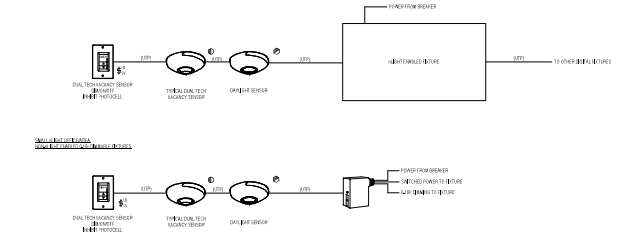
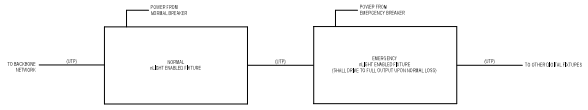
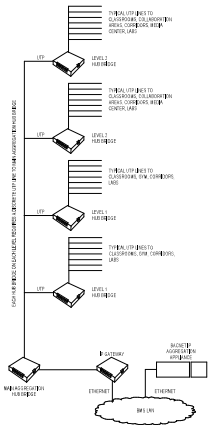


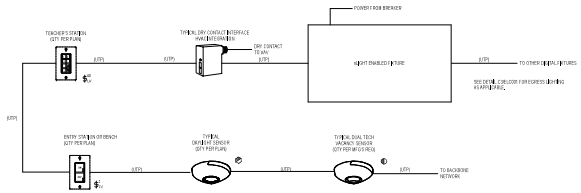
3 TYPICAL OFFICE WITH DAYLIGHT LIGHTING CONTROLS
SCALE NONE



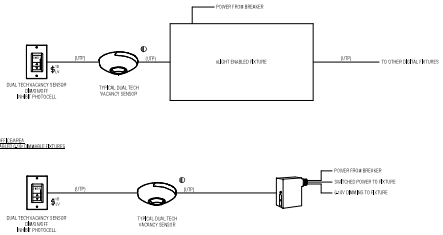
2 TYPICAL NETWORKED EGRESS LIGHTING CONTROLS
SCALE NONE



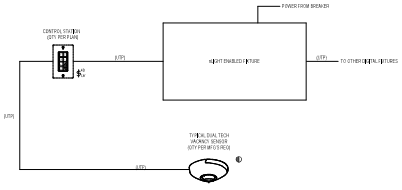
1 DATA AGGREGATION BACKBONE RISER
SCALE NONE



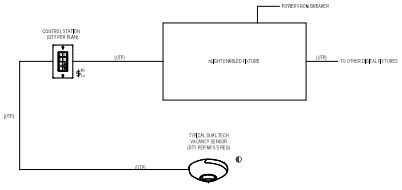
5 TYPICAL CLASSROOM LIGHTING CONTROLS
SCALE NONE



4 TYPICAL OFFICE WITHOUT DAYLIGHT LIGHTING CONTROLS
SCALE NONE



6 TYPICAL COLLABORATION SPACE LIGHTING CONTROLS
SCALE NONE



6 TYPICAL CONFERENCE ROOM LIGHTING CONTROLS
SCALE NONE

LIGHTING CONTROL PANEL SCHEDULE	
Manuf / Cat Number	LIGHT
Panel Name	ELC1-3
Location	
Transformer Tonnage	(QTY)
Mounting	SURFACE
NEMA Type	1

Relay No.	Circuit Breaker	Load Controlled	Input Device	Programming Requirements
1	1HEM-2	EAST POLE LIGHTS	PHOTOCELL	B
2	-	-	-	-
3	1HEM-4	SOUTH PARKING LOT	PHOTOCELL	B
4	-	-	-	-
5	1HEM-10	FLAG POLE LIGHT	PHOTOCELL	D
6	1HEM-12	MAIN LIGHT	PHOTOCELL	A
7		SPARE		
8		SPARE		
9	1EHB-13	EXTERIOR BUILDING LIGHTS	PHOTOCELL	A
10		SPARE		

Programming Requirements

A	ENTERIOR BUILDING LIGHTS = DUSK ON - 11:00PM OFF / 6:00 AM ON - DAWN OFF
B	PARKING LOT LIGHTS = DUSK ON - 9:00 PM DIM TO 50% / 11:00 PM OFF 6:00 AM ON - DAWN OFF
C	MONUMENT SIGN = AUTO ON / AUTO OFF - CONFIRM TIMES WITH OWNER.
D	FLAG POLE LIGHT = DUSK ON / DAWN OFF

1	PROGRAM SYSTEM TO MEET THE REQUIREMENTS OF 2009 IECC & 2009 IEEC.
2	CONFIRM SWITCHING SCHEME WITH OWNER PRIOR TO PROGRAMMING
3	INCLUDE A TIMETUNE / SET WITHIN 3 MONTHS OF BUILDING OCCUPANCY AT OWNERS REQUEST TO MAKE MINOR ADJUSTMENTS
4	PROVIDE METAL STRIP BARRIER TO DIVIDE THE EMERGENCY LIGHTING FROM NORMAL LIGHTING
5	PROVIDE LIGHT EMERGENCY POWER PACK(S) AS MAY BE REQUIRED FOR SWITCHING OF EMERGENCY LOADS

