS.



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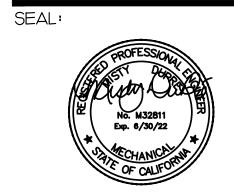
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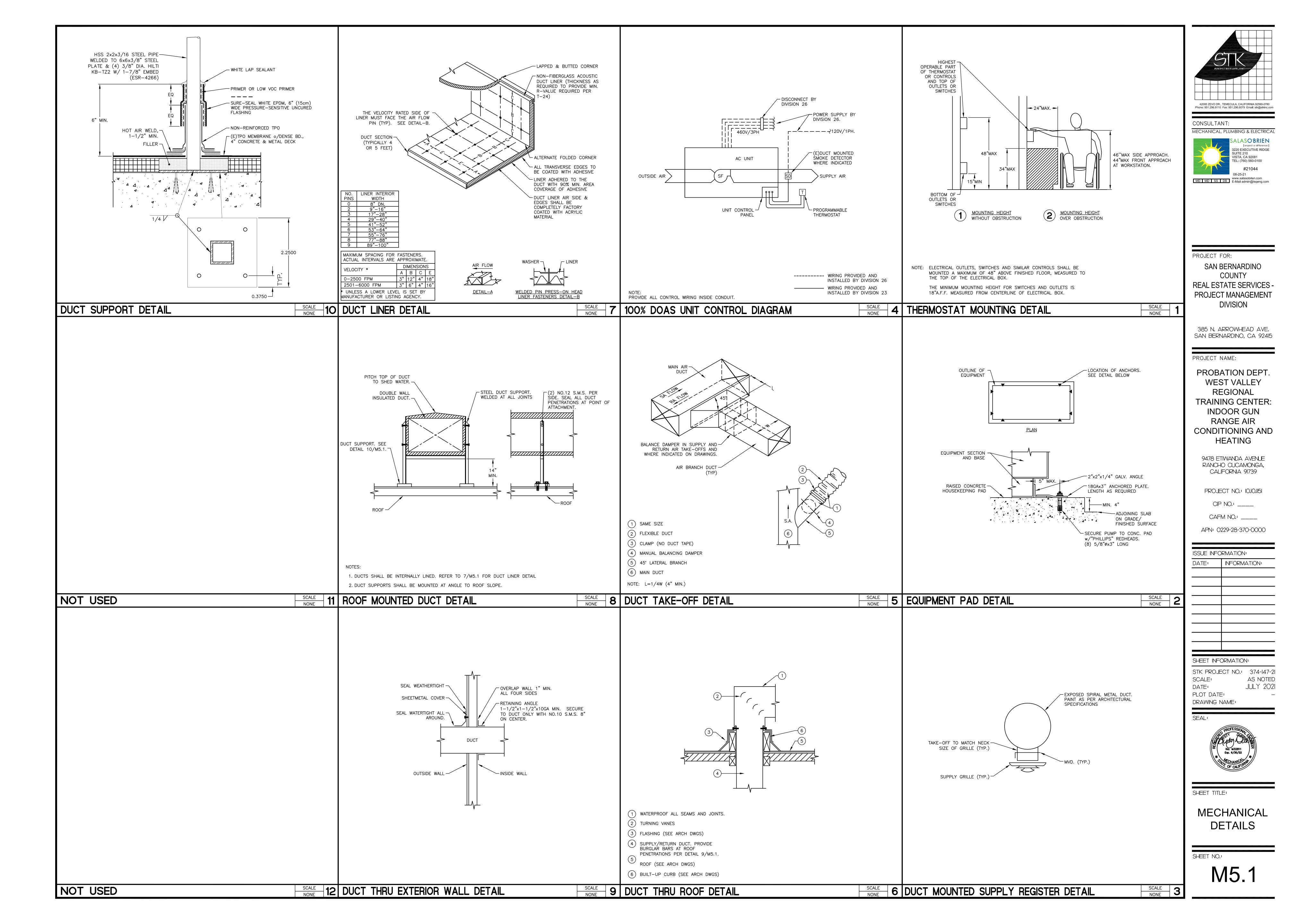
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MECHANICAL ROOF PLAN



