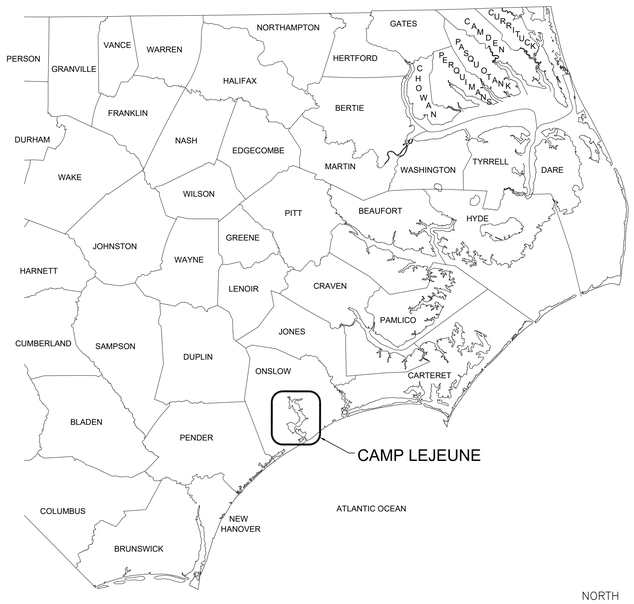
REVISIONS			
SYM		DATE	APPROVED

MCB Camp Lejeune, North Carolina

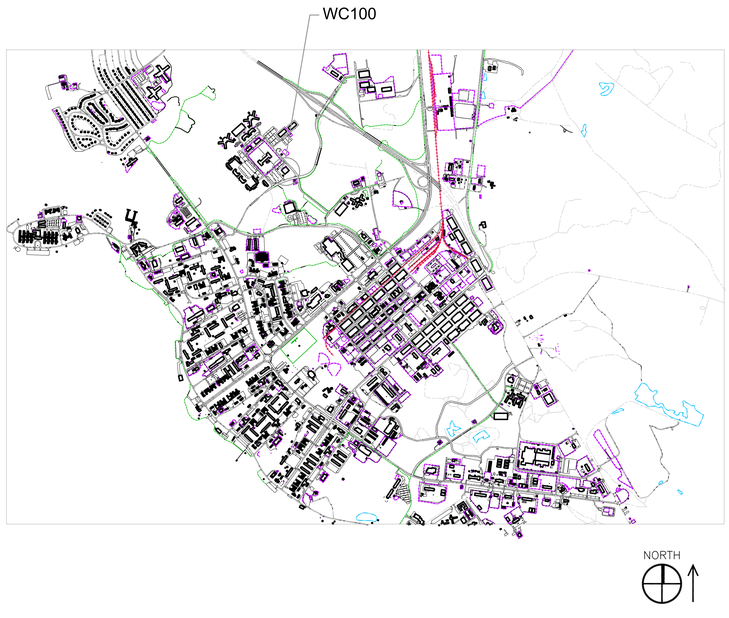
Replacement Dining Area Lighting, WC100



LOCATION MAP

DRAWING INDEX

CONTRACT #	DRAWING #	SHEET #	TITLE
23-0031	60044569	T-1	LOCATION MAPS & DRAWING INDEX
23-0031	60044570	E-1	LEGEND, ABBREVIATIONS, & GENERAL NOTES
23-0031	60044571	E-2	NEW WORK PLAN AND NOTES
23-0031	60044572	E-3	SCHEDULES AND DETAILS



BASE MAP

T - 1

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

Replacement Dining Area Lighting, WC100

LEGEND, GENERAL NOTES, ABBREVIATIONS

DES. K BROWN
DR. K BROWN
CHK. K BROWN
SUBMITTED BY: K BROWN
DESIGN DIR. C MAAS, P.E.
APPROVED: PWO OR OICC DATE
NA
SATISFACTORY TO: DATE
MAAS.CHRISTOPHER.JETT.1588040 [illegible]

SIZE	CODE IDENT. NO	NAVFAC DRAWING NO.
E1	80091	60044569
		CONST. CONTR. N40085-230031
SCALE: NTS	SPEC. 05-23-0031	SHEET 1 OF 4

REVISIONS			
SYM		DATE	APPROVED

ELECTRICAL LEGEND

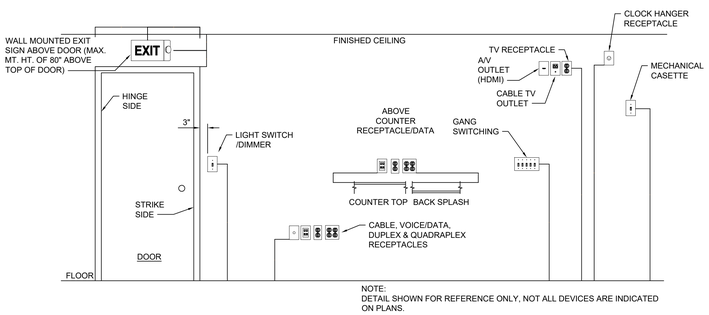
SYMBOL	DESCRIPTION
▫	LUMINAIRE; TYPE AS INDICATED (2X4)
$A\bigcirc_B$	RECESSED DOWNLIGHT; TYPE AS INDICATED A = FIXTURE TYPE B = SWITCH DESIGNATOR
	CIRCUIT CONNECTION. CONDUCTORS IN CONDUIT. (MINIMUM 2-#12,1-#12 EGC IN 1/2 C.)
S_X	WALL SWITCH, LOW VOLTAGE, SEE OCC. SENSOR DIAGRAM. 46" AFF UNLESS OTHERWISE NOTED. ASSOCIATED LOW VOLTAGE WIRING IS NOT SHOWN ON DRAWINGS FOR CLARITY. X = TYPE: 3 = 3 WAY SWITCH
	EMERGENCY LIGHTING UNIT
	EMERGENCY EXIT LIGHTING
OS	CEILING MOUNTED, LOW VOLTAGE, DUAL TECH, OCCUPANCY SENSOR, WITH POWER/RELAY PACK MOUNTED ABOVE DROP CEILING, DIMMABLE AS INDICATED. PROVIDE ACCESS PANELS FOR ANY MOUNTING ABOVE DRYWALL CEILINGS.
LCP	LIGHTING CONTROL PANEL
	AREA OF WORK
	PANELBOARD