LIGHTING CONTROL PANEL SCHEDULE	
Manuf / Cat Number	LIGHT
Panel Name	ELC1-2
Location	
Transformer Tonnage	(QTY)
Mounting	SURFACE
NEMA Type	1

Relay No.	Circuit Breaker	Load Controlled	Input Device	Programming Requirements
1	1LA5-2	MONUMENT SIGN	-	C
2	1HA5-2	PARKING LOT LIGHTS	PHOTOCELL	B
3	-	-	-	-
4		SPARE		
5		SPARE		
6		SPARE		
7	1EHA-11	EXTERIOR BUILDING LIGHTS	PHOTOCELL	A
8		SPARE		

Programming Requirements

A	ENTERIOR BUILDING LIGHTS = DUSK ON - 11:00PM OFF / 6:00 AM ON - DAWN OFF
B	PARKING LOT LIGHTS = DUSK ON - 9:00 PM DIM TO 50% / 11:00 PM OFF 6:00 AM ON - DAWN OFF
C	MONUMENT SIGN = AUTO ON / AUTO OFF - CONFIRM TIMES WITH OWNER.

1	PROGRAM SYSTEM TO MEET THE REQUIREMENTS OF 2009 IECC & 2009 IEEC.
2	CONFIRM SWITCHING SCHEME WITH OWNER PRIOR TO PROGRAMMING
3	INCLUDE A TIMETUNE / SET WITHIN 3 MONTHS OF BUILDING OCCUPANCY AT OWNERS REQUEST TO MAKE MINOR ADJUSTMENTS
4	PROVIDE METAL STRIP BARRIER TO DIVIDE THE EMERGENCY LIGHTING FROM NORMAL LIGHTING
5	PROVIDE LIGHT EMERGENCY POWER PACK(S) AS MAY BE REQUIRED FOR SWITCHING OF EMERGENCY LOADS

KEYED NOTES: ⊙

1. PROVIDE BARRIER TO SEPARATE EMERGENCY AND NORMAL POWER.

CONTRACTOR SHALL PROVIDE DIMMING LEADS AND CONTROL MODULES FOR ALL LED LIGHT FIXTURES SHOWN OR NOT FOR TASK TUNNING OF ROOMS. SEE SHEET ELC102 FOR LIGHT LEVEL REQUIREMENTS.

LIGHTING CONTROLS DIAGRAMS AS SHOWN ARE FOR BASIC CONCEPT AND LAYOUT. LIGHTING CONTROLS SYSTEM SUPPLIER TO PROVIDE INSTALLATION DRAWINGS THAT REFLECT THE ACTUAL INSTALLATION REQUIREMENTS, WIRING AND ALL REQUIRED DEVICES. SEE ELC102 AND LIGHTING PLANS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.

GENERAL NOTES:

1. THE LIGHTING CONTROLS AS SHOWARE ALIGHT LIGHTING CONTROLS (BASE BID), WATTSTOPPER® AN APPROVED ALTERNATE. NO OTHERS WILL BE ALLOWED, SEE SPECIFICATIONS.
2. COORDINATE ALL REQUIREMENTS, CONNECTIONS AND CABLE TYPE WITH THE SUPPLIER PRIOR TO ANY INSTALLATION.
3. THE LIGHTING CONTROLS SYSTEM SUPPLIER SHALL PROVIDE COMPUTER DRAFTED SHOP DRAWINGS OF THE ENTIRE LIGHTING CONTROL SYSTEM USING FLOOR PLANS PROVIDED BY THE ENGINEER. SHOP DRAWINGS TO INCLUDE PLANS, SECTIONS, ELEVATIONS, FINAL DEVICE LOCATIONS, CONDUIT SIZE AND ROUTING AND ALL CONDUCTOR SIZES. TYPICAL, FREEHAND CORING AND SUBMITTING THE CONTRACT DOCUMENTS WILL NOT BE ACCEPTED.
4. PROVIDE CABLE SUPPORTS FROM DROP WIRE SUPPORTS (LADDY POS) OR APPROVED EQUAL (LADDY) AND SECURING OPTION QUANTITIES AS MAY BE REQUIRED FOR ROUTING OF LOW VOLTAGE LIGHTING CONTROL CABLES. INSTALL SUPPORTS ABOVE LIGHT FIXTURES, SECURE CABLES AT A SPACING OF NOT MORE THAN 60" ON CENTERS, SUPPLEMENT WITH J-HOOKS SUPPORTED BY ALL-THREAD AS MAY BE REQUIRED TO MEET SPACE CRITERIA. INSTALLATION SHALL MEET ALL APPLICABLE REQUIREMENTS OF THE NEC 300.11. ALL CABLES SHALL BE ROUTED IN A LIGHT V-ORIENTATION IN AIR PARALLEL AND PERPENDICULAR TO STRUCTURE.
5. NOT ALL SPACES SHOWN LIGHTING CONTROL SUPPLIER TO PROVIDE INSTALLATION DRAWINGS INDICATING ALL REQUIRED WIRING FOR ALL SPACES CONTROLLED.