	RICAL STIMBUL LEGEND PLANS SHALL DICTATE	WHICH SYMBOLS AR		
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	 THESE DOCUMENTS MAY NOT BE USED FOR ANY UNLESS AUTHORIZED, IN WRITING, BY SALAS O'BI
A-1,3	CONDUIT HOMERUN WITH PANEL DESIGNATION AND CIRCUITS INDICATED.	DD SS	DUCT MOUNTED SMOKE DETECTOR SOLID STATE, ELECTRONIC, ADJUSTABLE TRIP CIRCUIT BREAKER WITH LSIG.	RESPONSIBLE FOR THEIR PREPARATION. 2. VERIFY EXISTING SITE CONDITIONS, ELECTRICAL S
	CONDUIT/WIRING, INSTALLED IN OR BELOW FLOOR SLAB. CONDUIT/WIRING, EXPOSED.	<u> </u>	DAYLIGHT SENSOR	POINTS OF CONNECTION AND PROJECT CONSTRUCT OF BID INDICATES CONTRACTOR IS COGNIZANT OF
	CONDUIT/WIRING CONCEALED IN WALL OR CEILING SPACE.	SD	SMOKE DETECTOR	PERFORMED. ANY DISCREPANCIES SHALL BE CALL REPRESENTATIVE.
·	CONDUIT, FLEXIBLE CONNECTION DRY LOCATIONS — FLEXIBLE STEEL CONDUIT		Signal Systems	3. THESE DRAWINGS ARE DIAGRAMMATIC AND ONLY TO BE CONNECTED AND THE CIRCUIT NUMBERS CONTRACTOR SHALL INSTALL ALL REQUIRED JUNG
	WET LOCATIONS — FLEXIBLE STEEL CONDUIT WET LOCATIONS — LIQUIDTIGHT FLEXIBLE STEEL CONDUIT		TELEPHONE OR TERMINAL BACKBOARD	COMPLETE AND OPERATIONAL SYSTEM WHICH CONGOVERNING CODES.
$\langle \mathtt{A} \rangle$	LIGHT FIXTURE DESIGNATION		TELEPHONE OR TERMINAL CABINET, WITH PLYWOOD BACKBOARD	 ALL EXTERIOR EQUIPMENT SHALL BE WEATHERPR LOCATIONS OF ALL EQUIPMENT SHALL BE VERIFIE
•	LED LIGHTING FIXTURE UPPER CASE LETTER(S) = FIXTURE TYPE NUMBER = CIRCUIT NUMBER	- S	PAGING SPEAKER, WALL MOUNT	6. EACH CONDUCTOR OF EVERY SYSTEM SHALL BE OSHA.
	LOWER CASE LETTER(S) = ROOM SWITCHING CIRCUITS AND NUMBER OF SWITCHES	S	PAGING SPEAKER, CEILING MOUNT WITH BACKBOX	7. PVC CONDUIT, WITH CODE SIZED GROUND, SHALL BY LOCAL CODE. INSTALL PER LOCAL CODE REQ
	NOTE: THIS LABELING SCHEME IS TYPICAL FOR ALL LIGHT FIXTURES.	0	INTRUSION INFRARED SENSOR.	GRADE SHALL BE I.M.C. WITH HALF—LAPPED TAPE
□	LED, WALL MOUNTED LIGHT FIXTURE. LED STRIP OR UNDERCABINET TASK LIGHT	•	TIME-OF-DAY CLOCK OUTLET AND CLOCK, AT +96" AFF, U.O.N.	 CONTRACTOR SHALL PROVIDE ALL LABOR, MATERI CONSTRUCTION TOOLS, TRANSPORTATION, ETC. FO ELECTRICAL SYSTEM.
			CABLE TELEVISION OUTLET, AT +18" AFF, U.O.N. CLOCK AND SPEAKER COMBINATION	9. ALL MATERIALS SHALL BE NEW, AND OF THE SAI OF EQUIPMENT. MATERIALS SHALL BE LISTED AND
•	LED LIGHTING FIXTURE WITH EMERGENCY BATTERY PACK OR CONNECTED TO EMERGENCY POWER SYSTEM.		DATA JUNCTION BOX, AT $+18$ " AFF U.O.N., WITH $1-1/4$ " CONDUIT ONLY WITH	LABORATORIES, AND SHALL BEAR THE INSPECTION MATERIAL SHALL MEET WITH THE APPROVAL OF T GOVERNING BODIES HAVING JURISDICTION. MATER
	POLE MOUNTED LIGHT FIXTURE WITH POLE AND FOUNDATION. NUMBER AND	◁	PULLSTRING UP TO NEAREST CABLE TRAY OR ACCESSIBLE TO CEILING SPACE.	WITH APPLICABLE STANDARDS ESTABLISHED BY A MANUFACTURER'S RECOMMENDATIONS.
- □	ORIENTATION OF LUMINAIRES AS SHOWN ON DRAWINGS.	◀	TELEPHONE JUNCTION BOX, AT +18" AFF U.O.N., WITH 1-1/4" CONDUIT ONLY WITH PULLSTRING UP TO NEAREST ACCESSIBLE TO CEILING SPACE.	10. ALL CONDUIT SHALL BE INSTALLED CONCEALED V CONDUIT SHALL BE INTERMEDIATE METAL CONDUI
-O @ O	LIGHTING FIXTURE, WALL OR BRACKET MOUNTED. LIGHTING FIXTURE, SURFACE OR RECESSED MOUNTED.	◂	TELE/DATA JUNCTION BOX AT +18" AFF, U.O.N., WITH (2)1-1/4" CONDUIT ONLY WITH PULLSTRING UP TO NEAREST CABLE TRAY OR ACCESSIBLE CEILING SPACE.	ANGLES WITH THE BUILDING WALLS. IF VIEWED B WHICH IT IS ATTACHED.
-O O	LIGHTING FIXTURE WITH EMERGENCY BATTERY PACK OR CONNECTED TO EMERGENCY POWER SYSTEM.	•	W = WALL MOUNT AT +42" AFF, U.O.N. CEILING MOUNTED DATA AT T-BAR CEILING NOT TO BE MOUNTED IN CEILING	11. CONTRACTOR SHALL CARRY OUT HIS WORK IN AC LOCAL CODES, O.S.H.A. AND THE CURRENTLY ADO
<u> </u>	TRACK LIGHTING WITH FIXTURES.		SPACE, WITH 1" CONDUIT AND (1) CAT 6 CABLE TO INTERMEDIATE DISTRIBUTION FRAME AS INDICATED ON DWGS.	12. THE COMPLETE ELECTRICAL SYSTEM SHALL BE G ADOPTED EDITION OF THE NEC, ARTICLE 250.
MS	MOTION SENSOR, DUAL TECHNOLOGY, CEILING MOUNTED NOT TO BE LOCATED WITHIN 48" OF ANY HVAC DIFFUSER.		PROJECTOR SHOWN FOR REFERENCE ONLY	13. ALL ELECTRICAL PENETRATIONS THROUGH FIRE R. ASSEMBLIES INCLUDING CONDUITS AND PIPING SI FIRESTOPPING WALLBOARD COMPOUND AND SHAL
⊗ ▼	EXIT LIGHT FIXTURE. DARKENED AREA INDICATES FIXTURE FACE. ARROW INDICATES DIRECTION OF FACE ARROW.	Δ	DATA OUTLET, FLUSH FLOOR MOUNTED, WITH HINGED COVER, U.O.N.	LOCAL ENFORCING AGENCY. 14. ELECTRICAL CONTRACTOR SHALL SECURE ALL NE
	LL = LOW LEVEL LIGHT SWITCH, WALL MOUNTED AT +42" AFF, U.O.N.		DEMOLITION NOTES	AND PAY FOR SAME. COORDINATE AND PAY FOR BUILDING DEPARTMENT, SERVING UTILITY AND OW
	2 = TWO POLE, 3 = THREE WAY, 4 = FOUR WAY a,b = INDICATES ROOM SWITCHING CIRCUITS AND NUMBER OF SWITCHES	1. THE CONTRA	CTOR SHALL VISIT THE SITE SPECIFICALLY INCLUDING ALL AREAS INDICATED ON	15. COMPLETE JOB SHALL BE GUARANTEED FOR A P ACCEPTANCE BY OWNER. ANY WORK, MATERIAL C
	D = DIMMER K = KEYED OC = OCCUPANCY SENSOR, DUAL TECHNOLOGY	EXISTING COI	GS. THE CONTRACTOR SHALL THOROUGHLY FAMILIARIZE THEMSELVES WITH THESE NDITIONS, AND BY SUBMITTING A BID ACCEPTS CONDITIONS UNDER WHICH THEY QUIRED TO PERFORM THEIR WORK.	THAT PERIOD SHALL BE CORRECTED AT ONCE, U THE ELECTRICAL CONTRACTOR.
S ab	VS = VACANCY SENSOR, MANUAL ON, WHERE REQUIRED BY CODE P = PILOT LIGHT, LIGHTED IN THE OFF POSITION. BP = BYPASS TIMER	2. IT SHALL BE	THE ELECTRICAL CONTRACTOR'S RESPONSIBILITY TO DISCONNECT AND REMOVE LIGHTING FIXTURES, RECEPTACLES, ELECTRICAL EQUIPMENT, ETC., AFFECTED BY	16. CONDUCTORS SHALL BE CODE GRADE, 600 VOLT MARKED EVERY 24" ALONG IT'S LENGTH SHOWING VOLTAGE AND SIZE. GENERAL PURPOSE WIRING S
	WP = WEATHERPROOF WR = WEATHER RESISTANT F = FAN SWITCH	THE REMODE CONDUIT ANI	LED AREA. THIS WILL INCLUDE REROUTING, OR THE EXTENSION OF, EXISTING D FEEDERS WHERE NECESSARY TO MAINTAIN THE CONTINUITY OF EXISTING	SMALLER, STRANDED COPPER CONDUCTORS FOR 'THHN'(DRY). FOR SPECIAL PURPOSE WIRE TYPES
	S = SOLATUBE CONTROL T = TIMER SWITCH		NUMBERS AND EXISTING CONDUIT HOMERUNS SHOWN ON THESE DRAWINGS WERE	17. ALL CONDUIT ONLY (C.O.) SHALL HAVE A PULL NOTES ONLY COMPETENT AND SKILLED PERSONNEL
0	LV = LOW VOLTAGE JUNCTION BOX, HANDHOLE OR PULLBOX WITH COVER, SIZE PER NEC, ART.		EXISTING RECORD DRAWINGS. IT IS THIS CONTRACTOR'S RESPONSIBILITY TO TIONS OF HOMERUNS, AND ADJUST CIRCUIT NUMBERS ACCORDING TO EXISTING IF REQUIRED.	AS WELL AS ELECTRICAL AND MECHANICAL ASPEC
<u>+</u>	314.28. GROUND	4. WHERE EXIST WHICH HAVE	TING WALLS HAVE BEEN REMOVED, AND THERE ARE EXISTING CONDUIT FEEDS BEEN CUT—OFF AND CAPPED FLUSH WITH FLOOR, IT IS THE CONTRACTOR'S	19. ALL ELECTRICAL SYSTEM CONDUCTORS SHALL BE NON—METALLIC SHEATHED CABLE IS NOT APPROV
	FUSE	RESPONSIBILI	ITY TO IDENTIFY AND DIMENSION ALL SUCH CONDUITS ON THE "AS-BUILT" NLESS NOTED OTHERWISE.	20. WHERE IT BECOMES NECESSARY TO DRILL INTO WALKWAYS OR DRIVES TO PERMIT THE INSTALLAT
	UTILITY COMPANY APPROVED CT/METER PROVISIONS FUSED SWITCH	ELECTRICAL S	THE RESPONSIBILITY OF THIS CONTRACTOR TO MAINTAIN CONTINUITY OF ALL SYSTEMS, EQUIPMENT, ETC., REMAINING IN OPERATION WHICH ARE BEING FED BY IED OUTLET. MAINTAINING CONTINUITY SHALL CONSIST OF REROUTING CONDUIT,	TO REPAIR ANY DEFECTS THAT MAY APPEAR TO CUTTING AND PATCHING SHALL PERFORMED BY TREQUIRED. CONTRACTOR SHALL PAY FOR ALL CO
	CIRCUIT BREAKER	WIRING, ETC.	, AS REQUIRED. CIRCUITS ARE SHOWN TO EXISTING PANELS, INSTALL NEW BREAKERS OF SAME	FINISHES SHALL MATCH EXISTING OR NEW ADJAC
TC	TIME CLOCK	TYPE, STYLE	AND RATING (MINIMUM 20 AMP, SINGLE POLE) AS CALLED FOR ON DRAWINGS. CH NEW CIRCUIT ON PANEL SCHEDULE.	
LA	LIGHTING OR POWER PANEL — FLUSH MOUNT UNLESS INDICATED OTHERWISE DISTRIBUTION BOARD, LIGHTING OR POWER PANEL DESIGNATION		NDUIT MAY BE REUSED IF ADEQUATELY SIZED, BUT IN NO CASE SHALL ANY NDUCTORS BE REUSED.	
O	MOTOR OR MECHANICAL EQUIPMENT, WITH FLEXIBLE CONNECTION	COVERED AN	NED OUTLETS INCLUDING LIGHT, RECEPTACLES, TELEPHONE, ETC., SHALL BE D PATCHED TO MATCH THE FINISH OF SURROUNDING WALL OR CEILING TO THE	
$\frac{FC}{3}$	MECHANICAL EQUIPMENT DESIGNATION	9. ALL LIGHTING	OF THE OWNER. FIXTURES REMOVED TO ACCOMPLISH DEMOLITION WORK SHALL BE REINSTALLED	
3/	DISCONNECT SWITCH (30=AMPS 3=POLES)	SIMILAR TO I	NEW WORK	
30AS FJ	NEMA 1 INDOORS NEMA 3R IN WET LOCATIONS	BF	RANCH CIRCUIT WIRING NOTE:	
39	F = FUSED PROVIDE TIME-DELAY TYPE FUSE(S) SIZED PER EQUIPMENT MANUFACTURERS NAMEPLATE RATING.	1 FOR DECEDIT	ACLE CIDCUITS AND 120 VOLT DRANGU CIDCUITS LINESS NOTED OTHERWISE	
SM	MANUAL MOTOR STARTER SWITCH WITH THERMAL OVERLOAD PROTECTOR	PROVIDE THE NUMBER) AN	ACLE CIRCUITS AND 120 VOLT BRANCH CIRCUITS, UNLESS NOTED OTHERWISE, FOLLOWING CONDUCTORS: (1) #12 CONDUCTOR FOR EACH PHASE (I.E. CIRCUIT D (1) SEPARATE DEDICATED #12 NEUTRAL CONDUCTOR FOR EACH SINGLE 120 TOR FOR 2 TO 3 CIRCUITS PROVIDED THEY ARE OF DIFFERENT PHASES; (1)	
'o' ⊠	MAGNETIC MOTOR STARTER WITH THERMAL OVERLOAD PROTECTOR	EQUIPMENT (T OR FOR 2 TO 3 CIRCUITS PROVIDED THEY ARE OF DIFFERENT PHASES; (1) GROUNDING CONDUCTOR, SIZED PER CEC. FOR CIRCUITS TO COMPUTER/DATA PROVIDE DEDICATED NEUTRAL FOR EACH CIRCUIT.	
30AS X '0'	COMBINATION MOTOR STARTER WITH FUSED SWITCH, WITH THERMAL OVERLOAD PROTECTOR AND DUAL ELEMENT FUSES. (30=AMPS, 3=POLES 0=STARTER SIZE).	•		
•	PUSHBUTTON OR SHUNT TRIP STATION	OR 277 VOL	BRANCH CIRCUITS, PROVIDE THE FOLLOWING CONDUCTORS: (1) #12 CONDUCTOR HASE (I.E. CIRCUIT NUMBER); (1) #12 NEUTRAL CONDUCTOR FOR A SINGLE, 120 T CIRCUIT, OR (1) #12 NEUTRAL CONDUCTOR FOR 2 TO 3 CIRCUITS WHERE EACH ON A DIFFERENT PHASE; (1) EQUIPMENT GROUNDING CONDUCTOR, SIZED PER CEC (DO NOT USE A COMMON NEUTRAL FOR MULTIPLE CIRCUITS ON SAME PHASE) (1)	
	DUPLEX RECEPTACLE, +18" AFF, U.O.N.; NEMA 5-20R, U.O.N.; NUMBER INDICATES CIRCUIT NUMBER.	INTERCONNEC	CTING CONDUCTOR BETWEEN EACH 3—WAY AND/OR 4—WAY SWITCH	
⇒ GFI	GFIF = GROUND FAULT INTERRUPTION, FEED—THRU TYPE WP = WEATHERPROOF WITH A WEATHERPROOF WHILE—IN—USE COVER WR = WEATHER—RESISTANT TYPE RECEPTACLE WITH A WEATHERPROOF		APPLICABLE CODES	
	WHILE IN-USE COVER GFI = GROUND FAULT INTERRUPTION.		7 (I I LIGHTBLE GGBLG	
	DOUBLE DUPLEX RECEPTACLE, +18" AFF, U.O.N.	• 2019 CALIFO	RNIA ADMINISTRATIVE CODE (CAC), PART 1, TITLE 24 CCR RNIA BUILDING CODE (CBC), PART 2, TITLE 24 CCR (2018 EDITION INTERNATIONAL	
- ⇔ -≪√	DUPLEX RECEPTACLE ABOVE COUNTERTOP BACKSPLASH, VERIFY REQ'D HEIGHT POWER RECEPTACLE, SEE POWER RECEPTACLE SCHEDULE FOR NEMA		DE, VOL. 1 & 2) PRNIA ELECTRICAL CODE (CEC), PART 3, TITLE 24 CCR (2017 EDITION NATIONAL CODE)	
æ ©	CONFIGURATION AND SIZE. POWER POLE, WITH NUMBER OF RECEPTACLES INDICATED	 2019 CALIFO UNIFORM ME 	RNIA MECHANICAL CODE (CMC), PART 4, TITLE 24 CCR (2018 EDITION IAPMO CHANICAL CODE)	
▭	DUPLEX RECEPTACLE, PEDESTAL MOUNTED	UNIFORM PL	PRNIA PLUMBING CODE (CPC), PART 5, TITLE 24 CCR (2018 EDITION IAPMO JMBING CODE)	
Ø	CEILING MOUNTED DUPLEX RECEPTACLE AT T-BAR CEILING NOT TO BE MOUNTED IN CEILING SPACE.		RNIA ENERGY CODE (CEC), PART 6, TITLE 24 CCR RNIA FIRE CODE (CFC), PART 9, TITLE 24 CCR (2018 EDITION INTERNATIONAL	
	DUPLEX RECEPTACLE, FLUSH FLOOR MOUNTED, WITH HINGED COVER, U.O.N.		RNIA EXISTING BUILDING CODE (CEBC), PART 10, TITLE 24 CCR (2018 EDITION	
₩	CORD SUSPENDED CEILING RECEPTACLE, WITH STRAIN RELIEF ASSEMBLY SURFACE MOUNTED DUPLEX RECEPTACLE +18" AFF, U.O.N.	 2019 CALIFO 	RNIA GREEN BUILDING STANDARDS CODE (CALGreen), PART 11, TITLE 24 CCR RNIA REFERENCED STANDARDS CODE, PART 12, TITLE 24, CCR R, PUBLIC SAFETY, STATE FIRE MARSHALL REGULATIONS	
. ∪	SURFACE MOUNTED DOUBLE DUPLEX RECEPTACLE +18" AFF, U.O.N.		A17.1/CSA B44-13 SAFETY CODE FOR ELEVATORS AND ESCALATORS	
*	DOUBLE DUPLEX RECEPTACLE, +18" AFF, U.O.N. 1—CONTROLLED + 1—UNCONTROLLED DUPLEX RECEPTACLE. CONTROLLED			
••	RECEPTACLE TO BE GRAY IN COLOR.			
		_		

PROJECT NOTES

E DOCUMENTS MAY NOT BE USED FOR ANY REPRODUCTION, BIDDING, OR CONSTRUCTION SS AUTHORIZED, IN WRITING, BY SALAS O'BRIEN AND THE ENGINEER OF RECORD PONSIBLE FOR THEIR PREPARATION.

