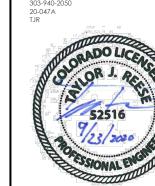


DESCRIPTION	70% CONSTRUCTION DOCS	99% CODE REVIEW	100% CONSTRUCTION DOCS			
No.	l	7	ε			
DATE	6/26/2020	9/8/2020	9/23/2020			

Transportation Of Department



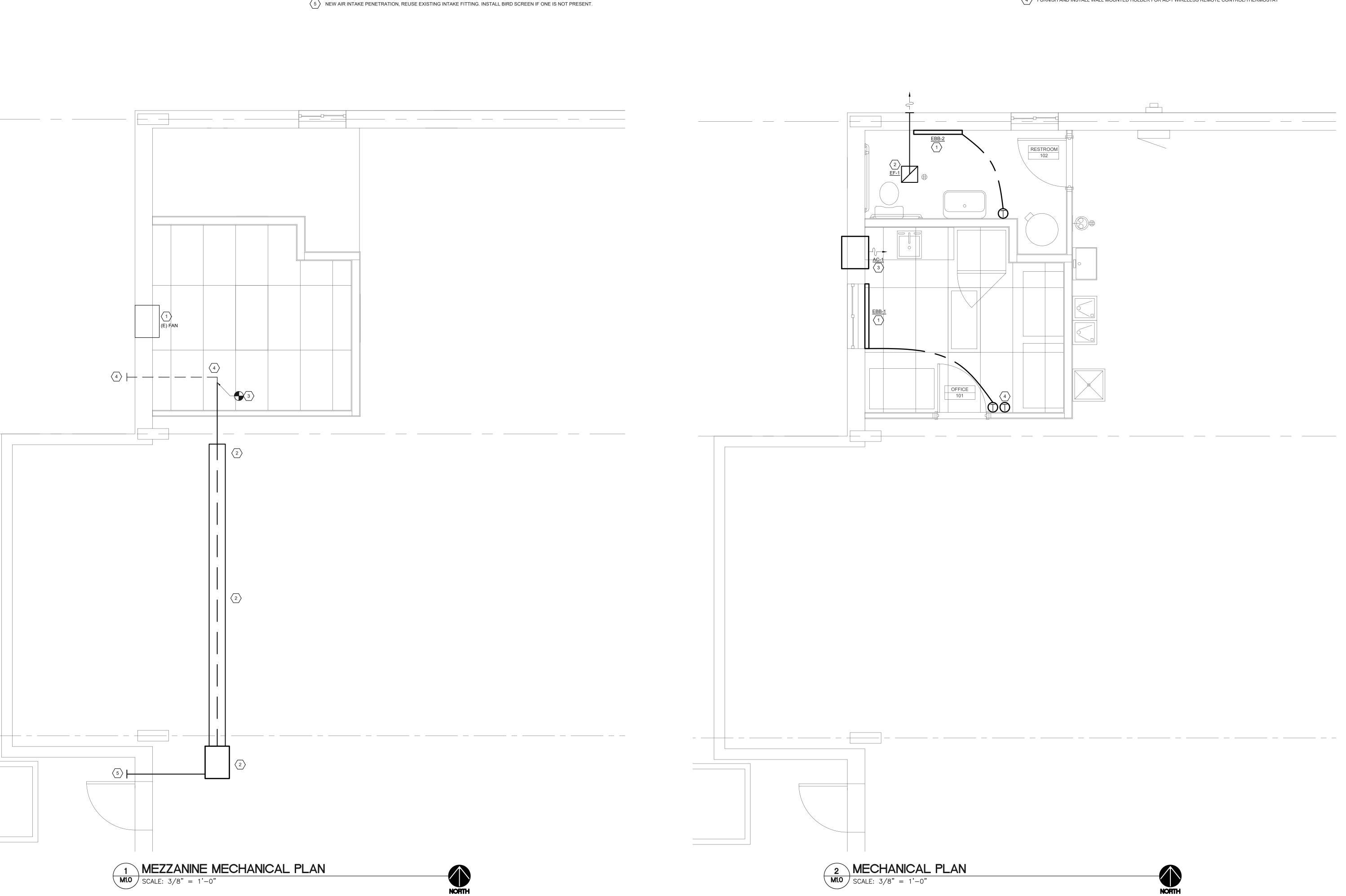


DRAWN BY: ASF 9/23/2020 DATE:

> CDOT PROJECT NO. 17179

DRAWING NUMBER

MD1.0



MEZZANINE KEY NOTES:

(3) EXTEND 4"Ø VENT TO RECONNECT TO GAS TUBE HEATER.

2 RELOCATED GAS TUBE HEATER. DEFLECTORS SHALL NOT BE DIRECTLY ABOVE OFFICE 101.

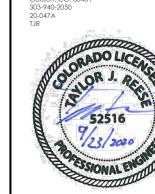
1 EXISTING EXHAUST FAN TO REMAIN.

 $\langle 4 \rangle$  EXISTING 4"Ø VENT TO REMAIN.



- 1 FURNISH AND INSTALL NEW ELECTRIC BASEBOARD HEATER.
- FURNISH AND INSTALL NEW CEILING EXHAUST FAN, DUCT TO WALL VENT CAP WITH BIRD SCREEN ON EXTERIOR WALL. PENETRATION SHALL BE AT LEAST 3' FROM OPERABLE OPENINGS.
- $\sqrt{3}$  FURNISH AND INSTALL NEW THROUGH-WALL AIR CONDITIONING UNIT. MOUNT AS HIGH ON THE WALL AS POSSIBLE.
- 4 FURNISH AND INSTALL WALL MOUNTED HOLDER FOR AC-1 WIRELESS REMOTE CONTROL/THERMOSTAT

Transportation



RANGELY

DRAWN BY: ASF 9/23/2020

CDOT PROJECT NO.

DRAWING NUMBER

17179

M1.0

PLUMBING	FIXTURE SCHEDULE									
TAG	DESCRIPTION	MANUFACTURER	MODEL NUMBER	FINISH	MANUFACTURER	MODEL NUMBER	FINISH	GPM/GPF	ELECTRICAL	REMARKS
WC-1	WATER CLOSET- FLOOR MOUNTED (ADA)	AMERICAN STANDARD	215AA.104.020	WHITE	CHURCH	9500CT	WHITE	1.28	-	1

TAG	DESCRIPTION	MANUFACTURER	MODEL NUMBER	FINISH	MANUFACTURER	MODEL NUMBER	FINISH	GPM/GPF	ELECTRICAL	REMARKS
WC-1	WATER CLOSET- FLOOR MOUNTED (ADA)	AMERICAN STANDARD	215AA.104.020	WHITE	CHURCH	9500CT	WHITE	1.28	-	1
L-1	LAVATORY- WALL HUNG (ADA)	DURAVIT	2316800000	WHITE	DELTA	3599LF-MPU	CHROME	0.5	-	2,3,6,10,12
S-1	SINK- SINGLE COMPARTMENT (ADA)	JUST	SL-ADA-2117-A-GR	STAINLESS STEEL (18 GA)	DELTA	9193-DST	CHROME	1.8	-	3,6,10
GDU-1	GARBAGE DISPOSAL UNIT	INSINKERATOR	BADGER 5	-	-	-	-	-	120/60/1 1/2 HP	
MSB-1	MOP SERVICE BASIN	FLORESTONE	MSR2424	WHITE	CHICAGO	445-897SRXKCCP	CHROME	2.2	-	4,14
SS-1	SERVICE SINK FREESTANDING	FLORESTONE	SC	WHITE MOLDED ACRYLIC	KOLHER	K-8907	CHROME		-	11,18
FD-1	FLOOR DRAIN	JAY R SMITH	2005-Y-A	NICKEL BRONZE	-	-	-	-	-	7,8
HB-1	HOSE BIBB	CHICAGO	952-CP 3/4"	CHROME	-	-	-	-	-	17
EWC-1	ELECTRIC WATER COOLER (ADA) SURFACE MOUNTED W/ BOTTLE HI/LOW	ELKAY	EZSTL8SC	-	-	-	-	-	115/60/1 5 AMPS	2,3,15,16
EEW-1	EMERGENCY EYE WASH (ADA)	HAWS	7360BTWC	-	-	-	-	-	-	5,9,13
BFP-1	REDUCED PRESSURE BACKFLOW PREVENTER DOMESTIC	WATTS	009QT 1"	-	-	-	-	-	-	17

DEMADKE:	
REMARKS:	

1. LOOSE KEY ANGLE STOP, STAINLESS STEEL BRAIDED SUPPLY

- 2. PROVIDE WITH CONCEALED FLOOR MOUNTED CARRIER (COORDINATE WITH WALL THICKNESS)
- 3. 17 GA. P-TRAP, LOOSE KEY ANGLE STOPS, STAINLESS STEEL BRAIDED SUPPLIES
- 4. PAIL HOOK, WALL BRACKET, THREAD END, VACUUM BREAKER, INTEGRAL CHECKS & SHUTOFF STOPS
- 5. PROVIDE WITH STAINLESS STEEL BOWL.
- 6. PROVIDE LEONARD #270-LF MIXING VALVE UNDER FIXTURE. (ASSE 1070 RATED)
- 7. PROVIDE WITH TRAP GUARD
- 8. MOUNT FLUSH WITH FLOOR
- 9. PROVIDE WITH BARRIER FREE OPTION.
- 10. PROVIDE WITH TRUEBRO #103 E-Z P-TRAP AND SUPPLIES INSULATION KIT

11.	FREESTANDING SINK

- 12. SEE ARCHITECTURAL PLANS FOR MOUNTING HEIGHT
- 13. 3.7 EYE AND FACE WASH. 30 PSI MINIMUM INLET PRESSURE.
- 14. HOSE AND HOSE BRACKET, 3 MOP HANGER, SS WALL GUARD.
- 15. PROVIDE WITH 3-PACK OF FILTERS FOR OWNER STOCK
- VANDAL PROOF
- 17. PROVIDE WITH STRAINER.
- 18. WALL BRACKET, THREAD END, VACUUM BREAKER

TAG	MANUFACTURER & MODEL	GPH RECOVERY	GALLON	HEIGHT	DIAMETER	OPER.	ELECTRIC	AL			REMARKS
		AT 100°F RISE	CAPACITY			LBS.	VOLTAGE	PHASE	KW	FLA	
EWH-1	AO SMITH	24	30	31	22	350	240	1	6	25	1,2
	DEL-30										

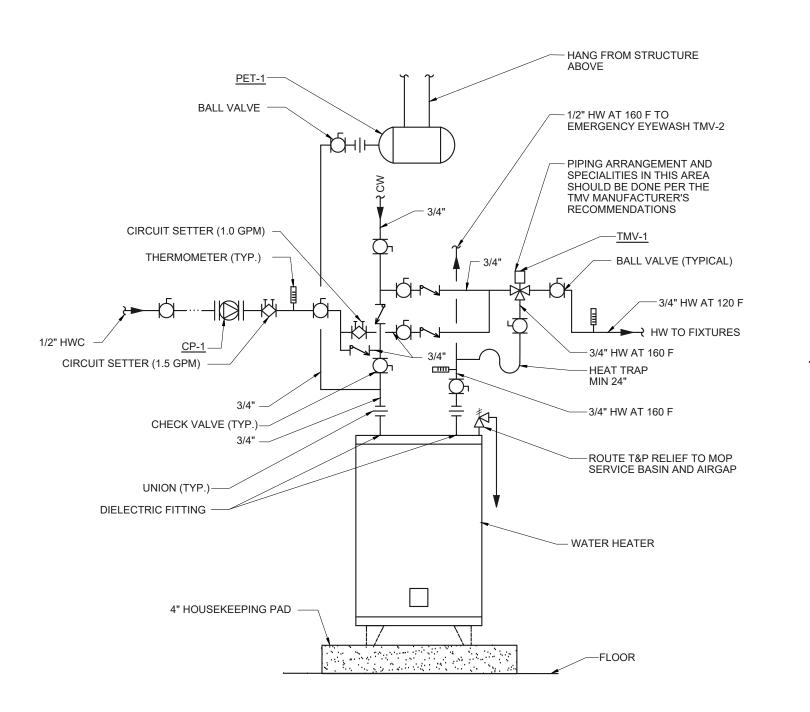
1. SET WATER HEATER TO STORE WATER AT 140 F

2. PROVIDE WITH MAGNESIUM ANODE ROD

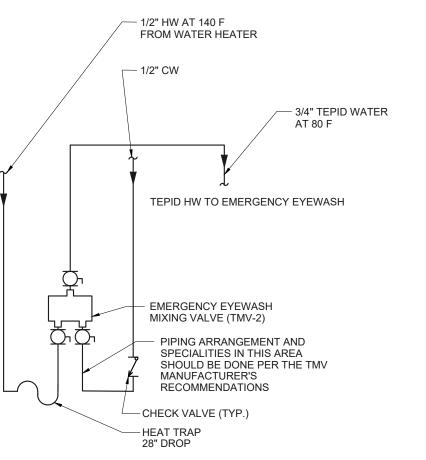
CIRCULATION	PUMP	SCHEDULE
OII (OOL) (TIOI	I CIVII	COLIEDOLE

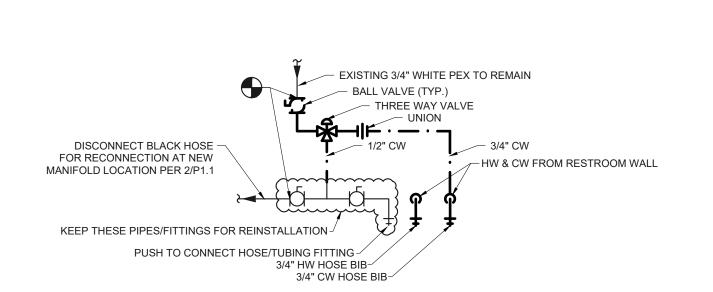
1. LEAD FREE BRONZE

GENERAL				PERFORMA	NCE	ELECTRICA	L				NOTES
TAG	MANUFACTURER	MODEL#	SYSTEM	FLOW	HEAD	POWER	VOLTAGE	PHASE	FREQUENCY	SPEED	
				[GPM]	[FT.]	[HP]	[V]		[HZ]	[RPM]	
CP-1	BELL & GOSSETT	PL-30	EWH-1	2	19	1/12	115	1	60	2650	1,2
NOTES:									·		