Notes
• ALL HEAT DETECTION DEVICES INTERCONNECTED IN A DAISY CHAIN TYPOLOGY. • ORDER OF DEVICES SHOWN MAY NOT BE USED. DEVICES CHANGE CHANGE IN AS SHOWN. • EACH METERED ZONE CONNECTS TO ENCLOSURE DEVICES (MIDDLE). • CATS SHALL BE TERMINATED WITH MOISTURE DAM CONNECTORS. • RUN CONNECTORS SHALL BE TO STANDARD FOR CONDUCTOR ORDER. • ALL CONTROL WIRING BY OTHERS UNLESS OTHERWISE NOTED.

Wire Designations					
A 120V NON-METERED CIRCUITS (TO BE ACTUAL CIRCUIT)	B 277V AMBIENT & AUTOMATIC CONTROL (TO BE ACTUAL CIRCUIT)	C 24V CLASS 2 POWER LIMITED (TO BE ACTUAL CIRCUIT)	D DMX (TO BE ACTUAL CIRCUIT)	E DRY CONTACT CLOSURE (TO MFR SPECIFICATIONS)	F ETHERNET (TO MFR SPECIFICATIONS)

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2615 POLK AVE, OGDEN, UTAH 84401
OGDEN SCHOOL DISTRICT
CONSTRUCTION DOCUMENTS - FEBURARY 28, 2020

△	DATE	REMARK

PROJECT NUMBER 19030

LIGHTING CONTROLS

ELC101

2/21/2020 5:33:06 PM

LIGHTING CONTROL SYSTEM REQUIREMENTS:

NETWORKED DIGITAL ADDRESSABLE CONTROL SYSTEM: PROVIDE A DIGITAL, DISTRIBUTED INTELLIGENT, NETWORKED LOW-VOLTAGE LIGHTING CONTROL SYSTEM FOR THE FOLLOWING ROOMS/AREAS:

- CLASSROOMS
- COLLABORATION SPACES
- STAIRS
- COMMONS
- SERVERS
- HALLWAYS AND PASSAGE WAYS
- MULTIPURPOSE ROOM
- PLATFORM
- MEDIA CENTER
- BUILDING EXTERIOR

THE SYSTEM SHALL INCLUDE, BUT IS NOT LIMITED TO CEILING-MOUNTED OCCUPANCY SENSORS, LIGHT LEVELS SENSORS, LOW VOLTAGE CONTROL WALL SWITCHES, POWER PACKS, GATEWAYS, SPECIFIC EQUIPMENT, LOW VOLTAGE CABLES, INTERNET CONNECTION, SOFTWARE, PROGRAMMING, ETC.

PROVIDE HIGHEST TECHNOLOGY SOFTWARE OF PROM-APPROVED EQUIVALENT FOR THE ABILITY TO REMOTELY CONFIGURE AND MONITOR EVERY NETWORKED ALERT'S SYSTEM DEVICE. PROVIDE BACNET SOFTWARE PLUGIN TO ENABLE SENSORNET TO ACT AS A BACNET IP GATEWAY BETWEEN THE ALERT NETWORK AND THE OGDEN SCHOOL DISTRICT BUILDING MANAGEMENT SYSTEM. THE SOFTWARE SHALL HAVE A SIMPLE AND QUICK SETUP TOOL FOR CREATING CUSTOM CONFIGURATION PROFILES THAT CAN EITHER BE SCHEDULED OR RUN ON DEMAND. THE SOFTWARE SHALL ALLOW FOR:

- DEFINING DEVICE PROPERTIES
- CUSTOMIZING ALL DEVICE NAMES
- EDITING DEVICE ALERT AND CONTACT SETTINGS
- EDITING DEVICE CURRENT SETTINGS
- OBSERVING REAL-TIME DEVICE OPERATIONAL STATUSES
- DEVICE ENERGY CONSUMPTION
- UPDATING DEVICE FIRMWARE
- GROUPING ALERT NOTIFIER DEVICES
- CREATING LIGHTING PROFILES THAT OUTLINE DEVICE OPERATION
- SCHEDULING PROFILES TO RUN AT PRESCRIBED TIMES WITH OPTIONAL RECURRENCES
- MANAGING USER ACCESS OF ALERT GATEWAYS AND THE SENSORNET PROGRAMMING PROFILES ON THE NETWORK IN HISTORY AND PROFILES
- REMOTE TECHNICAL SUPPORT IN THE INTERNET

PROVIDE POWER PACKS (LTYPES AND ALTYPES AS MAY BE REQUIRED FOR A COMPLETE AND FULLY FUNCTIONAL SYSTEM WHETHER SHOWN ON THE DRAWINGS OR NOT), WHERE POWER PACKS ARE SERVING LOADS IN NON-CEILING AREAS, LOCATE POWER PACKS IN THE ELECTRICAL ROOM WHERE LINE VOLTAGE WIRING IS ORIGINATING FROM.