FY EXISTING SITE CONDITIONS, ELECTRICAL SERVICE REQUIREMENTS, DIMENSIONS, ELEVATIONS, TS OF CONNECTION AND PROJECT CONSTRUCTION LIMITS BEFORE SUBMITTING BID. SUBMITTAL ID INDICATES CONTRACTOR IS COGNIZANT OF ALL JOB SITE CONDITIONS AND WORK TO BE ORMED. ANY DISCREPANCIES SHALL BE CALLED TO THE ATTENTION OF THE OWNER'S RESENTATIVE.

E DRAWINGS ARE DIAGRAMMATIC AND ONLY INDICATE THE INTENT OF OUTLETS, DEVICES, ETC., E CONNECTED AND THE CIRCUIT NUMBERS TO WHICH THEY ARE TO BE CONNECTED TO. RACTOR SHALL INSTALL ALL REQUIRED JUNCTION BOXES ETC., AS REQUIRED FOR A PLETE AND OPERATIONAL SYSTEM WHICH COMPLIES WITH ALL LOCAL AND NATIONAL ERNING CODES.

EXTERIOR EQUIPMENT SHALL BE WEATHERPROOF.

ITIONS OF ALL EQUIPMENT SHALL BE VERIFIED PRIOR TO ROUGH-IN.

CONDUCTOR OF EVERY SYSTEM SHALL BE PERMANENTLY TAGGED IN COMPLIANCE WITH

CONDUIT, WITH CODE SIZED GROUND, SHALL BE USED UNDERGROUND ONLY, IF APPROVED OCAL CODE. INSTALL PER LOCAL CODE REQUIREMENTS. CONDUIT RISERS AND STUBS ABOVE DE SHALL BE I.M.C. WITH HALF—LAPPED TAPE COVERING OR PVC COATING.

RACTOR SHALL PROVIDE ALL LABOR, MATERIALS, INSURANCE, EQUIPMENT, INSTALLATION, STRUCTION TOOLS, TRANSPORTATION, ETC. FOR A COMPLETE AND PROPERLY OPERATING

MATERIALS SHALL BE NEW, AND OF THE SAME MANUFACTURER FOR EACH CLASS OR GROUP EQUIPMENT. MATERIALS SHALL BE LISTED AND APPROVED BY THE UNDERWRITER'S RATORIES, AND SHALL BEAR THE INSPECTION LABEL WHERE SUBJECT TO SUCH APPROVAL. RIAL SHALL MEET WITH THE APPROVAL OF THE DIVISION OF INDUSTRIAL SAFETY, AND ALL ERNING BODIES HAVING JURISDICTION. MATERIALS SHALL BE MANUFACTURED IN ACCORDANCE APPLICABLE STANDARDS ESTABLISHED BY A.N.S.I., U.L., N.E.M.A. AND N.B.F.U. INSTALL PER JFACTURER'S RECOMMENDATIONS.

CONDUIT SHALL BE INSTALLED CONCEALED WHERE PHYSICALLY POSSIBLE. ALL EXPOSED DUIT SHALL BE INTERMEDIATE METAL CONDUIT AND INSTALLED PARALLEL TO OR AT RIGHT LES WITH THE BUILDING WALLS. IF VIEWED BY THE PUBLIC, PAINT TO MATCH SURFACE TO CH IT IS ATTACHED.

FRACTOR SHALL CARRY OUT HIS WORK IN ACCORDANCE WITH ALL GOVERNING STATE, COUNTY, L CODES, O.S.H.A. AND THE CURRENTLY ADOPTED NATIONAL ELECTRICAL CODE (N.E.C.). COMPLETE ELECTRICAL SYSTEM SHALL BE GROUNDED IN ACCORDANCE WITH THE CURRENTLY

ELECTRICAL PENETRATIONS THROUGH FIRE RATED AREA SEPARATION AND CORRIDOR MBLIES INCLUDING CONDUITS AND PIPING SHALL BE TIGHTLY AND SOLIDLY SEALED WITH STOPPING WALLBOARD COMPOUND AND SHALL BE AN APPROVED MATERIAL AS REQUIRED BY L ENFORCING AGENCY.

TRICAL CONTRACTOR SHALL SECURE ALL NECESSARY BUILDING PERMITS, UTILITY CHARGES PAY FOR SAME. COORDINATE AND PAY FOR ALL ELECTRICAL SERVICE CHARGES WITH THE DING DEPARTMENT, SERVING UTILITY AND OWNER.

PLETE JOB SHALL BE GUARANTEED FOR A PERIOD OF ONE (1) YEAR AFTER AFTER DATE OF EPTANCE BY OWNER. ANY WORK, MATERIAL OR EQUIPMENT FÒÚND TO BE FAULTY DURING PERIOD SHALL BE CORRECTED AT ONCE, UPON WRITTEN NOTIFICATION, AT THE EXPENSE OF ELECTRICAL CONTRACTOR.

OUCTORS SHALL BE CODE GRADE, 600 VOLT CLASS, COPPER (UNLESS NOTED OTHERWISE) KED EVERY 24" ALONG IT'S LENGTH SHOWING MANUFACTURER'S NAME, MAXIMUM ALLOWABĹE AGE AND SIZE. GENERAL PURPOSE WIRING SHALL BE SOLID COPPER CONDUCTORS #10 AND LER, STRANDED COPPER CONDUCTORS FOR #8 AND LARGER, TYPE 'THWN'(WET) OR" N'(DRY). FOR SPECIAL PURPOSE WIRE TYPES REFER TO EQUIPMENT MANUFÀCTÚRER'S PLANS.

CONDUIT ONLY (C.O.) SHALL HAVE A PULL WIRE OR ROPE.

ONLY COMPETENT AND SKILLED PERSONNEL AND PERFORM ALL WORK, INCLUDING AESTHETIC ELL AS ELECTRICAL AND MECHANICAL ASPECTS TO STANDARDS CONSISTENT WITH THE BEST

ELECTRICAL SYSTEM CONDUCTORS SHALL BE INSTALLED IN APPROVED RACEWAYS. -METALLIC SHEATHED CABLE IS NOT APPROVED.

RE IT BECOMES NECESSARY TO DRILL INTO OR CUT THROUGH ANY EXISTING SLABS. WAYS OR DRIVES TO PERMIT THE INSTALLATION OF ANY WORK UNDER THIS CONTRACT, OR REPAIR ANY DEFECTS THAT MAY APPEAR TO THE EXPIRATION OF THE WARRANTY, SUCH ING AND PATCHING SHALL PERFORMED BY TRADESMAN EXPERIENCED IN THE WORK IRED. CONTRACTOR SHALL PAY FOR ALL COSTS REQUIRED FOR CUTTING OR REPAIRING. ALL HES SHALL MATCH EXISTING OR NEW ADJACENT SURFACES.

21. ALL BROCHURES, OPERATING MANUALS, CATALOGS, ETC. SHALL BE TURNED OVER TO THE OWNER AT JOB COMPLETION.

22. ALL SUBSTITUTIONS SHALL BE SUBMITTED IN WRITING TO THE ARCHITECT TEN (10) DAYS PRIOR TO BID. SUBMITTAL SHALL INCLUDE, BUT NOT BE LIMITED TO, COST SAVINGS, WRÍTTEN REASON FOR SUBSTITUTION AND A WRITTEN STATEMENT THAT IF THE SUBSTITUTION IS APPROVED, THERE WILL BE NO DELAY IN DELIVERY, CONSTRUCTION TIME OR COST TO OTHER TRADES.

23. PROVIDE ENGRAVED PLASTIC NAMEPLATES FOR ALL MAJOR PIECES OF EQUIPMENT. PLATES SHALL BE 3 PLY, BLACK FACE, WHITE CORE WITH 1/4" HIGH CONDENSED GOTHIC LETTERING. SCREW-ON ATTACHMENT ONLY. NO CEMENT.

24. PROVIDE THE OWNER WITH ONE (1) SET OF COMPLETE ELECTRICAL "AS-BUILTS" AT THE

COMPLETION OF THE JOB, SHOWING ACTUAL DEPTHS AND LOCATIONS. 25. WHERE A CONFLICT OCCURS BETWEEN THESE DRAWINGS AND THE SPECIFICATIONS ISSUED AS PART OF THESE DOCUMENTS, THE MORE STRINGENT REQUIREMENTS SHALL PREVAIL.

26. COORDINATE ALL ELECTRICAL WORK WITH OTHER TRADES. THE OWNER WILL MAKE NO

PRIOR TO ROUGHING IN ALL CONDUIT TO THIS EQUIPMENT.

SUBSEQUENT ALLOWANCE FOR ELECTRICAL WORK REQUIRED BY OTHER TRADES. OBTAIN ALL OTHER PERTINENT INFORMATION REQUIRED TO MEET ACTUAL BUILDING OR FIELD CONDITIONS. 27. ALL FINAL CONNECTIONS TO OWNER-FURNISHED EQUIPMENT SHALL BE MADE BY THE CONTRACTOR. CONNECTIONS TO ALL EQUIPMENT FURNISHED BY OTHERS SHALL BE COORDINATED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION WITH EQUIPMENT MANUFACTURER

28. NOTIFY THE OWNER'S REPRESENTATIVE WHEREVER A DISCREPANCY IN QUANTITY OR SIZE OF CONDUIT, WIRE, EQUIPMENT DEVICES, CIRCUIT BREAKERS, TRANSFORMERS, GROUND FAULT PROTECTION SYSTEMS, ETC. (ALL MATERIALS) THAT ARISE ON THE DRAWINGS AND/OR SPECIFICATIONS. PROVIDE AND INSTALL ALL MATERIAL AND SERVICES REQUIRED BY THE STRICTEST CONDITIONS NOTED ON DRAWINGS AND/OR IN THE SPECIFICATIONS TO INSURE COMPLETE AND OPERABLE SYSTEMS AS REQUIRED BY THE OWNER AND ENGINEER.