2. PROVIDE WITH AQUASTAT AND TIMECLOCK TO RUN DURING OCCUPIED HOURS









TAG	CW	HW	HWC	WASTE	VENT	REMARKS
	[IN.]	[IN.]	[IN.]	[IN.]	[IN.]	
WC-1	1/2"			4"	2"	
L-1	1/2"	1/2"	1/2"	2"	1-1/2"	1
S-1	1/2"	1/2"		2"	1-1/2"	
GDU-1		<del></del>				
MSB-1	1/2"	1/2"		3"	2"	
SS-1	1/2"	1/2"		2"	1-1/2"	
FD-1		<del></del>		2"	2"	
HB-1	3/4"	<del></del>				
EWC-1	1/2"	<del></del>		2"	1-1/2"	
EEW-1		3/4"		2"		2
BFP-1	SEE PLAN			2" DRAIN TO MOP BASIN		

### **REMARKS:**

1. CONNECT HOT WATER RECIRUCLATION TO HOT WATER LINE PER 2015 IECC TABLE C404.5.1

2. CONNECTION FOR 80F TEPID WATER

PLUMBING	MISCELLANEOUS SCHEDULE	
TAG	DESCRIPITION	MANILI

TAG	DESCRIPITION	MANUFACTURER	MODEL NUMBER	REMARKS
PET-1	PLUMBING EXPANSION TANK	ARMSTRONG	AST-5	1
			ASME RATED	
TMV-1	THERMOSTATIC MIXING VALVE	LEONARD	LV-20-E-LF	2
	(BUILDING)		ASSE 1017	
TMV-2	THERMOSTATIC MIXING VALVE	HAWS	9201EFE	3,4
	EMERGENCY		ANSI Z358.1	

1. 2.3 GALLON ACCEPTANCE VOLUME

- 2. 1 GPM MINIMUM FLOW, 15 PSI LOSS AT 12 GPM.
- 3. 1 GPM MINIMUM FLOW, 5 PSI LOSS AT 5 GPM.
- 4. 180 F MAXIMUM INLET TEMPERATURE

# PLUMBING NOTES

### I. GENERAL

- A. THESE DRAWINGS ARE DIAGRAMMATIC IN NATURE AND NOT INTENDED TO SHOW ALL TRANSITIONS, OFFSETS, ETC. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS AND PROVIDE ALL NECESSARY FITTINGS TO COMPLETE THE INTENT OF THE DRAWINGS. ANY DISCREPANCIES BETWEEN DRAWINGS AND FIELD CONDITIONS SHALL BE REPORTED TO THE DESIGN ENGINEER FOR RESOLUTION.
- B. CONTRACTOR SHALL COORDINATE WORK WITH OTHER TRADES AND NOTIFY CDOT REPRESENTATIVE IF ANY CONFLICTS
- C. CONTRACTOR SHALL REVIEW THESE DOCUMENTS CAREFULLY. CONTRACTOR SHALL CONTACT CDOT REPRESENTATIVE FOR RESOLUTION OF ANY DISCREPANCIES, OMISSIONS, OR CLARIFICATIONS, BEFORE BID DATE. IN THE EVENT THAT AN INTERPRETATION OF BID DOCUMENTS IS NECESSARY AFTER THE BID DATE, THE DECISION OF CDOT SHALL BE FINAL AND
- D. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COSTS OF ALL CHANGE ORDERS, WHICH THE OWNER AND ENGINEER HAVE NOT APPROVED IN WRITING PRIOR TO THE EXECUTION OF THE ASSOCIATED WORK.
- E. IN THE CASE OF A CONFLICT, UNLESS OTHERWISE NOTED, KEYNOTES ON PLUMBING PLANS SHALL SUPERCEDE ANY GENERAL NOTES ON THE PLANS.

# II. EXECUTION

A. ALL PLUMBING WORK SHALL COMPLY WITH LOCAL CODES AND ORDINANCES.

### B. PITCH WASTE LINES NOT LESS THAN 1/4" PER FOOT. (UNLESS NOTED OTHERWISE).

- C. INSULATE ALL COLD WATER AND INDIRECT WASTE PIPING WITH 1" PREFORMED FIBERGLASS PIPE INSULATION WITH A "K" FACTOR OF 0.23 MAXIMUM AT 75 °F MEAN TEMPERATURE. INSULATE ALL HOT WATER PIPING 1-1/4" AND SMALLER WITH 1" PREFORMED FIBERGLASS PIPE INSULATION WITH A "K" FACTOR OF 0.23 MAXIMUM AT 100 °F MEAN TEMPERATURE: INSULATE ALL HOT WATER PIPING 1-1/2" AND LARGER WITH 1-1/2" PREFORMED FIBERGLASS PIPE INSULATION WITH A "K" FACTOR OF 0.23 MAXIMUM AT 100 °F MEAN TEMPERATURE. USE FLEXIBLE ELASTOMERIC CLOSED-CELL FOAM INSULATION ON PEX PIPING WITH SAME K FACTORS AND INSULATION THICKNESSES AS FOR FIBERGLASS INSULATION.
- D. RUN ALL PIPING ON WARM SIDE OF BUILDING INSULATION. PIPE INSULATION IS NOT CONSIDERED FREEZE PROTECTION.
- E. PROVIDE DIELECTRIC UNIONS AT CONNECTIONS BETWEEN DISSIMILAR METALS, I.E., IRON VALVES AND COPPER TUBING.
- F. PROVIDE PIPE HANGERS OF THE SAME MATERIAL AS THE PIPING SYSTEM OR USE COATED HANGERS. G. SET FLOOR DRAINS SO THAT TOP WILL BE SLIGHTLY LOWER THAN SURROUNDING FLOOR.
- H. PROVIDE BALL VALVES AND UNIONS ON ALL LINES TO EQUIPMENT FOR ISOLATION AND REMOVAL.
- I. THE CONTRACTOR SHALL X-RAY THE FLOOR BEFORE SAW CUTTING ANY FLOOR FOR UNDERGROUND PLUMBING PIPING.
- J. WHERE REMOVAL OR RELOCATION OF EXISTING FIXTURES OCCURS, CONTRACTOR SHALL REMOVE ALL WASTE AND VENT BRANCH LINES NOT REQUIRED FOR NEW, OR REMAINING FIXTURE LOCATIONS.
- K. WHERE PIPING HAS BEEN REMOVED FROM FLOOR PENETRATIONS, CONTRACTOR SHALL PATCH CONCRETE FLOOR TO MATCH EXISTING CONDITIONS.
- L. FLUSH DOMESTIC WATER SYSTEMS PER 2018 IPC 610.1.

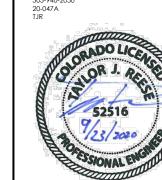
DESCRIPTION	70% CONSTRUCTION DOCS	99% CODE REVIEW	100% CONSTRUCTION DOCS		
No.	1	2	3		
DATE	6/26/2020	9/8/2020	9/23/2020		

Transportatior

Of

epartment



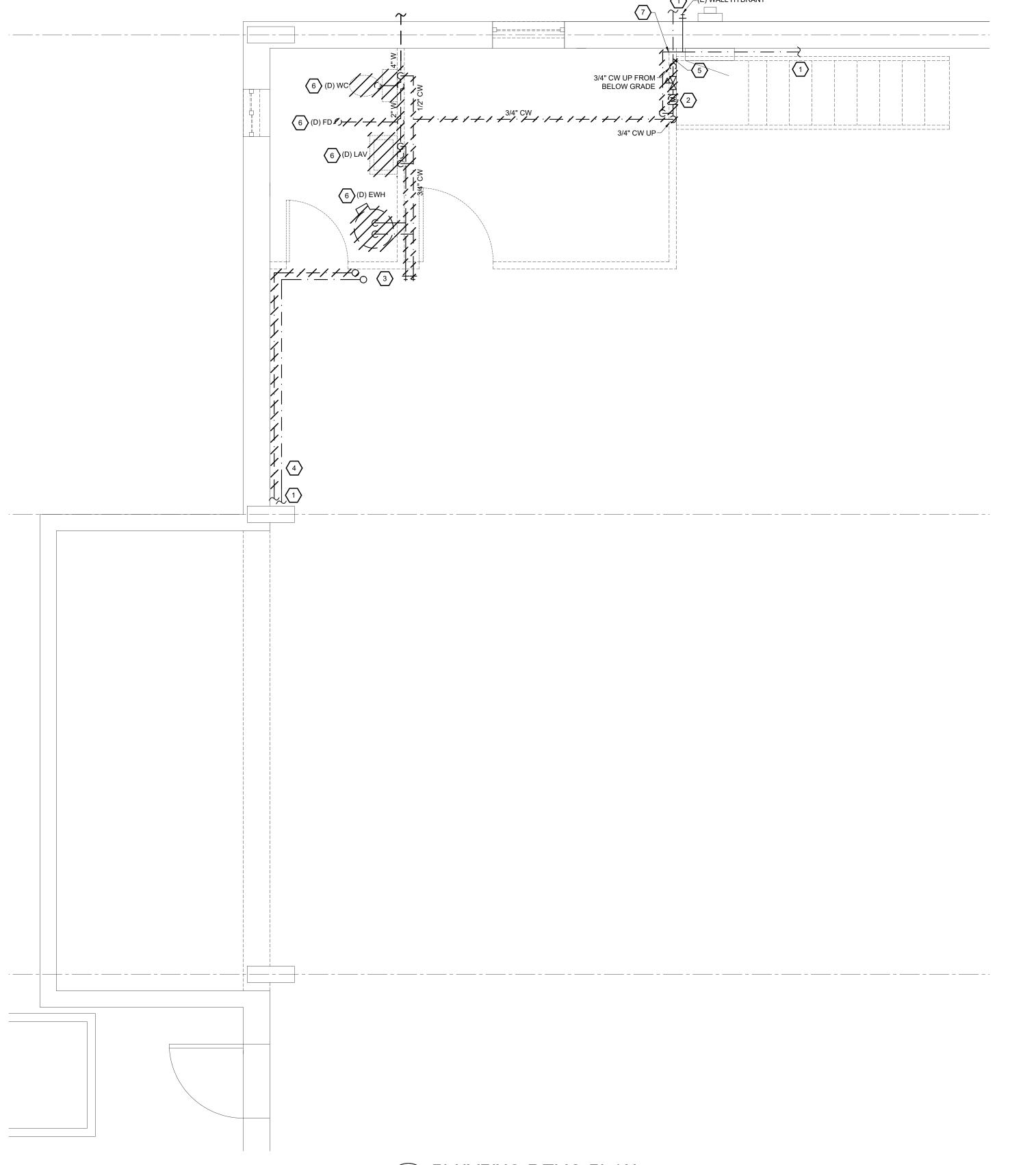


GION 29 EAS

DRAWN BY: ASF DATE: 9/23/2020

> CDOT PROJECT NO. 17179

> DRAWING NUMBER



Transportation



ADDITION

DRAWN BY: ASF

9/23/2020 DATE:

> CDOT PROJECT NO. 17179

DRAWING NUMBER

P1.0

### MEZZANINE KEY NOTES:

- (1) 3/4" CW DOWN IN WALL FROM FLOOR BELOW.
- 2 > 1" CW DOWN TO CEILING SPACE IN BATHROOM BELOW.
- FUNISH AND INSTALL BACKFLOW PREVENTER AND A PRESSURE REDUCING VALVE. INSTALL 2" DRAIN PIPE DIRECTLY OFF THE BOTTOM OF THE BACKFLOW PREVENTER WITH AIRGAP. ROUTE DRAIN PIPE INTO MSB-1. INSTALL WITH ALL MANUFACTURER
- 4 RELOCATED METER INSTALLED IN THIS LOCATION.