THE SYSTEM SHALL METER EACH POINT OF CONTROL AND PROVIDED ENERGY USAGE AND POWER DEMAND DATA BACK TO THE OGDEN SCHOOL DISTRICT'S BUILDING MANAGEMENT SYSTEM.

OCCUPANCY SENSORS SHALL BE SET FOR MANUAL ON + AUTO OFF IN THE FOLLOWING SPACES:

- CLASSROOMS
- PLATFORM
- MEDIA CENTER
- SERVING

OCCUPANCY SENSORS SHALL BE SET FOR "AUTO ON + AUTO OFF" IN THE FOLLOWING SPACES:

- COLLABORATION SPACES
- STAIRS
- COMMONS
- VESTIBULES AND PASSAGE WAYS
- MULTIPURPOSE ROOM

ALL CEILING-MOUNTED OCCUPANCY SENSORS SHALL BE PROVIDED WITH AN AUXILIARY CONTACT FOR HVAC CONTROL.

SKYLIGHTS AND RIDERS SHALL BE CONTROLLED VIA THE NETWORKED LOW VOLTAGE LIGHTING CONTROL SYSTEM, REFER TO LOW VOLTAGE LIGHTING SYSTEM CONTROL SCHEDULES.

PROVIDE LIGHTING CONTROL RELAY PANELS AS INDICATED ON THE ELECTRICAL DRAWINGS. RELAY PANELS SHALL BE TIED INTO THE NETWORKED LOW VOLTAGE LIGHTING CONTROL SYSTEM.

REFER TO LOW VOLTAGE LIGHTING CONTROL SCHEDULES FOR A COMPLETE DESCRIPTION ON PROGRAMMING SCENCES. TASK TUNING, ETC., EACH STANDALONE SYSTEM SHALL BE PROGRAMMED TO RE-SET BACK TO ITS NORMAL "OFF" POSITION (DIE HOUR AFTER SELECTING A SCENE OR PAIRING OR LOWERING A LIGHTING ZONE.

STANDALONE LOW VOLTAGE DIGITAL LIGHTING CONTROL SYSTEMS: PROVIDE DIGITAL STANDALONE LOW VOLTAGE LIGHTING CONTROL SYSTEMS IN THE FOLLOWING ROOMS/AREAS:

- LARGE BOYS AND GIRLS RESTROOMS
- LARGE OFFICE ROOMS
- CONFERENCE ROOMS
- CONFERENCE ROOMS
- TEACHERS LOUNGES
- WORK ROOMS
- RECEPTION
- HEALTH
- OFFICES
- KITCHEN
- RECESSING

THE SYSTEMS SHALL INCLUDE, BUT IS NOT LIMITED TO CEILING-MOUNTED OCCUPANCY SENSORS, LIGHT LEVELS SENSORS, LOW VOLTAGE CONTROL WALL SWITCHES, POWER PACKS, LOW VOLTAGE CABLES, PROGRAMMING, ETC.

PROVIDE POWER PACKS (LTYPES AND PATTERNS AS MAY BE REQUIRED FOR A COMPLETE AND FULLY FUNCTIONAL SYSTEM WHETHER SHOWN ON THE DRAWINGS OR NOT), WHERE POWER PACKS ARE SERVING LOADS IN NON-CEILING AREAS, LOCATE POWER PACKS IN THE ELECTRICAL ROOM WHERE LINE VOLTAGE WIRING IS ORIGINATING FROM.

OCCUPANCY SENSORS SHALL BE SET FOR "AUTO ON – AUTO OFF" WITH A 15 MINUTE DELAY IN THE FOLLOWING SPACES:

- CLASSROOMS
- COLLABORATION SPACES
- STAIRS
- COMMONS
- RESTROOMS
- VESTIBULES AND PASSAGE WAYS
- MULTIPURPOSE ROOM
- PLATFORM
- MEDIA CENTER
- SERVING
- BUILDING EXTERIOR

OCCUPANCY SENSORS SHALL BE SET FOR "AUTO ON – AUTO OFF" WITH A 10 MINUTE DELAY IN THE FOLLOWING SPACES:

- LARGE BOYS AND GIRLS RESTROOMS
- LARGE STORAGE ROOMS
- TEACHER PREP
- TEACHERS LOUNGES
- WORK ROOMS
- RECEPTION
- RECESSING

ALL CEILING-MOUNTED OCCUPANCY SENSORS SHALL BE PROVIDED WITH AN AUXILIARY CONTACT FOR HVAC CONTROL.

ALL LOW VOLTAGE LIGHTING CONTROL SWITCHES SHALL HAVE EACH SCENCE NAME ENGRAVED ONTO THE FRONT OF THE SWITCH IN BLACK LETTERS.