29. ALL FEEDER AND BRANCH CIRCUITS SHALL BE PROVIDED WITH AN EQUIPMENT GROUNDING CONDUCTOR SIZED PER NEC, AND RUN IN THE SAME RACEWAY OR CONDUIT SUPPLYING SUCH FEEDER OR BRANCH CIRCUIT.

WHEN TRENCHING SO AS NOT TO INTERFERE WITH EXISTING UNDERGROUND UTILITIES. REPAIR ANY NKE DAMAGE CAUSED BY UNDERGROUND TRENCHING.

30. TRENCH AND BACKFILL AS REQUIRED TO PERFORM UNDERGROUND WORK. USE EXTREME CAUTION

31. PATCH AND REPAIR WALLS OR CEILINGS WHICH HAVE BEEN DAMAGED BECAUSE OF ELECTRICAL

32. CONDUIT SHALL NOT BE RUN THROUGH ANY STRUCTURAL MEMBER OF THE BUILDING. EXCEPT AS SPECIFICALLY DIRECTED BY THE OWNER'S REPRESENTATIVE. UNDER NO CIRCUMSTANCE SHALL CONDUIT RUN THROUGH COLUMNS, FOOTINGS OR GRADE BEAMS.

33. FOR ADDITIONAL ROUGH-IN AND WIRING REQUIREMENTS SEE MANUFACTURER'S INSTALLATION PLANS, WHICH ARE SUPPLEMENTAL TO AND PART OF THE ELECTRICAL WORK.

34. EXACT ROUTING OF ALL FEEDERS, CONDUITS, ETC. SHALL BE FIELD VERIFIED AND APPROVED BY OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION. COORDINATE THE INSTALLATION WITH OTHER

35. REFER TO ARCHITECTURAL PLANS FOR LOCATIONS OF RECESSED, SURFACE OR PENDANT MOUNTED LIGHT FIXTURES.

36. COLD WATER PIPE GROUNDING BOND SHALL BE LOCATED WITHIN 5' OF BUILDING ENTRANCE. 37. CONTRACTOR SHALL VERIFY EXACT LOADS OF HVAC EQUIP. WITH MECHANICAL ENGINEER AND HVAC UNIT MANUFACTURER PRIOR TO START OF WORK. IN CASE OF ANY DISCREPANCIES OR POTENTIAL CONFLICTS, INFORM ARCHITECT AND ELECTRICAL ENGINEER IN WRITING PRIOR TO PROCEEDING ANY FURTHER.

38. PIPES, DUCTS AND CONDUITS SHALL BE SUPPORTED AND BRACED PER THE S.M.A.C.N.A. "GUIDELINES FOR SEISMIC RESTRAINT OF MECHANICAL SYSTEMS AND PLUMBING AND PIPING

39. ALL ELECTRICAL EQUIPMENT SHALL BE BRACED OR ANCHORED TO RESIST A HORIZONTAL FORCE ACTING IN ANY DIRECTION USING THE FOLLOWING CRITERIA:

A. EQUIPMENT ON GRADE - 20% OF OPERATING WEIGHT

B. EQUIPMENT ON STRUCTURE - 30% OF OPERATING WEIGHT C. FOR FLEXIBLY MOUNTED EQUIPMENT USE FOUR (4) TIMES THE ABOVE VALUES. AND FOR

SIMULTANEOUS VERTICAL FORCE USE ONE-THIRD (1/3) TIMES THE HORIZONTAL FORCE. D. THE ABOVE VALUES ARE FOR AN IMPORTANCE FACTOR I=1.0 AND SEISMIC ZONE Z=1.0

E. WHERE ANCHORAGE DETAILS ARE NOT SHOWN ON THE DRAWINGS THE FIELD INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF THE STRUCTURAL ENGINEER AND THE FIELD

40. ALL OUTLET RATINGS SHALL BE 20 AMPS, UNLESS NOTED OTHERWISE.

ABBREVIATIONS

AMP FUSE (SIZE), AMP FRAME (SIZE) ARC FAULT CURRENT INTERRUPT ABOVE FINISH FLOOR AMP SWITCH (SIZE) BARE COPPER CONDUIT CIRCUIT BREAKER CIRCUIT CONDUIT ONLY, WITH PULL LINE COPPER ELECTRIC DRINKING FOUNTAIN EMERGENCY POWER ELECTRICAL METALLIC TUBING EXISTING **EXPLOSION PROOF** GROUND CONDUCTOR GROUND FAULT INTERRUPT PROTECTION GROUND ISOLATED GROUND INTERMEDIATE METALLIC CONDUIT INTERRUPTING SHORT CIRCUIT LONG CONTINUOUS LOAD

GND MAX MAXIMUM MAIN CIRCUIT BREAKER MIN MINIMUM MAIN LUGS ONLY NON-AUTOMATIC NATIONAL ELECTRICAL CODE

NO KNOWN EQUAL; NO SUBSTITUTES NOMINAL

NOT TO SCALE POLE PHASE **PANEL**

EXP

POLYVINYL CHLORIDE REQ'D REQUIRED RIGID GALVANIZED STEEL STATE FIRE MARSHAL SWBD SWITCHBOARD SWITCHGEAR SWGR

TYPICAL, UNLESS NOTED OTHERWISE, OF MANY UNLESS OTHERWISE NOTED OR INDICATED VOLTS WEATHERPROOF

EXISTING TO REMAIN EXISTING TO BE RELOCATED NEW LOCATION OF RELOCATED EQUIPMENT EXISTING TO BE REMOVED TRANSFORMER XFMR

42095 ZEVO DR., TEMECULA, CALIFORNIA 92590-3780 Phone: 951.296.9110 Fax: 951.296.6079 Email: stk@stkinc.com

MECHANICAL, PLUMBING & ELECTRICAL 3220 EXECUTIVE RIDGE /ISTA. CA 92081 L: (760) 560-0100 #21044 MD MD SS DB E-Mail admin@tsqeng.com

CONSULTANT:

PROJECT FOR:

SAN BERNARDINO REAL ESTATE SERVICES -PROJECT MANAGEMENT DIVISION

385 N. ARROWHEAD AVE. SAN BERNARDINO, CA 92415

PROJECT NAME:

PROBATION DEPT. WEST VALLEY REGIONAL TRAINING CENTER: INDOOR GUN **RANGE AIR** CONDITIONING AND

> 9478 ETIWANDA AVENLE RANCHO CUCAMONGA, CALIFORNIA 91739

HEATING

PROJECT NO.: 10.10.1151

CIP NO.: ____

CAFM NO.: ____

APN: 0229-28-370-0000

ISSUE INFO	RMATION:
DATE:	INFORMATION:

SHEET INFORMATION:

STK PROJECT NO.: 374-147-21 AS NOTED JULY 2021 DATE: PLOT DATE:

DRAWING NAME:



ELECTRICAL LEGEND AND GENERAL NOTES

E0.1

CERTIFICATE OF COMPLIANCE		NRCC-LTI-
Project Name: West Valley Probation De	pt Gun Range AC Report Page:	(Page 7 of 7
Project Address: 9478	Etiwanda Avenue Date Prepared:	7/6/202
DOCUMENTATION AUTHOR'S DECLARATION STATEMENT		
ocumentation Author Name: Ed David	Documentation Author Signature:	juardo G Den
Company: Galas O'Brien Engineers	Signature Date: 2021-07-06	
address: B220 Executive Ridge Suite 210	CEA/ HERS Certification Identification (if appl	icable):
City/State/Zip: /ista CA 92081	Phone: (760)560,0100	
plans and specifications submitted to the enforcement agency for approval with thi 5. I will ensure that a completed signed copy of this Certificate of Compliance shall be inspections. I understand that a completed signed copy of this Certificate of Compliesponsible Designer Name: Id David	made available with the building permit(s) issued for the building ance is required to be included with the documentation the build	
Company: Galas O'Brien	Date Signed: 2021-07-06	
Address: 3220 Executive Ridge Suite 210	License: E18809	
City/State/Zip: Vista CA 92081	Phone: (760)560-0100	
Registration Number:	Registration Date/Time:	Registration Provider: EnergySoft
		Transfer to the state of the st

Indoor Lighting NRCC-LTI-E					CALIFORNIA ENER	GY COMMISSI
CERTIFICATE OF COMPLIANCE	Quite organization in Fe day Walling Agency and a present	1000 P. 1000 P				NRCC-LT
Project Name:	West Valley Probation Dept Gun Ra					(Page 4 o
Project Address:	9478 Etiwanda	venue Date Prepared:				7/6/2
I. LIGHTING POWER ALLOWAN	NCE: COMPLETE BUILDING OR AREA CATEGORY	METHODS				
Each area complying using the Co §140.6(c) or adjustments per §14	mplete Building or Area Category Methods per <u>§140</u> 10.6(a) are being used .	<u>.6(b)</u> are included in t	his table. Colun	nn 06 indicates if additi	ional lighting power al	lowances per
Conditioned Spaces						
01	02	03	04	05	06	
Area Description	Complete Building or Area Category Primary	Allowed Density	Area (ft²)	Allowed Wattage	Additional Allowand	ce / Adjustme
8	Function Area	(W/ft²)	Area (it)	(Watts)	Area Category	PAF
Range Ready Area	Classroom, Lecture, or Training Vocational Are	a 0.7	465	325.5	No	No
		TOTALS:	465	325.5	See Tables J, or	P for detail
K. TAILORED METHOD GENER. This section does not apply to this	AL LIGHTING POWER ALLOWANCE s project.	NG STSTEIVI				
K. TAILORED METHOD GENERA This section does not apply to this L. ADDITIONAL LIGHTING ALLO	s project. AL LIGHTING POWER ALLOWANCE s project. OWANCE: TAILORED WALL DISPLAY	NG STSTEIVI				
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CERTIFICATE OF COMPLIANCE								NRCC-LTI-		
his document is used to demonstrate ath.	e compl	iance with requirement	s in <u>§110.9</u> , <u>§1</u>	10.12(c), §130.0,	§130.1, §140.6 c	and <u>§141.0(b)2</u> for ind	oor lighting scopes using	the prescriptive		
roject Name:		West Valley Pro	bation Dept Gur	n Range AC Report I	Page:			(Page 1 of 7		
roject Address:			9478 Etiwan	da Avenue Date Pr	epared:			7/6/202		
A. GENERAL INFORMATION			11 - 41	10	-11			10		
1 Project Location (city)		Rancho Cucamonga	187	04	4 Total Condition	ned Floor Area (ft²)	465			
2 Climate Zone		10		0.	5 Total Unconditi	ioned Floor Area (ft²)	0	11)		
Occupancy Types Within Project	(select a	all that apply):		Or	6 # of Stories (Ha	1	-14:			
Office		Retail	□ Warehou	use [Hotel/Motel		☐ School ☐	Support Areas		
☐ Parking Garage	Parking Garage					able				
The state of the s	e of Wo	rk			onditioned Space	Unconditioned				
141.0(b)2 for alterations.	e of Wo	rle	Ĭ	C	onditioned Space		Unconditioner	1 Snares		
	01			02		03	04	05		
My Project Consists	of (ched	ck all that apply):		Calculation Method Area (ft ²)			Calculation Method	Area (ft²)		
☐ New Lighting System				Area Categor	y Method	Area Category Method	0			
☐ New Lighting System - Parking	Garage									
Altered Lighting System	Language Control	DE SHAPAR			0000000		5,011			
Total Area	a of Wo	rk (ft²)			465		0			
						Registration Provider: EnergySo				
Registration Number:				Registration Date	e/Time:		Registration	Provider: EnergySoft		