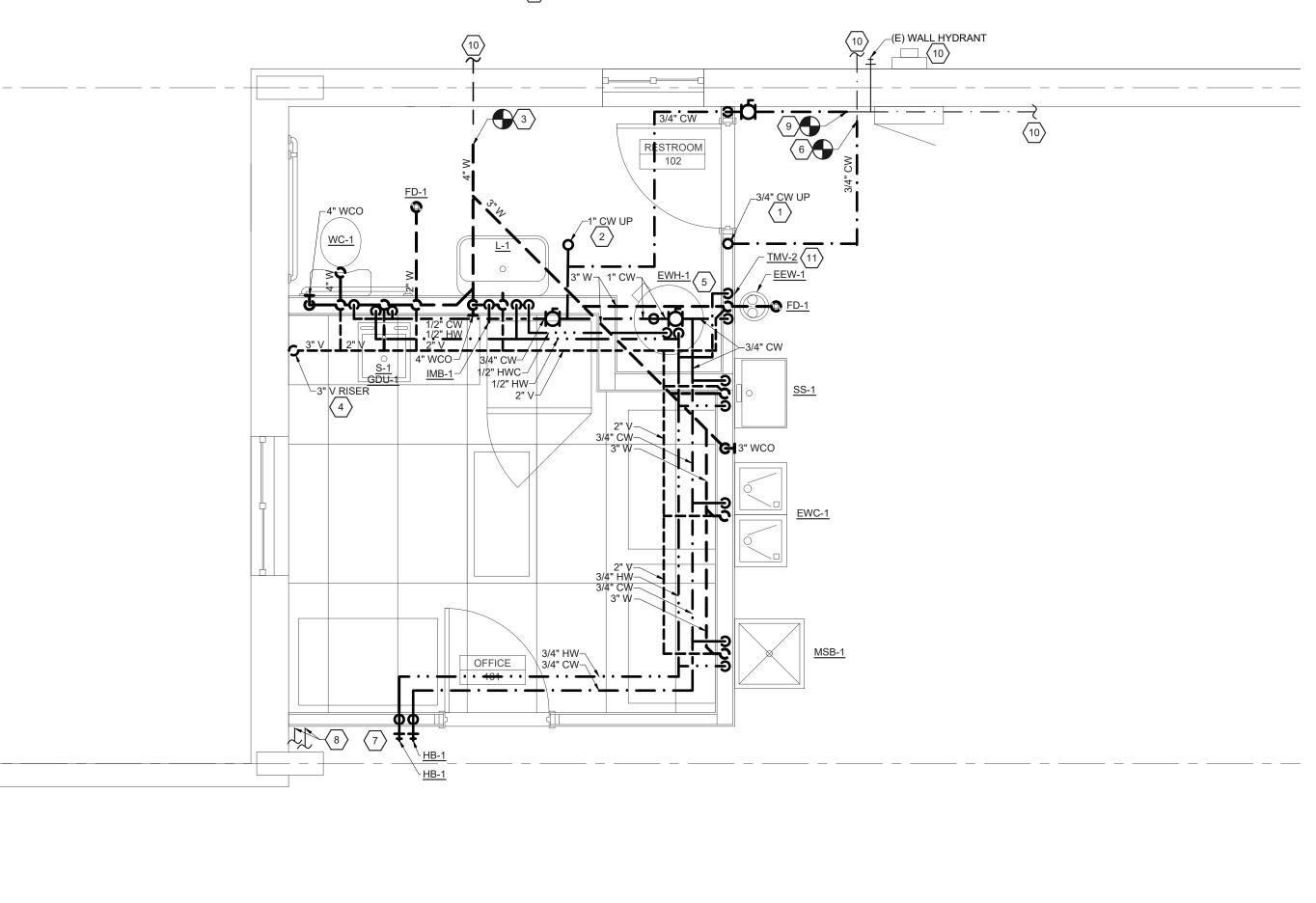
1 MEZZANINE PLUMBING PLAN
Pl.1 SCALE: 3/8" = 1'-0"

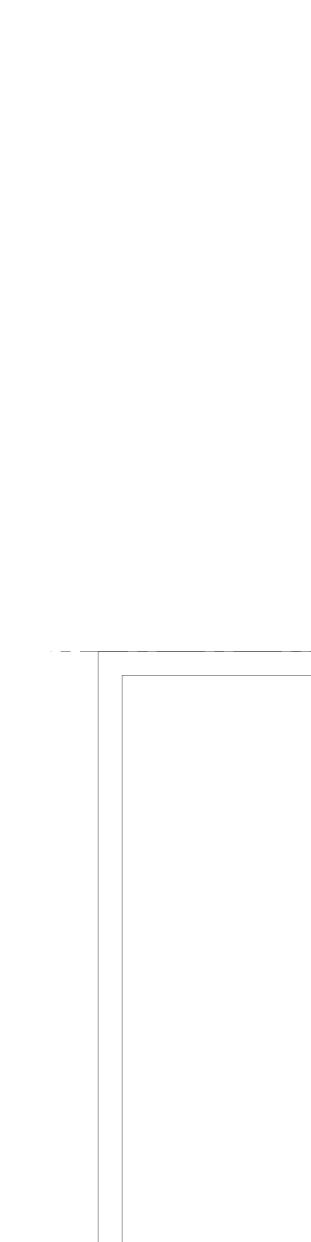
### **GENERAL NOTE:**

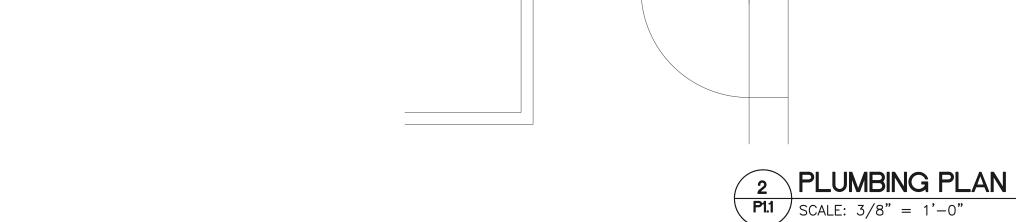
PLUMBING CONTRACTOR SHALL REFER TO FIXTURE CONNECTION SCHEDULE ON P0.0 FOR ALL FIXTURE CONNECTION SIZES. CONTRACTOR TO FURNISH AND INSTALL ALL FIXTURES.

### **KEY NOTES:**

- COLD WATER PIPE FROM BELOW GRADE UP TO WATER ENTRY EQUIPMENT ON MEZZANINE ABOVE. LABEL ALL PIPING UPSTREAM OF WATER ENTRY EQUIPMENT "DO NOT TAP" (LABEL IN WALL PIPING ALSO).
- 2 COLD WATER PIPE DOWN FROM MEZZANINE WATER ENTRY EQUIPMENT, ROUTED IN CEILING.
- CONNECT TO EXISTING WASTE MAIN. EXACT LOCATION UNKNOWN, CONTRACTOR TO VERIFY LOCATION PRIOR TO ROUTING NEW WASTE PIPING.
- ROUTE 3" VENT PIPE UP THROUGH MEZZANINE, TRANSITION NEAR ROOF STRUCTURE TO CONNECT TO EXISTING VTR. UPSIZE EXISTING VTR TO 3" IF NEEDED.
- 5 FURNISH AND INSTALL EWH-1 PER DETAIL 1/P0.0. ROUTE T&P RELIEF DRAIN IN WALL TO DISCHARGE TO MSB-1.
- $\langle$   $_{
  m 6}
  angle$  CONNECT NEW 3/4" CW TO EXISTING WATER ENTRY PIPE BELOW GRADE. ROUTE BELOW GRADE TO RISE WITHIN WALL.
- (7) INSTALL AN IDENTICAL DETAIL TO 2/P0.0 IN THIS NEW LOCATION WHERE HOSE BIBS ARE SHOWN. REUSE ITEMS SHOWN CLOUDED TO REMAIN, REPLACE ALL OTHERS. LABEL HOT WATER HOSE BIB AS "HOT" AND COLD WATER HOSE BIB AS "COLD"
- RECONNECT BLACK HOSE TO MANIFOLD AT THIS LOCATION. RECONNECT MANIFOLD TO DEMOLISHED WHITE PEX STUB IN THIS LOCATION.
- 9 ROUTE 3/4" CW ALONG WALL TO RECONNECT TO EXISTING CW PIPE SERVING EXTERNAL WALL HYDRANTS.
- (10) EXISTING TO REMAIN UNCHANGED.
- (11) FURNISH AND INSTALL TMV ON WALL WITH 1/2" HW, 1/2" CW, AND 3/4" TEPID CONNECTIONS.









Transportation



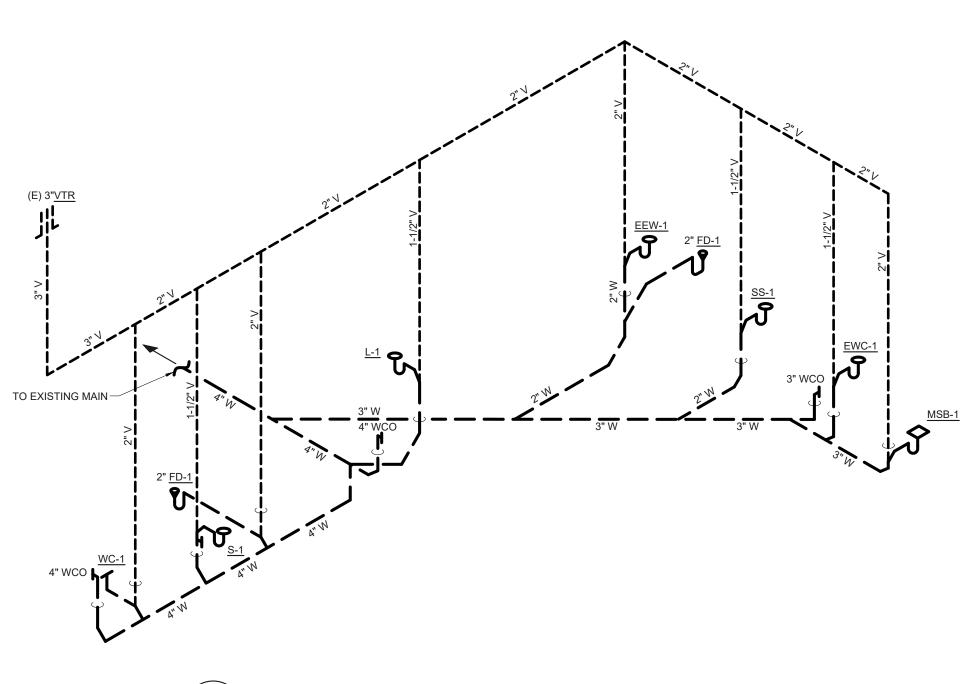
REGION 3 2829 EAST SHALE DRIVE RANGELY, COLORADO 8

DRAWN BY: DATE: 9/23/2020

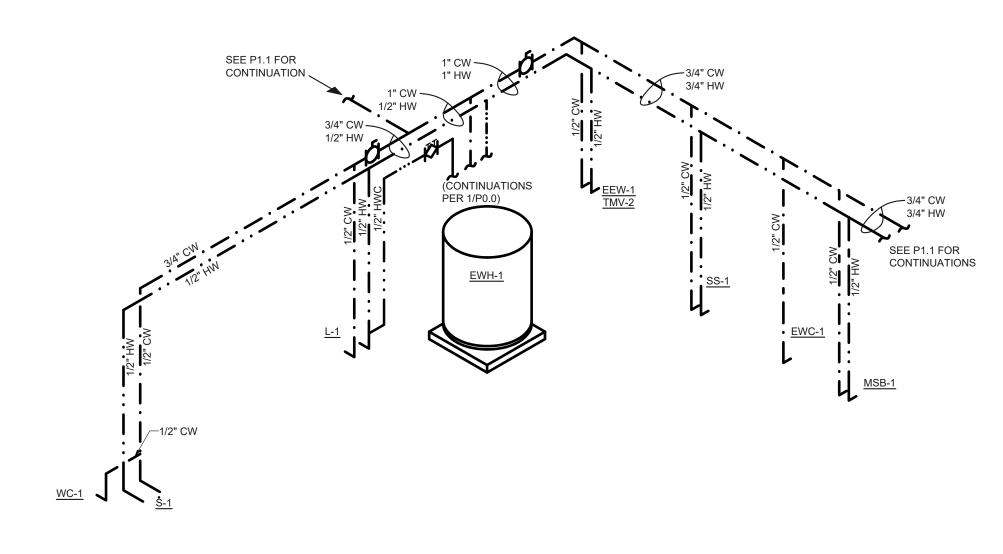
> CDOT PROJECT NO. 17179

DRAWING NUMBER

P1.1



2 DOMESTIC WASTE & VENT ISOMETRICS
P2.0 SCALE: NTS



1 DOMESTIC WATER ISOMETRICS
P2.0 SCALE: NTS

Department of Transportation



RANGELY ADDITION REGION 3 2829 EAST SHALE DRIVE RANGELY, COLORADO 8

DRAWN BY: ASF 9/23/2020 DATE:

> CDOT PROJECT NO. 17179

DRAWING NUMBER **P2.0** 

# ABBREVIATIONS AND SYMBOLS ABOVE COUNTER ABOVE FINISHED FLOOR ABOVE FINISHED GRADE AUTHORITY HAVING JURISDICTION AMPERES INTERRUPTING CAPACITY AUTOMATIC TRANSFER SWITCH BELOW FINISHED FLOOR CATV CABLE TELEVISION CIRCUIT BREAKER CURRENT TRANSFORMER DED DEDICATED CIRCUIT DISC DISHWASHER DWG(S) DRAWING(S) EXISTING TO REMAIN ELECTRICAL CONTRACTOR EXHAUST FAN

EPO.