REFER TO LOW VOLTAGE LIGHTING CONTROL SCHEDULES FOR A COMPLETE DESCRIPTION ON PROGRAMMING SCENCES. TASK TUNING, ETC., EACH STANDALONE SYSTEM SHALL BE PROGRAMMED TO RE-SET BACK TO ITS NORMAL "ON" POSITION ONE HOUR AFTER SELECTING A SCENE OR PAIRING OR LOWERING A LIGHTING ZONE.

NON-VOLTAGE LIGHTING CONTROL SYSTEMS: PROVIDE NON- VOLTAGE LIGHTING CONTROL SYSTEMS IN THE FOLLOWING ROOMS/AREAS:

WALL BOX OCCUPANCY SENSORS:

CLASSROOMS
SMALL STORAGE ROOMS
SMALL TOILET ROOMS
LAUNDRY

SET OCCUPANCY SENSOR TO HAVE A 15 MINUTE DELAY

TIMER SWITCHES:

MECHANICAL ROOMS
ELECTRICAL ROOMS
COMMUNICATIONS ROOMS

TIMER SWITCHES SHALL HAVE THE OCCUPANTS THE ABILITY TO SELECT FROM 2, 5, 10, 15, 30, OR 60 MINUTES.

OCCUPANCY SENSORS: PLEASE NOTE THAT ELECTRICAL DRAWINGS INDICATE LOCATIONS OF OCCUPANCY SENSORS (APPROXIMATE LOCATIONS AND QUANTITIES). PROVIDE OCCUPANCY SENSORS (LOCATIONS, QUANTITIES, AND TYPES AS RECOMMENDED BY THE MANUFACTURER. PROVIDE COMPLETE PRODUCT DATA AND SHOP DRAWINGS INDICATING THE PROPOSED TYPES, COVERAGE PATTERNS, LOCATIONS, AND QUANTITIES, COORDINATE THE LOCATION OF ALL DEVICES WITH CEILING GRIDS, LIGHT FIXTURES, DIFFUSERS, SPRINKLER HEADS, ETC.

LIGHT LEVEL SENSORS: PLEASE NOTE THAT THE ELECTRICAL DRAWINGS INDICATED LOCATIONS OF LIGHT LEVEL SENSORS (APPROXIMATE LOCATIONS ONLY, PROVIDE LIGHT LEVEL SENSORS (LOCATIONS AND TYPES AS RECOMMENDED BY THE MANUFACTURER. PROVIDE COMPLETE PRODUCT DATA AND SHOP DRAWINGS INDICATING THE PROPOSED TYPES AND LOCATIONS, COORDINATE THE LOCATION OF ALL DEVICES WITH CEILING GRIDS, LIGHT FIXTURES, CEILING DIFFUSERS, SPRINKLER HEADS, ETC.

TASK TUNING:
SET THE DEFAULT (MAXIMUM) LIGHT LEVELS TO BE THE PARTICULAR TASK OR USE OF A WORKSPACE AS FOLLOWS:

FUNCTION/USE	ILLUMINANCE (AVG. FOOTCANDLES)
CLASSROOMS	30 FC
COLLABORATION SPACES	30 FC
COMMONS	10 FC
STAIRS	10 FC
VESTIBULES	10 FC
RECEPTION	30 FC
OFFICES	30 FC
TOILET ROOMS / LOUNGES	20 FC
CONFERENCE ROOMS	30 FC
TEACHER'S PREP	30 FC
WORK ROOMS	30 FC
LARGE STORAGE ROOMS	10 FC
CORRIDORS	10 FC
MEDIA CENTER	30 FC
LARGE RESTROOMS	15 FC
SMALL TOILET ROOMS	15 FC
MULTIPURPOSE	
ASSEMBLY	7.5 FC
GENERAL PHYSICAL SPORTS	30-50 FC
GAMES	30 FC
PHYSICAL EDUCATION	30 FC
PLATFORM	
GENERAL	30 FC
PERFORMANCE	50 FC
KITCHEN	50 FC
RECEIVING	30 FC

VALUES INDICATED ABOVE ARE AVERAGE FOOTCANDLE LEVELS ON THE TASK SURFACE.

DRIVING LEADS:
PROVIDE DRIVING LEADS TO ALL FIXTURES THAT HAVE THE FOLLOWING:
1. NETWORK LOW-VOLTAGE LIGHTING CONTROL SYSTEMS.
2. STAND ALONE LOW-VOLTAGE LIGHTING CONTROL SYSTEMS.
3. ALL EXTERIOR BUILDING AND PARKING LOT LIGHTING.
4. ANYWHERE TASK TUNING IS REQUIRED.