	ighting.				
RCC-LTI-E	OF COMPLIAN	ICE		CALIFORNIA ENERGY C	NRCC-LTI-E
roject Nam			Gun Range AC Report Page:		(Page 5 of 7)
roject Addr			wanda Avenue Date Prepared:		7/6/2021
			*		*11.
Q. RATED I	POWER RED	OUCTION COMPLIANCE FOR ALTERATIONS			1
his section	n does not ap	ply to this project.			
000/110	CUTING DOV	VED FOR ALL ALTERATIONS CONTROLS EVERTION	NIC C		-
	-//	VER FOR ALLALTERATIONS - CONTROLS EXCEPTIOnly to this project.	ins .		
ms section	r does not ap	pry to this project.			
. DAYLIGH	HT DESIGN F	POWER ADJUSTMENT FACTOR (PAF)			
his section	does not ap	ply to this project.			
DECLAR	ATION OF P	EQUIRED CERTIFICATES OF INSTALLATION			1
			any selection have been changed by permit applicant, an explanatio	un chould be included in To	ıbla E
dditional F	Remarks. The	se documents must be provided to the building inspect gov/title24/2019standards/2019_compliance_docume	or during construction and can be found online at		
Yes	No		Form/Title	Field Ins	
•		NRCI-LTI-01-E - Must be submitted for all buildings	vr.	Pass	Fail
		The Street Control of the Control of the Control of the Street Con	rol system, or for an Energy Management Control System (EMCS), to	he	
0	•	recognized for compliance.			
	•	NRCI-LTI-04-E - Must be submitted for two interlocker multipurpose room or a theater to be recognized for	ed systems serving an auditorium, a convention center, a conference compliance.	room, a	
0	•	NRCI-LTI-05-E- Must be submitted for a Power Adjust	tment Factor (PAF) to be recognized for compliance.		
	•	NRCI-LTI-06-E- Must be submitted for additional wat	tage installed in a video conferencing studio to be recognized for co	mpliance.	
	Number:		Registration Date/Time:	Registration Provide	r: EnergySoft
Registration	rivolinoer.				

	MPLIANCE													NRCC-L
Project Name:			West Va	lley Probation De	ot Gun	Range AC R	Report Pag	ge:					8	(Page 2 o
Project Address:				9478 E	tiwand	la Avenue D	ate Prepa	ared:						7/6/2
C. COMPLIANC	E RESULTS table says "DOES N	IOT COMPLY"	or "COMPL	IES with Exception	nal C	anditions"	refer to 7	Table D. for au	idance	in -		W		
ij driy celi on this		Exposition—materials	Strike Birion History			maidons i	rejer to r		Checkery (81/	10 6/a) /Wa	tte\	Compliance	Doculte
Lighting in	01	Allowed Lighting Power per §140.6(I						Adjusted Lighting Power per <u>§140.6(a)</u> 06 07				08	09	nesuits
conditioned ar		02	Area	04	-	- 03	-	- 00	Adjustments	ł	- 00	\dashv \vdash	03	
unconditioned spaces must not b combined for compliance per §140.6(b)1	be Complete Building	Area Category §140.6(c)2	Categor Addition §140.6(c)	al <u>§140.6(c)3</u>	=	Total Allowed (Watts)	red	Total Designed (Watts)	PAF Lighting Control Credits §140.6(a)2 (-)	=	Total Adjus (Watts) *Include Adjustme	25	05 must be >= 0	
9140.6(0)1	(See Table I)	(See Table I)	0.6 7.6	J) (See Table K	5			(See Table F)	11.5150	ł	Aujustinents	5177 1		
Conditioned	0	325.5	0	0	=	325.5	2	270	0	=	270	-	COMPL	IES
Unconditione	0 8	0	0	0	=	Construction Co.	2	0	0	=			0400727107674-20	STT.00
								Controls	Compliance (See	Tab	le H for Det	ails)	COMPL	IES
D. EXCEPTIONA This table is auto	filled with unedita							s throughout	the form.					
E. ADDITIONAL This table include	s remarks made by							- 15			115			
This table include F. INDOOR LIGH This table include	ITING FIXTURE So s all permanent de e: Conditioned Sp	signed lightin						39] 246						
This table include F. INDOOR LIGH This table include	ITING FIXTURE So	signed lightin	g and all po	rtable lighting in	office		06	21) 71) 24a	07	08		09	1	0
This table include F. INDOOR LIGH This table include Designed Watta	ITING FIXTURE So s all permanent de e: Conditioned Sp	signed lightin	03 Modular	04 Small Aperture &		s per H	06 ow is Wa	attage Total I	Number Exer	npt	1 110	09 sign Watts	Field In	100
F. INDOOR LIGHT This table included Designed Wattage 01 Name or Item Tag	s all permanent de e: Conditioned Spa 02 Complete Lumin Description	aces naire (Tra	03 Modular ck) Fixture	04 Small Aperture & Color Change ¹	0. Watt	s per H	ow is Wa	nttage Total I	Number Exer ninaires <u>§140</u>	npt).6(a	1 110	sign Watts	Field In	spector Fail
F. INDOOR LIGHTHIS table included Designed Wattag 01 Name or Item Tag	s all permanent de e: Conditioned Spa 02 Complete Lumin	aces naire (Tra	03 Modular	04 Small Aperture &	0 Watt	s per H	ow is Wa determi Mfr. Sp	ned of Lun	Number Exer ninaires <u>§140</u>	npt 0.6(a	1)3 De:	270,000	Field In	spector

CERTIFICATE	OF COMPLIA	NCE			NRCC-LTI
roject Name	•	West Valley Probation Dept Gun Range AC	Report Page:	}	(Page 6 of
Project Addre	ess:	9478 Etiwanda Avenue	Date Prepared:		7/6/20
J. DECLAR	ATION OF	REQUIRED CERTIFICATES OF ACCEPTANCE			
Additional R	emarks. Th	ade based on information provided in this document. If any selection hase documents must be provided to the building inspector during consistion Provider (ATTCP). For more information visit: http://www.energy.	truction and any with "-A" in the form name mus		
Yes	No	Form/	Title	Field Ins	pector
163	140	Tomy	Title	Pass	Fail
•		NRCA-LTI-02-A - Must be submitted for occupancy sensors and auto	red over an elonder about the set with telephone to the end of the following property with		
0	•	NRCA-LTI-03-A - Must be submitted for automatic daylight controls	^^		1.011
	•	NRCA-LTI-04-A - Must be submitted for demand responsive lighting	g controls.		
					(Page 6 of 7/6/20 uded in Table E. an Acceptance eld Inspector is Fail

Registration Date/Time:

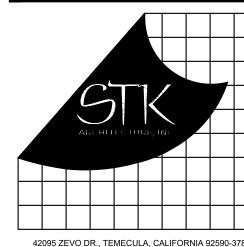
Report Version: 2019.0.001 Schema Version: rev 20190401 Registration Provider: EnergySoft

Report Generated: 2021-07-06 10:47:16

Registration Number:

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

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I COMPLY" If the no	Acres were I for L. I.		how
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		į.	03
130 1(c)		Field Ir	nspector
		Pass	10.00
el Controls			
- 15			
09 10	11		12
lit Daylightin	ng Systems	Field Ir	NRCC-L (Page 3 or 7/6/2 Intomatically makes Idetail on how O3 Field Inspector Pass Fail 12 Field Inspector Pass Fail 12 Zones:
		Pass	
N/A N/A	No		E
	13		
Plan She	oot Showing Day	vlit Zones:	
otes section of this table provides more detail on honor COMPLY" if the notes are left blank. Secondary Interlocked Systems S130.1(d) Pass N/A N/A NO			



42095 ZEVO DR., TEMECULA, CALIFORNIA 92590-3780 Phone: 951.296.9110 Fax: 951.296.6079 Email: stk@stkinc.com

CONSULTANT:



MD MD SS DB www.salasobrien.com E-Mail admin@tsqeng.com

SAN BERNARDINO

COUNTY REAL ESTATE SERVICES -PROJECT MANAGEMENT DIVISION

385 N. ARROWHEAD AVE.

SAN BERNARDINO, CA 92415

PROBATION DEPT. WEST VALLEY REGIONAL TRAINING CENTER: INDOOR GUN RANGE AIR **CONDITIONING AND** HEATING

9478 ETIWANDA AVENUE RANCHO CUCAMONGA, CALIFORNIA 91739

PROJECT NO.: 10.10.1151

CIP NO.: ____ CAFM NO.: ____

APN: 0229-28-370-0000

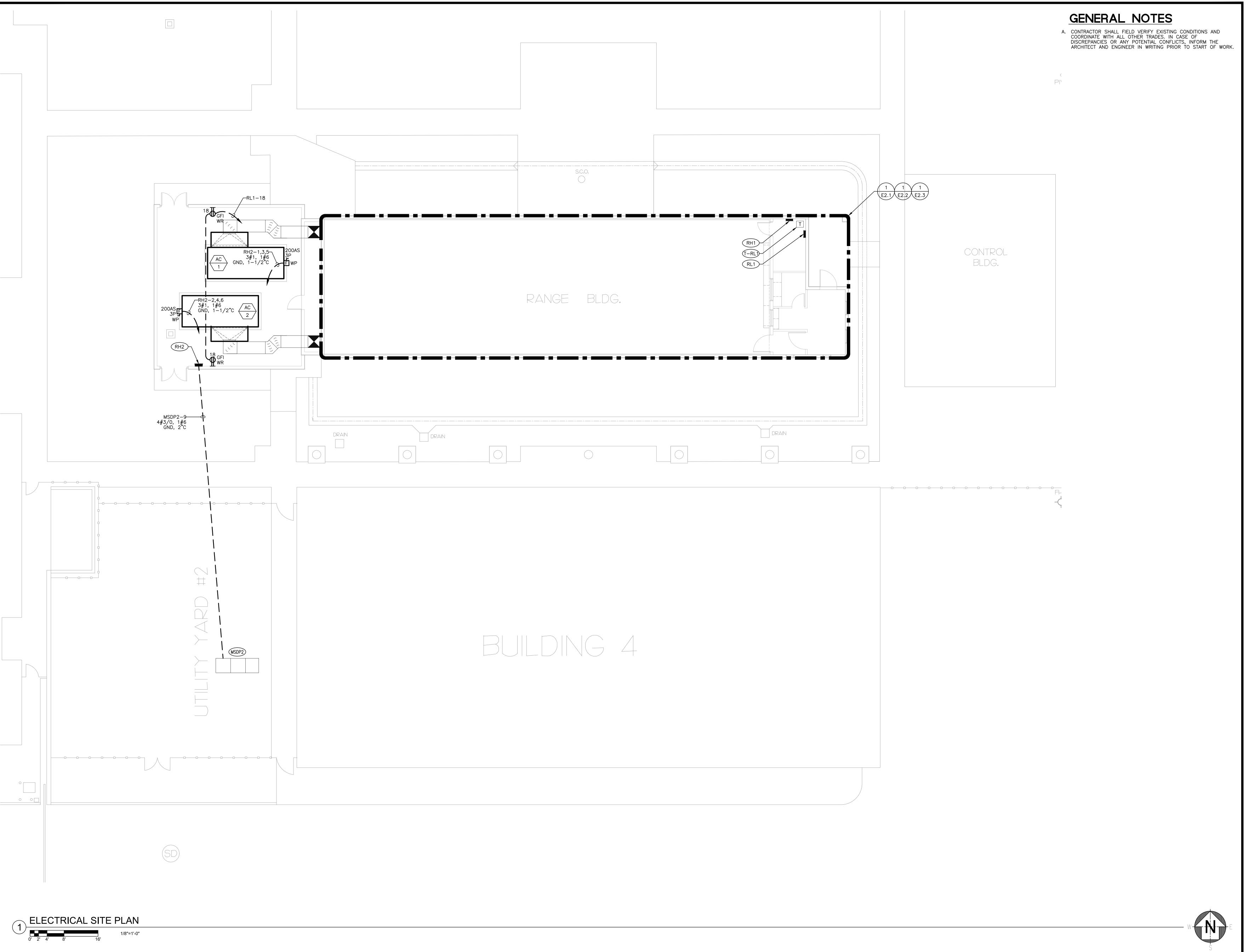
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DATE:	INFORMATION:

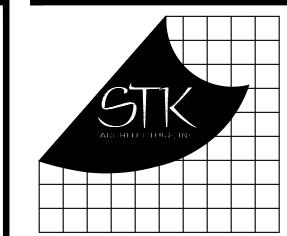
SHEET INFORMATION:

STK PROJECT NO.: 374-147-21 AS NOTED JULY 2021 DATE: PLOT DATE: DRAWING NAME:



INTERIOR TITLE 24





42095 ZEVO DR., TEMECULA, CALIFORNIA 92590-3780 Phone: 951.296.9110 Fax: 951.296.6079 Email: stk@stkinc.com

CONSULTANT: MECHANICAL, PLUMBING & ELECTRICAL



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SAN BERNARDINO COUNTY REAL ESTATE SERVICES -PROJECT MANAGEMENT DIVISION

385 N. ARROWHEAD AVE. SAN BERNARDINO, CA 92415

PROJECT NAME:

PROBATION DEPT. WEST VALLEY REGIONAL TRAINING CENTER: INDOOR GUN RANGE AIR **CONDITIONING AND** HEATING

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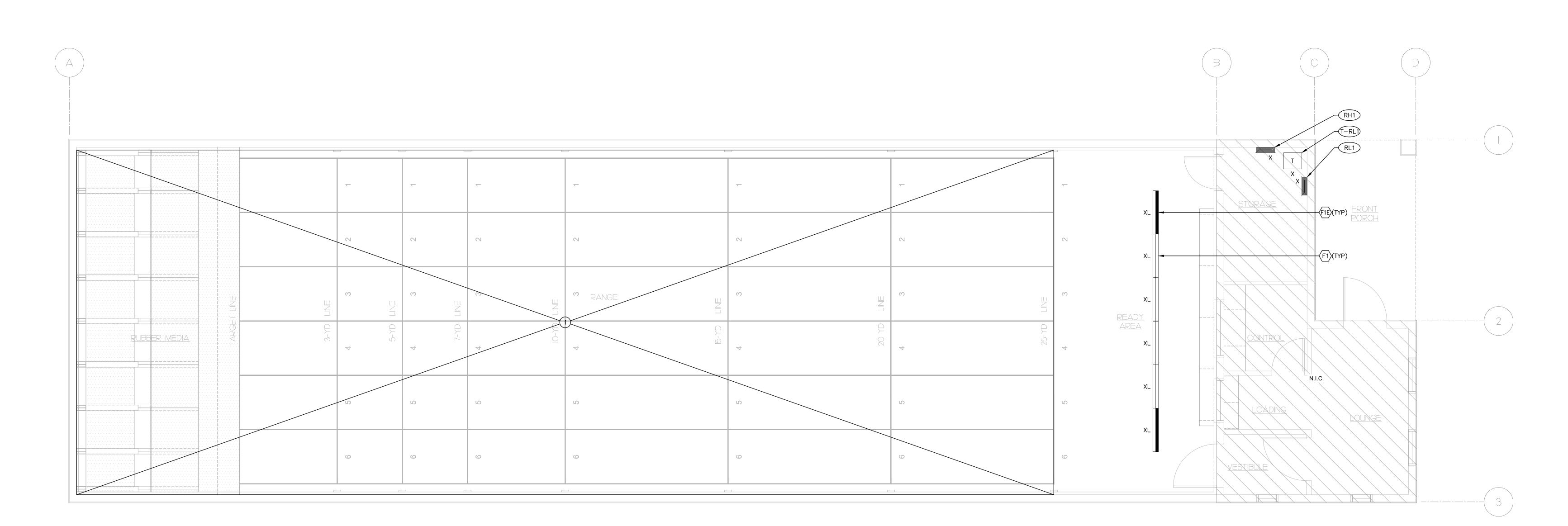
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STK PROJECT NO.: 374-147-21 AS NOTED JULY 2021 DATE: PLOT DATE: DRAWING NAME:



ELECTRICAL SITE PLAN



LIGHTING DEMOLITION FLOOR PLAN

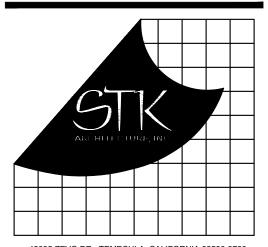


GENERAL NOTES

- A. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS AND COORDINATE WITH ALL OTHER TRADES. IN CASE OF DISCREPANCIES OR ANY POTENTIAL CONFLICTS, INFORM THE ARCHITECT AND ENGINEER IN WRITING PRIOR TO START OF WORK.
- B. REFER TO DEMOLITION NOTES ON 'ELECTRICAL NOTES AND LEGEND' SHEET PRIOR TO START OF WORK.

KEY NOTES

(1) ALL LIGHTING AND CONTROLS ARE EXISTING TO REMAIN.



CONSULTANT:



SAN BERNARDINO COUNTY **REAL ESTATE SERVICES -**PROJECT MANAGEMENT DIVISION

385 N. ARROWHEAD AVE. SAN BERNARDINO, CA 92415

PROJECT NAME:

PROBATION DEPT. **WEST VALLEY** REGIONAL TRAINING CENTER: INDOOR GUN RANGE AIR **CONDITIONING AND HEATING**

> 9478 ETIWANDA AVENUE RANCHO CUCAMONGA, CALIFORNIA 91739

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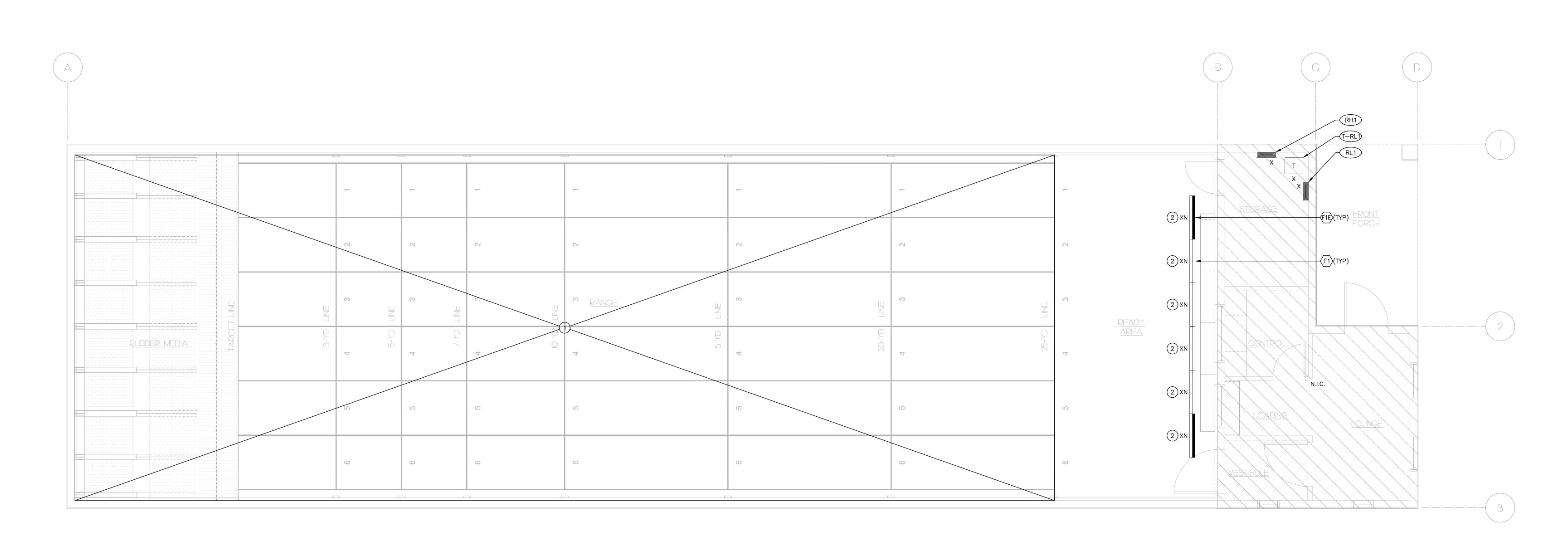
	227 20 370 0000
ISSUE INFO	RMATION:
DATE:	INFORMATION:

SHEET INFORMATION:

STK PROJECT NO.: 374-147-21 SCALE: AS NOTED JULY 2021 DATE: PLOT DATE: DRAWING NAME:



LIGHTING **DEMOLITION** FLOOR PLAN



LIGHTING FLOOR PLAN

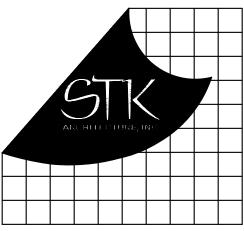


GENERAL NOTES

- A. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS AND COORDINATE WITH ALL OTHER TRADES. IN CASE OF DISCREPANCIES OR ANY POTENTIAL CONFLICTS, INFORM THE ARCHITECT AND ENGINEER IN WRITING PRIOR TO START OF WORK.
- B. REFER TO DEMOLITION NOTES ON 'ELECTRICAL NOTES AND LEGEND' SHEET PRIOR TO START OF WORK.

KEY NOTES

- (1) ALL LIGHTING AND CONTROLS ARE EXISTING TO REMAIN.
- 2 EXISTING LIGHT FIXTURES TO MAINTAIN EXISTING CIRCUITING AND CODE COMPLIANT CONTROLS. EXTEND FEEDERS AS NECESSARY FOR RECONNECTION TO RELOCATED LIGHT FIXTURES. LOCATE RELOCATED LIGHT FIXTURES AT 8'-0" ABOVE FINISHED FLOOR.