EMC

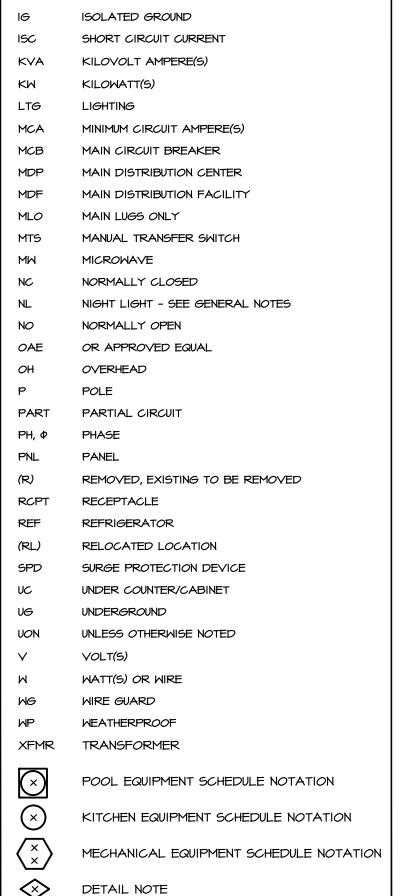
FLA

GD

GFP

IDF

LUMINAIRE TYPE, REFERENCING LUMINAIRE SCHEDULE, TYPICAL ALL FIXTURES. SUBSCRIPT, IF SHOWN, REFERENCES WALL SWITCH OR RELAY/ZONE CONTROL. WALL MOUNTED LUMINAIRE SURFACE OR PENDANT MOUNTED LUMINAIRE RECESSED LUMINAIRE DOWNLIGHT LUMINAIRE SURFACE CEILING LUMINAIRE PENDANT LUMINAIRE ARROW INDICATES DIRECTIONAL LUMINAIRE MONOPOINT LUMINAIRE ----- LED TAPE LUMINAIRE FESTOON LIGHTING EXISTING TO BE RELOCATED RECESSED MULTI-HEAD LUMINAIRE 00000 EMERGENCY FLOOR OR TABLE LAMP EMERGENCY POWER OFF ELECTRIC WATER COOLER FULL LOAD AMPS GROUND GENERAL CONTRACTOR GARBAGE DISPOSAL STEP LIGHT TYPE LUMINAIRE GROUND FAULT CIRCUIT INTERRUPTER IN-GRADE UPLIGHT 0 1 GROUND FAULT PROTECTION BOLLARD OR POST TOP LUMINAIRE HORSEPOWER INTERMEDIATE DISTRIBUTION FACILITY EXTERIOR AREA LIGHT ISOLATED GROUND SHORT CIRCUIT CURRENT WIRING DEVICES



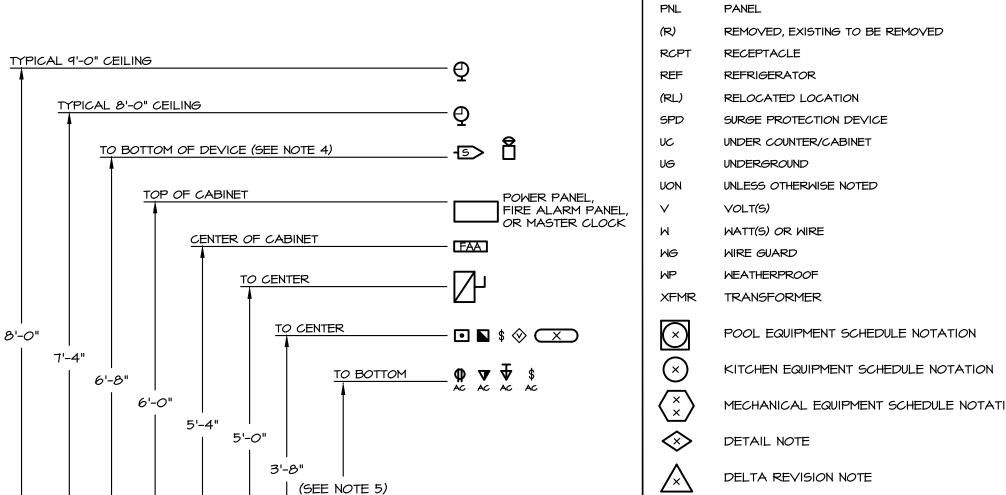
ELECTRICAL WIRE SIZE

OF OPERATION

LIGHTING CONTROLS SEQUENCE

DETAIL REFERENCE TAG

CENTER LINE DESIGNATION



TO CENTER • • •

1'-6"

- I. WHERE MULTIPLE LINE VOLTAGE DEVICES ARE SHOWN ADJACENT TO EACH OTHER, THEY ARE ALL TO SHARE THE SAME JUNCTION BOX, UP TO FOUR GANGS.
- 2. WHERE MORE THAN FOUR DEVICES ARE SHOWN ADJACENT TO EACH OTHER, DEVICES ARE TO STACK VERTICALLY ABOVE ONE ANOTHER IN TWO ROWS IN AS SMALL OF GANG BOXES AS POSSIBLE. I.E. SIX DEVICES WILL USE TWO THREE GANG BOXES, FIVE DEVICES WILL USE ONE THREE GANG AND ONE TWO GANG BOX.
- 3. SEPARATELY GANGED DEVICES ARE NOT ALLOWED TO BE INSTALLED ADJACENT
- 4. AUDIBLE/VISUAL FIRE ALARM DEVICES SHOWN ARE TO BE MOUNTED AT 90" OR 6" BELOW CEILING, WHICHEVER IS LOWER. ADA STROBES TO BE MOUNTED AT 80" AFF OR 6" BELOW CEILING, WHICHEVER IS LOWER.
- 5. THE E.C. SHALL REFER TO INTERIOR DESIGN ELEVATIONS TO COORDINATE ALL COUNTER HEIGHTS. ALL "AC" DEVICES SHALL HAVE BOTTOM OF BACK-BOX MOUNTED 4" ABOVE THE BACK/SIDE SPLASH.

# 1 MOUNTING HEIGHTS DETAIL

# E0.0 | SCALE: N.T.S.

TO ONE ANOTHER HORIZONTALLY WITHIN THE SAME STUD BAY.

### ELECTRICAL GENERAL NOTES

- THE CONTRACTOR SHALL PROVIDE ALL LABOR AND MATERIAL NECESSARY FOR A COMPLETE AND FUNCTIONING ELECTRICAL SYSTEM. MATERIALS AND INSTALLATION SHALL COMPLY WITH CODES, LAWS AND
- ORDINANCES OF FEDERAL, STATE AND LOCAL GOVERNING BODIES HAVING JURISDICTION.

INCLUDING LABOR, EQUIPMENT AND MATERIALS SHALL BE IN STRICT

- MATERIALS AND EQUIPMENT SHALL BE LISTED AND/OR LABELED BY U.L., ETL, CSA OR ANOTHER RECOGNIZED TESTING LAB. ALL WORK REQUIRED FOR THE INSTALLATION AS SHOWN ON DRAWINGS
- COMPLIANCE WITH THE BUILDING STANDARDS, EXCEPT AS NOTED
- 5. THE CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS, GOVERNMENTAL FEES, TAXES AND LICENSES NECESSARY FOR THE PROPER EXECUTION AND COMPLETION OF THE ELECTRICAL WORK.
- 6. THE CONTRACTOR SHALL PREPARE AND SUBMIT TO GOVERNMENTAL AGENCIES AND UTILITY COMPANIES SHOP DRAWINGS, WHICH ARE REQUIRED BY THESE AGENCIES, FOR THEIR APPROVAL.
- THE CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER/OWNER OF ANY MATERIALS OR APPARATUS BELIEVED TO BE INADEQUATE, UNSUITABLE, IN VIOLATION OF LAWS, ORDINANCES, RULES OR REGULATIONS OF AUTHORITIES HAVING JURISDICTION.
- FOR ALL JOBS THAT INCLUDE DEMOLITION WORK BY THE ELECTRICAL CONTRACTOR, DURING AND AFTER DEMOLITION, EC SHALL MAINTAIN CIRCUIT CONTINUITY TO ALL EXISTING DEVICES THAT ARE TO REMAIN. EC SHALL REMOVE, RELOCATE, AND/OR REWORK ANY CONDUIT AND WIRING TO FACILITATE THE NEW CONSTRUCTION SCOPE OF WORK. FOR ALL LUMINAIRES THAT ARE EXISTING TO REMAIN OR EXISTING TO BE RELOCATED, EC SHALL CLEAN LENSES AND REPLACE ALL EXTINGUISHED LAMPS, UON.
- THE CONTRACTOR SHALL CAREFULLY EXAMINE THE CONTRACT DOCUMENTS, VISIT THE SITE, AND THOROUGHLY BECOME FAMILIAR WITH THE BUILDING STANDARDS AND LOCAL CONDITIONS RELATING TO THE WORK. FAILURE TO DO SO WILL NOT RELIEVE THE CONTRACTOR OF THE OBLIGATIONS OF THE CONTRACT.
- IO. ALL MATERIALS, AND EQUIPMENT SHALL BE ERECTED, INSTALLED, CONNECTED, CLEANED, ADJUSTED, TESTED, CONDITIONED, AND PLACED IN SERVICE IN ACCORDANCE WITH THE MANUFACTURER'S DIRECTIONS AND RECOMMENDATIONS.
- ALL CUTTING, DRILLING AND PATCHING OF MASONRY, STEEL OR IRON WORK BELONGING TO THE BUILDING MUST BE DONE BY THIS CONTRACTOR IN ORDER THAT HIS WORK MAY BE PROPERLY INSTALLED, BUT UNDER NO CONDITIONS MAY STRUCTURAL WORK BE CUT. EXCEPT AT THE DIRECTION OF THE ARCHITECT-DESIGNER OR THEIR REPRESENTATIVE.
- 12. E.C. IS TO REFER TO ARCHITECTURAL PLANS AND SPECIFICATIONS FOR ALL FIRE RATED PENETRATION INSTALLATION REQUIREMENTS. E.C. IS TO NOTIFY ENGINEER AND ARCHITECT PRIOR TO INSTALLING ANY FIXTURES WITHIN A FIRE RATED CEILING OR WALL. FIRE RATING MUST BE MAINTAINED FOR THIS TYPE OF INSTALLATION WITH DRYWALL TENTING.
- 13. E.C. SHALL PROVIDE COORDINATION STUDY OF NEW AND/OR NEW GEAR COMBINED WITH EXISTING GEAR DURING THE SUBMITTAL PROCESS.
- SHOP DRAWINGS SHALL INCLUDE MANUFACTURER'S NAMES, CATALOG NUMBERS, CUTS, DIAGRAMS AND OTHER SUCH DESCRIPTIVE DATA AS MAY BE REQUIRED TO IDENTIFY AND REVIEW THE EQUIPMENT. SUBMITTALS SHALL BE IN LOGICAL GROUPS, FOR EXAMPLE, ALL LIGHTING FIXTURES, PARTIAL SUBMITTALS WILL NOT BE REVIEWED.
- 15. SUBMIT (3) COPIES OF THE FOLLOWING SHOP DRAWINGS FOR REVIEW. A. PANELBOARDS, AND METERING EQUIPMENT DISCONNECTS
- LIGHT FIXTURES LIGHTING CONTROLS
- PROVIDE "AS-BUILT" DRAWINGS AND SUBMIT TO ARCHITECT/DESIGNER.
- 16. PROVIDE THE FOLLOWING INFORMATION, PER IECC 2018 C408.2.5.2 TO THE PARTY RESPONSIBLE FOR PROJECT COMMISSIONING PLAN (COMMISSIONING AGENT/ MECHANICAL ENGINEER) AND ELECTRICAL
  - a. CUTSHEETS FOR ALL INSTALLED LIGHTING AND LIGHTING CONTROLS
  - b. OPERATION AND MAINTENANCE MANUALS FOR EACH PIECE OF INSTALLED LIGHTING, REQUIRED ROUTINE MAINTENANCE ACTIONS, CLEANING AND RECOMMENDED RELAMPING SHALL BE CLEARLY
  - c. SCHEDULE FOR INSPECTING AND RECALIBRATING ALL LIGHTING CONTROLS. INSPECTION OF ALL LIGHTING CONTROLS SHALL BE PERFORMED PRIOR TO ELECTRICAL ENGINEER'S COMMISSIONING SITE VISIT. RECALIBRATION OF LIGHTING CONTROLS SHALL BE PERFORMED FOLLOWING SITE VISIT AND SHALL BE BASED UPON THE RECOMMENDATIONS OF THE ELECTRICAL ENGINEER.
- ALL MATERIAL, EQUIPMENT, WIRING DEVICES, ETC. SHALL BE NEW, UNLESS SPECIFICALLY INDICATED AS EXISTING TO BE REUSED.
- 18. CONTRACTOR SHALL OBTAIN AND VERIFY EXACT UTILITY COMPANY DRAWINGS AND REQUIREMENTS. ELECTRICAL CONTRACTOR IS TO SUBMIT A COMPLETE CONSTRUCTION DRAWING SET TO THE ELECTRICAL UTILITY COMPANY WITHIN IO DAYS OF AWARD OF CONTRACT. COORDINATE TIMELINE OF THE REVIEW, APPROVAL, ALL ASSOCIATED DOWN TIME, CONSTRUCTION SCHEDULING, DELIVERY, AND INSTALLATION OF THE UTILITY TRANSFORMER. NOTIFY OWNER OF SCHEDULING CONFLICTS.
- 19. ALL NEW CIRCUIT BREAKERS FOR NEW OR EXISTING PANELBOARDS SHALL MATCH EXISTING BUILDING PANELBOARD MANUFACTURER AND BREAKER TYPE. THE CONTRACTOR SHALL PROVIDE NEW TYPE WRITTEN PANEL DIRECTORIES FOR ALL NEW PANELS AND EXISTING PANELS WHICH HAVE CHANGED. PANELBOARD SHALL BE MARKED WHERE THE SOURCE OF POWER SUPPLY ORIGINATES, AND IF SERIES COMBINATION SYSTEMS ARE UTILIZED AND THEIR LISTED AMPERE RATING.
- 20. DO NOT SHARE NEUTRAL CONDUCTORS FOR MULTIWIRE BRANCH CIRCUITS. WHERE SHARED NEUTRAL CONDUCTORS ARE REQUIRED (SUCH AS POWERED FURNITURE SYSTEMS), HANDLE TIES SHALL BE PROVIDED ON THE CIRCUIT BREAKERS, WITH SHARED NEUTRALS, SUCH THAT IT WILL SIMULTANEOUSLY DISCONNECT ALL UNGROUNDED CONDUCTORS. ALL HANDLE TIES ARE REQUIRED TO BE INDICATED ON THE PANELBOARD SHOP DRAWINGS.
- 21. SHOULD ACTUAL FIELD CONDITIONS REQUIRE INDICATED CIRCUIT DESIGNATIONS TO VARY, INDICATE THE CIRCUIT NUMBER USED ON THE "AS-BUILT" DRAWINGS.
- 22. ALL SERVICE EQUIPMENT (OTHER THAN IN DWELLING UNITS) SHALL BE LEGIBLY MARKED IN THE FIELD BY THE ELECTRICAL CONTRACTOR WITH THE MAXIMUM AVAILABLE FAULT CURRENT AS INDICATED WITHIN THESE DOCUMENTS. THE FIELD MARKING(S) SHALL COMPLY WITH ELECTRICAL SPECIFICATIONS FOR READABILITY AND DURABILITY.
- 23. PROVIDE COMPLETE METAL RACEWAY SYSTEMS AND ENCLOSURES FOR ALL WIRING THROUGHOUT THE EXTENT OF THE REQUIRED DISTRIBUTION
- A. UTILIZE RIGID POLYVINYL CHLORIDE CONDUIT (PVC) IN THE FOLLOWING LOCATIONS: a. UNDERGROUND
- B. UTILIZE ELECTRICAL METALLIC TUBING (EMT), MINIMUM SIZE OF 3/4", IN THE FOLLOWING LOCATIONS: a. SERVICE AND FEEDERS
- b. POWER CIRCUIT HOMERUN
- BRANCH CIRCUITS IN CONCEALED OR EXPOSED LOCATIONS
- d. TELEPHONE/DATA/CATY ROUGH-IN UTILIZE METAL-CLAD CABLE (MC) IN THE FOLLOWING LOCATIONS:
- a. BRANCH CIRCUIT IN CONCEALED LOCATIONS FINAL CONNECTION TO RECESSED LIGHTING FIXTURES
- . FINAL CONNECTION TO STEP-DOWN TRANSFORMERS
- 24. ALL NEW CIRCUITS SHALL HAVE A GROUND WIRE INSTALLED.