GENERAL NOTES

1. ALL ELECTRICAL WORK MUST BE IN FULL COMPLIANCE WITH NFPA 70 THE NORTH CAROLINA STATE BUILDING CODE, ALL LOCAL CODES AND ORDINANCES AND IN ACCORDANCE WITH THE REQUIREMENTS OF THE LOCAL AUTHORITY HAVING JURISDICTION.
2. ALL EQUIPMENT PROVIDED BY THE CONTRACTOR MUST BE LISTED AND LABELED BY A NATIONALLY-RECOGNIZED TESTING AGENCY, ACCEPTABLE TO THE AUTHORITY HAVING JURISDICTION, FOR THE CONDITIONS OF INSTALLATION. ALL MATERIAL, EQUIPMENT AND DEVICES MUST BE NEW CURRENT PRODUCTS OF MANUFACTURERS REGULARLY ENGAGED IN THE PRODUCTION OF SUCH PRODUCTS. EQUIPMENT MUST BE SUITABLE FOR ITS APPLICATION (E.G. WHEN INSTALLED OUTDOORS, IT MUST BE WEATHERPROOF, ETC.)
3. THE CONTRACTOR MUST REVIEW ALL DRAWINGS AND SPECIFICATIONS FOR WORK REQUIREMENTS, THE AMOUNT OF SPACE AVAILABLE FOR ELECTRICAL EQUIPMENT, AND LAYOUT HIS WORK IN A COMPATIBLE AND FUNCTIONAL MANNER.
4. UNLESS SPECIFICALLY NOTED OTHERWISE, SYSTEMS PROVIDED OR INSTALLED BY THE CONTRACTOR MUST BE COMPLETE AND FULLY-FUNCTIONING AFTER INSTALLATION. INCIDENTAL COMPONENTS MAY NOT BE SHOWN, AND ALL WORK WHICH MAY BE REASONABLY IMPLIED AS BEING INCIDENTAL TO THIS WORK, BUT REQUIRED FOR THE PROPER OPERATION OF THE EQUIPMENT OR SYSTEM MUST BE PROVIDED BY THE CONTRACTOR AND INCLUDED IN THE BID. ADDITIONAL CIRCUITS MUST BE INSTALLED WHEREVER NEEDED TO CONFORM TO THE SPECIFIC REQUIREMENTS OF EQUIPMENT.
5. TEMPORARY POWER CONNECTIONS AS REQUIRED MUST BE PROVIDED BY THE CONTRACTOR AND INCLUDED IN THE BID. ALL TEMPORARY EQUIPMENT WIRING MUST BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE. THE CONTRACTOR MUST PROVIDE DETAILS, METHODS, MATERIALS, ETC. FOR REVIEW PRIOR TO MAKING TEMPORARY CONNECTIONS. FURNISH AND INSTALL ALL EQUIPMENT AND MATERIALS INCLUDING CONTROL EQUIPMENT, MOTOR STARTERS, BRANCH AND FEEDER CIRCUIT BREAKERS, PANELBOARDS, TRANSFORMERS, ETC. FOR TEMPORARY POWER. COORDINATE WITH THE UTILITY PROVIDER AS REQUIRED.
6. THE WORK MUST INCLUDE COMPLETE TESTING OF ALL EQUIPMENT AND WIRING AT THE COMPLETION OF WORK AND ANY MINOR CORRECTIONS, CHANGES OR ADJUSTMENTS NECESSARY FOR THE PROPER FUNCTIONING OF THE SYSTEM AND EQUIPMENT.
7. ALL ELECTRICAL EQUIPMENT MUST, AT ALL TIMES DURING CONSTRUCTION, BE ADEQUATELY PROTECTED AGAINST MECHANICAL INJURY, OR DAMAGE BY WATER AND/OR THE ELEMENTS. ELECTRICAL EQUIPMENT MUST NOT BE STORED OUT OF DOORS, BUT MUST BE STORED IN DRY PERMANENT SHELTERS. IF AN APPARATUS HAS BEEN DAMAGED, OR HAS BEEN SUBJECT TO POSSIBLE INJURY BY WATER OR THE ELEMENTS, SUCH DAMAGE MUST BE REPLACED AT NO ADDITIONAL COST.
8. DO NOT SCALE ELECTRICAL DRAWINGS. CONTRACTOR MUST FIELD VERIFY ALL DIMENSIONS.
9. CIRCUIT LAYOUTS ARE NOT INTENDED TO SHOW THE NUMBER OF FITTINGS, OR OTHER INSTALLATION DETAILS. UNLESS NOTED OTHERWISE, THE EXACT ROUTING OF FEEDER AND BRANCH CIRCUIT RACEWAYS AND CABLES IS THE RESPONSIBILITY OF THE CONTRACTOR. RISER AND GENERAL CIRCUIT ARRANGEMENTS ARE SHOWN SCHEMATICALLY/DIAGRAMMATICALLY ONLY. THE CONTRACTOR MUST ROUTE CONDUITS AS REQUIRED BY THE CONDITIONS OF THE INSTALLATION.
10. DEVICE LOCATIONS SHOWN ON THE DRAWINGS ARE APPROXIMATE. ADJUST EXACT LOCATIONS AS REQUIRED TO SERVE THE INTENDED PURPOSE AND TO AVOID CONFLICTS AND INTERFERENCES WITH OTHER TRADES. IF NOT SHOWN ON THE ARCHITECTURAL DRAWINGS OR DIMENSIONED ON THE ELECTRICAL DRAWINGS, VERIFY EXACT LOCATION WITH THE GOVERNMENT PRIOR TO ROUGH-IN.
11. CONDUIT TERMINATING IN PRESSED STEEL BOXES MUST HAVE DOUBLE LOCKNUTS AND INSULATED BUSHINGS. CONDUITS TERMINATING IN GASKETED ENCLOSURES MUST BE TERMINATED WITH GROUNDING TYPE CONDUIT HUBS.
