

# **RVTD MOBILITY TRAINING CENTER**

М	ECHANICAL	E	ELECTRICAL		PLUMBING		GENERAL CONTRACTOR		OWNER		ARCHITECT	of ORW Architect				
NAME ADDRESS	<b>COLEBREIT ENGINEERING</b> 721 SW INDUSTRIAL WAY #110 BEND, OR 97702	NAME ADDRESS	<b>COLEBREIT ENGINEERING</b> 721 SW INDUSTRIAL WAY #110 BEND, OR 97702	<u>NAME</u> ADDRESS	<b>COLEBREIT ENGINEERING</b> 721 SW INDUSTRIAL WAY #110 BEND, OR 97702	<u>TBD</u>		<u>NAME</u> ADDRESS	<b>RVTD</b> 3200 CRATER LAKE AVENUE MEDFORD, OR 97504	ORW ARCH 29 S. GRAP MEDFORD,	I <b>TECTURE</b> E ST OREGON 97501	authorization of a w w w	CH SGR DFOR	TEC CHITEC PES DOR		E
CONTACT:	BILL CARON PE, DBIA	CONTACT:	BILL CARON PE, DBIA	CONTACT:	BILL CARON PE, DBIA			CONTACT:	PAIGE WEST STRATEGIC PROGRAMS MANAGER	ARCHITECT DAVID WILK DAVID@OR	T <b>OF RECORD</b> KERSON WARCH.COM	sxpress written	4 I.	779	5	14
PHONE: FAX: EMAIL:	541-728-3293 BILLCARON@COLEBREIT.COM	PHONE: FAX: EMAIL:	541-728-3293 BILLCARON@COLEBREIT.COM	PHONE: FAX: EMAIL:	541-728-3293 BILLCARON@COLEBREIT.COM			PHONE: FAX: EMAIL:	541-608-2429 PWEST@RVTD.ORG	CONTACT: PHONE: FAX: EMAIL:	RYAN BURKE PROJECT MANAGER 541.779.5237 x 12 541.772.8472 RYAN@ORWARCH.COM	t or purpose without the e	40 40	2		
			PROJE		ORMATION		GENERAL NOT	ſES				er projec	<b>A</b> ti	0	•	

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LOCATION: -	220 S FRONT ST, MEDFORD, OR 97501	1.	DC	
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	I TE INSTALLATION OF SPRINKLER STSTEMS	8.	AL	
INFERTZINATIONAL FIRE P				

	DBL	DOUBLE	GB	GRAB BAR	OD	OUTSIDE DIAMETER	SPECS	SPECIFICATIONS	• ARCHITE(	CTURAL - SD
	DF	DRINKING FOUNTAIN	GC	GENERAL	OFCI	OWNER FURNISHED	SQFT	SQUARE FEET	A00.00	TITLE SHEET AND DRAWING INDE
	DIA	DIAMETER		CONTRACTOR		CONTRACTOR	SS	STAINLESS STEEL	A00.10	CODE ANALYSIS & EGRESS DIAGE
	DIMS	DIMENSIONS	GWB	GYPSUM WALL		INSTALLED	STL	STEEL	A02.10	DEMOLITION FLOOR PLAN - LEVEL
	DP	DISABLED PERSON		BOARD	OFOI	OWNER FURNISHED	STRUCT	STRUCTURAL/STRUCT	A02.30	DEMOLITION REFLECTED CEILING
	DW	DISHWASHER	HC	HANDICAP		OWNER INSTALLED	0111001	URE	A03 10	FLOOR PLAN - LEVEL 01
	FA	FACH	HDBD	HARDBOARD	OPNG	OPENING	ТО	TOP OF	A05 10	REFLECTED CEILING PLAN - LEVE
	E,I	EXPANSION JOINT	HDR	HEADER	OVHG	OVERHANG	TS	TUBE STEEL	A07.00	BUILDING ELEVATIONS
	EU FOT	FLECTRICAL	HDWD	HARDWOOD	PC	PAINT COLOR	TYP	TYPICAL	A07.01	BUILDING ELEVATIONS
	FQ	FQUAL (Y)	HGT	HEIGHT	PLAM	PLASTIC LAMINATED	UL	UNDERWRITERS	A08.00	BUILDING SECTIONS
	FX	FXISTING	HR	HOUR	PSF	POUNDS PER SQUARE		LABORATORY	A09.00	WALL SECTIONS
	FXT	EXTERIOR	HVAC	HEATING/VENTILATIN		FOOT	UNO	UNLESS NOTED	, 100.00	
	FD	FLOOR DRAIN		G/AIR CONDITIONING	PI			OTHERWISE		
	FFC	FIRE EXTINGUISHER	HW	HOT WATER	PIW	PRESSURE IREATED	UTIL	UTILITY		
	. 20	CABINET	INSUL	INSULATION			V-1HR	TYPE 5, 1 HOUR		
	FF	FINISHED FLOOR /	INT	INTERIOR	PVVC		V-NR	TYPE 5, NON-RATED		
		FINISHED FACE	LPG	LIQUID PROPANE GAS	PWD		VCT	VINYL COMPOSITION		
	FIN	FINISH(ED)	MAX	MAXIMUM		PLASTIC WALL PANEL		IILE		
	FMG	FRAMING	MDL	MODEL	RB		VERT	VERTICAL		
/	FOM	FACE OF MASONRY	MECH	MECHANICAL	RD		VEST	VESTIBULE		
	FOS	FACE OF STUD/	MFR	MANUFACTURER	REE		VWC			
		STRUCTURE	MIN	MINIMUM						
	FR	FIRE RESISTANT	MISC	MISCELLANEOUS	RO		WBG	WALL BUIMPER GUARD		
	FRM	FRAMING	MTL	METAL	RSE		WC	WATER CLOSET		
	FRP	FIBER-REINFORCED	MW	MICROWAVE	NOI	FLOORING				
		PLASTIC	MWRGWB	MOLD & WATER	SEP	SEPARATION				
	FRZR	FREEZER		RESISTANT GYPSUM	SF	STORFFRONT				RED SUBMITTALS
	FTG	FOOTING			SHTG	SHEATHING	۷۷۱ ۱۸/D			
	GA	GYPSUM	NIC		SIM	SIMILAR				ILLERO M
	0.4137	ASSOCIATION			SM	SHEET METAI	WNGD	GYPSUM BOARD		<b>A1</b>
	GALV	GALVANIZED	OCC	OCCUPANCY	OW					

ONOT SCALE DRAWINGS, CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND EXISTING SITE DIMENSIONS. IF SCREPANCIES ARE FOUND, THE ARCHITECT SHALL BE NOTIFIED IMMEDIATELY FOR CLARIFICATION. VLESS SHOWN OTHERWISE, ALL DAMAGE CAUSED BY NEW WORK TO EXISTING AREAS OF THE SITE, INSTRUCTION, FINISH CONSTRUCTION, ELECTRICAL OR MECHANICAL SYSTEMS SHALL BE REPAIRED TO MATCH (ISTING CONDITIONS OR AS FOUND PRIOR TO ANY DAMAGE.

L WORK SHALL BE IN ACCORDANCE WITH THE FIRE AND LIFE SAFETY CODES

E CONTRACTOR SHALL THOROUGHLY FAMILIARIZE THEMSELVES WITH THE SCOPE OF THE WORK AND SITE CESSIBILITY. THE CONTRACTOR IS REMINDED THAT THE PROJECT DRAWINGS INDICATE THE CONDITIONS AT HE SITE AS IT EXISTED. DEVIATIONS ENCOUNTERED DURING THE WORK SHALL BE BROUGHT TO THE TENTION OF THE ARCHITECT FOR CLARIFICATION BEFORE PROCEEDING.

IE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING STRUCTURES AT THE WORK EA FROM WEATHER AND OTHER INCLEMENT CONDITIONS. ANY DAMAGE INCURRED DUE TO THE FAILURE BY IE CONTRACTOR TO PROPERLY PROTECT SUCH WORK SHALL BE REPAIRED AT CONTRACTOR EXPENSE HE CONTRACTOR SHALL DISPOSE OF ALL REMOVED AND /OR DEMOLISHED MATERIAL. WASTE & DEBRIS AUSED BY THE NEW WORK. THIS MATERIAL SHALL BE REMOVED FROM THE PROPERTY AND TAKEN TO A EGALLY-OPERATED DISPOSAL SITE.