- 25. ALL WIRING NOT INSTALLED IN CONDUIT AND INSTALLED IN THE CEILING
- 26. ELECTRICAL CONTRACTOR SHALL PROVIDE ALL SPECIAL OUTLET BOXES
- 27. EACH SMITCH, LIGHT, RECEPTACLE AND OTHER MISCELLANEOUS DEVICE SHALL BE PROVIDED WITH A GALVANIZED OR PRESSED STEEL OUTLET BOX OF THE KNOCKOUT TYPE, OF NOT LESS THAN NO. 14 U.S. GAUGE STEEL CONDUITS SHALL BE FASTENED WITH LOCKNUTS AND BUSHINGS AND ALL UNUSED KNOCKOUTS MUST BE LEFT SEALED. THERE MUST BE SUFFICIENT ROOM FOR WIRES AND BUSHINGS AND DEEP BOXES SHALL BE INSTALLED WHERE REQUIRED. BOXES SHALL BE SECURELY AND ADEQUATELY
- 28. IN EXPOSED AND SUSPENDED CEILING APPLICATIONS, ROUTE CONDUIT AS CLOSE TO STRUCTURAL SLAB OR DECK AS POSSIBLE, AND SUPPORT CONDUIT AND JUNCTION BOXES DIRECTLY FROM THE STRUCTURAL SLAB, DECK, OR FRAMING PROVIDED FOR THAT PURPOSE. LIGHTING BRANCH CIRCUIT CONDUITS SHALL NOT BE CLIPPED TO THE CEILING SYSTEM HAS
- 29. ALL EXPOSED CONDUIT SHALL BE CONCEALED TO THE GREATEST EXTENT POSSIBLE, AND SHALL BE INSTALLED PARALLEL AND CLOSE TO STRUCTURAL MEMBERS. GENERAL CONTRACTOR SHALL PAINT CONDUIT TO MATCH ADJACENT FINISHES.
- SHALL BE STANDARD DEVICE LISTED BY UL FOR THE PURPOSE AND HAVE A UL FIRE RATING EQUAL TO THE FLOOR RATING. FLOOR SERVICE BOXES SHALL BE MODULAR, ADJUSTABLE FLUSH TYPE, DUAL SERVICE UNITS SUITABLE FOR WIRING METHOD USED. COMPARTMENT BARRIERS SHALL SEPARATE POWER FROM LOW VOLTAGE CABLING. PROVIDE RECTANGULAR SERVICE PLATE WITH SATIN FINISH.
- 31. ALL RECEPTACLES SHALL BE SPECIFICATION GRADE NEMA 5-20R, UNLESS
- 32. ALL LIGHT SWITCHES SHALL BE SPECIFICATION GRADE, QUIET OPERATION
- 33. ALL FACE PLATE AND DEVICE COLORS SHALL BE APPROVED BY ARCHITECT OR OWNER/LEASEE.
- BACKUP POWER. EMERGENCY LUMINAIRES SHALL SENSE UNSWITCHED POWER TO THE SPACE AND OPERATED AUTOMATICALLY UPON LOSS OF NORMAL POWER. ALL SHADED LUMINAIRES WITH 2' AND 4' LAMPS OR LONG BIAX LAMPS SHALL HAVE ONE (I) 90 MINUTE, TWO LAMP, 1400 LUMEN EMERGENCY BALLAST. ALL SHADED LUMINAIRES WITH COMPACT FLUORESCENT LAMPS SHALL HAVE A FACTORY INSTALLED 90 MINUTE EMERGENCY BALLAST. ALL SHADED LUMINAIRES WITH LED SOURCES SHALL BE PROVIDED WITH 90 MINUTES OF BATTERY BACKUP POWER. ALL EMERGENCY LUMINAIRES SHALL HAVE REMOTE TEST SWITCHES AND VISIBLE INDICATING LIGHTS. CONNECT THE EMERGENCY BATTERY BALLAST TO THE UN-SWITCHED LEG OF THE LIGHTING CIRCUIT INDICATED.
- CIRCUIT FEEDING THE ADJACENT AREA AND WIRED AHEAD OF ANY LOCAL SMITCHING, UON.
- 36. UNLESS OTHERWISE NOTED, LUMINAIRES DESIGNATED AS NIGHT LIGHT (NL) SHALL BE CONNECTED AHEAD OF LOCAL SWITCHING AND REMAIN ON 24
- DO NOT SHARE NEUTRALS ON DIMMED LIGHTING CIRCUITS.
- THE DOOR SHALL CONTROL ALL OUTER LAMPS IN THE INDICATED LUMINAIRE AND THE ADJACENT SWITCH SHALL CONTROL ALL INNER LAMP(S) IN THE INDICATED LUMINAIRES, UON.
- PROVIDE A SUGGESTED SOURCE, INCLUDING CONTACT NAME AND PHONE NUMBER, FOR REORDERING.
- 40. THE CONTRACTOR SHALL VERIFY THE CEILING TYPE BEFORE ORDERING
- 41. ROUGH-IN FOR MECHANICAL EQUIPMENT SHALL ONLY OCCUR AFTER MECHANICAL EQUIPMENT SUBMITTALS ARE THOROUGHLY REVIEWED FOR CHANGES. NOTIFY ENGINEER OF ANY DISCREPANCIES.
- PLACEMENT SUCH THAT THE RECEPTACLE IS ACCESSIBLE WITHIN THE WATER COOLER SHROUD, YET CONCEALED BY THE SHROUD PER NEC 422.33(A). PROVIDE 5MA GFCI CIRCUIT BREAKER IN ELECTRICAL PANEL PER NEC SECTION 422.
- CONNECTIONS SHALL BE CONFIRMED WITH APPROVED SHOP DRAWINGS PRIOR TO ELECTRICAL ROUGH-IN. FINAL POWER REQUIREMENTS, DIMENSIONED ROUGH-IN LOCATIONS, LOW VOLTAGE SYSTEM CONNECTIONS,
- MOUNTING HEIGHTS CONFIRMED WITH ARCHITECTURAL ELEVATIONS \$ OWNER PRIOR TO ROUGH-IN. ANY ADJUSTMENTS TO MOUNTING HEIGHTS REQUIRED BY LACK OF COORDINATION WILL BE AT THE CONTRACTOR'S
- 45. ALL EXISTING ELECTRICAL SERVICES NOT SPECIFICALLY INDICATED TO BE REMOVED OR ALTERED SHALL REMAIN AS THEY PRESENTLY EXIST.
- 46. G.C. SHALL INCLUDE IN HIS COST THE REMOVAL OF ALL EXISTING ELECTRICAL DEVICES, CONDUITS, FIXTURES AND EQUIPMENT. TURN EQUIPMENT OVER TO OWNER AS INDICATED OR RECYCLE/DISCARD ALL EQUIPMENT AS REQUIRED. E.C. SHALL BE RESPONSIBLE FOR
- NON-ACCESSIBLE, CONTRACTOR IS TO INCLUDE IN HIS BID THE COSTS ASSOCIATED WITH RELOCATING ALL ELECTRICAL EQUIPMENT REQUIRING ACCESS ABOVE THE EXISTING CEILING TO A NEW ACCESSIBLE CEILING LOCATION APPROVED BY ARCHITECT AND ENGINEER. THE USE OF ACCESS PANELS IN THE NEW CEILING TO AVOID RELOCATION OF THIS
- EQUIPMENT AS REQUIRED BY IECC 2012/2015, SECTION C408.3. AFTER THIS TESTING IS OBSERVED AND COMPLETED, THE COMMISSIONING AUTHORITY SHALL PROVIDE DOCUMENTATION TO THE AHJ THAT CERTIFIES THAT THE INSTALLATION MEETS THE DOCUMENTED PERFORMANCE CRITERIA OF SECTION C405.A
- CIRCUIT NUMBER. USE HOT, STAMPED, OR ENGRAVED MACHINE PRINTING WITH BLACK-FILLED LETTERING ON FACE OF PLATE, AND DURABLE WIRE MARKERS OR TAGS INSIDE OUTLET BOXES.
- TEST/RESET SWITCHES INTEGRAL TO RECEPTACLE DEVICE.

09/23/2020

8

DRIV LOR

2829 RAN(

S

Ó

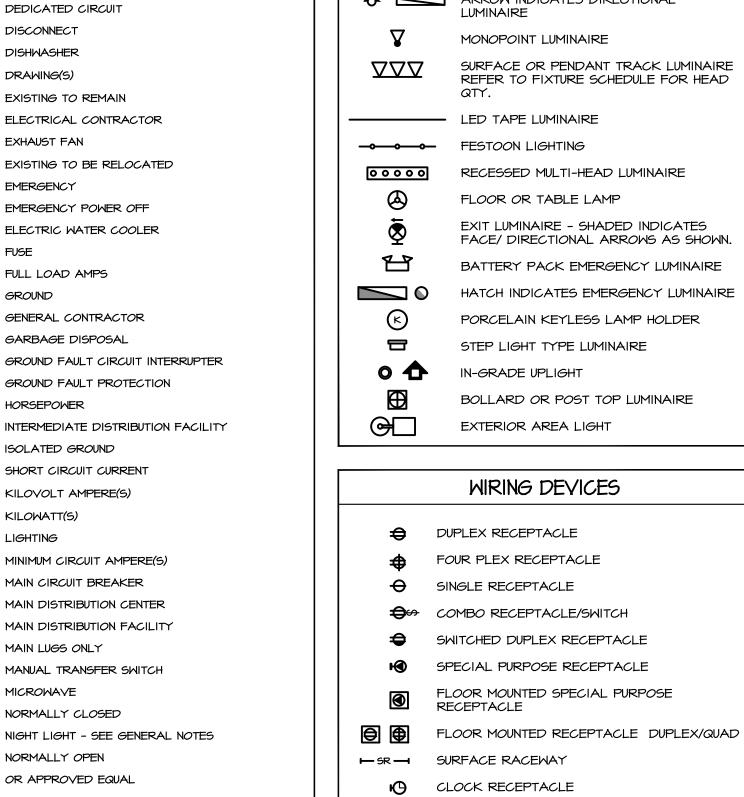
DRAWN BY: BJLV

CDOT PROJECT NO. SAP BUILDING # DRAWING NUMBER



Integrated Lighting and Electrical Solutions 1900 Wazee Street #205 | Denver, CO 80202 | 303.296.3034

aedesign-inc.com



- JUNCTION BOX WALL MOUNTED J-BOX
- FLOOR MOUNTED JUNCTION BOX MOLDED CASE CIRCUIT BREAKER IN
- ENCLOSURE NON-FUSED DISCONNECT SWITCH
- FUSED DISCONNECT SWITCH MAGNETIC CONTROLLER (STARTER) COMBINATION STARTER/DISCONNECT SWITCH

LIGHTING FIXTURES

- MOTOR R RELAY
- TIME CLOCK
- PHOTOCELL THERMAL OVERLOAD SWITCH
- SINGLE POLE SWITCH 3-WAY SWITCH
- 4-WAY SWITCH KEY OPERATED SWITCH
- DIMMER SWITCH
- \$DOOR RECESSED DOOR SWITCH
- LIGHTING CONTROL DEVICE. REFER TO DETAILS FOR CONTROL INTENT.
- SYSTEMS
- TTB, MDF OR IDF SYSTEM BACKBOARD TELECOMMUNICATION OUTLET FLOOR MOUNTED TELECOMMUNICATION OUTLET
- TELEVISION OUTLET
- VOLUME CONTROL PUSH BUTTON
- CLOSED CIRCUIT TELEVISION CAMERA
- CABLE TRAY (LENGTH AS INDICATED ON DRAWINGS)

SPEAKER - PAGING AND OR SOUND SYSTEM

(x) - INDICATES SPEAKER ZONE

MICROPHONE OUTLET

SPACE SHALL BE PLENUM RATED. THAT MAY BE REQUIRED TO ENCLOSE RECEPTACLES.