EMERGENCY OPERATION: PROVIDE ALL LOW VOLTAGE METHOD FOR OPERATING EGRESS LIGHT FIXTURES, FOR THE DIGITAL SYSTEM. THIS SHALL INCLUDE, FOR USE WITH GENERATOR SUPPLY, BA POWER OPTION FOR EACH EGRESS LIGHT FIXTURE OR ALL/A LISTED POWER PACKS FOR GROUPS OF LIGHT FIXTURES, FOR OTHER LIGHTING CONTROL SYSTEMS THAT DO NOT HAVE A "FOR USE" WITH GENERATOR SUPPLY, BA POWER OPTION FOR DESIGNATED EGRESS LIGHT FIXTURES. PROVIDE A GENERATOR TRANSFER DEVICES EQUIVALENT TO SCHEDULE STD OR ITA-STS FOR EACH INDIVIDUAL OR GROUPS OF LIGHT FIXTURES DEPENDING UPON THE APPLICATION, REFER TO DRAWINGS AND LIGHT FIXTURES SCHEDULE. ALL EGRESS LIGHT FIXTURES SHALL BE SWITCHED OFF WITH OTHER NORMAL POWERED LIGHT FIXTURES DURING NORMAL OPERATION, BUT POWERED "FULL ON" DURING AN EMERGENCY OPERATION.

ELECTRIC WATER COOLERS AND VENDING MACHINES: PROVIDE A POWER PACK FOR EACH WATER COOLER OF VENDING MACHINE SPACE/AREA. PROGRAM POWER PACKS TO SWITCH OFF ELECTRIC WATER COOLERS AT 11:00 PM AND BE SWITCHED ON AT 6:00 AM, OR AS OTHERWISE REQUESTED BY THE DISTRICT.

LOW VOLTAGE CABLES: PROVIDE CABLES IN TYPES AND SIZES IN ACCORDANCE WITH ALL MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS. ALL CABLES SHALL BE PLENUM RATED. PROVIDE WIRING WITH POWER PACKETS (CAT6E 10GBPS OR APPROVED EQUAL) AND CAT6E PATCH CABLES AS REQUIRED BY THE MANUFACTURER. CABLES MAY BE ROUTED FOR ACTUAL TYPE OF LOW VOLTAGE LIGHTING CONTROL CABLES, REFER TO DETAIL 16/LV-1, INSTALL SUPPORTS AND CLIPS 1" ABOVE RECESSED LAY-IN LIGHT FIXTURES, SECURE CABLES AT A SPACING OF NOT MORE THAN 60" ON CENTERS. PROVIDE ADDITIONAL DROP WIRES WITH DROP WIRE SUPPORTS OR J-HOOKS AS MAY BE REQUIRED TO MEET SPACING CRITERIA. INSTALLATION SHALL MEET ALL APPLICABLE REQUIREMENTS OF THE NEC 300.11. ALL CABLES SHALL BE ROUTED IN A NEAT WORKMANLIKE MANNER PARRALLEL AND/OR PERPENDICULAR TO CEILING GRIDS.

NON-VOLTAGE LIGHTING CONTROL SYSTEMS: PROVIDE NON- VOLTAGE LIGHTING CONTROL SYSTEMS IN THE FOLLOWING ROOMS/AREAS:

WALL BOX OCCUPANCY SENSORS:

CLASSROOMS
SMALL STORAGE ROOMS
SMALL TOILET ROOMS
LAUNDRY

SET OCCUPANCY SENSOR TO HAVE A 15 MINUTE DELAY

TIMER SWITCHES:

MECHANICAL ROOMS
ELECTRICAL ROOMS
COMMUNICATIONS ROOMS

TIMER SWITCHES SHALL HAVE THE OCCUPANTS THE ABILITY TO SELECT FROM 2, 5, 10, 15, 30, OR 60 MINUTES.

SHOP DRAWINGS AND PRODUCT DATA:

PRODUCT DATA: PROVIDE PRODUCT DATA FOR ALL SYSTEM COMPONENTS CLEARLY DESIGNATING THE DEVICES WHICH ARE TO BE PROVIDED.

SHOP DRAWINGS: PROVIDE 1/8" SCALED 24" x 42" PRINT DRAWINGS SHOWING THE LIGHTING CONTROL SYSTEM DEVICES PLACED ON THE CEILING AND FLOOR PLANS, OBTAIN PRINT MODEL FROM THE ARCHITECT, DRAWINGS SHALL INCLUDE COMPLETE LINE AND LOW VOLTAGE INTERCONNECTION REQUIREMENTS, PROVIDE SEPARATE LINE AND LOW VOLTAGE DRAWINGS AS MAY BE REQUIRED FOR CLARITY, LOW VOLTAGE DRAWING SHALL INCLUDE LENGTHS OF ALL CABLES, INCLUDE COMPLETE WIRING DIAGRAMS, OUTLINE DIAGRAMS, DETAILS, ETC.

PROGRAMMING SCHEDULES: PROVIDE COMPLETE SEQUENCING AND PROGRAMMING SCHEDULES FOR ALL DEVICES, GATEWAYS, AND SERVERS.

RECORD DRAWINGS: AT THE COMPLETION OF THE PROJECT, PROVIDE UPDATED SHOP DRAWINGS (CAD FILES) ALL CHANGES MADE DURING CONSTRUCTION, AND THE EXACT LOCATION BY DIMENSION OF ALL POWER PACKS AND OTHER DEVICES MOUNTED ABOVE ACCESSIBLE CEILINGS, PROVIDE A COMPLETE RECIT MODELIN ELECTRONIC FORMAT.