LL CONSTRUCTION TECHNIQUES, MATERIALS, AND FINISHES SHALL BE AS REQUIRED BY THE APPROPRIATE ODE AUTHORITIES. INSTALLATION SHALL FOLLOW THE MANUFACTURERS PUBLISHED SPECIFICATIONS AND/OR RADE STANDARDS IN ADDITION TO MEETING OR EXCEEDING THE DESIGN STANDARDS

ALL WEATHER EXPOSED SURFACES SHALL HAVE A WEATHER RESISTIVE BARRIER TO PROTECT THE INTERIOR WALL COVERING AND THE EXTERIOR OPENINGS SHALL BE FLASHED IN SUCH A MANNER AS TO MAKE THEM WATERPROOF.

9. ALL DIMENSIONS FROM FACE OF FRAMING UNLESS NOTED OTHERWISE.

# SHEET INDEX

TITLE SHEET AND DRAWING INDEX CODE ANALYSIS & EGRESS DIAGRAM **DEMOLITION FLOOR PLAN - LEVEL 01 DEMOLITION REFLECTED CEILING PLAN - LEVEL 01** FLOOR PLAN - LEVEL 01 **REFLECTED CEILING PLAN - LEVEL 01 BUILDING ELEVATIONS BUILDING ELEVATIONS** BUILDING SECTIONS WALL SECTIONS

**DESIGN-BUILD INFORMATION** 

	HITEC ARCHITECT R A P E S R D O R . 7 7 9 .	
RVTD MOBILITY TRAINING CENTER	FRONT STREET CLIENT NAME	TITLE SHEET AND DRAWING INDEX
PROJECT DATE No. []		2229-02 /27/2022 Date



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## **GENERAL NOTES**

THE CONTRACTOR SHALL:

- A. COORDINATE ALL DEMOLITION/PHASING EFFORTS WITH THE ARCHITECT AND OWNER'S REPRESENTATIVES. EVERY EFFORT SHALL BE MADE TO MINIMIZE DISRUPTION OF OWNER'S OPERATIONS AND TO PROVIDE BUILDING USER'S SAFETY. EXCESSIVE NOISE OR VIBRATIONS SHALL BE PRE-APPROVED AND COORDINATED WITH THE OWNER'S REPRESENTATIVE.
- B. DISCONNECT & CAP UTILITIES AS NEEDED PER CURRENT APPLICABLE CODES.
- C. VERIFY ALL EXISTING CONSTRUCTION, DIMENSIONS AND ELEVATIONS AND NOTIFY THE ARCHITECT OF ANY DISCREPANCIES.
- D. REMOVE, IN THEIR ENTIRETY, ALL EXISTING WALLS, FURRING, DOORS, MILLWORK, PLUMBING FIXTURES, CEILINGS, SOFFITS, MARKER BOARDS, ETC. AS REQUIRED TO EXECUTE THE DEMOLITION / CONSTRUCTION WORK DESCRIBED BY THE DRAWINGS.
- E. THE OWNER SHALL RESERVE THE RIGHT TO SALVAGE ALL MATERIALS - CONTRACTOR TO COORDINATE WITH OWNER PRIOR TO WORK BEING DONE.
- PROVIDE PROTECTION FOR ALL EXISTING BUILDING MATERIALS AND EQUIPMENT FROM DAMAGE DUE TO ANY DEMOLITION OR CONSTRUCTION RELATED INCIDENT PERFORMED UNDER THIS CONTRACT.
- G. REPAIR OR REPLACE ITEMS THAT ARE DAMAGED AS A RESULT OF DEMOLITION OR CONSTRUCTION TO MATCH EXISTING FINISH AND/OR CONDITION.
- H. EXISTING MATERIALS SHALL NOT BE REUSED UNLESS NOTED OTHERWISE, OR AS AUTHORIZED BY THE ARCHITECT.
- PATCH FLOOR AND CEILING PENETRATIONS RESULTING FROM REMOVAL, OR REROUTING OF NEW OR EXISTING PIPING, DUCTWORK, CONDUIT, ETC. FINISH AS REQUIRED FOR NEW OR EXISTING ADJACENT SURFACES. SALVAGE ALL TOILET ACCESSORIES.
- K. SALVAGE ALL TOILET ACCESSORIES.
   L. CAP ALL DISCONNECT MECHANICAL PIPING LINES WITHIN THE WALL OR FLOOR, PATCH AND FINISH AS REQUIRED TO MATCH NEW OR EXISTING ADJACENT SURFACES.
- M. CONTRACTOR SHALL V.I.F. THAT THE AREA BEHIND THE EXISTING WALL IS VACANT OF ALL MECHANICAL, PLUMBING, & ELECTRICAL EQUIPMENT, AND OR STRUCTURAL COLUMNS BEFORE PROCEEDING WITH WALL DEMOLITION. PROMPTLY NOTIFY ARCHITECT IF MEP EQUIPMENT OR STRUCTURAL COLUMNS ARE DISCOVERED.
- N. BUSINESS IS TO REMAIN OPERATIONAL DURING REGULAR BUSINESS HOURS.
- P. WORK IS TO BE COMPLETED IN ?? PHASES. SEE PLANQ. CONTRACTOR TO PROVIDE ANY TEMPORARY ROADS OR
- CROSSINGS AS REQUIRED FOR EXECUTION OF THE CONTRACT. ALL TEMPORARY CONSTRUCTION SHALL BE REMOVED AT THE COMPLETION OF THE PROJECT.
- R. ALL EXISTING VEGETATION, SHRUBS, AND TREES TO REMAIN SHALL BE PROTECTED AS REQUIRED TO PREVENT DAMAGE FROM CONSTRUCTION ACTIVITIES. ANY DAMAGED LANDSCAPING SHALL BE REPLACED WITH LIKE PRODUCT AND SIZE AT THE DIRECTION OF THE ARCHITECT/OWNER'S REPRESENTATIVE.
- S. CONTRACTOR SHALL VERIFY LOCATION OF ALL EXISTING UTILITIES AND LANDSCAPE IRRIGATION. CARE SHOULD BE TAKEN TO AVOID DAMAGE TO OR DISTURBANCE OF EXISTING UTILITIES AND IRRIGATION. ALL EXISTING UTILIITIES AND ENCLOSURES SHALL BE PROTECTED AND REMAIN ACCESSIBLE AND SERVICEABLE DURING CONSTRUCTION.

# LEGEND

**KEYNOTES** 

DEMOLISHED

EXISITNG

NOTE	

#	NOTE
A0240.01	DEMOLISH (E) STOREFRONT
A0240.02	DEMOLISH (E) WALL
A0240.03	DEMOLISH (E) DOOR, DOOR FRAME AND HARWARE
A0240.04	DEMOLISH (E) OPENING
A0240.05	DEMOLISH (E) TICKET COUNTER
A0240.06	DEMOLISH (E) PLUMBING FIXTURES AND
	ACCESSORIES
A0240.07	DEMOLISH (E) COUNTER
A0240.08	DEMOLISH (E) TOILET PARTITIONS
A0240.09	DEMOLISH (E) HALF WALL
A0240.10	DEMOLISH (E) VCT FLOORING
A0240.12	DEMOLISH (E) WALL TO CREATE NEW OPENING
A0240.13	DEMOLISH (E) BRICK VENEER TO PROVIDE NEW
	OPENING

![](_page_3_Picture_28.jpeg)

![](_page_4_Figure_0.jpeg)

![](_page_4_Figure_1.jpeg)

 $1) \underline{\mathsf{DEMO} \mathsf{REFLECTED} \mathsf{CEILING} \mathsf{PLAN} - \mathsf{LEVEL} 01}_{1/4"} = 1'-0"$ 