12. BRANCH CIRCUIT HOMERUNS SHOWN ON DRAWINGS INDICATE PHASE CONDUCTORS, NEUTRAL, EQUIPMENT GROUND CONDUCTORS AS REQUIRED. ADDITIONAL CONDUCTORS REQUIRED FOR CONTROL MUST BE INCLUDED EVEN IF NOT EXPLICITLY SHOWN.
13. SEAL ALL CONDUIT OPENINGS THROUGH EXTERIOR BUILDING WALLS AND ROOF WATERTIGHT.
14. IN WET LOCATIONS AND EXTERIOR, ALL WIRING DEVICES MUST BE WEATHER-RESISTANT LISTED WITH WEATHERPROOF WHILE IN USE COVER.
15. RACEWAYS PENETRATING FLOORS, CEILINGS OR WALLS MUST BE PROPERLY SEALED SMOKETIGHT.
16. ALL RACEWAYS MUST BE CONCEALED WHERE POSSIBLE.
17. INSTALL EXPOSED RACEWAYS PARALLEL TO OR AT RIGHT ANGLES TO NEARBY SURFACES OR STRUCTURAL MEMBERS, AND FOLLOW THE SURFACE CONTOURS AS MUCH AS POSSIBLE. NO DIAGONAL RUNS WILL BE ALLOWED. ALL CONDUITS MUST BE RUN STRAIGHT WITH QUALITY WORKMANSHIP-LIKE MANNER. RUN PARALLEL OR BANKED RACEWAYS TOGETHER ON COMMON SUPPORTS WHERE PRACTICAL. MAKE BENDS IN PARALLEL OR BANKED RUNS FROM SAME CENTERLINE TO MAKE BENDS PARALLEL.
18. PATCHING OF WATERPROOFED SURFACES MUST RENDER THE AREA OF THE PATCHING COMPLETELY WATERPROOF.
19. ALL MOTORS AND OTHER VIBRATING EQUIPMENT MUST BE CONNECTED TO THE CONDUIT SYSTEM BY MEANS OF A SHORT SECTION (18 INCH MINIMUM) OF FLEXIBLE CONDUIT UNLESS OTHERWISE INDICATED. AN EQUIPMENT GROUNDING CONDUCTOR MUST BE INSTALLED INSIDE THE FLEXIBLE CONDUIT AND TERMINATE AT THE LOAD END WITH AN APPROVED GROUNDING CLAMP OR LUG.
20. SURFACE MOUNTED PANELBOARDS, JUNCTION, OUTLET AND PULL BOXES, RACEWAYS, ETC., INSTALLED ON EXTERIOR SURFACES OR INSIDE ON EXTERIOR WALLS MUST BE SUPPORTED BY SPACERS TO PROVIDE A MINIMUM 1/4" MINIMUM CLEARANCE BETWEEN THE WALL AND EQUIPMENT.
21. TYPED PANELBOARD DIRECTORIES INSTALLED IN THE PANELBOARD DOOR POCKET MUST REFLECT FINAL CONDITIONS AND ACTUAL ROOM NAMES AND NUMBERS IN ADDITION TO THE GENERAL DESCRIPTION SHOWN ON THE PANEL SCHEDULES ON THE DRAWINGS.
22. THE CONTRACTOR MUST VERIFY PRIOR TO INSTALLATION OF CONDUCTORS OR CONDUIT FEEDING ANY EQUIPMENT, THE ELECTRICAL EQUIPMENT IS RATED FOR USE WITH 75 DEGREE C. WIRING. IF ANY EQUIPMENT IS RATED FOR USE WITH LESS THAN 75 DEGREE C. CONDUCTORS, THE CONTRACTOR MUST NOTIFY THE GOVERNMENT IMMEDIATELY FOR EVALUATION/CORRECTION.
23. DO NOT PULL CONDUCTORS UNTIL THE CONDUIT SYSTEM IS COMPLETE IN EVERY DETAIL. IN THE CASE OF CONCEALED WORK, "COMPLETE" MEANS UNTIL ALL ROUGH PLASTERING OR MASONRY HAS BEEN COMPLETED.
24. WHERE SIZE IS NOT SHOWN ON THE DRAWINGS, BRANCH CIRCUITS MUST CONSIST OF #12 OR #10 AWG MINIMUM PHASE, NEUTRAL AND EQUIPMENT GROUND CONDUCTORS IN 3/4" MINIMUM RACEWAY.
25. USE #10 AWG CONDUCTORS FOR 20 AMPERE, 120 VOLT BRANCH CIRCUITS WITH A TOTAL INSTALLED LENGTH GREATER THAN 75 FEET AND/OR BRANCH CIRCUIT HOMERUNS LONGER THAN 50 FEET, I.E.; #12 AWG INCREASED TO #10 AWG FOR RECEPTACLE BRANCH CIRCUITS OVER 75 FEET TOTAL LENGTH (INCLUDING THE HOMERUN SEGMENT) AND HOMERUNS OVER 50 FEET. IF 277 VOLT CIRCUITS ARE SHOWN, USE #10 AWG CONDUCTORS FOR 20 AMPERE, 277 VOLT BRANCH CIRCUITS WITH TOTAL INSTALLED LENGTH GREATER THAN 200 FEET AND/OR BRANCH CIRCUIT HOMERUNS LONGER THAN 125 FEET, I.E.; #12 AWG INCREASED TO #10 AWG FOR RECEPTACLE BRANCH CIRCUITS OVER 75 FEET TOTAL LENGTH (INCLUDING THE HOMERUN SEGMENT) AND HOMERUNS OVER 50 FEET.
26. KEEP CONDUCTOR SPLICES TO A MINIMUM. INSTALL SPLICES AND TAPES THAT POSSESS EQUIVALENT OR BETTER MECHANICAL STRENGTH AND INSULATION RATINGS THAN CONDUCTORS BEING SPLICED. USE SPLICE AND TAP CONNECTORS COMPATIBLE WITH CONDUCTOR MATERIAL. INSTALL CONDUCTORS AT EACH OUTLET WITH AT LEAST 6 INCHES OF SLACK. CONNECT OUTLETS AND COMPONENTS TO WIRING AND TO GROUND AS INDICATED AND INSTRUCTED BY THE MANUFACTURER.