WARRANTY: WARRANT ALL WORK INCLUDING PARTS AND LABOR FOR A PERIOD OF ONE YEAR.

COMMISSIONING: COMMISSION EACH PORTION OF THE LIGHTING CONTROL SYSTEMS AT THE COMPLETION OF THE PROJECT TO VERIFY THAT THE SYSTEM PERFORMS AS INTENDED. COORDINATE COMMISSION SERVICES WITH COMMISSIONING AGENT AT THE OGDEN SCHOOL DISTRICT. IN PROGRAMMING AND WIRING THE SYSTEM FOR INTEGRATION INTO THE BACNET BUILDING MANAGEMENT SYSTEM TO THEIR SATISFACTION.

RETRO-COMMISSIONING: DURING THE ONE YEAR WARRANTY PERIOD, PROVIDE RETRO-COMMISSIONING SERVICES AT THREE MONTH, SIX MONTH, AND ONE YEAR MARK-PROVIDE AT LEAST EIGHTY (8) HOURS OF COMMISSIONING SERVICES FOR EACH OF THE FOUR RETRO-COMMISSIONING PERIODS. THIS WILL INCLUDE MEETING WITH THE OGDEN SCHOOL DISTRICT TO REVIEW FEEDBACK ON THE SYSTEM AND MAKING CHANGES TO THE SYSTEM INCLUDING PROGRAMMING, TASK TUNING, ETC.

TRAINING: PROVIDE EIGHT HOURS OF TRAINING FROM A FACTORY TRAINED AND CERTIFIED TECHNICIAN AT THE COMPLETION OF THE PROJECT, SCHEDULE TRAINING WITH THE OGDEN SCHOOL DISTRICT.

SPARE REPLACEMENTS: DESIGNER SHALL SPREAD OUT THE LIGHT FIXTURE PACKAGE SEPARATE FROM THE LIGHTING CONTROL SYSTEM, ALL SPECIAL FEATURES PERTAINING TO LIGHTING CONTROLS ASSOCIATED WITH THE LIGHT FIXTURES SHALL BE COORDINATED. ALL LIGHTING CONTROLS ORDERED WHO DO NOT CONFORM TO THIS REQUIREMENT MAY BE DISQUALIFIED.

THE SYSTEM SHALL BE PROGRAMMED TO SWEEP ALL/EXTERIOR/OCCUPANCY CONTROLLED LIGHTS OFF AT NIGHT, HOWEVER, OCCUPANCY SENSORS, LOW VOLTAGE SWITCHES, ETC., SHALL BE FULLY OPERATIONAL AFTER THE SWEEP.

THE SYSTEM SHALL VERIFY/CONFIRM THE STATUS (ON/OFF) OF ALL RELAYS AND ZONES.

SYSTEM OVERRIDE AND CONTROL OF NETWORKED-CONTROLLED SPACES SHALL BE MADE AVAILABLE THROUGH INTEGRATION WITH AND SCHEDULING OF THE BUILDING AUTOMATION SYSTEM.

THE SYSTEM SHALL VERIFY/CONFIRM THE STATUS (OPEN/CLOSE) OF ALL BLINDS AND SKYLIGHT LOUVERS. EACH MOTOR SHADE SHALL BE PROGRAMMED TO OPEN EVERY MORNING WHEN SKYLIGHT LOUVER SHALL BE PROGRAMMED TO OPEN ONE HOUR AFTER THE SKYLIGHT HAS BEEN CLOSED.

THE SYSTEM WILL ALLOW FOR SEPARATE CONTROL AND SHALL VERIFY/CONFIRM STATUS OF DRINKING FOUNTAINS AND VENDING MACHINES.

ALL SCHEDULING SHALL BE MADE BY STRUCTURE WARE IN THE BUILDING AUTOMATION SYSTEM NOT THE LIGHTING CONTROL SOFTWARE.

RESETTING OF THE JBOSS SOFTWARE RUNNING ON THE ENTERPRISE SERVER SHALL BE ACCESSIBLE TO OGDEN SCHOOL DISTRICT PERSONNEL.

SCENE PROGRAMMING REQUIREMENTS:

CLASSROOM LIGHTING PROGRAMMING

SCENE #1 - TURN OFF MAIN TEACHING WALL (OR WALL AS DIRECTED BY THE SCHOOL) LIGHTS AND DIM ALL OTHERS TO 20%.
SCENE #2 - DIM ALL LIGHTS TO 20%.
SCENE #3 - DIM ALL LIGHTS TO 50%.
SCENE #4 - ALL LIGHTS TO 100%.