- BEEN SPECIFICALLY DESIGNED FOR THAT PURPOSE.
- 30. WHERE FLOOR FITTINGS REQUIRE PENETRATION OF THE FLOOR SLAB, THEY
- OTHERWISE NOTED.
- RATED 120/277 VOLT, 20 AMPS, UNLESS OTHERWISE NOTED.
- 34. PROVIDE LUMINAIRES SHOWN AS SHADED WITH EMERGENCY BATTERY
- ALL EXIT SIGNAGE LUMINAIRES SHALL BE CONNECTED TO THE LIGHTING
- 37. ALL DIMMED LIGHTING CIRCUITS ARE TO RECEIVE DEDICATED NEUTRALS.
- 38. WHERE DUAL LEVEL SWITCHING IS INDICATED, THE SWITCH CLOSEST TO
- 39. PROVIDE OWNER WITH A COMPLETE LISTING OF ALL LAMPS UTILIZED ON THE PROJECT INCLUDING MANUFACTURER AND CATALOG INFORMATION.

- 42. EC SHALL COORDINATE ELECTRIC WATER COOLER RECEPTACLE
- 43. THE POWER AND CONTROL REQUIREMENTS FOR ALL EQUIPMENT
- ETC. SHALL BE CONFIRMED AND MODIFIED AS REQUIRED. 44. ALL DEVICES IN OR ABOVE COUNTERS SHALL HAVE LOCATIONS AND
- DISCONNECTING PRIMARY SERVICE AND TEMPORARY POWER. 47. WHERE EXISTING CEILINGS ARE REVISED FROM ACCESSIBLE TO
- EQUIPMENT IS NOT ACCEPTABLE. 48. CONTRACTOR TO CONDUCT FUNCTIONAL TESTING OF LIGHTING CONTROLS
- 49. IDENTIFY EACH RECEPTACLE WITH PANELBOARD IDENTIFICATION AND
- 50. UNLESS OTHERWISE NOTED, ALL GFCI RECEPTACLES SHALL HAVE

1 ELECTRICAL DEMOLITION PLAN
E1.0 SCALE: 1/4" = 1'-0"

# ELECTRICAL DEMOLITION REQUIREMENTS

- THE BASIS OF THESE DRAWINGS WERE SITE OBSERVATIONS, ORIGINAL BUILDING DRAWINGS AND VARIOUS OTHER SOURCES. EVERY ATTEMPT HAS BEEN MADE TO DOCUMENT THE ACTUAL CONDITIONS. HOWEVER, THE CONTRACTOR SHALL CAREFULLY EXAMINE THE CONTRACT DOCUMENTS, VISIT THE SITE, AND THOROUGHLY BECOME FAMILIAR WITH THE BUILDING STANDARDS, THE BUILDING'S EXISTING CONDITION AND LOCAL CONDITIONS RELATING TO THE WORK. FAILURE TO DO SO WILL NOT RELIEVE THE CONTRACTOR OF THE OBLIGATIONS OF THE CONTRACT.
- THE ELECTRICAL CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER/OWNER OF ANY MATERIALS OR APPARATUS BELIEVED TO BE INADEQUATE, UNSUITABLE, IN VIOLATION OF LAWS, ORDINANCES, RULES OR REGULATIONS OF AUTHORITIES HAVING
- THE ELECTRICAL CONTRACTOR SHALL INCLUDE IN HIS COST THE REMOVAL OF ALL EXISTING ELECTRICAL DEVICES, CONDUITS, FIXTURES AND EQUIPMENT. DISCARD ALL EQUIPMENT AS REQUIRED, UNLESS NOTED OTHERWISE.
- EXISTING DEVICES NOT NOTED AS EXISTING (E) OR INDICATED ON PLANS SHALL REMAIN, AS THEY PRESENTLY EXIST. FOR DEMOLISHED DEVICES IN WALLS WHICH ARE TO REMAIN, THE ELECTRICAL CONTRACTOR SHALL INSTALL A BLANK FACE PLATE ON THE BACKBOX. FOR DEMOLISHED DEVICES INSTALLED IN THE FLOOR, THE ELECTRICAL CONTRACTOR SHALL CUT THE FLOOR BOX FLUSH WITH THE FLOOR AND FILL WITH CONCRETE; COORDINATE WITH THE GENERAL CONTRACTOR.
- THE DEMOLITION OF SOME DEVICES MAY INTERRUPT POWER TO DEVICES DOWN STREAM. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR REWORKING THESE CIRCUITS TO MAINTAIN POWER TO THE DOWN STREAM DEVICES WHICH WILL REMAIN.
- ALL UNENERGIZED/DEMOLISHED CIRCUITRY SHALL HAVE THE CONDUCTORS REMOVED FROM THE CONDUIT AND THE CONDUIT SHALL BE MARKED "EMPTY" WITH INDELIBLE

KEYNOTE LEGEND									
KEY VALUE									
$\Diamond$									
1.	EXISTING ELECTRICAL UTILITY SERVICE, METER, AND ASSOCIATED GEAR TO BE REMOVED FOR UPGRADE. REFER TO ELECTRICAL PLAN (SHEET E2.0) FOR MORE INFORMATION REGARDING NEW ELECTRICAL UPGRADE.								
2.	EXISTING UNDERGROUND SECONDARY FEEDER AND CONDUIT TO BE PULLED BACK TO SOURCE UTILITY TRANSFORMER AND REPLACED WITH NEW. REFER TO NEW ELECTRICAL PLAN (SHEET E2.0) FOR MORE INFORMATION REGARDING NEW ELECTRICAL UPGRADE.								
3.	UTILITY TRANSFORMER SHOWN FOR REFERENCE ONLY, TRANSFORMER IS LOCATED APPROXIMATELY I50' NORTH WEST FROM EXISTING ELECTRICAL METER.								
4.	E.C. TO RELOCATE EXISTING TTB. EXTEND ALL EXISTING CONDUIT/CABLING TO NEW								

LOCATION, SEE SHEET E2.0 FOR MORE

INFORMATION/NEW LOCATION.

ELECTRICAL DEMOLITION PLAN 81648

RANGELY OFFICE 2829 E SHALE DRIVE RANGELY, COLORADO 8

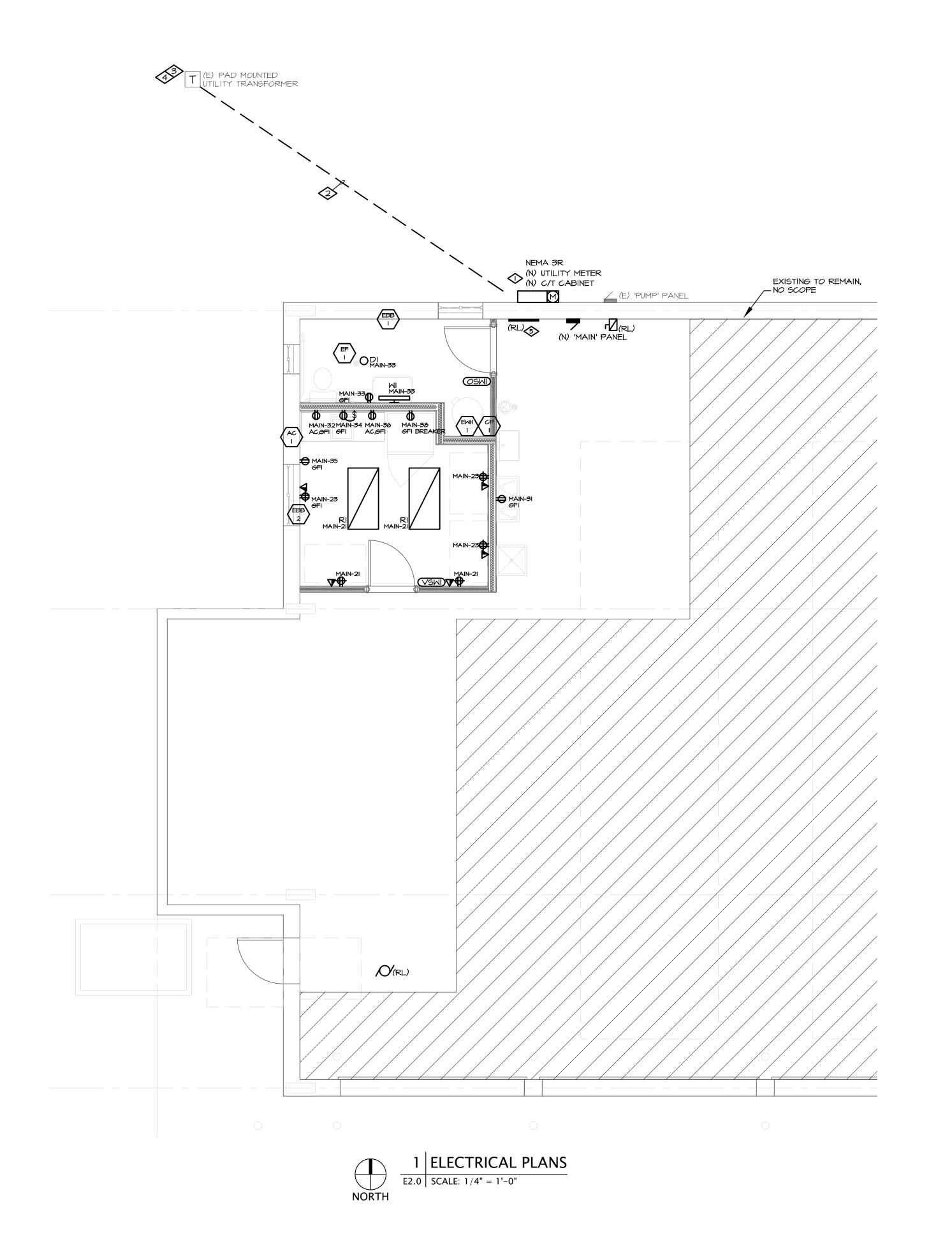


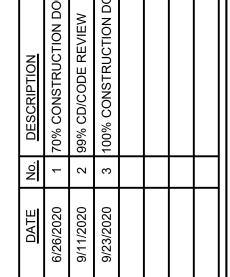
DRAWN BY: BJLV

CDOT PROJECT NO. 23364 SAP BUILDING # 1000/3/381 DRAWING NUMBER

AEDESIGN
Integrated Lighting and Electrical Solutions
1900 Wazee Street #205 | Denver, CO 80202 | 303.296.3034
aedesign-inc.com Project #:4929.00







ansportation

KEYNOTE LEGEND

E.C. TO COORDINATE WITH LOCAL UTILITY

LARGER SERVICE INSTALLATION.

2. E.C. TO COORDINATE LOCATION OF

EXISTING UTILITY METER.

COMPLETE INSTALLATION.

COMPANY (MOON LAKE ELECTRIC) ON NEW

UNDERGROUND CONDUCTORS. COORDINATE LOCATION FOR MINIMAL SHUTDOWN TIME.

3. UTILITY TRANSFORMER SHOWN FOR REFERENCE ONLY. TRANSFORMER LOCATED

4. E.C. TO COORDINATE WITH UTILITY COMPANY

TRANSFORMER UPGRADE AND SERVICE

NEW LOCATION FOR EXISTING TTB. E.C. TO

EXTEND EXISTING CONDUITS/CONDUCTORS/ CABLING TO NEW LOCATION. E.C. TO

PROVIDE ALL NECESSARY NEW PARTS FOR A

UPGRADE FOR MINIMUM SHUTDOWN TIME.

ON POSSIBLE TRANSFORMER UPGRADE FOR SERVICE UPGRADE. COORDINATE UTILITY

APPROXIMATELY 150' NORTH WEST FROM

VALUE

REM( RANGELY OFFICE REI
2829 E SHALE DRIVE
RANGELY, COLORADO 81648 **ELECTRICAL PLANS** 

DRAWN BY: BJLV

CDOT PROJECT NO. 23364 SAP BUILDING # 1000/3/381 DRAWING NUMBER **E2.0** 



A. ALL CONDUCTORS ARE COPPER THHN, UNLESS OTHERWISE NOTED.

B. REFER TO MECHANICAL PLANS FOR SPECIFIC EQUIPMENT LOCATIONS AND REQUIREMENTS.

C. PRIOR TO ROUGH-IN, COORDINATE ALL MECHANICAL EQUIPMENT POWER AND CONNECTION REQUIREMENTS WITH MECHANICAL CONTRACTOR'S FINAL SHOP DRAWINGS. D. PROVIDE ALL 120V CONTROL WIRING, REFER TO SPECIFICATIONS FOR FURTHER CONTROL WIRING CLARIFICATION.

E. EXTERIOR DISCONNECT SWITCHES ARE TO BE PROVIDED AS NEMA 3R EQUIPMENT UNLESS OTHERWISE NOTED. F. EC TO PROVIDE HAND/OFF/AUTO STARTERS FOR ALL MOTORS WHEN NOT INDICATED AS TO BE PROVIDED BY THE MECHANICAL CONTRACTOR ON THE MECHANICAL PLANS.º SIZE OF STARTER TO BE BASED UPON SIZE OF MOTOR HORSEPOWER INDICATED.

I. EC TO PROVIDE LINE VOLTAGE THERMOSTAT CONNECTION. SEE MECHANICAL PLANS FOR MORE INFORMATION. 2. FAN TO BE CONTROLLED BY VACANCY LIGHT SWITCH.

LIGHTING	CONTROL	NOTES
	CONTINUE	

# GENERAL CONTROL NOTES

THE LIGHTING CONTROL SYSTEM CONSISTS OF THE FOLLOWING: a. STAND-ALONE CONTROLS

ALTERNATE MANUFACTURER'S WILL BE REVIEWED ACCORDING TO THE NOTES

PROVIDED IN THE LIGHTING FIXTURE SCHEDULE.