27. DO NOT SPLICE BRANCH CIRCUIT HOMERUNS WITHOUT THE PERMISSION OF THE GOVERNMENT. HOMERUNS MUST BE CONTINUOUS FROM THE LAST OUTLET BOX TO THE SERVING PANELBOARD.
28. DO NOT COMBINE BRANCH CIRCUIT HOMERUNS UNLESS SPECIFICALLY INDICATED ON THE DRAWINGS.
29. INSTALL WIRING DEVICES AT HEIGHTS AS SHOWN ON THE DRAWINGS.
30. PROTECT ALL EXISTING POWER, COMMUNICATIONS, DATA, LIFE SAFETY SYSTEMS, FIRE ALARM AND PUBLIC ADDRESS SYSTEMS AND MAINTAIN THEM IN OPERATION THROUGHOUT THE PROGRESS OF THE WORK. NOTIFY THE GOVERNMENT IF SHUTDOWNS ARE REQUIRED PRIOR TO ANY OUTAGE OF SERVICE. WHERE THE DURATION OF A PROPOSED OUTAGE CANNOT BE TOLERATED BY THE GOVERNMENT, PROVIDE TEMPORARY CONNECTIONS AS REQUIRED TO MAINTAIN SERVICE.
31. PROVIDE GROUND FAULT CIRCUIT-INTERRUPTER PROTECTION FOR PERSONNEL IN ACCORDANCE WITH THE NEC INCLUDING EXTERIOR RECEPTACLES AND RECEPTACLES IN AREAS SUBJECT TO POSSIBLE WET CONDITIONS.
32. COORDINATE LOCATIONS OF MECHANICAL EQUIPMENT WITH THE RESPECTIVE CONTRACTOR, VENDORS AND THE GOVERNMENT BEFORE ROUGH-IN. ADJUST LIGHTING FIXTURES, RECEPTACLES AND ELECTRICAL EQUIPMENT TO ACCOMMODATE THIS EQUIPMENT. ADVISE THE GOVERNMENT OF CONFLICTS BEFORE ROUGH-IN.
33. BEFORE COMMENCING WORK OR ORDERING MATERIALS, THE CONTRACTOR MUST COORDINATE WITH OTHER TRADES AND VERIFY THE NAMEPLATE RATINGS OF ALL EQUIPMENT (MOTORS, HEATERS, COMPRESSORS, ETC.) AND ADJUST THE RATINGS OF THE ELECTRICAL EQUIPMENT (SWITCHES, FUSES, CIRCUIT BREAKERS, FEEDERS, ETC.) AS APPROPRIATE TO SERVE THIS EQUIPMENT.
34. ENERGIZE EQUIPMENT ONLY AFTER OBTAINING PERMISSION FROM THE CONTRACTOR PROVIDING THE EQUIPMENT.
35. UNLESS SPECIFICALLY NOTED OTHERWISE, THE CONTRACTOR MUST MAKE FINAL CONNECTIONS TO ALL UTILIZATION EQUIPMENT SHOWN ON THE DRAWINGS. VERIFY THE TYPE OF FINAL CONNECTION AND PROVIDE APPROPRIATE WIRING METHOD. THE CONTRACTOR MUST COORDINATE WITH THE MECHANICAL TRADE, PRIOR TO ORDERING OR INSTALLATION OF ANY EQUIPMENT, TO VERIFY MECHANICAL EQUIPMENT REQUIREMENTS ARE PROVIDED IN THE ELECTRICAL DESIGN. THE CONTRACTOR WILL NOT BE COMPENSATED FOR COSTS ASSOCIATED WITH CHANGING THE ELECTRICAL SYSTEMS TO MATCH UTILIZATION EQUIPMENT, EVEN IF THE ELECTRICAL WORK IS INSTALLED PER THE ELECTRICAL DRAWINGS.
36. THE CONTRACTOR MUST COORDINATE ALL EQUIPMENT TERMINATIONS, PLUGS AND CORDSETS WITH VENDOR EQUIPMENT AND VERIFY ALL DEVICE LOCATIONS FOR SPECIALITY EQUIPMENT WITH CASEWORK PRIOR TO ROUGH-IN.
37. INSTALLATION INFORMATION PACKED WITH DEVICES AND EQUIPMENT MUST BE RETAINED FOR INCLUSION IN THE OPERATIONS AND MAINTENANCE MANUALS.
38. THE CONTRACTOR MUST VISIT THE SITE AND BECOME FAMILIAR WITH THE EXISTING ELECTRICAL SYSTEMS AND THE EXISTING BUILDING. THE SUBMISSION OF THE PROPOSAL BY THE CONTRACTOR SHALL BE CONSIDERED EVIDENCE THAT HE OR HIS REPRESENTATIVE HAS VISITED THE SITE AND BUILDINGS AND NOTED THE LOCATION AND CONDITIONS UNDER WHICH THE WORK WILL BE PERFORMED AND THAT HE TAKES FULL RESPONSIBILITY OF ALL FACTORS GOVERNING HIS WORK. NO EXTRAS WILL BE CONSIDERED BECAUSE OF ADDITIONAL WORK NECESSITATED BY EXISTING JOB CONDITIONS THAT ARE NOT INDICATED ON THE DRAWINGS.
39. ELECTRICAL DEVICES OR COMPONENTS INDICATED MUST BE PROVIDED WITH CONDUCTORS, CONDUIT, BACKBOXES, MOUNTING BRACKETS, AND ALL RELATED INCIDENTAL MATERIALS REQUIRED FOR FULLY FUNCTIONAL AND CODE COMPLIANT INSTALLATION.
40. SAFETY
    A. COMPLY WITH OSHA AND NEC ARC FLASH PROTECTION REQUIREMENTS.
    B. FOR EQUIPMENT BEING REMOVED AND REPLACED, THE CONTRACTOR SHALL DE-ENERGIZE THE EQUIPMENT AND MAKE IT SAFE PRIOR TO REMOVAL AND COMPLY WITH OSHA REQUIREMENTS FOR LOCKING-OUT AND TAGGING EQUIPMENT TO PREVENT INADVERTENT RE-ENERGIZING.