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SAN BERNARDINO COUNTY REAL ESTATE SERVICES -PROJECT MANAGEMENT DIVISION

385 N. ARROWHEAD AVE. SAN BERNARDINO, CA 92415

PROJECT NAME:

PROBATION DEPT. WEST VALLEY REGIONAL TRAINING CENTER: INDOOR GUN RANGE AIR CONDITIONING AND **HEATING**

9478 ETIWANDA AVENJE RANCHO CUCAMONGA, CALIFORNIA 91739

PROJECT NO.: 10.10.1151 CIP NO.: ____

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APN: 0229-28-370-0000

ISSUE INFO	RMATION:
DATE:	INFORMATION:

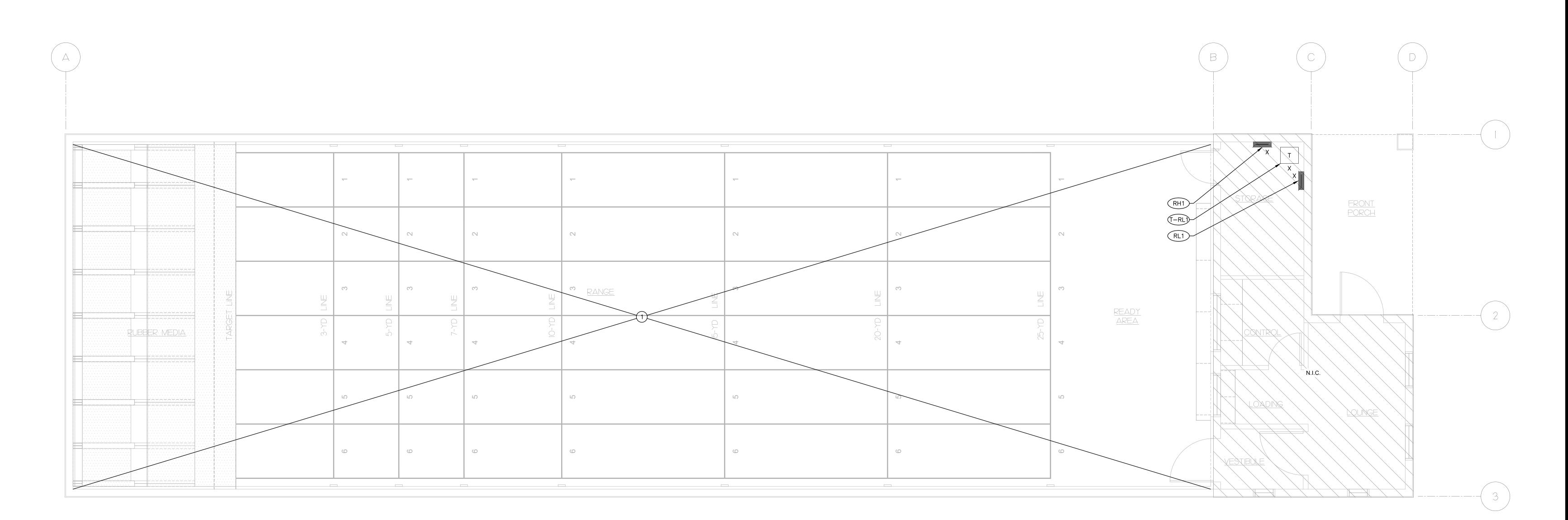
SHEET INFORMATION:

STK PROJECT NO.: 374-147-21 AS NOTED JULY 2021 DATE: PLOT DATE: DRAWING NAME:

SEAL:



LIGHTING FLOOR PLAN



POWER FLOOR PLAN

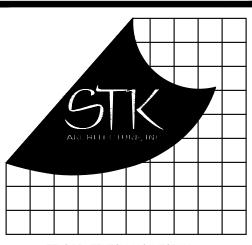


GENERAL NOTES

- A. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS AND COORDINATE WITH ALL OTHER TRADES. IN CASE OF DISCREPANCIES OR ANY POTENTIAL CONFLICTS, INFORM THE ARCHITECT AND ENGINEER IN WRITING PRIOR TO START OF WORK.
- B. REFER TO DEMOLITION NOTES ON 'ELECTRICAL NOTES AND LEGEND' SHEET PRIOR TO START OF WORK.

KEY NOTES

1) ALL DATA AND POWER RECEPTACLES ARE EXISTING TO REMAIN.



42095 ZEVO DR., TEMECULA, CALIFORNIA 9259 Phone: 951.296.9110 Fax: 951.296.6079 Email: stk@:

CONSULTANT:



PROJECT FO

SAN BERNARDINO
COUNTY
REAL ESTATE SERVICES PROJECT MANAGEMENT
DIVISION

385 N. ARROWHEAD AVE. SAN BERNARDINO, CA 92415

PROJECT NAME:

PROBATION DEPT.
WEST VALLEY
REGIONAL
TRAINING CENTER:
INDOOR GUN
RANGE AIR
CONDITIONING AND
HEATING

9478 ETIWANDA AVENUE RANCHO CUCAMONGA, CALIFORNIA 91739

PROJECT NO.: 10,10,1151

CIP NO.: ____

CAFM NO.: ____

APN: 0229-28-370-0000

ISSUE INFO	RMATION:
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SHEET INFORMATION:

STK PROJECT NO.: 374-147-21
SCALE: AS NOTED
DATE: JULY 2021
PLOT DATE: —
DRAWING NAME:

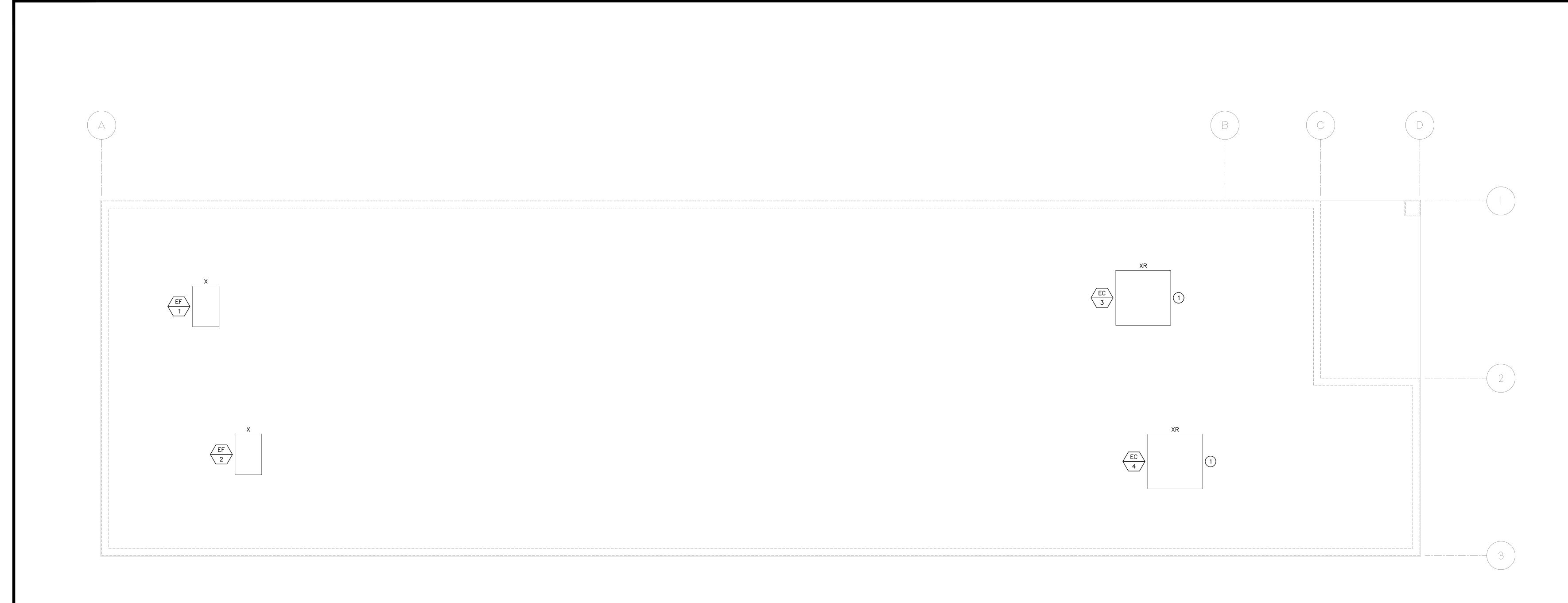
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SHEET TITLE:

POWER FLOOR PLAN

SHEET NO.:



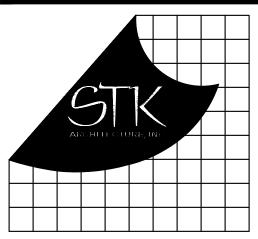
ELECTRICAL ROOF PLAN



- A. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS AND COORDINATE WITH ALL OTHER TRADES. IN CASE OF DISCREPANCIES OR ANY POTENTIAL CONFLICTS, INFORM THE ARCHITECT AND ENGINEER IN WRITING PRIOR TO START OF WORK.
- B. CONTRACTOR SHALL FIELD VERIFY AND COORDINATE WITH MECHANICAL DRAWINGS FOR EXACT EQUIPMENT LOCATIONS AND REQUIREMENTS PRIOR TO START OF WORK.
- C. REFER TO DEMOLITION NOTES ON 'ELECTRICAL NOTES AND LEGEND' SHEET PRIOR TO START OF WORK.

KEY NOTES

1 DISCONNECT AND REMOVE EXISTING EVAPORATIVE COOLER DISCONNECT AND ASSOCIATED CONDUCTORS BACK TO SOURCE.



CONSULTANT:



MD MD SS DB E-Mail admin@tsqeng.com

SAN BERNARDINO COUNTY REAL ESTATE SERVICES -PROJECT MANAGEMENT DIVISION

385 N. ARROWHEAD AVE. SAN BERNARDINO, CA 92415

PROJECT NAME:

PROBATION DEPT. WEST VALLEY REGIONAL TRAINING CENTER: **INDOOR GUN** RANGE AIR CONDITIONING AND **HEATING**

9478 ETIWANDA AVENJE RANCHO CUCAMONGA, CALIFORNIA 91739

PROJECT NO.: 10.10.1151

CAFM NO.: ____

APN: 0229-28-370-0000

CIP NO.: ____

ISSUE INFO	RMATION:
DATE:	INFORMATION:

SHEET INFORMATION:

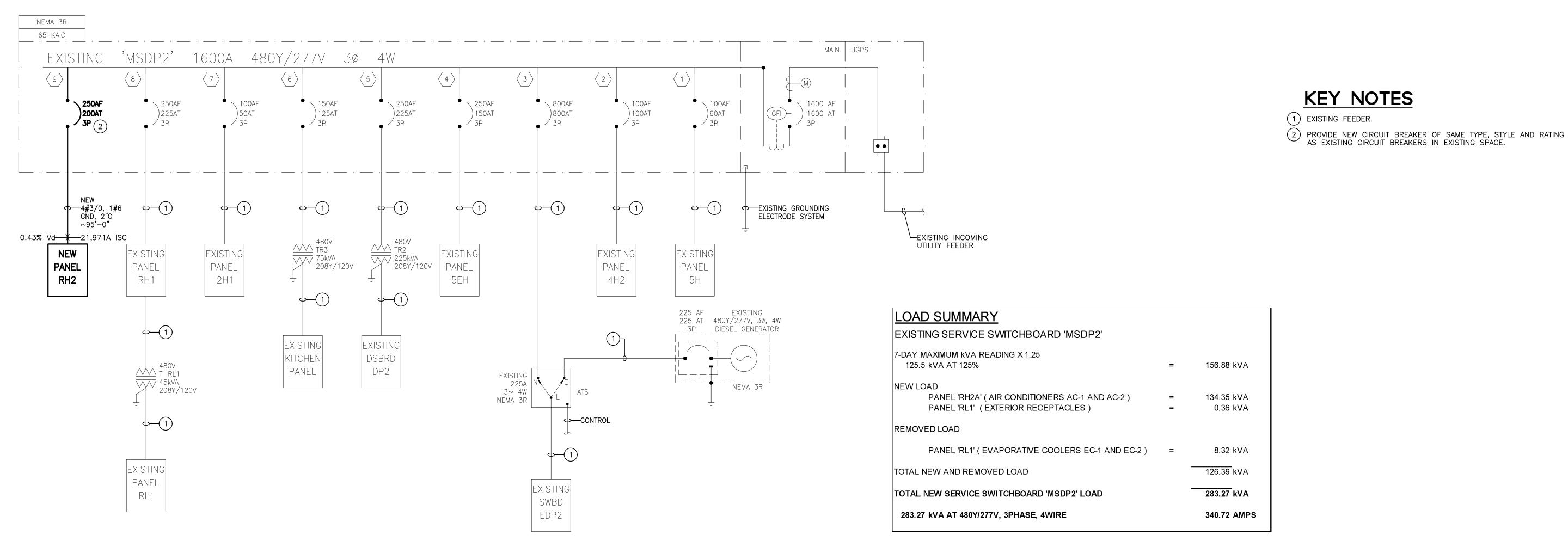
STK PROJECT NO.: 374-147-21 SCALE: AS NOTED JULY 2021 DATE: PLOT DATE: DRAWING NAME:



ELECTRICAL **ROOF PLAN**

GENERAL NOTES

- A. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS AND COORDINATE WITH ALL OTHER TRADES. IN CASE OF DISCREPANCIES OR ANY POTENTIAL CONFLICTS, INFORM THE ARCHITECT AND ENGINEER IN WRITING PRIOR TO START OF WORK.
- B. ALL WORK SHOWN IS EXISTING UNLESS NOTED OTHERWISE.