ALL STRUCTURED CABLE WIRING SHOWN ON RISER DIAGRAMS IS INTENDED TO BE BY CONTROL MANUFACTURER APPROVED STANDARD STRUCTURED CABLING, UNLESS OTHERWISE NOTED. EC SHALL PROVIDE ALL CABLING WITHIN THE LIGHTING CONTROL SYSTEM, CABLING BETWEEN THE NETWORKED HEAD-END AND THE BUILDINGS COMMUNICATION NETWORK SHALL BE PROVIDED BY THE LOW VOLTAGE

LIGHTING CONTROL SYSTEM SHALL INCLUDE A MINIMUM OF (4) HOURS OF MANUFACTURER'S REPRESENTATIVE TIME ON SITE FOR SYSTEM CHECK-OUT AND OWNER TRAINING. ELECTRICAL CONTRACTOR SHALL VIDEO RECORD TRAINING SESSION AND PROVIDE COPY OF VIDEO TO OWNER AS PART OF PROJECT COMPLETION SUBMITTALS.

ALL DIGITAL SWITCHES FOR OVERRIDE CONTROL OF LIGHTING CONTROL SYSTEM(S) SHALL HAVE A MAXIMUM SETTING OF 2 HOURS PER IECC REQUIREMENTS.

FINAL OCCUPANCY AND DAYLIGHT SENSOR LOCATION SHALL BE PROVIDED BY MANUFACTURER AND LOCATED PER APPROVED SHOP DRAWINGS AND DEVICE REQUIREMENTS. LOCATIONS INDICATED IN THESE DRAWINGS SHALL BE REVIEWED AND ALTERED AS NECESSARY FOR CORRECT OPERATION BY MANUFACTURER. IF OPERATIONS OF SENSORS DOES NOT MEET THE INTENT OUTLINED IN THESE DOCUMENTS THE MANUFACTURER REPRESENTATIVE SHALL PROVIDE FIELD RECTIFICATION SERVICES AS NECESSARY IN ORDER TO RECONFIGURE SYSTEM TO MEET OUTINED INTENT.

# STAND-ALONE LIGHTING CONTROL GENERAL NOTES

- APPROVED STANDALONE LIGHTING CONTROLS TO BE PROVIDED BY ONE OF THE FOLLOWING PRE-APPROVED MANUFACTURERS: a. LEVITON
- b. nLIGHT/SENSORSWITCH

CONTRACTOR/OWNER.

c. LUTRON d. GREENGATF

TO VACANCY MODE, SINGLE

e. WATTSTOPPER f. DOUGLAS

	DESCRIPTION	(ft <i>)</i>	ON FEEDER (Amos)	Factor (%)	(EL-L)	
FO	UTILITY XFMR					
FI	PANEL 'MAIN'	165	400	90%	240	
F2	PANEL 'PUMP'	15	100	90%	240	

THIS CALCULATION TABLE DOES NOT TAKE INTO ACCOUNT SECONDARY TRANSFORMERS.

YPE	DESCRIPTION	MANUFACTURER	CATALOG NUMBER	VOLTAGE			SOURCE		MAX	LUMEN	DIMMING	FIXTURE	MOUNTING	INFORMATION	NOTES
					QTY	MATT	TYPE	CCT/CRI	WATTS	OUTPUT		FINISH	LOCATION	BOF/RFD/OFH	
DI	6" LED DOWNLIGHT	LITHONIA	LDN6 35/15 LO6AR TRW 120	120	_	26	LED	3500/80	20	1606	0-107	MHITE	RECESSED	6-7/16"	
														RFD	
RI	2'X4' LED RECESSED TROFFER	PINNACLE	LU24A-835LO-GI-I-OLI-O-W	120		24.3	LED	3500/80	24.3	3019	0-107	WHITE	RECESSED	3-3/4"	
														RFD	
MI	2' LED VANITY	LITHONIA	WL2 22L EZI LP840	120		21	LED	4000/80	21	2189	0-107	WHITE	SURFACE		

ABBREVIATIONS: BOF - BOTTOM OF FIXTURE, RFD - RECESSED FIXTURE DEPTH, OFH - OVERALL FIXTURE HEIGHT, AFF(AFG) - ABOVE FINISHED FLOOR (GRADE), WFD - WALL FIXTURE DEPTH A. ALL LED LAMPS AND/OR FIXTURES SHALL BE 3000K COLOR TEMPERATURE AND A MINIMUM OF 82CRI, UON.

B. ALL REFLECTOR LAMPS SHALL BE PROVIDED AS WIDE FLOOD DISTRIBUTION, UON.

C. PROVIDE LUMINAIRES SHOWN AS SHADED WITH FACTORY INSTALLED 90 MINUTE EMERGENCY BATTERY OR OTHER REMOTE POWER SOURCE, UON. EMERGENCY LUMINAIRES SHALL SENSE UN-SWITCHED POWER TO THE SPACE AND OPERATE AUTOMATICALLY UPON LOSS OF NORMAL POWER, ALL EMERGENCY LUMINAIRES SHALL HAVE AN INTEGRAL TEST SWITCH AND VISIBLE INDICATOR LIGHT. CONNECT THE EMERGENCY BATTERY TO THE UN-SWITCHED LEG OF THE LIGHTING CIRCUIT INDICATED. D. LUMENS LISTED ARE DELIVERED LUMENS, NOT INITIAL.

E. FOR ALL SPECIFIED LUMINAIRES, THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL MOUNTING HARDWARE, ACCESSORIES, COMPONENTS, LEADER/JUMPER CABLES, WIRE FEED,

CONNECTORS, END CAPS, REMOTE POWER SUPPLIES, AND ANY OTHER NECESSARY COMPONENT AS REQUIRED FOR INSTALLING A SECURE AND FULLY FUNCTIONAL SYSTEM. F. THE CONTRACTOR SHALL VERIFY THE CEILING TYPE BEFORE ORDERING LIGHT FIXTURES TO ENSURE COMPATIBILITY WITH SPECIFIED FIXTURES. NOTIFY SPECIFIER OF ANY DISCREPANCIES.

G. ALL FINISH SELECTIONS SHALL BE VERIFIED BE ARCHITECT/INTERIOR DESIGNER/OWNER AS PART OF THE SUBMITTAL PROCESS. UNLESS OTHERWISE NOTED, EC SHALL ASSUME STANDARD LUMINAIRE

H. EC SHALL VERIFY ALL FIXTURE MOUNTING HEIGHTS WITH ARCHITECTURAL ELEVATIONS PRIOR TO ANY ROUGH-IN. I. TYPICAL FOR ALL LIGHT FIXTURES WITH DESIGNATION STARTING WITH 'M': FIXTURES ARE SHOWN FOR REFERENCE ONLY. FIXTURE SELECTIONS AND SPECIFICATIONS SHALL BE PROVIDED BY THE ARCHITECT

AND/OR INTERIOR DESIGNER. EC SHALL COORDINATE EXACT MOUNTING LOCATION, MOUNTING HEIGHT, WATTAGE, AND DIMMING PROTOCOL WITH ARCHITECT / INTERIOR DESIGNER, LIGHTING CONSULTANT, AND/OR ELECTRICAL ENGINEER PRIOR TO INSTALL. J. REMOTE DRIVER(S)/TRANSFORMER(S) SHALL BE LOCATED IN A CONCEALED, ACCESSIBLE, AND VENTILATED LOCATION AS PROPOSED BY THE EC AND APPROVED BY THE ARCHITECT.

REFER TO THE MANUFACTURER'S INSTALLATION INSTRUCTIONS FOR MINIMUM REQUIRED CLEARANCES FROM ADJACENT MATERIALS, AND WIRING REQUIREMENTS TO PREVENT VOLTAGE DROP. DO NOT EXCEED MANUFACTURER'S RECOMMENDATIONS REGARDING WIRE GAGE AND MAXIMUM WIRE RUN LENGTHS.

K. FOR LUMINAIRES SPECIFIED WITH 0-10V DIMMING, 0-10V DIMMING DRIVER(S) REQUIRE ADDITIONAL LOW VOLTAGE CONTROL WIRES IN ADDITION TO STANDARD WIRING FOR POWER. L. EXTERIOR LUMINAIRES SHALL BE COLD WEATHER RATED FOR O DEG. F / -18 DEG. C., AND RATED FOR OUTDOOR USE.

SPECIFIC NOTES:

LIGHTING C	CONTROL DEVICES		
TYPE	DESCRIPTION	COMMENTS	DETAILS
STANDALONE (	CONTROL SYSTEMS		
OSWI	WALLSWITCH MOUNT, DUAL TECH, OCCUPANCY SENSOR, BI-LEVEL		
VSMI	MALLSWITCH MOUNT, DUAL TECH, OCCUPANCY SENSOR SET		

# GROUNDING ELECTRODE SYSTEMS NOTES

METAL UNDERGROUND WATER PIPE - MAKE CONNECTION TO METAL UNDERGROUND

WATER PIPE IN DIRECT CONTACT WITH THE EARTH FOR IO' OR ELECTRICALLY

### CONTINUOUS TO THE POINTS OF CONNECTION TO THE GROUNDING ELECTRODE CONDUCTOR AND BONDING CONDUCTORS. CONNECTION POINT TO BE AT A MAXIMUM OF 5' OF THE POINT OF ENTRANCE ON THE INTERIOR OF THE BUILDING.

BUILDING STEEL - THE METAL FRAME OF THE BUILDING OR STRUCTURE, WHERE ANY OF THE FOLLOWING METHODS ARE USED TO MAKE AN EARTH CONNECTION: A. AT LEAST ONE STRUCTURAL METAL MEMBER THAT IS IN DIRECT CONTACT WITH

THE EARTH FOR IO' OR MORE, WITH OR WITHOUT CONCRETE ENCASEMENT.

- HOLD-DOWN BOLTS SECURING THE STRUCTURAL STEEL COLUMN THAT ARE CONNECTED TO A CONCRETE ENCASED ELECTRODE THAT COMPLIES WITH 250.52(A)(3) AND IS LOCATED IN THE SUPPORT FOOTING OR FOUNDATION. THE HOLD-DOWN BOLTS SHALL BE CONNECTED TO THE CONCRETE-ENCASED ELECTRODE BY WELDING, EXOTHERMIC WELDING, THE USUAL STEEL TIE WIRES, OR OTHER APPROVED MEANS.
- UFER GROUND (CONCRETE-ENCASED ELECTRODE) AN ELECTRODE ENCASED BY AT LEAST 2" OF CONCRETE, LOCATED WITHIN AND NEAR THE BOTTOM OF A CONCRETE FOUNDATION OR FOOTING THAT IS IN DIRECT CONTACT WITH EARTH, CONSISTING OF AT LEAST 20' OF ONE OR MORE BARE OR ZINC GALVANIZED OR OTHER ELECTRICALLY CONDUCTIVE COATED STEEL REINFORCING BARS OR RODS OF NOT LESS THAN I/2" IN DIAMETER, OR CONSISTING OF AT LEAST 20' OF BARE COPPER CONDUCTOR NOT SMALLER THAN NO. 4 AWG. REINFORCING BARS SHALL BE PERMITTED TO BE BONDED
- GROUND ROD ROD IS TO BE &FT IN LENGTH AND SHALL BE MADE OF IRON OR STEEL AT LEAST 5/8" DIAMETER. INSTALLATION METHODS FOR GROUND ROD SHALL BE IN COMPLIANCE WITH THE NEC SUCH THAT AT LEAST & OF LENGTH IS IN CONTACT WITH THE

TOGETHER BY THE USUAL STEEL TIE WIRES OR OTHER EFFECTIVE MEANS.

						PAN	EL 'N	'NIA						
	VOLTAGE I	L:	240				LOCA	TION:	BACK (	OF GAR	A <i>G</i> E			
VOLTAGE L-N: 120					BUS F	RATING:		400	AMPS					
TYPE: IPH/3W MAIN CB: 400														
	MOUNTING:		SURFACE				FED F	FROM:		UTILITY	TRANSFORMER			
	NOTES:		NEW PANEL				AIC F	RATING:		FULLY	RATED AT LEAST EQUAL TO:	22K AIC		
CIR.	CCT	LOAD	LOAD	CIRCI	JIT BRE	AKER	BUS	CIRCL	JIT BRE	AKER	LOAD	LOAD	CCT	CIR
NO	TYPE	VA	DESCRIPTION (NOTE N#)	POLE	TRIP	TYPE	1	TYPE	TRIP	POLE	DESCRIPTION (NOTE N#)	∨A	TYPE	NO
1	М	500	(NI) HEAT	1	20		Α		20	-	(NI) OVERHEAD DOOR I	500	E	2
3	R	720	(NI) SOUTH WEST ROPTS	1	20		В		20	1	(NI) OVERHEBD DOOR 2	500	E	4
5	L	500	(NI) S. FLOOD LIOGHTS & T.C.		20		Α		20	1	(NI) OVERHEAD DOOR EAST	1000	E	6
7	R	720	(NI) SOUTH CENTER ROPTS	1	20		В		50	2	(NI) AIR COMPRESSOR	3500	E	8
9	R	720	(NI) SOUTH EAST ROPTS	1	20		Α					3500	E	10
Ш	Ŕ	720	(NI) WEST WALL ROPTS		20		В		30	1	(NI) NORTH LIGHTS	1000	L	12
13	R	720	(NI) EAST WALL ROPTS		20		Α		30	ı	(NI) SOUTH LIGHTS	1000	L	14
15	R	720	(NI) NORTH WALL ROPTS	1	20		В		20	ı	(NI) NORTH EAST LIGHTS	1000	L	16
17	E	1500	(NI) HOT WATER HEATER	i	20		Ā		50	2	(NI) WELDER	3000	E	18
19	L	1000	(NI) DECK & WEST LIGHTS	1	20		В					3000	E	20
21	R	800	(N2)OFFICE RCPTS/ LIGHTS	i i	20		Ā		20	<u> </u>	(NI) OUTSIDE PLUGS	720	R	22
23	R	1080	(N2) OFFICE RCPTS	i	20		В		20	l i	(NI) YARD LIGHTS	500	L	24
25	М	500	(NI) EX FAN	i i	20		Ā		20	l i	(NI) PUMP	140	М	26
27	М	700	(NI) OFFICE/BATHROOM HEAT	2	15		В		100	2	(NI) SUB PANEL 'PUMP'	9000	5	28
29	M	700					Ā					9000	5	30
31	E	500	EMC		20		В		20	1	A.C. BREAK RCPT	1000	R	32
33		500	BATHROOM RCPT, EF, LTGS	i	20		Ā		20	i	DISPOSAL	1167	R	34
35		990	OFFICE A/C	i	20		В		20	i	A.C. BREAK RCPT	1000	R	36
37	E	1000	EBB-I	i	20		Ā	<del>GF</del> CI	20	i	FRIDGE RCPT	750	R	38
39	E	700	EBB-2	i	20		В	0, 0,	20	i	SPARE	"		40
41	E	3000	EWH-I	2	40		Ā		20	i	SPARE			42
43	E	3000					В		20	i	SPARE			44
45		120	CP-I		20		Ā		20	i	SPARE			46
47		0	SPARE	i	20		В		20	i	SPARE			48
49			BUSSED SPACE	<u> </u>			Ā			<u> </u>	BUSSED SPACE			50
51			BUSSED SPACE				В				BUSSED SPACE			52
53			BUSSED SPACE				Ā				BUSSED SPACE			54
55			BUSSED SPACE				В				BUSSED SPACE			56
57			BUSSED SPACE				Ā		100	2	SPARE	<del> </del>		58
59			BUSSED SPACE				В							60
<u>٦٦</u>			IDODOLD DE MOL								<u> </u> ==	<u> </u>		100