ABBREVIATIONS

A, AMP	AMPERE
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHU	AIR HANDLING UNIT
AIC	AMPERE INTERRUPTING CAPACITY
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
BOF	BOTTOM OF FIXTURE
BRKR	BREAKER
C, CND	CONDUIT
CAB	CABINET
CAT	CATALOG
CL	CHLORINE
CB	CIRCUIT BREAKER
CCTV	CLOSED CIRCUIT TELEVISION
CKT	CIRCUIT
CLG	CEILING
CP	CONTROL PANEL
CR	CONTROL RELAY, CORROSION RESISTANT
CS	CONTROL SWITCH
CV	CONTROL VALVE
CT	CURRENT TRANSFORMER
CU	COPPER
EF	EXHAUST FAN
EMER	EMERGENCY
EMT	ELECTRICAL METALLIC TUBING
ENCL	ENCLOSURE
EQUIP	EQUIPMENT
EWC	ELECTRIC WATER COOLER
EWH	ELECTRIC WATER HEATER
EPRF	EXPLOSION PROOF
FA	FIRE ALARM
FAAP	FIRE ALARM ANNUNCIATOR PANEL
FACP	FIRE ALARM CONTROL PANEL
FBO	FURNISHED BY OTHERS
FLA	FULL LOAD AMPS
FLUOR	FLUORESCENT
FLR	FLOOR
FWE	FURNISHED WITH EQUIPMENT
GEN	GENERATOR
G, GND	GROUND
GFCI	GROUND FAULT CURRENT INTERRUPTER
HH	HANDHOLE
HID	HIGH INTENSITY DISCHARGE
HOA	HAND-OFF-AUTO
HP	HORSE POWER
HPF	HIGH POWER FACTOR
HPS	HIGH PRESSURE SODIUM
HTR	HEATER
HV	HIGH VOLTAGE
Hz	HERTZ
IMC	INTERMEDIATE METALLIC CONDUIT
INCAND	INCANDESCENT
JB	JUNCTION BOX
K	THOUSAND
KCMIL	THOUSAND CIRCULAR MILLS
KVA	KILOVOLT AMPERE
KW	KILOWATTS
KWH	KILOWATT-HOURS
LP	LIGHTING PANEL, LIGHT POLE
LTG	LIGHTING
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MCP	MOTOR CIRCUIT PROTECTOR
MDP	MAIN DISTRIBUTION PANEL
MFR	MANUFACTURER
MH	MANHOLE
MLO	MAIN LUGS ONLY
MTD	MOUNTED
MTG	MOUNTING
MTS	MANUAL TRANSFER SWITCH
MV	MEDIUM VOLTAGE
N / NEUT	NEUTRAL
NA	NOT APPLICABLE
NC	NORMALLY CLOSED
NEC	NATIONAL ELECTRIC CODE
NIC	NOT IN CONTRACT
NL	NIGHT LIGHT
NO	NORMALLY OPEN
NTS	NOT TO SCALE
P	POLE
PA	PUBLIC ADDRESS
PB	PULL BOX, PUSH-BUTTON
PF	POWER FACTOR
PH	PHASE
PLC	PROGRAMMABLE LOGIC CONTROLLER
PNL	PANEL
P	POWER PANEL, POWER POLE
PPE	PORTABLE POWER EQUIPMENT CABLE
PT	POTENTIAL TRANSFORMER
PWR	POWER
RECPT, RCP	RECEPTACLE
REQ'D	REQUIRED
RGS	RIGID GALVANIZED STEEL CONDUIT
RM	ROOM
RTU	REMOTE TELEMETRY UNIT
DCM	DC MOTOR DRIVE
SH	SHEET
SPD	SURGE PROTECTION DEVICE
SPEC	SPECIFICATION
SS	SELECTOR SWITCH
SST	STAINLESS STEEL
SW	SWITCH
SWBD	SWITCHBOARD
SWGR	SWITCH GEAR
TEL	TELEPHONE
TPS	TWISTED PAIR SHIELDED
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSER
TYP	TYPICAL
UGND	UNDERGROUND
UH	UNIT HEATER
UON	UNLESS OTHERWISE NOTED
UTIL	UTILITY
V	VOLTS
VFD	VARIABLE FREQUENCY DRIVE
W	WIRE, WATT
WH	WATT-HOUR
WP	WEATHERPROOF
WTE	WEATHERPROOF TELEPHONE ENCLOSURE
XFMR	TRANSFORMER
X/R	EXISTING RELOCATED