Image: TROOM     Image: TROOM       109     Image: Tropic of the tropic		OFFICE 102 9' - 0" AFF	
N <u>C2</u> 9' - 0" AFF	CIRCULATION	8' - 0" AFF A0240.11	BIKE STORAGE 103 C1/ BOS
TROOM 105 217 D" AFF		$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	STORAGE 104 C1/ 8' - 0" AFF

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LEGEND	
	DEMOLISHED
	EXISITNG

## **KEYNOTES**

#NOTEA0240.11DEMOLISH (E) REFLECTED CEILING

![](_page_4_Picture_24.jpeg)

![](_page_4_Figure_25.jpeg)

![](_page_5_Figure_0.jpeg)

![](_page_6_Figure_0.jpeg)

GENERAL NOTES 1				
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CEILING FANS & GRILLES, SEE MECH DWGS	ry other project or purpose without the express wri	4	OR M	\$£. 
CEILING TYPES	in part, for an			
C1/ GYPSUM WALL BOARD	ed or used, in whole or			
<u>C2</u> ∕2x2 ACT	shall not be reproduced, publish	G CENTER		1 - LEVEL 01
4 SOFFIT	all remain the property of ORW Architecture, and	<b>10BILITY TRAININ</b>	FRONT STREET CLIENT NAME MAP: LOT:	TED CEILING PLAN
KEYNOTES       #     NOTE	nal service, sh	/TD N		LD31-
	signs incorporated herein, as an instrument of professior	PROJECT		2229-02
	nd the ideas and des	DATE No. De	10/2 escription	27/2022 Date
ABBREVIATIONS	s document, ar			
ACT ACOUSTIC CEILING TILE GWB GYPSUM WALL BOARD MTL METAL BOS BOTTOM OF STRUCTURE	C) 2022 ORW Architecture. Thi	A(	)5.1	0

![](_page_6_Figure_2.jpeg)

![](_page_7_Figure_0.jpeg)

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![](_page_8_Figure_0.jpeg)

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TOP PLATE 12'- 0"	I	ΓES	e without the express written authorization of ORW Architecture.	ARCHITECTURE.COM ARCHITECTURE.COM S G R A P E S T R E E T A E D F O R D O R 975 01 S 5 4 1 . 7 7 9 . 5 2 3 7
		CMU-1 BR-1 MP-1	ain the property of ORW Architecture, and shall not be reproduced, published or used, in whole or in part, for any other project or purpose	BILITY TRAINING CENTER FRONT STREET CLIENT NAME CLIENT NAME MAP: LOT: ILDING SECTIONS
TOP PLATE       Description         12'-0"       Description	KEYNOTES	NOTE	© 2022 ORW Architecture. This document, and the ideas and designs incorporated herein, as an instrument of professional service, shall remain	BADRA BADRA SALAS

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![](_page_10_Figure_5.jpeg)

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RESTROOM 112 77 SF		CMU-1 BR-1 MP-1 OPERABLE DOOR / WINDOW LOCATION NOTE	rated herein, as an instrument of professional service, shall remain the property of ORW Architecture, and shall not be reproduced, published or used, in whole or in part, for any other	RVTD MOBILITY TRAINING CENTER	FRONT STREET CLIENT NAME MAP: LOT:	WALL SECTIONS
			© 2022 ORW Architecture. This document, and the ideas and designs incorpore	PROJECT DATE No. D	2 10/2 escription	229-02 27/2022 Date

			ELECTRIC
POWER	SYMBOLS	<u>LIGHTII</u>	NG SYMBOLS
SYMBOL	IDENTIFICATION	SYMBOL	IDENTIFICATION
$\bigotimes$	MOTOR CONNECTION		LUMINAIRE; CEILING OR SURFACE MOUNTED
G	GENERATOR CONNECTION	H	LUMINAIRE; WALL MOUNTED
L_F_	FUSED DISCONNECT SWITCH XX/XX/XX = AMP SWITCH/POLES/AMP FUSE	•	AREA POLE WITH MOUNTED LUMINAIRE
L	NON-FUSED DISCONNECT SWITCH XX/XX/XX = AMP SWITCH/POLES/AMP FUSE		LUMINAIRE ON EMERGENCY POWER
Û	JUNCTION BOX	$\bigotimes$	EXIT SIGN; CEILING MOUNTED; ARROWS AND FACES AS SHOWN ON PLANS
(J <sub>x</sub>	C = CEILING MOUNTED	HN	EXIT SIGN; WALL MOUNTED; ARROWS AND FACES AS SHOWN ON PLANS
$\tilde{\mathbf{D}}$	JUNCTION BOX; WALL MOUNTED		EMERGENCY FIXTURE; DUAL LAMP HEAD
J	JUNCTION BOX WITH WHIP-STYLE CONNECTION TO POWERED FURNITURE; POWER AND/OR DATA		
$\top$	TRANSFORMER; BOTTOM OF T DESIGNATES FRONT SIDE		
	PANELBOARD OR TERMINAL CABINET; SURFACE MOUNTED		
	PANELBOARD OR TERMINAL CABINET; FLUSH MOUNTED		
••	GROUND BUS BAR		
	TRANSFORMER		
	AUTOMATIC TRANSFER SWITCH		
+ F	NORMALLY OPEN CONTACT		
14	NORMALLY CLOSED CONTACT		
$\langle\!\langle \bullet \bullet \rangle\!\rangle$	DRAWOUT CIRCUIT BREAKER; RATING AS SHOWN ON PLANS		
• •	STATIONARY - CIRCUIT BREAKER; RATING AS SHOWN ON PLANS		
.`•	DISCONNECT; RATING AS SHOWN ON PLANS		
	SWITCH AND FUSE; RATING AS SHOWN ON PLANS		
	INVERTER		
<u> </u>	GROUNDING POINT		
- <u> </u> <u> </u>	UTILITY METER		

## CONDUIT SYMBOLS

SYMBOL	IDENTIFICATION
	CONDUIT INSTALLED ABOVE FINISHED FLOOR OR GRADE
	CONDUIT INSTALLED BELOW FINISHED FLOOR OR BELOW GRADE
o	INDICATES CONDUIT TURNING UP
$\frown$	CONDUIT HOMERUN; ROUTE TO PANELBOARD, CABINET, OR TERMINAL BOARD INDICATED, AND TERMINATE CONDUCTORS TO CIRCUIT OVER CURRENT PROTECTIVE DEVICE