CCT TYPE:	L=LIGHTING,	R=RECEPT	ACLE, M=MOTOR, LM=LARGES <sup>.</sup>	T MOTOR, E=EQUIPMENT, k	Œ=KITCHEN EQUIPMENT, S=SU	BFEEI	D PANEL		
CB TYPE:	GFCI=5mA 6	FROUND FAL	ILT CIRCUIT INTERRUPTER, GFE	EP=30mA GROUND FAULT	PROTECTION FOR EQUIPMENT	, AFC	I=ARC FAUL	T CIRCUIT IN	TERRUPTER
	CAFCI=COM	BINATION A	RC FAULT & 5mA GROUND FAI	ULT CIRCUIT INTERRUPTER	, ST=SHUNT TRIP, HT#=HANDL	E TIE	WITH GROUP	ING #	
	HC=HANDLE	CLAMP FOR	R LOCKING IN ON/OFF POSITIO	ON, LOCK=PERMANENTLY	LOCKABLE BREAKER				
CCT TYPE:	L <i>O</i> AD	MULT I	DEMAND LOAD		TOTAL CON	NECT	ED LOADS		
LIGHTING:	55 <i>00</i>	1.25	6875 VA				Α	В	
RECEPTACLE:	10000	1.0	10000 VA			VΑ	31337	3135 <i>0</i>	
OVER IOK:	837	0.5	419 VA		TOTAL DEM	ANDE	D LOADS		
MOTOR:	3650	1.0	3650 VA				Α	В	
LGST MOTOR:	0	1.25	O VA			VA	31649	31995	
EQUIPMENT:	24700	1.0	24700 VA		1A	1PS	264	267	
KITCH EQUIP:	0	0	O VA		TOTAL	ON		64	KVA
SUBFEED PNL:	18000	1.0	18000 VA		PAN	ŒL:		265	AMPS
NOTES:									

NI. EXISTING LOAD ON NEW CIRCUIT BREAKER. N2. RELOCATED LOAD ON NEW CIRCUIT BREAKER

KEY/	FEEDER CONDUIT	KEY/	FEEDER CONDUIT
AMPS	AND CONDUCTORS	AMPS	AND CONDUCTORS
SERVICE E	NTRANCE FEEDERS	SDS XFM	R FEEDERS (NOTE I)
400N	2[3#3/0, 2"C]	305	3#IO, I#8G, 3/4"C
600N	2[3#35 <i>O</i> , 3"C]	505	3#6, I#8G, I-I/4"C
800N	2[3#500, 3-1/2"6]	1005	3#I, I#6G, I-I/2"C
1000N	3[3#400, 3-1/2"C]	1509	3#I/O, I#6G, 2"C
1200N	4[3#350, 3"C]	2505	3#250, I#26, 3"C
1600N	5[3#400, 3-1/2"6]	4005	2[3#3/0, 1#26, 2-1/2
2000N	6[3#400, 3-1/2"C]	5005	2[3#250,  # /06, 3"
2500N	7[3#500, 3-1/2"6]	8005	2[3#500, I#2/06, 3"
3000N	8[3#500, 3-1/2"C]	10005	3[3#400, 1#3/06, 3-1/
3500N	10[3#500, 3-1/2"0]	16005	5[3#400, I#3/0 <del>6</del> , 3-I/
4000N	II[3#500, 3-I/2"C]	25005	7[3#500, I#3/06, 3-I/
EQUIPMENT	FEEDERS	•	
20NG	3#12, #12 <i>G</i> , 3/4"C	206	2#I2, #I2G, 3/4"C
30NG	3#10, 1#106, 3/4"C	306	2#10, 1#106, 3/4"0
40NG	3#8, I#IOG, I"C	406	2#8, I#IOG, I"C
50NG	3#6, I#IOG, I-I/4"C	506	2#6, I#IOG, I"C
60NG	3#4, I#IOG, I-I/4"C	606	2#4, I#IOG, I"C
70NG	3#4, I#8G, I-I/4"C	706	2#4, I#8G, I-I/4"C
80NG	3#3, I#8G, I-I/4"C	806	2#3, I#8G, I-I/4"C
90NG	3#2, I#86, I-I/2"C	906	2#2, I#86, I-I/4"C
IOONG	3#I, I#8G, I-I/2"C	1006	2#I, I#86, I-I/2"C
IIONG	3#I, I#6G, 2"C	1106	2#1, 1#66, 1-1/2"C
125NG	3#I/O, I#6G, 2"C	1256	2#I/O, I#6G, I-I/2"0
150NG	3#I/O, I#6G, 2"C	1506	2#I/O, I#6G, I-I/2"0
175NG	3#2/0, I#6G, 2"C	1756	2#2/O, I#6G, 2"C
200NG	3#3/O, I#6G, 2-I/2"C	2006	2#3/0, I#6G, 2"C
225NG	3#4/O, I#4G, 2-I/2"C	225 <i>G</i>	2#4/0, I#4 <del>6</del> , 2"C
250NG	3#250, I#46, 3"C	25 <i>06</i>	2#250, I#46, 2-I/2"
300NG	3#350, I#46, 3"C	3006	2#350, I#46, 2-I/2"
350NG	3#500, I#36, 3-I/2"C	3506	2#500, I#36, 3"C
400NG	2[3#3/O, I#3G, 2-I/2"C]	4006	2[2#3/O, I#3G, 2"C
450NG	2[3#4/O, I#2G, 2-I/2"C]	4506	2[2#4/O, I#2G, 2"C
500NG	2[3#250, I#26, 3"C]	5006	2[2#250, I#2 <del>6</del> , 2-I/2
600NG	2[3#350, I#IG, 3"C]	6006	2[2#350, I#IG, 2-I/2
700NG	2[3#500, I#I/0G, 3-I/2"C]	7006	2[2#5 <i>00</i> , I#I <i>/06</i> , 3"
800NG	2[3#5 <i>00</i> ,  #I <i>/0G</i> , 3-I/2"C]	8006	2[2#5 <i>00</i> , I#I <i>/06</i> , 3"
1000NG	3[3#400, I#2/06, 3-I/2"C]	10006	3[2#400, 1#2/06, 3'
1200NG	4[3#350, I#3/0G, 3"C]	12006	4[2#350, I#3/06, 3"
1600NG	5[3#4 <i>00</i> , I#4/ <i>06</i> , 3-I/2"C]	16006	5[2#400, I#4/0G, 3'
2000NG	6[3#400, I#250G, 3-I/2"C]	20006	6[2#400, I#250G, 3
GROUNDING	S CONDUCTORS	ABBREVI.	ATIONS
	I#8, 3/4" C	MECH	SEE MECH SCHEDUL
66	I#6, 3/4" C	XFMR	SEE XFMR SCHEDUL
64	I#4, 3/4" C		
62	I#2, 3/4" C		
610	I-I/O, 3/4" C		
620	I-2/O, 3/4" C		
630	1-3/0, 3/4" C		
NOTES:	,,,,,,	-	
	FEEDER FOR SECONDARY OF SYSTEM (SDS). GROUND SIZE: ARTICLE 250.66. ALL CONDUCTORS ARE SINGLE	PER NEC TA	ABLE INCLUDED IN

LEY/ TEEEDED CONDUIT

FEEDER SCHEDULE

UNLESS NOTED OTHERWISE. AMPACITY BASED ON THE NEC TABLE INCLUDED IN ARTICLE 310.

NEW

PANEL

'MAIN'

100/2

EXISTING

PANEL

'PUMP'

60/2

(E3.0-2)

CT CABINET, NEMA 3R

400A, 240V, 10

SEE GROUNDING DETAIL

EXISTING

PANEL

'SAND

SHED'

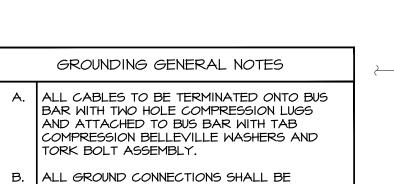
3. ALL CONDUITS ARE EMT UNLESS NOTED OTHERWISE, FILL RATIOS BASED ON NEC ANNEX C TABLE C.I.

FAULT CURRENT AND VOLTAGE DROP CALCULATION TABLE POINT LOCATION LENGTH (L) LOAD CONDUCTOR AT EQUIP VOLTAGE AT START | SIZE | MATERIAL TYPE MATERIAL CLASS | Volt Loss | VALUE RUNS UPSTREAM AT END (SEE NOTE 5) DROP

ALL CALCULATIONS WERE DONE USING BUSSMAN "POINT-TO-POINT" METHOD. LET THRU TAKEN FROM BUSSMAN "CURRENT LIMITATION CURVES."

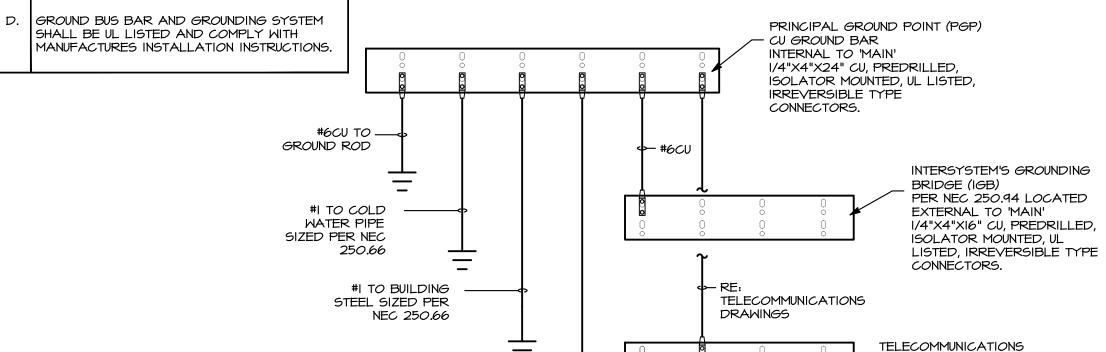
ALL YELLOW SQUARES REQUIRE USER INPUT. VERIFY THAT THIS CELL REFERENCES THE CORRECT VALUE UPSTREAM OF THE EQUIPMENT

> ONE-LINE GENERAL NOTES A. EC TO OBTAIN UTILITY COMPANY'S ENGINEERED DRAWINGS PRIOR TO ROUGH-IN AND SUBMITTALS, AND PROVIDE ALL LABOR AND MATERIALS AS REQUIRED BY UTILITY COMPANY.



C. ALL BUS BARS SHALL BE ATTACHED TO SURFACE WITH NON-CONDUCTIVE STAND-OFFS.

STRANDED.



E3.0 | SCALE: NONE

- PAD MOUNTED UTILITY

TRANSFORMER

120/240√, IΦ, 3W

400N

PRIMARY BY

#I TO CONCRETE

ELECTRODE SIZED

PER NEC 250.66

**ENCASED** 

- UTILITY COMPANY

UTILITY METER

I ELECTRICAL ONE-LINE

**ELECTRICAL DISTRIBUTION** 2 GROUNDING ONELINE DIAGRAM E3.0 SCALE: NONE



-GROUND BAR 'TMGB'

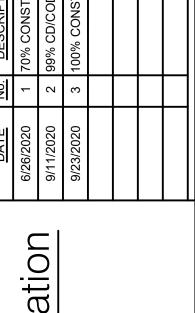
MOUNTED, UL LISTED,

IRREVERSIBLE TYPE

PREDRILLED, ISOLATOR

1/4"X4"XI2" CU,

CONNECTORS.



王  $\bigcirc$ S  $\infty$ 

648

8 HALE DRIVE Y, COLORADO 2829 E SH, RANGELY,

ONE

Ш

09/23/2020

DRAWN BY: BJLV CDOT PROJECT NO.

SAP BUILDING # 1000/3/381 DRAWING NUMBER