NOTE:
DETAIL SHOWN FOR REFERENCE ONLY, NOT ALL DEVICES ARE INDICATED ON PLANS.

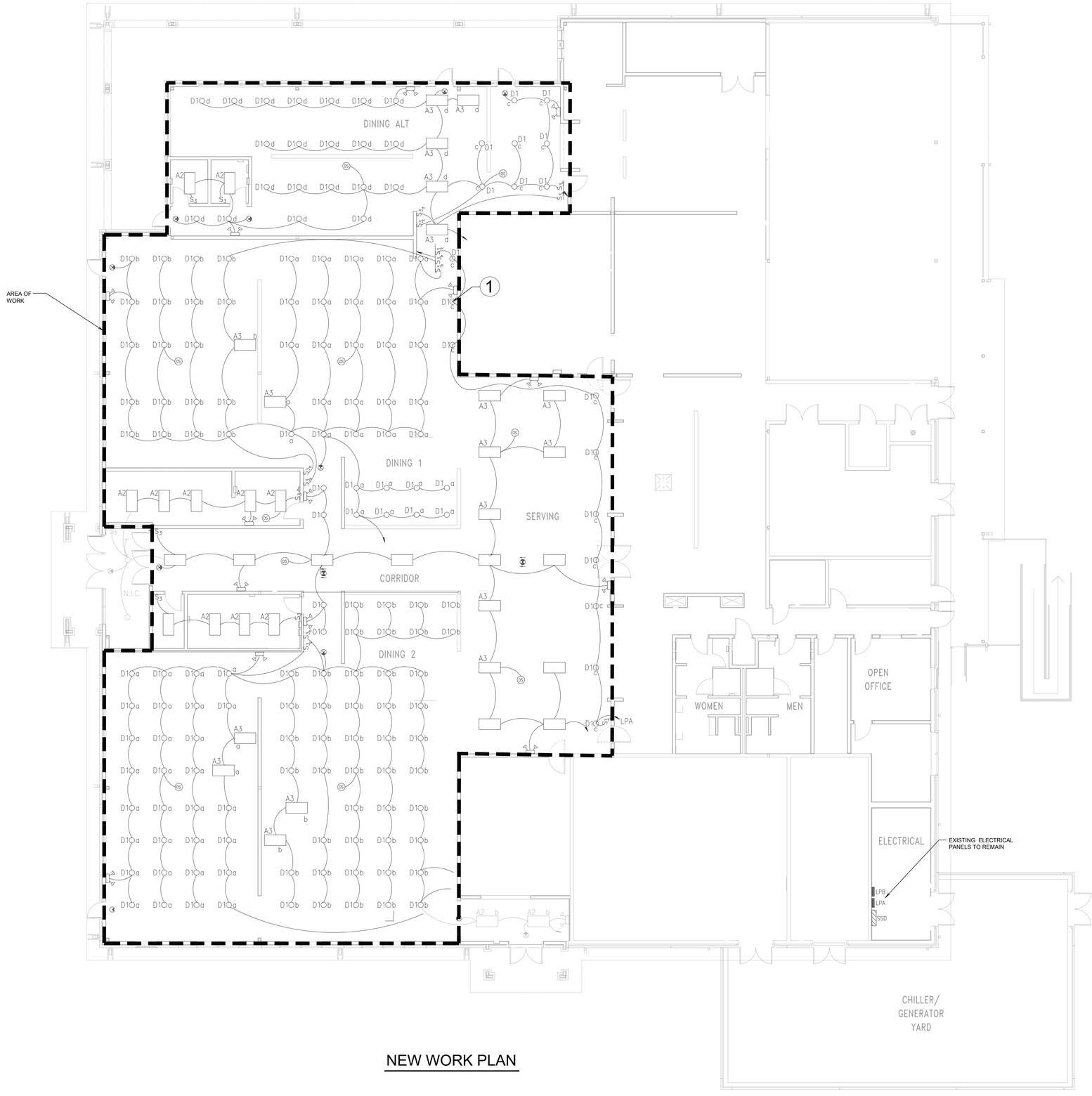
ELECTRICAL DEVICES MOUNTING HEIGHT

E - 1

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

DES. K BROWN	Replacement Dining Area Lighting, WC100
DR. K BROWN	
CHK. K BROWN	
SUBMITTED BY: K BROWN	
DESIGN DIR. C MAAS, P.E.	LEGEND, GENERAL NOTES, ABBREVIATIONS
APPROVED: PWO OR OICC / DATE: NA	SIZE: E1 / CODE IDENT. NO: 80091 / NAVFAC DRAWING NO.: 60044570
SATISFACTORY TO: Christopher Maas 30-Jun-2026 / DATE	CONST. CONTR. N40085-230031
	SCALE: NTS / SPEC. 05-23-0031 / SHEET 2 OF 4

REVISIONS			
SYM		DATE	APPROVED



NEW WORK PLAN

WORK NOTES

1. REMOVE EXISTING RECESSED DOWNLIGHTS, TROFFERS, AND OCCUPANY SENSORS IN THE WORK AREA. DISCONNECT LUMINAIRES FROM THE EXISTING LIGHTING CONTROL SYSTEM. STAND ALONE EMERGENCY AND EXIT LIGHTING IS TO REMAIN WITH EXISTING FUNTIONALITY.
2. PROVIDE NEW RECESSED DOWNLIGHTS AND DIRECT/INDIRECTION LED LUMNAIRES TO REPLACE EXISTING FIXTURES IN THE WORK AREA. SEE LUMINAIRE SCHEDULE FOR FIXTURE DETAILS. CONNECT NEW LUMINAIRES TO EXISTING POWER CIRCUITS IN CONDUIT. PROVIDE ALL NECESSARY INCIDENTAL WORK AS REQUIRED FOR FULLY FUNCTIONAL LIGHTING SYSTEM.