# CAL LEGEND

WIRING DEVICE SYMBOLS

SYMBOL	IDENTIFICATION	ABBRV.	IDENTIFICATION
		AC	ALTERNATING CURREN
$\rightarrow$	20A, 125V, DUPLEX RECEPTACLE OUTLET	AFF	ABOVE FINISH FLOOR
_#		AF	FRAME RATING IN AM
$-\Psi$	20A, 125V, DOUBLE DUPLEX RECEPTACLE OUTLET	AS	SWITCH RATING IN AM
	SPECIAL PURPOSE RECEPTACLE OUTLET; RATING AS SHOWN;	AT	TRIP RATING IN AMPE
	+18" AFF TP CENTERLINE	ATS	AUTOMATIC TRANSFE
		AV	AUDIO VISUAL
$\rightarrow$	20A, 125V, SINGLE RECEPTACLE OUTLET	С	CONDUIT
		CFCI	CONTRACTOR FURNIS
⇒x	A = ABOVE COUNTER C = CEILING MOUNTED	CFOI	CONTRACTOR FURNIS
	G = GFCI	CEC	CALIFORNIA ELECTRIC
	T = TAMPER PROOF	CL	CENTERLINE
	U = WITH (2) USB PORTS	CONN	CONNECTED
	+#" = INCHES ABOVE FINISH FLOOR	DC	DIRECT CURRENT
		DPDT	DOUBLE POLE, DOUBL
	FLOOR RECESSED	DPST	DOUBLE POLE SINGLE
		(E)	EXISTING TO REMAIN
	FLOOR RECESSED	FLFV	FIFVATOR
	2-CHANNEL FLOOR BOX W/ (2) GANG POWER / (2) GANG DATA;	FMT	
$\mathbf{V} \mathbb{O}$	PROVIDE 1"C. FROM EACH DATA OUTLET TO ACCESSIBLE CEILING	FWC	ELECTRIC WATER COO
C	SPACE. BASIS-OF-DESIGN: WIREWIOLD RFB4.	EW/H	ELECTRIC WATER HEAT
J.	COMMERCIAL CORD REEL RECEPTACLE; CEILING MOUNTED	EVNR	FULL-VOLTAGE NON-F
		EV/R	FULL-VOLTAGE REVER
\$	SINGLE POLE SWITCH	G	
		GECI	
\$ <sub>X</sub>	3 = THREE WAY SWITCH		
	4 = FOUR-WAY SWITCH D = DIMMER SWITCH		
	K = KEY OPERATED SWITCH	HID	
	S = DUAL TECH SENSOR SWITCH	IG	
	T = INTERVAL TIMER	LRC	
	W = SINGLE POLE WEATHERPROOF SWITCH	NC	
		NEC	
		NEMA	
	PUSH BUTTON SWITCH	NO	NORMALLY OPEN
		NTS	NOT TO SCALE
(OS)	OCCUPANCY LIGHT CONTROL SWITCH; CEILING MOUNTED	OFCI	OWNER FURNISHED, C
<u> </u>		PH	PHASE
HOS	OCCUPANCY LIGHT CONTROL SWITCH; WALL MOUNTED	PP	POWER POLE
Ŭ		PTS	PNEUMATIC TUBE STA
OS	C = DUAL TECH WITH CORRIDOR PATTERN	PVC	POLYVINYL CHLORIDE
×χ	H = DUAL TECH WITH HIGH BAY SENSOR	(R)	RELOCATE EXISTING
	V = DUAL TECH WITH VACANCY SENSOR MODE	RSC	RIGID STEEL CONDUIT
		SPD	SURGE PROTECTION D
PS	PHOTOSENSOR; CEILING MOUNTED	SPDT	SINGLE POLE, DOUBLE
		SPST	SINGLE POLE, SINGLE
PS	D = DIMMING	ТВ	TERMINAL BACKBOAR
Ϋ́χ	S = SWITCHED	TC	TERMINAL CABINET
FV	FLECTRIC VEHICLE CHARGING STATION	TEL	TELEPHONE
		UON	UNLESS OTHERWISE N
		VFD	VARIABLE FREQUENCY
		W	WEATHERPROOF
		WAP	WIRELESS ACCESS POI
	HOMMYSTROBE COMBINATION, WALL MOUNTED	W/	WITH
		(X)	REMOVE EXISTING

## TELECOM SYMBOLS

	SYMBOL	IDENTIFICATION
	▼	TELEPHONE/DATA OUTLET; PROVIDE 1"C. W/ PULL-STRING TO ACCESSIBLE CEILING SPACE
GRADE	₹x	C = CEILING MOUNTED; BACK BOX ONLY FOR FUTURE WAP UNLESS OTHERWISE NOTED
OR FORS		

## **DESIGNATION SYMBOLS**

SYMBOL	IDENTIFICATION
(A)	GRID LINE DESIGNATOR
####	FEEDER DESIGNATION TAG
< <b>#</b> >	SHEET KEYNOTE TAG
<b>XX-#</b>	MECHANICAL EQUIPMENT TAG
XX-#	CONTRACTOR EQUIPMENT TAG
#	REVISION DELTA WITH REVISION NUMBER
\$ <sub>a.</sub>	LETTER INDICATES FIXTURES CONTROL (WHERE SHOWN)
⇒ <b>#</b> .	NUMBER INDICATES CIRCUIT NUMBER (WHERE SHOWN)

TERMINAL CABINE
TELEPHONE
UNLESS OTHERWI
VARIABLE FREQUE
WEATHERPROOF
WIRELESS ACCESS
WITH
REMOVE EXISTING
TRANSFORMER
EXPLOSION PROOF

LEGEND	NOTES:

XFMR XP

Α.	ALL SYMBOLS MAY NOT
Β.	SYMBOLS DO NOT ALWA
С.	SEE BOOK SPECIFICATION
Р	

# **GENERAL ELECTRICAL NOTES**

A. LOW VOLTAGE STUBS FOR EACH DATA SYMBOL TO CONSIST OF 4SQ W/ MR, 3/4" EMT TO ACCESSIBLE CEILING SPACE, BUSHING, PULL STRING.

B. WIRING METHODS ARE PER CODE. CONTRACTOR TO ASSUME MC FOR BRANCH CIRCUITS. MULTI-CIRCUIT MC ALLOWED. EMT W/ ALUMINUM CONDUCTORS FOR FEEDER ALLOWED.

C. EXISTING HOMERUNS FROM PANEL TO BE RE-PURPOSED AS FEASIBLE.

D. ASSUME PLUG CONTROL WILL NOT BE REQUIRED PER 2021 OEESC EXCEPTION BASED ON EXCEEDING LPD ALLOWANCES BY 5%. E. FA IS DESIGN/BUILD.

F. DIVISION 26 HAS PATHWAYS AND DEVICE LOCATION ROUGH-IN ONLY FOR DIVISION 27 SYSTEMS.

G. ELECTRICAL SERVICE TO REMAIN LIVE DURING REMODEL.

ENTIFICATION ERNATING CURRENT VE FINISH FLOOR ME RATING IN AMPERES TCH RATING IN AMPERES RATING IN AMPERES OMATIC TRANSFER SWITCH

**ABBREVIATIONS** 

ITRACTOR FURNISHED, CONTRACTOR INSTALLED ITRACTOR FURNISHED, OWNER INSTALLED FORNIA ELECTRIC CODE

JBLE POLE, DOUBLE THROW JBLE POLE SINGLE THROW

CTRO METALLIC TUBING CTRIC WATER COOLER CTRIC WATER HEATER

L-VOLTAGE, NON-REVERSING L-VOLTAGE, REVERSING

DUND FAULT CIRCUIT INTERRUPTER

H INTENSITY DISCHARGE

ITING RELAY CABINET MALLY CLOSED

IONAL ELECTRIC CODE IONAL ELECTRICAL MANUFACTURER'S ASSOCIATION

NER FURNISHED, CONTRACTOR INSTALLED

UMATIC TUBE STATION YVINYL CHLORIDE CONDUIT

OCATE EXISTING D STEEL CONDUIT GE PROTECTION DEVICE GLE POLE, DOUBLE THROW GLE POLE, SINGLE THROW

MINAL BACKBOARD INET

WISE NOTED UENCY DRIVE

S POINT

DOF

T BE USED IN THIS PROJECT. VAYS REPRESENT REAL LIFE DIMENSIONS.

ONS FOR ADDITIONAL INFORMATION. D. SEE DETAIL SHEETS FOR TYPICAL MOUNTING HEIGHTS OF DEVICES.

> ELECTRICAL SHEET KEY DESCRIPTION SHEET NUMBER

![](_page_11_Picture_41.jpeg)