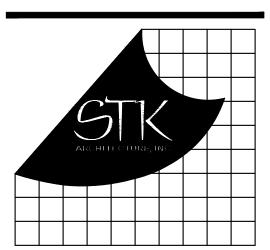




PANEL: RH2 (N	NEW) LOCA	TION:		SEE PL	ANS		MAIN:	MLO			BUS:	225A NEMA 3	R
VOLTAGE: 480 /	277 AIC R	ATING:		22000			FEED:	вотто	M		MTG:	SURFACE	
PHASE: 3	CIRCI	JIT COE	E:				•				•		
WIRE: 4	blar	ık=NON	-CON	ITINUOL	JS, N=NON	-COINCI	DENTAL, L=	LONGCO	NITN	IUOUS	, R=RE	CEPT (NEC ART. 220-44), K=KITC	HEN
NOTE DESCRIPTION	CODE	BKR	Р	#	VA	PHASE	VA	#	Р	BKR	CODE	DESCRIPTION	NOTE
1 NEW AIR CONDITIONE	R AC-1	110	3	1	22392	Α	22392	2	3	110		NEW AIR CONDITIONER AC-2	1
1 -				3	22392	В	22392	4				-	1
1 -				5	22392		C 22392	6				-	1
1 SPARE		30	3	7		Α		8	3	20		SPARE	1
1 -				9		В		10				-	1
1 -				11			С	12				-	1
SPACE				13		А		14				SPACE	
SPACE				15		В		16				SPACE	
SPACE				17			С	18				SPACE	
SPACE				19		Α		20				SPACE	
SPACE				21		В		22				SPACE	
SPACE				23			С	24				SPACE	
SPACE				25		Α		26				SPACE	
SPACE				27		В		28				SPACE	
SPACE				29				30				SPACE	
SPACE				31		Α		32				SPACE	
SPACE				33		В		34				SPACE	
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SPACE				37		Α		38				SPACE	
SPACE				39		В		40				SPACE	
SPACE				41			C	42				SPACE	
CONNECTED VA Ø A	44784	CONN	ECTE	DVA()	134352	PANEL	CONN. AMPS	WITH LCL		161.60	PA NE	L DEMAND KVA WITH LCL 134.3	5
CONNECTED VA Ø B	44784	CONN	ECTE	DVA (L)	0	CONNE	CTED VA WI	TH LCL (L)	ı	0	PANEL	DEMAND AMPS WITH LCL 161.6	0
CONNECTED VA Ø C	44784	CONN	ECTE	OVA (R)	0		DEMA	ND VA (R)	ı	0		PANEL CONNECTED AMPS 161.6	0
TOTAL VA	134352	CONN	ECTE	OVA (K)	0		DEMA	ND VA (K)	ı	0	DEMAI	ND HIGH Ø AMPS WITH LCL 161.6	0
1 PROVIDE HACR TYPE CIRCU	JIT BREAKER		6									SPECIAL NOTES:	
2			7										
3			8										
4 5			9 10										

	1-00.	TION:		SEE PL	ANS		MAIN:	125A/3I	۲		BUS:	125A	NEMA 1	
VOLTAGE: 208 / 120	AIC R	ATING:		10000			FEED:	вотто	М		MTG:	SURFACE		
PHASE: 3	CIRCL	JIT COI	DE:				•				•			
WIRE: 4	blan	k=NON	I-CO	NTINUOU	IS, N=NON	I-COINCID	ENTAL, L=	LONG CO	NTIN	NOOR	, R=RE	CEPT (NEC ART. 220-44), K=KITCH	ΗЕ
E DESCRIPTION	CODE	BKR	Р	#	VA	PHASE	VA	#	Р	BKR	CODE	DESCRIPTION		N
READY AREA/LOUNGE RECEPT	R	20	1	1	720	А		2	2	40		SPARE		
READY AREA/LOUNGE RECEPT	R	20	1	3	720	В		4				-		Г
CONTROL RECEPTACLES	R	20	1	5	720	C	2000	6	2	30	L	HEAT PUMP - HP-1		Г
ROOF RECEPTACLES	R	20	1	7	360	Α	2000	8			L	-		
STROBE LIGHT	L	20	1	9	300	В	1500	10	2	20		FAN COIL - FC-1		
GUN CLEANER		20	1	11	900	С	1500	12				-		
DUCT DETECTOR	L	20	1	13	200	Α		14	2	40		SPARE		Г
CEILING RECEPTACLES	R	20	1	15	720	В		16				-		Г
CONTROL ROOM RECEPTACLES	R R	20	1	17	900	С	360	18	1	20	R	MECHANICAL YARD F	RECEPT	Γ
TARGET CONTROLS		20	1	19	600	Α	2500	20	1	40		TARGET CONTROLLE	R	Г
MECH CONTROLS		20	1	21	600	В	600	22	1	20		TARGET CONTROLLE	R	T
SPACE				23		C	;	24				SPACE		Г
SPACE				25		А		26				SPACE		Г
SPACE				27		В		28				SPACE		Г
SPACE				29		С	;	30				SPACE		
SPACE				31		А		32				SPACE		Г
SPACE				33		В		34				SPACE		Г
SPACE				35		С	;	36				SPACE		Г
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SPACE				39		В		40				SPACE		T
SPACE				41		С	;	42				SPACE		Г
ONNECTED VA Ø A 638)	CON	VECT	DVA()	8200	PANEL (CONN. AMPS	S WITH LCL	•	50.87	PANE	L DEMAND KVA WITH LCL	18.33	_
ONNECTED VA Ø B 444)	CON	VECT	ED VA (L)	4500	CONNEC	TED VA WI	TH LCL (L)		5625	PA NEL	DEMAND AMPS WITH LCL	50.87	_
ONNECTED VA Ø C 638)	CON	NECTE	DVA (R)	4500		DEMA	ND VA (R)		4500		PANEL CONNECTED AMPS	47.74	
TOTAL VA 1720)	CON	NECTE	ED VA (K)	0		DEMA	ND VA (K)		0	DEMAI	ND HIGH Ø AMPS WITH LCL	57.71	
EXISTING LOAD TO REMAIN EXISTING LOAD REMOVED, BREAKER TO PROVIDE NEW CIRCUIT BREAKER IN EXIS			5 6 7									SPECIAL NOTES:		

	PANEL: RH1 (EXISTING) LOCA	TION:		SEE PL	_ANS		MAIN:	225A/3	P		BUS:	225A N	IEMA 1	
	VOLTAGE: 480 / 277	AIC R	ATING:		22000			FEED:	вотто	M		MTG:	SURFACE		
	PHASE: 3	CIRCI	JIT COI	DE:				•							
	WIRE: 4	blar	rk=NON	-COI	JOUNITA	JS, N=NON	I-COINCIDE	ENTAL, L=	LONG CC	NTIN	NUOUS	, R=RE	CEPT (NEC ART. 220-44),	K=KITCHE	ΞN
OTE	DESCRIPTION	CODE	BKR	Р	#	VA	PHASE	VA	#	Р	BKR	CODE	DESCRIPTION	١	TOV
1	PANEL RL1		70	3	1	6380	А	600	2	1	20	L	RANGE LIGHTING		1
1	-				3	4440	В	600	4	1	20	L	EXTERIOR LIGHTING		1
1	-				5	6380	С		6	1	20		SPARE		
1	EXHAUST FAN - EF-1		20	3	7	2770	А	2770	8	3	20		EXHAUST FAN EF-2		1
1	-				9	2770	В	2770	10				-		1
1	-				11	2770	С	2770	12				-		1
	SPACE				13		А		14				SPACE		
	SPACE				15		В		16				SPACE		
	SPACE				17		С		18				SPACE		
	SPACE				19		Α		20				SPACE		
	SPACE				21		В		22				SPACE		
	SPACE				23		С		24				SPACE		
	SPACE				25		А		26				SPACE		
	SPACE				27		В		28				SPACE		
	SPACE				29		С		30				SPACE		
	SPACE				31		Α		32				SPACE		
	SPACE				33		В		34				SPACE		
	SPACE				35		С		36				SPACE		
	SPACE				37		А		38				SPACE		
	SPACE				39		В		40				SPACE		
	SPACE				41		С		42				SPACE		
CC	NNECTED VA Ø A 125	520	CON	ECTE	DVA()	24820	PANEL C	ONN. AMPS	WITH LCL		43.84	PANE	L DEMAND KVA WITH LCL	31.95	
CC	NNECTED VA Ø B 105	580	CON	IECTE	DVA (L)	5700	CONNEC	TED VA WI	TH LCL (L)		7125	PA NEL	DEMAND AMPS WITH LCL	38.42	
CC	NNECTED VA Ø C 119	920	CONN	IECTE	DVA (R)	0		DEMA	ND VA (R)		0		PANEL CONNECTED AMPS	42.12	
	TOTAL VA 350)20	CONN	IECTE	DVA (K)	0		DEMA	ND VA (K)		0	DEMAI	ND HIGH Ø AMPS WITH LCL	47.70	
1	EXISTING LOAD TO REMAIN			6									SPECIAL NOTES:		
2				7											
3				8											
4 5				9 10											



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CONSULTANT:

MECHANICAL, PLUMBING & ELECTRICAL



#21044

08-25-21

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PROJECT FOR:

SAN BERNARDINO

COUNTY

REAL ESTATE SERVICES
PROJECT MANAGEMENT

385 N. ARROWHEAD AVE. SAN BERNARDINO, CA 92415

DIVISION

PROJECT NAME:

PROBATION DEPT.
WEST VALLEY
REGIONAL
TRAINING CENTER:
INDOOR GUN
RANGE AIR
CONDITIONING AND
HEATING

9478 ETIWANDA AVENUE RANCHO CUCAMONGA, CALIFORNIA 91739

PROJECT NO.: 10.10.1151

CIP NO.: ____

CAFM NO.: ____ APN: 0229-28-370-0000

ISSUE INFORMATION:

DATE: INFORMATION:

SHEET INFORMATION:

STK PROJECT NO.: 374-147-21
SCALE: AS NOTED
DATE: JULY 2021
PLOT DATE: —

DRAWING NAME:



SINGLE LINE
DIAGRAM AND
PANEL
SCHEDULES

SHEET NO.:

E4.1