3. PROVIDE NEW STANDALONE SWITCHING AND MOTION SENSOR CONTROL FOR TROFFERS AND DOWNLIGHTS IN THE WORK AREA. SEE OCCUPANY CONTROLS DIAGRAM. LOCATE NEW SWITCHES IN EXISTING SWITCH LOCATIONS WITH MATCHING SWITCHING AREA FUNCTIONALITY. PROVIDE ADDITIONAL OCCUPANCY SENSOR LOCATIONS WHERE REQUIRED AND RECOMMENDED BY MANUFACTURER.
4. PROVIDE NEW ACOUSTICAL CEILING TILES AS NEEDED TO COMPLETE WORK. MATCH EXISTING A.C.T.

KEYED WORK NOTES

(1) PROVIDE LIGHTING CIRCUIT IN CONDUIT WITH (10) RECESSED DOWNLIGHT LUMINAIRES. (MIN 2 - #12, 1 - #12 EGC IN 1/2"C.) TO THREE WAY SWITCHES. PROVIDE HOMERUN TO NEW 20A/1 BREAKER TO EXISTING PANELBOARD IN ELECTRICAL ROOM.

E - 2

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

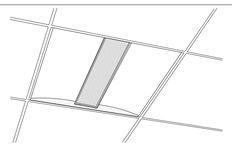
Replacement Dining Area
Lighting, WC100

NEW WORK PLAN AND NOTES

DES. K BROWN	
DR. K BROWN	
CHK. K BROWN	
SUBMITTED BY: K BROWN	
DESIGN DIR. C MAAS, P.E.	
APPROVED: PWO OR OICC	DATE NA
SATISFACTORY TO: Christopher Maas	DATE 30-Jun-2026

SIZE E1	CODE IDENT. NO 80091	NAVFAC DRAWING NO. 60044571
		CONST. CONTR. N40085-230031
SCALE: NTS	SPEC. 05-23-0031	SHEET 3 OF 4

REVISIONS			
SYM		DATE	APPROVED



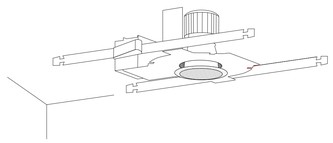
NOTE: THIS SKETCH IS A NON-PROPRIETARY GRAPHIC REPRESENTATION OF A LUMINAIRE THAT MAY MEET THE SPECIFICATION REQUIREMENTS. IT IS NOT INTENDED TO INDICATE A CERTAIN MANUFACTURER OR PREFERENCE.