$\bigtriangleup$	REVISION

\_\_\_\_\_H

LUMI.	NAIRE S	SCHEDULE							
CALLOUT	SYMBOL	LAMP	DESCRIPTION	BALLAST	MOUNTING	MODEL	INPUT WATTS	VOLTS	QUANTITY
'A'		(2) F32T8	2 TUBE TROFFER, A12 LENS	ELECTRONIC	CEILING	LITHONIA 2GT8 2 32 A12 120 GEB	62	120V 1P 2W	11
'AE'		(2) F32T8	2 TUBE TROFFER, A12 LENS EMERGENCY	ELECTRONIC	CEILING	LITHONIA 2GT8 2 32 A12 120 GEB EL14	64	120V 1P 2W	4
'B'	0	(2) F32T8	2 TUBE WRAP AROUND	ELECTRONIC	CEILING	LITHONIA DM 232 AR 120 GEB	64	120V 1P 2W	10
'BE'	0	(2) F32T8	2 TUBE WRAP AROUND EMERGENCY	ELECTRONIC	CEILING	LITHONIA DM 232 AR 120 GEB EL14	64	120V 1P 2W	6
'C'		(2) F31T8	2'X2' 2 TUBE TROFFER, A12 LENS	ELECTRONIC	CEILING	LITHONIA 2GT8 2 U31 A12 120 GEB	62	120V 1P 2W	2
'D'		(2) F32T8	WALL BRACKET	ELECTRONIC	CEILING	LITHONIA WS 232 A12 120 GEB	64	120V 1P 2W	1
'F'		(1) 32W CIRCLINE	SURFACE ROUND FLUORESCENT	ELECTRONIC	CEILING	LITHONIA 10991	40	120V 1P 2W	1
'G1'	0	(2) 26DTT	RECESSED FLUORESCENT DOWNLIGHT	ELECTRONIC	CEILING	LITHONIA LF8 2/26DTT GEB10 F802A	52	120V 1P 2W	1
'G2'	0	(1) 42TRT	RECESSED FLUORESCENT DOWNLIGHT	ELECTRONIC	RECESSED	LITHONIA L88F 42TRT GEB10 8B3	42	120V 1P 2W	14
'H'	н	(1) 50 MH	DECORATIVE EXTERIOR WALL BRACKET	ELECTRONIC	CEILING	ABOLITE FAL W 50 EMH120 RUS LV2 BALLAST - SMB2 50 EMH UE GWT	58	120V 1P 2W	10
<b>,</b> ],	HOI	(1) F32T8	1 TUBE STRIP W/ GUARD	ELECTRONIC	CEILING	LITHONIA S 132 120 GEBWGS	32	120V 1P 2W	3
'тс'	ТС	(0)	ELECTRONIC TIME CLOCK		WALL	TORK DWZ200A	0	120V 1P 2W	1
'X'	ΗØ	(0)	LED EXIT LIGHT	ELECTRONIC	CEILING	LITHONIA LE P B 1 R 120 ELN SD	10	120V 1P 2W	3

![](_page_12_Figure_2.jpeg)

## **EXISTING FIXTURE** SCHEDULE

![](_page_12_Figure_4.jpeg)

![](_page_12_Figure_5.jpeg)

![](_page_12_Picture_6.jpeg)

![](_page_12_Figure_7.jpeg)

![](_page_13_Figure_0.jpeg)

![](_page_13_Figure_1.jpeg)

![](_page_13_Figure_2.jpeg)

![](_page_13_Figure_3.jpeg)

![](_page_13_Figure_4.jpeg)

![](_page_14_Figure_0.jpeg)

![](_page_14_Picture_2.jpeg)

1.ALL EXISTING LIGHTING AND CONTROLS TO BE REPLACED. EXISTING HOMERUNS AND BRANCH CIRCUIT WIRING TO BE

LOCK-OUT/TAG-OUT OF EXISTING BRANCH CKTS AS NECESSARY FOR DEMO AND CONSTRUCTION OTHER EXISTING CKTS TO

5. RE-PURPOSE EXISTING HOMERUNS AND BRANCH CIRCUITS WHERE POSSIBLE. SEE E3.01 FOR PROPOSED NEW POWER,

6. EXISTING DEVICE LOCATIONS THAT REMAIN TO BE REPLACED WITH NEW DEVICES. CONFIRM WITH ARCHITECT FOR COLOR

![](_page_14_Figure_11.jpeg)

BEND | CORVALLIS MONTEREY | NAPA | SANTA CRUZ

![](_page_14_Figure_18.jpeg)

 $\sim$ 

_	J – H – E – E
7	
7	
_	
_	
6	
5	
4	
	2 ELECTRICAL - LEVEL 01 RCP - LIGHTING
3	
	RESTROOM G 109
2	
	RESTROOM
	G 111 JANITOR 106
	G RESTROOM 112 105
1	
_	
_	1 ELECTRICAL - LEVEL 01 FLOOR PLAN - POWER AND DATA E3.01 1/4" = 1'-0"

## ECTRICAL - LEVEL 01 FLOOR PLAN - POWER AND DATA ' = 1'-0"

![](_page_15_Figure_2.jpeg)

![](_page_15_Figure_4.jpeg)

![](_page_15_Picture_5.jpeg)

![](_page_15_Picture_6.jpeg)

ELECTRICAL SHEET NOTES

A. LOW VOLTAGE STUBS FOR EACH DATA SYMBOL TO CONSIST OF 4SQ W/ MR, 3/4" EMT TO ACCESSIBLE CEILING SPACE, BUSHING, PULL STRING.

B. WIRING METHODS ARE PER CODE. CONTRACTOR TO ASSUME MC FOR BRANCH CIRCUITS.

C. EXISTING HOMERUNS FROM PANEL 'A' TO BE RE-PURPOSED.

D. ASSUME PLUG CONTROL WILL NOT BE REQUIRED PER 2021 OEESC EXCEPTION BASED ON EXCEEDING LPD ALLOWANCES BY 5%.

E. ASSUME LIGHTING CONTROL PER ASHRAE 2019 90.1. ASSUME INDIVIDUAL ROOM CONTROLS. NO LCP IS ASSUMED. EXISTING EXTERIOR FIXTURES TO BE CONTROLLED BY TIMECLOCK.

F. EXISTING EXTERIOR LIGHTING TO BE REPLACED WITH NEW LED IN LIKE FOR LIKE LOCATIONS. SEE E1.01 FOR LOCATIONS AND TYPES.

G. NEW FIXTURES ARE LED. NEW TYPES TO BE COORDINATED WITH ARCHITECT AND ARE TBD.

-

![](_page_15_Figure_16.jpeg)

![](_page_15_Figure_17.jpeg)

![](_page_16_Figure_0.jpeg)

iless Washers 273

![](_page_16_Picture_15.jpeg)

![](_page_16_Figure_32.jpeg)

EXISTING

CALLOUT	CALLOUT	SYMBOL	NEMA	VOLTS	KVA	HP	CIRCUIT	WIRE CALLOUT	MCA	MOCP	FLA	DISCONNECT	DISCONNEC	TDISCONNE
TAG												DESCRIPTION	SIZE	TYPE
	AC/1	. <del>0</del> 2'	NEMA 3R	240V 2P 2W	5.09		A-1,3	1/2"C,2#10,#10G	25.9	45	20.7	60A 2P 3R	45	DUAL ELEMENT
2	AC/2	Ø_₽'	NEMA 3R	240V 2P 2W	5.09		A-5,7	1/2"C,2#10,#10G	25.9	45	20.7	60A 2P 3R	45	DUAL ELEMENT
3	DRINKING FOUNTAIN	Ø		120V 1P 2W	1		A-9	1/2"C,1#12,#12N,#12G						
3	EF-1	<b>\$</b>		120V 1P 2W		1/6 HP					4.9		20	
5	ELECTRIC HAND DRYER	Ø		120V 1P 2W	2.2		A-11	1/2"C,1#10,#10N,#10G	-					
6	ELECTRIC HAND DRYER	Ø		120V 1P 2W	2.2		A-13	1/2"C,1#10,#10N,#10G						
$\bigtriangledown$	ELECTRIC HAND DRYER	Ø		120V 1P 2W	2.2		A-15	1/2"C,1#10,#10N,#10G						
8	ELECTRIC HAND DRYER	Ø		120V 1P 2W	2.2		A-17	1/2"C,1#10,#10N,#10G						
<b>(9</b> )	HF—1	<b>\$</b>		120V 1P 2W		1/2 HP	A-19	1/2"C,1#12,#12N,#12G	12	15	9.8	20A SP		
8	HF-2	<b>\$</b>		120V 1P 2W		1/2 HP	A-21	1/2"C,1#12,#12N,#12G	12	15	9.8	20A SP		
ⓓ	SIGN CIRCUIT	©~\$	NEMA 3R	120V 1P 2W	1.5		A-29	1/2*C,1#12,#12N,#12G						
12	WATER	8~D		240V 2P 2W	4.5		A-23,25	1/2"C,2#10,#10G				30A 2P NF		

F| | | | | | |

![](_page_17_Figure_5.jpeg)