LIGHTING FOR CLASSROOMS SHALL BE MANUAL ON AUTO OFF, WHEN LIGHTS ARE MANUALLY TURNED ON THEY SHALL DEFAULT TO 50%.
LIBRARY TO FUNCTION THE SAME AS A CLASSROOM.
LIGHTING SUPPLIER SHALL VERIFY ALL PROGRAMMING OF EACH SPACE WITH THE SCHOOL PRIOR TO PROGRAMMING THE SYSTEM.

COLLABORATION LIGHTING PROGRAMMING

SCENE #1 - DIM ALL LIGHTS IN ZONE TO 50%
SCENE #2 - TURN OFF TV WALL AND DIM ALL LIGHTS IN THE ZONE TO 20%.
SCENE #3 - ALL LIGHTS IN ZONE TO 20%.
SCENE #4 - ALL LIGHTS IN ZONE TO 100%.

SEE LIGHTING PLANS FOR ZONES (TWO PER COLLABORATION SPACE).
LIGHTING FOR COLLABORATION SPACE SHALL BE MANUAL ON AUTO OFF, WHEN LIGHTS ARE MANUALLY TURNED ON THEY SHALL DEFAULT TO 50%.
CONTROL SYSTEM AT ENTRIES SHALL TURN ON ALL LIGHTS WITH THE COLLABORATION SPACE.
LIGHTING SUPPLIER SHALL VERIFY ALL PROGRAMMING OF EACH SPACE WITH THE SCHOOL PRIOR TO PROGRAMMING THE SYSTEM.

CONFERENCE ROOM LIGHTING PROGRAMMING

SCENE #1 - TURN OFF DAYLIGHTS IF PRESENT AND DIM PENDANT TO 50%
SCENE #2 - TURN OFF PENDANT AND DAYLIGHTS TO 50%. IF NO DAYLIGHTS ARE IN THE SPACE DIM THE PENDANT TO 20%
SCENE #3 - ALL LIGHTS TO 50%. IF NOT DAYLIGHTS ARE IN THE SPACE DIM THE PENDANT TO 80%
SCENE #4 - ALL LIGHTS TO 100%.

LIGHTING FOR CONFERENCE ROOMS SHALL BE MANUAL ON AUTO OFF, WHEN LIGHTS ARE MANUALLY TURNED ON THEY SHALL DEFAULT TO 50%.
LIGHTING SUPPLIER SHALL VERIFY ALL PROGRAMMING OF EACH SPACE WITH THE SCHOOL PRIOR TO PROGRAMMING THE SYSTEM.

CORRIDOR, ENTRY AND VESTIBULE LIGHTS PROGRAMMING

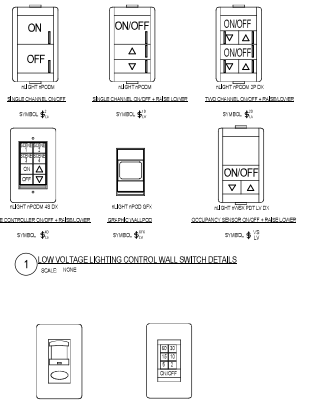
ALL NORMAL AND EMERGENCY LIGHTS IN THE CORRIDORS TO TURN ON AND OFF BASED ON TIME AS DIRECTED BY THE SCHOOL.
BEFORE AND AFTER THE PROGRAMMED TIME THE EMERGENCY LIGHTS SHALL TURN ON AND OFF WITH THE OCCUPANCY SENSORS IN THE CORRIDORS AND REMAIN ON FOR TIME DURATION AS DIRECTED BY THE SCHOOL.

LIGHTING SUPPLIER SHALL VERIFY ALL PROGRAMMING OF EACH SPACE WITH THE SCHOOL PRIOR TO PROGRAMMING THE SYSTEM.

STAGE THEATRICAL LIGHTING

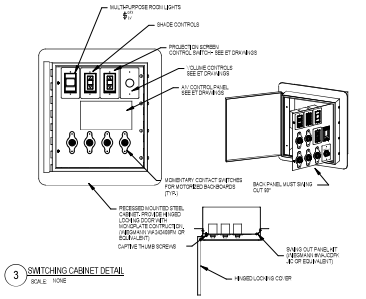
PROGRAM SCENES AS DIRECTED BY THE OWNER.
SUPPLIER TO DETERMINE # SCENES TO FIRE PROGRAM FOR OWNER REVIEW.

LIGHTING SUPPLIER SHALL VERIFY ALL PROGRAMMING OF EACH SPACE WITH THE SCHOOL PRIOR TO PROGRAMMING THE SYSTEM.



1 LOW VOLTAGE LIGHTING CONTROL WALL SWITCH DETAILS
SCALE: NONE

2 LINE VOLTAGE LIGHTING CONTROL WALL SWITCH DETAILS
SCALE: NONE



3 SWITCHING CABINET DETAIL
SCALE: NONE

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OGDEN SCHOOL DISTRICT
CONSTRUCTION DOCUMENTS - FEBURARY 28, 2020

Ho 377411
JEREMIAH D. DIXON
STATE OF UTAH

△ DATE REMARK

PROJECT NUMBER 19030

LIGHTING CONTROLS

ELC102

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