LUMINAIRE REQUIREMENTS:

1. HOUSING – HEAVY GAUGE COLD ROLLED STEEL OR DIE CAST ALUMINUM. SIZE SHOWN AS INDICATED IN LUMINAIRE SCHEDULE.
2. OPTICS – FROSTED ACRYLIC OR POLYCARBONATE LENS WITH DIE FORMED COLD ROLLED SHEET STEEL REFLECTORS.
3. LIGHT SOURCE – SOLID STATE LEDS, 3500K CCT UON, MINIMUM 80 CRI UON, AND MINIMUM EFFICACY OF 100 LUMENS/WATT UON. INITIAL LUMEN OUTPUT AS INDICATED IN LUMINAIRE SCHEDULE.
4. DRIVER – REPLACEABLE, INTEGRAL, HIGH-EFFICIENCY DIMMABLE DRIVER WITH MINIMUM 0.9 PF, OPERATING VOLTAGE OF 120-277V, THERMAL MANAGEMENT, AND < 20% THD. ON/OFF CONTROL AND FULLY DIMMABLE DOWN TO 10% MINIMUM OR AS INDICATED IN LUMINAIRE SCHEDULE.
5. CERTIFICATION – UL LISTED FOR DRY OR DAMP LOCATION, ROHS COMPLIANT. DLC QUALIFIED. COMPLIES WITH IES LM79, LM80 AND TM21 TESTING STANDARDS.
6. MOUNTING – RECESSED IN HARD OR ACOUSTICAL TILE CEILING.
7. OPTIONS – EMERGENCY BATTERY BACK-UP, INTEGRAL OCCUPANCY/VACANCY SENSOR, VARIOUS SIZE AND OUTPUT OPTIONS, SURFACE-MOUNTING KIT.

DIRECT/INDIRECT LED LUMINAIRE

REVISED: NOVEMBER 2020 | LIGHTING PLATE: NL-1



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LUMINAIRE REQUIREMENTS:

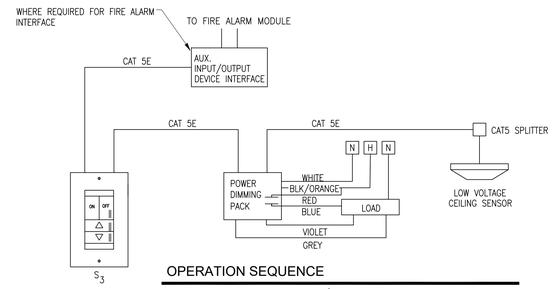
1. HOUSING – COLD-ROLLED STEEL OR DIE CAST ALUMINUM, WITH HEAT SINK. APERTURE SIZE AND SHAPE AS INDICATED IN LUMINAIRE SCHEDULE.
2. LIGHT SOURCE – SOLID STATE LEDS, 3500K CCT UON, MINIMUM 80 CRI UON, AND MINIMUM EFFICACY OF 120 LUMENS/WATT UON. INITIAL LUMEN OUTPUT AS INDICATED IN LUMINAIRE SCHEDULE.
3. DRIVER – REPLACEABLE, INTEGRAL, HIGH-EFFICIENCY DIMMABLE DRIVER WITH MINIMUM 0.9 PF, OPERATING VOLTAGE OF 120-277V, THERMAL MANAGEMENT, AND < 20% THD. ON/OFF CONTROL AND FULLY DIMMABLE DOWN TO 10% MINIMUM OR AS INDICATED IN LUMINAIRE SCHEDULE.
4. CERTIFICATION – UL LISTED FOR DRY OR DAMP LOCATION, ROHS COMPLIANT. COMPLIES WITH IES LM79, LM80 AND TM21 TESTING STANDARDS.
5. MOUNTING – RECESSED IN HARD OR ACOUSTICAL TILE CEILING. PROVIDE T-BAR HANGERS FOR INSTALLATION IN ACOUSTICAL TILE CEILINGS OR TABS WHEN MOUNTING IN HARD CEILINGS.
6. OPTIONS – EMERGENCY BATTERY BACK-UP, VARIOUS ACRYLIC OR POLYCARBONATE LENSES, REFLECTORS, LOUVERS AND TRIMS. VARIOUS BEAM ANGLES. IC RATED HOUSING.

FIXED RECESSED DOWNLIGHT

REVISED: NOVEMBER 2020 | LIGHTING PLATE: NL-12

LUMINAIRE SCHEDULE

FIXTURE MARK	LIGHTING PLATE	LAMP					LUMINAIRE NOTES
		TYPE	TEMP	LUMENS	WATTS	LUM/WATT	
D1	NL-12	LED	3500K	3120	26	~120	6" RECESSED DOWNLIGHT, VERTICAL LAMP, SEMI-SPECULAR REFLECTOR.
A2	NL-1	LED	3500K	7700	50	~120	DIRECT/INDIRECT LED FIXTURE
A3	NL-1	LED	3500K	9000	72	~120	DIRECT/INDIRECT LED FIXTURE



OPERATION SEQUENCE

1. LIGHT FIXTURE MUST CONTINUOUSLY DIM/BRIGHTEN BASED UPON INPUT FROM THE DIMMER.
2. AFTER 15 MINUTES OF NO OCCUPANCY, LIGHT FIXTURE MUST TURN OFF.

CEILING OCCUPANCY/VACANCY SENSOR DIMMING DIAGRAM

E - 3

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

Replacement Dining Area
Lighting, WC100

SCHEDULES AND DETAILS

DES. K BROWN
DR. K BROWN
CHK. K BROWN
SUBMITTED BY: K BROWN
DESIGN DIR. C MAAS P.E.
APPROVED: PWO OR OICC — DATE: NA
SATISFACTORY: Christopher Maas — DATE: 30-Jun-2026

SIZE: E1 | CODE IDENT. NO: 80091 | NAVFAC DRAWING NO.: 60044572
CONST. CONTR. N40085-230031
SCALE: NTS | SPEC. 05-23-0031 | SHEET 4 OF 4