R	OOM				VOL.	<b>IS</b> 240	/120	V 2P 3	N		AIC	10,00			
м		G FLUSH			BUS	AMPS	200				MAI	N BKR			
F	ED FROM	M MM			NEU	TRAL 1	00%			1	LUG	STA			
N	OTE														
жт	CKT								KVA	LOAD	СКТ	CKT		•	
<b>₩</b>	BKR	CIRCUIT DESCRIPTION			A	R	#	BKK	CIRCUI	T DESCRIPTION	4				
1	30/2	AC/1			2.54	0.54	2	20/1	IELEPI	HONE BOARD					
3		40.40			0.54	2.54	4	20/1	RECEP						
2	30/2	AC/2			2.54	0.54		20/1	RECEP	'   . <del></del>					
2	20.41					2.54		20/1		'  T WO DECEDI	r				
9	20/1					22	10	20/1		I, WP RECEPT					
17	30/1				22	2.2	12	20/1							
15	30/1	ELECTRIC HAND DRYER			2.2	22	16	20/1							
17	30/1	ELECTRIC HAND DRYER			22	2.2	18	20/1							
19	20/1	HE-1				1.18	20	20/1	SPARE						
21	20/1	HF-2			1.18		22	20/1	SPARE	-					
23	$\frac{20}{30}$	WATER HEATER			2.25	24	20/1	SPARE	•						
25	1		•		2.25		26	20/1	SPARE	•					
27	20/1	CHARGER SELF				0.5	28	20/1	SPARE	• •					
29	20/1	SIGN CIRCUIT			1.5		30	20/1	SPARE	-					
31	20/1	VENDING MACHINE	•			1.2	32	20/1	SPARE	-					
33	20/1	VENDING MACHINE			1.2		34	20/1	SPARE						
35	20/1	RECEPTACLE				0.54	36	20/1	SPARE						
37	20/1	RECEPTACLE			0.54		38	20/1	SPARE						
39	20/1	RECEPT. RECEPTACLE	•			0.9	40	20/1	SPARE						
41	20/1	RECEPTACLE			0.54		42	20/1	SPARE	-					
					1		1			TOTAL CO	NNECTED	KVA I			
							1			TOTAL CON	NECTED	AMPS (			
		CO	NN. KVA	CALC.	KVA	1		<u></u>		CONN. KVA	CALC.	KVA			
		LIGHTING 5.	.01	6.26	(125	5)	CC	ONTINUO	US	0	0	(12			
		LARGEST MOTOR 5.	.09	6.36	(125	<b>%</b> )	H	EATING		0	0	(10			
		OTHER MOTORS 8.	.44	8.44	(100	<b>%)</b>	N	DNCONTI	NUOUS	13.3	13.3	(10			
		<b>RECEPTACLES</b> 7.	.4	7.4	(50%>	10)	KI	TCHEN E	QUIP	0	0	(N/			
							N	DNCOIN/	DIVERSE	0	0	<u>(N</u> /			
				,			TC	DTAL KV	A	39.2	41.8				
								BAL/	ANCED P	HASE AMPS 1	74				

00 MLO ANDARD		
	KVA	LOAD
	A	В
	0.36	0.54
	0.36	0.19
	0.36	0.10
	0.616	0.276
	1.17	1.63
	0	0
	ů O	0
	U	0
	0	0
	0 ?	0
	0	0
	0	0
BY PHASE	20.6	18.7
BY PHASE	171	156
25%) 90%) 90%) /A) /A)		

mmmmmmmmmmm

	A				В					C	
					)r 'A'	JLES FC	SCHEDL	PANEL S	NEW		
AXIC	$\mathcal{J}$	•••••	~~~~	~~~~	~~~~					<b>~~~~</b>	~~~~
BEND   MONTEREY   N/											
	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~										
	1										
	2										

![](_page_17_Figure_11.jpeg)

![](_page_17_Figure_12.jpeg)

![](_page_18_Figure_0.jpeg)

![](_page_18_Figure_1.jpeg)

N.T.S.

![](_page_18_Picture_2.jpeg)

MONTEREY | NAPA | SANTA CRUZ

- IRREVERSIBLE BOND CONNECTION GROUNDED SERVICE - CONDUCTORS (NEUTRAL/GROUND) - EQUIP GROUNDING BUS (WITH MAIN BONDING JUMPER) IN SERVICE EQUIP. # 6 CU -• 0 0 **•••**-IG BUS IN SERVICE EQUIPMENT SIZE TO NEC SERVICE GND TELEPHONE BOARD GROUND POINTS REBAR STUBBED UP UNDER SERVICE EQUIPMENT PER UBC 4-1-1-1-T 4.4 PVC SLEEVE INCOMINGGNORIED INCOMINGGNORIED WETALLIC WATER RODS MIN 5/8" x 8' └── IRREVERSIBLE BOND CONNECTION TO REBAR IN FOUR PLACES - CONCRETE-ENCASED ELECTRODE PER NEC 250-50(C) - 40 FEET #4 COPPER SCHEDULE INSPECTION PRIOR TO COVERING

## ELECTRICAL GROUNDING AND BONDING DETAIL

![](_page_18_Figure_7.jpeg)

![](_page_18_Figure_8.jpeg)

![](_page_19_Picture_0.jpeg)

![](_page_19_Picture_1.jpeg)

## **MEP Schematic Design Narrative**

## **RVTD Mobility Training Center**

130 E 8<sup>th</sup> St. Medford, OR 97501 Project: 20220492 Date: 10/27/2022

Created for:

**ORW Architects** 

**Prepared by:** 

Michael Miscione, PE Bruce Jessup Micah Tetreault Michael Leavitt, PE

#### **Contents:**

Summary	2
Plumbing (DIV 22)	3
Mechanical (DIV 23)	6
Electrical (DIV 26)	9
Telecommunications/Security (DIV 27).	12
Fire Alarm (DIV 28)	14

Su	ummarv																		
BEND	CORVALLIS	MEDFORD	MONTEREY	NAPA	SA	NT/	A CR	UZ											

The Rogue Valley Transportation District is remodeling two of its facilities located in downtown Medford. As a part of this project, the district would like to keep sustainability in mind. The scope of this project includes the reconfiguration of existing HVAC equipment, plumbing, electrical systems, specifications, bidding support services, and construction support services.

#### Mobility Training Center:

The Mobility Training center is located across the street from the Downtown Administration Building. At 220 S. Front St. The smaller of the two facilities is approximately 2,000 square feet, originally built to serve as a Greyhound Terminal in 2006. The building currently has a large passenger waiting area, a ticket counter, one private office, restrooms and a baggage holding area. This facility will be renovated to provide mobility training for the RVTD's bus system and Valley Lift. A mock bus system with will be provided to allow the public to learn how to use the transit at their own pace.

![](_page_20_Picture_3.jpeg)

Design

## Criteria

Systems will be designed in accordance with the following:

#### Codes:

- Current Oregon Plumbing Specialty Code
- **o** Current Oregon Energy Efficiency Code
- Current Oregon Mechanical Specialty Code
- Current Oregon Structural Specialty Code
- Current Oregon Boiler and Pressure Vessel Specialty Code

#### Standards:

- ASHRAE American Society of Heating, Refrigeration and Air-Conditioning Engineers.
- ASME American Society of Mechanical Engineers
- ASPE American Society of Plumbing Engineers
- ASTM American Society of Testing Materials
- AWWA American Water Works Association
- CISPI Cast Iron Soil Pipe Institute
- CS Commercial Standards
- EPA Environmental Protection Agency
- FM factory Mutual Engineering Corporation
- IBC International Building Code
- NEC National Electric code
- NFPA National Fire Protection Association
- **OSHA Occupational Safety and Health Administration**
- PDI Plumbing and Drainage Institute
- UPC Uniform Plumbing Code
- UL Underwriters Laboratories

#### General

The Mobility Training Center was formally a Greyhound Bus transfer station and will be remodeled to fit the needs of the Transportation Department. Two existing public restrooms on the building's exterior will be fully demolished. They will be replaced with (2) new single user restroom groups and a Security Office.

#### Demolition

All fixtures in existing public restrooms on the building's exterior are to be removed in their entirety. Waste and Vent piping to be removed back to a point in the dividing wall and capped in place. Cold Water and Hot Water piping to be removed to a point in the dividing wall and capped in place.

-	-																
Storm																	
Existing Storm drains and pipi	ing to remain,	no add	itio	nals	сор	e.											
CLEBREIT AXIO	ENGINEERS™																

#### **New Fixtures**

- (2) Water Closets to be added total, one each new restroom.
- (2) Lavatories to be added total, one to each new restroom.
- (2) Floor drains w/ Trap primers to be added total, one to each new restroom.

#### **Waste Connections**

New and Re-utilized fixtures to be reconnected to Building mains with new branch waste and vent piping. Piping material for waste and vent will be cast iron as the basis of design.

#### Condensate

As the air conditioning units are both inside and outside the building cool air water can condense on the cooling coil in the form of condensate. Condensate must be collected and discharged to an approved location to prevent water damage.

Indoor cooling fan coils will require a condensate pump to pump condensate to an approved location, such as a lavatory tail piece, floor drain, or mop sink.

#### Water Connections

New and Re-utilized fixtures to be reconnected to Building mains with new branch piping. Piping material will be copper and PEX where appropriate.

#### Water Heater(s)

Existing Water heaters to remain.

#### Gas

The existing gas service will remain for the Administration building and Mobility Training Center.

#### Calculations

The overall load capacity for both waste and water will be less than what exists in both buildings.

#### **Systems Testing & Balancing**

Testing and balancing of the cold and hot water systems shall be required. Detailed test procedures and balance reports shall be provided to Owner upon completion.

![](_page_22_Picture_19.jpeg)

#### Mobility Training Center Demolition

![](_page_23_Figure_1.jpeg)

![](_page_23_Picture_2.jpeg)

Design

## Criteria

Systems will be designed in accordance with the following:

#### Codes:

- Current Oregon Mechanical Specialty Code
- Current Oregon Energy Efficiency Code
- Current Oregon Plumbing Specialty Code
- Current (2019) Oregon Structural Specialty Code

#### Standards:

- ASHRAE 55 Thermal Environmental Conditions for Human Occupancy
- ASHRAE 62.1 Ventilation for Acceptable Indoor Air Quality
- $\circ$   $\,$  NFPA 90A: Standard for the Installation of Air-Conditioning and Ventilating Systems, Current Edition
- $\circ~$  NFPA 90B: Standard for the Installation of Warm Air Heating and Air-Conditioning Systems, Current Edition.
- NFPA 101: Life Safety Code, Current Edition
- Air Conditioning and Refrigeration Institute (ARI) Standards
- Air Moving and Air Conditioning Contractors National Association (SMACNA)

#### General

The existing administration being renovated is served by existing HVAC system mainly comprised of 5 packaged gaselectric rooftop units (RTUs). These units are approximately 11 years old and will be reused for this project. Mechanical contractor to inspect and repair as needed to bring units into like new condition. See below for proposed equipment zoning.

The HVAC systems and equipment are sized based on existing and new layouts and Carrier Block Load calculations that comply with the following design conditions, as recommended by ASHRAE:

**Outdoor Design Conditions** 0 Summer: 98°F OADB / 67°F OAWB . Winter: 21°F **Indoor Design Conditions**  $\cap$ In conditioned areas: Cooling DB 75°F • Heating DB 70°F **Ductwork Design Criteria** 0 Maximum Friction Loss • 0.1 in wg / 100 ft. Ventilation Criteria 0 Complies with Oregon Mechanical Code, Chapter 4. (IOM ENGINEERS<sup>™</sup>

• Complies with ASHRAE Standard 62.1.

• Ventilation to exceed code minimum by 50% as requested by the county to help mitigate odors.

#### • Envelope Assumptions

- Walls: Assumed U-factor of 0.51, based on R-19 insulation.
- Roof: Assumed R-30 or U-factor of 0.32, (equates to current code minimum).
- Windows: Assumed U-factor of 0.36 and solar heat gain coefficient of 0.38 (equates to current code minimum).

#### • Internal Heat Gains

- All lighting loads calculated at 1 W/sq. ft.
- Computer loads calculated at 150 W, per ASHRAE Fundamentals Manual.
- Refrigerators calculated at 1200 BTUH, per ASHRAE Fundamentals Manual.
- Typical office room occupancies calculated at 1 person and 1 computer per office, other room occupancies calculated from square footage and expected typical use.

#### **Equipment Selection**

Existing units on the admin building are Lennox packaged rooftop equipment to remain. Existing exhaust fans will be replaced with a larger CFM fan to meet the new exhaust needs and will be Twin City or Greenheck.

#### **Energy Trust of Oregon**

ColeBreit Engineering will discuss potential incentives with the Energy Trust of Oregon prior to completion of design.

#### **Power Supply**

All new equipment shall be served by 208V/3Ph power, to match existing wherever possible. Maintenance receptacle shall be provided within 25' of new equipment on rooftop and mechanical disconnect shall be within visual range of new equipment.

#### **Grilles, Registers, and Diffusers**

GRDs will be sized to a maximum NC (noise criteria) level of 30, which is standard in office areas to provide a quiet work environment. Secure first-floor areas will use detention-style grilles, and internal security grilles in ductwork to these areas. Basis of design will be Price, as per the existing record drawings.

#### **Distribution Systems**

Duct routing shall be re-designed as necessary to meet the requirements of the layout revisions in the remodeled areas, and new duct distribution systems shall be designed for the newly added areas. Ducts shall be constructed of galvanized sheet metal for low pressure applications and shall be insulated to meet code requirements for minimizing energy losses. All ducts are intended to be concealed.

#### Controls

Existing wall-mounted thermostats will be reused and relocated based on the new floor plan.

**Systems Testing & Balancing** 

![](_page_25_Picture_24.jpeg)

Testing, adjusting, and balancing shall include, but not be limited to air handling systems, air distribution ductwork, temperature control, general exhaust, and split system fan coil unit adjustments, and shall comply with project specifications.

#### Zoning

See the following zoning diagram for the mobility building reusing the existing split system fan coils. The existing fan will be reused and rebalanced for the new exhaust CFM needs of the building.

#### Downtown Admin Building Zoning Diagram with Duct Mains:

![](_page_26_Figure_4.jpeg)

## Criteria

## Systems will be designed in accordance with the following:

#### Codes:

- ANSI Electrical Systems
- o ANSI 117.1 Accessibility Standard
- NFPA-70 (2017 Ed. with Oregon State Amendments)
- NFPA-110, Life Safety Code (2019 Ed.)
- International Building Code 2018 Ed.
- 2019 Oregon Structural Specialty Code

#### Standards:

- $\circ$  ~ ADA Americans with Disabilities Act ~
- ANSI American National Standards Institute
- ANSI Electrical Systems
- ASTM ASTM International
- Oregon Mechanical Code (most recent adopted edition)
- Oregon Plumbing Code (most recent adopted edition)
- Oregon Fire Code (most recent adopted edition)
- CSA CSA International
- DSA Division of the State Architect
- ETL Electrical Testing Laboratories
- IEEE Institute of Electrical and Electronics Engineers
- IES Illuminating Engineering Society
- ISO International Organization for Standardization
- NEC National Electrical Code
- NECA National Electrical Contractors Association
- NEMA National Electrical Manufacturers Association
- NETA National Electrical Testing Associations
- NFPA National Fire Protection Association
- UL Underwriters Laboratories Inc.

#### **Energy Code Requirements**

The Oregon Energy Code updates require the following measures are achieved for this project:

Local automatic lighting controls shall be installed within each space being remodeled.

#### Power – Utility Service

For the Mobility Training Center, the existing 200A MB 120/240V 1ph electrical service and Panel 'A' will remain 'AS-IS'. Existing circuits that are to remain during the remodel are to be safed-off for demo and construction.

![](_page_27_Picture_35.jpeg)

Design

#### **Grounding System**

The existing grounding electrode system will not be changed for the Mobility Training Center.

#### Wiring Methods

The existing feeders in the areas of remodel will be removed complete back to the panelboard that serves them. These pathways are not planned for reuse and new conduit and conductors will be installed where required to support new equipment and loads. Minimum conduit size of <sup>3</sup>/<sub>4</sub>" to provide for future adds/changes. Feeders and branch circuits will utilize copper conductors with 600Volt THWN/THHN insulation. Conductor size shall be a #12 AWG minimum. Aluminum conductors will not be permitted. Conductors will be sized to limit voltage drop to 1.5% in feeders and 3% in branch circuits. The use of metal clad (MC) cable is not currently planned.

Feeders and branch circuit shall be installed in raceway and shall generally be routed overhead; wiring beneath the slab will be provided only where required to back feed existing to remain loads if the branch circuit were cut during removal of the existing slabs. Galvanized rigid steel conduit or intermediate metal conduit shall be used for feeders, for circuit exposed to physical damage. Otherwise, electrical metallic tubing with steel compression fittings shall be used throughout.

In conference rooms, the power and communications distribution system must be designed to integrate with the architecture, while providing flexibility for the future. These areas will receive recessed multiuse floor boxes featuring power receptacles, data outlets, and AV connections as required. Typical spaces will have receptacles in the wall and branch circuit wiring overhead (above the dropped ceiling tiles).

#### **Wiring Devices**

Wiring devices in most areas will be commercial specification grade with thermoplastic cover plates (Architect to determine finish). Ground fault circuit interrupters (5 milliamp) will be provided for all 120 Volt, 20 Amp devices in areas where water is present.

For areas where there is the potential for severe use or unauthorized access to the wiring device or box cavity behind the plate, security grade wall plates will be used (remodeled detention and high security areas). The stainless steel, tamper resistant cover plates virtually eliminate unauthorized access to junction boxes and conductors. An upgraded redundant ground tab is provided to ensure the grounding integrity of the entire installation.

#### **Surge Protection Devices**

Surge Protection Devices (SPD) will be provided at the new distribution panelboards to help prevent equipment damage due to spikes in utility voltage.

#### Lighting

To meet stricter energy code requirements, LED based lighting sources will be used in the Mobility Training Center for consistency and uniformity.

Lighting temperature to be suggested at 3500K, a warm white to provide better color rendering, facial recognition, less eye strain, and a better match to natural daylight. Ultimately the lighting system will address specific "visibility" requirements for the project and each individual space. "Visibility" includes issues such as light quality, officer safety, occupant comfort, as well as aesthetics. A quality lighting system will not only add visual interest to a space, but may also increase employee productivity, performance, and safety. Once the visibility issues have been identified and addressed, the lighting system can be designed to provide maximum energy efficiency.

![](_page_28_Picture_14.jpeg)

Our goal is to exceed the energy code requirements by at least 10% for the light systems while meeting the visibility and safety requirements for the County.

Site lighting to be updated on the exterior of the building using vandal resistant LED luminaires in the activity area. Modified parking and driving areas will be reviewed and updated as needed to provide IES recommend lighting levels (footcandles) in these spaces.

#### **Lighting Controls**

The Mobility Training Center is to have all new local occupant controls per space typical. All common areas, corridors, and exterior lighting to be controlled by analog control devices and/or astronomical timeclock.

All occupied spaces will also feature automatic lighting controls such as ceiling mounted dual-technology occupancy sensors. These sensors require both motion (ultra-sonic) and heat (IR) to turn on which prevents nuisance tripping. Hallway lighting will automatically turn-off if there is no activity within 30 minutes (adjustable). Private offices will have overhead or wall mounted occupancy sensors for individual control. Small storage closets, janitor rooms, and other spaces under 100 square feet will have wall mounted occupancy sensor switches which also allow for manual off control.

#### **Emergency Lighting**

The new egress lighting in the Mobility Center is to be provided by integral battery ballasts to provide 1FC of light levels along egress pathway shown by Architect.

#### **Mechanical/Equipment Connections**

Mechanical Equipment connections will be made for all new mechanical equipment by the electrical contractor. All motors 3/4HP and larger will be wired for 208V, 1 phase power. Motors less than 3/4HP will be wired for 120 volt, 1-phase power. Magnetic starters and VFD's will be furnished by the mechanical contractor and installed by the electrical contractor with the necessary power wiring to the starter and from the starter to the motor. All VFD's not integral to the factory assembled equipment will be physically mounted at the equipment by the electrical contractor. Necessary power wiring to the VFD and from the VFD to the motor is to be installed. Refer to the mechanical and plumbing sections of this narrative for equipment descriptions and locations.

Building equipment such as motorized projector screens and motorized window shades (located in the multi-purpose room) will be provided and installed by the electrical contractor.

#### Labeling

All electrical equipment will be provided with labelling that identifies the equipment name, voltage, power source, arc fault information, etc. Branch panels will be provided with type-written panel directories. All receptacles will be labelled with the panel and circuit number on stick-on labels (typically black lettering on white backgrounds). All junction boxes will be provided with panel name and circuits. An updated single line diagram will be provided in the existing electrical room.

![](_page_29_Picture_12.jpeg)

#### **Criteria – Performance Specification**

Design

Systems will be designed in accordance with the following:

#### Codes & Standards:

- Oregon Building Code (most recent adopted edition)
- Oregon Electrical Code (most recent adopted edition)
- BICSI TDMM, 12<sup>th</sup> Edition
- ANSI/TIA-568-C.0 Generic Telecommunications Cabling for Customer Premises
- ANSI/TIA-568-C.1 Commercial Building Telecommunications Cabling Standard

 ANSI/TIA-568-C.2 Balanced Twisted-Pair Telecommunications Cabling and Components Standard

• ANSI/TIA-568-C.3 Optical Fiber Cabling Components Standard. Commercial Building Telecommunicating Cabling Standard

- **o** ANSI/TIA-569-B Commercial Building Standard for Telecommunications Pathways and Spaces
- ANSI/TIA/EIA-606-A Administration Standard for Commercial Telecommunications Infrastructure

• ANSI-J-STD-607-A Commercial Building Grounding (Earthing) and Bonding Requirements for Telecommunications

• Local Amendments to above Codes

A comprehensive system of voice and data outlet boxes and raceway system will be installed to provide pathways from the telecommunications room to all points in the Administration Building and the Mobility Training Center. See SD Drawings for proposed tel/data locations. A minimum conduit size of 3/4" will be provided to every voice and data outlet in the remodel, routed from the device to accessible ceiling space.

Division 26 has rough-in and pathways only for all Division 27 systems. All new systems described below to be provided and installed by approved vendors of RVTD. Additional low voltage requirements to be coordinated between Contractor and Vendor.

Any new CCTV camera locations (design by county's independent contractor) will have backboxes and 1" conduit installed. All outlet boxes are to be 4-11/16" square, by 2-1/8" deep. A cable tray system will be provided along the corridors to serve as the backbone raceway (located above the ceiling tiles).

Performance specifications will be provided for including horizontal 4-pair unshielded twisted pair (UTP) Category 6 voice and data network cabling. Each standard telecommunications outlet (TO) will consist of three Category 6 ports that can be patched as a data port or a voice. All 4-pair cable will terminate at 8-pin, 8-contact Category 6 communication jacks located in the main data rack in the MDF room. Cabling to be labeled on both ends.

Access controlled doors, intrusion door contacts, motion detectors, alarm notification devices, detention grade "pop locks" (electronic remote controlled) and IP Video Surveillance recording system will be provided (expanded off existing system as needed).

The following systems for the Mobility Center have approved, existing vendors for the RVTD. Those systems to include:

Access Control – Control locking and unlocking and monitoring of selected interior and exterior doors

Tel/Data: RVTD IT to provide design requirements

• Internet Protocol (IP) Video Surveillance – IP cameras will be placed to monitor both interior and exterior spaces and will work in conjunction with the access control and intrusion system to deter and identify events.

 Intrusion Alarm – external and internal door monitoring for forced entry or door left ajar. During scheduled occupancy all alarms will report to building security system where appropriate action will be determined by officers. System will communicate with CCTV cameras to capture video documentation of events while events are happening.

 $\circ~$  A raceway system of conduit, pull string, and outlet boxes will be provided for future adds/changes.

• The minimum conduit size to be 3/4"

![](_page_31_Picture_6.jpeg)

Design

## **Criteria – Performance Specification**

The Mobility Center does not require a fire alarm system. If Fire Sprinkler system is installed, sprinkler flow monitoring for compliance with code requirements per AHJ will be necessary

END OF MEP SD NARRATIVE

![](_page_32_Picture_5.jpeg)