2018 APPENDIX B
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS
(EXCEPT 1 AND 2-FAMILY DWELLINGS AND TOWNHOUSES)
(Reproduce the following data on the building plans sheet 1 or 2)

Name of Project: CAMERON FAMILY DENTISTRY
Address: 1054 NC 24-87, CAMERON, NC Zip Code: 28326
Owner/Authorized Agent: Cara Phillips Phone # (919) 624-9370 E-Mail: cara@influenceby.com
Owned By: DR. DAVID GALATAS ☐ City/County ☒ Private ☐ State
Code Enforcement Jurisdiction: ☐ City of Raleigh ☒ County (HARNETT) ☐ State

CONTACT: Cara Phillips @ Influence by Design, LLC

DESIGNER	FIRM	NAME	LICENSE #	TELEPHONE #	E-MAIL
Reg.Int.Designer	Influence By Design	Cara Phillips	149	(919)624-9370	cara@influenceby.com
Civil	Align Engineering	Rick Copeland	36841	(919)275-1935	rick@ae-nc.com
Electrical	Align Engineering	Rick Copeland	36841	(919)275-1935	rick@ae-nc.com
Fire Alarm					
Plumbing	Align Engineering	Nathan Romblad	37491	(919)275-1935	nathan@ae-nc.com
Mechanical					
Sprinkler/Stdp					
Structural					
Retaining Walls >5' High					
Other					

("Other" should include firms and individuals such as truss, precast, pre-engineered, interior designers, etc.)

2018 NC BUILDING CODE: ☐ New Building ☐ Addition ☐ Renovation
☐ 1st Time Interior Completion
☐ Shell/Core - Contact the local inspection jurisdiction for possible additional procedures and requirements
☐ Phased Construction - Shell/Core- Contact the local inspection jurisdiction for possible additional procedures and requirements

*** 2018 NC EXISTING BUILDING CODE:** ☐ Prescriptive ☐ Repair ☐ Chapter 14
Alteration: ☐ Level I ☒ Level II ☐ Level III
☐ Historic Property ☐ Change of Use

CONSTRUCTED: 2009
RENOVATED: 2024
CURRENT OCCUPANCY(S) (Ch. 3): BUSINESS
PROPOSED OCCUPANCY(S) (Ch. 3): BUSINESS

RISK CATEGORY (Table 1604.5): **Current:** ☐ I ☒ II ☐ III ☐ IV
Proposed: ☐ I ☒ II ☐ III ☐ IV

BASIC BUILDING DATA
Construction Type: ☐ I-A ☐ II-A ☐ III-A ☐ IV ☐ V-A
(check all that apply) ☐ I-B ☐ II-B ☐ III-B ☒ V-B
Sprinklers: ☒ No ☐ Partial (1st Floor Lobby) ☐ Yes ☐ NFPA 13 ☐ NFPA 13R ☐ NFPA 13D
Standpipes: ☒ No ☐ Yes Class ☐ I ☐ II ☐ III ☐ Wet ☐ Dry
Fire District: ☒ No ☐ Yes **Flood Hazard Area:** ☒ No ☐ Yes
Special Inspections Required: ☒ **No** ☐ Yes (Contact the local inspection jurisdiction for additional procedures and requirements.)

GROSS BUILDING AREA TABLE

Floor	Existing	New	Subtotal
1	4,574 SF		
Total:	4,574 SF		

Construction Area: 1,684 SF

ALLOWABLE AREA
Primary Occupancy Classification(s):
Assembly ☐ A-1 ☐ A-2 ☐ A-3 ☐ A-4 ☐ A-5
Business ☒
Educational ☐
Factory ☐ F-1 Moderate ☐ F-2 Low
Hazardous ☐ H-1 Detonate ☐ H-2 Deflagrate ☐ H-3 Combust ☐ H-4 Health ☐ H-5 HPM
Institutional ☐ I-1 Condition ☐ 1 ☐ 2
☐ I-2 Condition ☐ 1 ☐ 2
☐ I-3 Condition ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
☐ I-4
Mercantile ☐
Residential ☐ R-1 ☐ R-2 ☐ R-3 ☐ R-4
Storage ☐ S-1 Moderate ☐ S-2 Low ☐ High-piled
☐ Parking Garage ☐ Open ☐ Enclosed ☐ Repair Garage
Utility and Miscellaneous ☐
Accessory Occupancy Classification(s):
Incidental Uses (Table 509):
Special Uses (Chapter 4 – List Code Sections):
Special Provisions: (Chapter 5 – List Code Sections):
Mixed Occupancy: ☒ No ☐ Yes Separation: ____ Hr. Exception: _____

☐ Non-Separated Use (508.3) - The required type of construction for the building shall be determined by applying the height and area limitations for each of the applicable occupancies to the entire building. The most restrictive type of construction, so determined, shall apply to the entire building.

☐ Separated Use (508.4) - See below for area calculations for each story, the area of the occupancy shall be such that the sum of the ratios of the actual floor area of each use divided by the allowable floor area for each use shall not exceed 1.

_____ + _____ = _____ < 1.00

FRONTAGE - N/A NOT NEEDED

STORY NO.	(A) DESCRIPTION & USE	(A) BLDG AREA PER STORY (ACTUAL)	(B) TABLE 506.24 AREA	(C) AREA FOR FRONTAGE INCREASE 1,5	(D) ALLOWABLE AREA
1	BUSINESS	4,574	9,000	N/A	9,000

1 Frontage area increases from Section 506.3 are computed thus:
a. Perimeter which fronts a public way or open space having 20 feet minimum width = _____ (F)
b. Total Building Perimeter = _____ (P)
c. Ratio (F/P) = _____ (F/P)
d. W = Minimum width of public way = _____ (W)
e. Percent of frontage increase If = 100[F/P – 0.25] x W/30 = _____ (%)
2 Unlimited area applicable under conditions of Section 507.
3 Maximum Building Area = total number of stories in the building x D (maximum3 stories) (506.2).
4 The maximum area of open parking garages must comply with Table 406.5.4.
5 Frontage increase is based on the unsprinklered area value in Table 506.2.

ALLOWABLE HEIGHT - EXISTING UNCHANGED

	ALLOWABLE	SHOWN ON PLANS	CODE REFERENCE 1
Building Height in Feet (Table 504.3)	40'	15'	
Building Height in Stories (Table 504.4)	2	1	

1 Provide code reference if the "Shown on Plans" quantity is not based on Table 504.3 or 504.4.
2 The maximum height of air traffic control towers must comply with Table 412.3.1.
3 The maximum height of open parking garages must comply with Table 406.5.4.

FIRE PROTECTION REQUIREMENTS

BUILDING ELEMENT	FIRE SEPARATION DISTANCE (FEET)	RATING REQ'D	RATING PROVIDED W/ _____ REDUCTION	DETAIL # AND SHEET #	DESIGN # FOR RATED ASSEMBLY	SHEET # FOR RATED PENETRATION	SHEET # FOR RATED JOINTS
Structural Frame						SEE ENG. PAGES	
Columns							
Girders							
Trusses							
Bearing Walls							
Exterior							
North							
East							
West							
South							
Interior							
Nonbearing walls and partitions							
Bearing Walls							
North							
East							
West							
South							
Interior walls and partitions							
Floor Construction							
Supporting beams and joists							
Floor Ceiling Assembly							
Columns Supporting Floors							
Roof Construction							
Beams							
Joists							
Roof Ceiling Assembly							
Columns Supporting Roof							
Shaft Enclosures—Exit							
Shaft Enclosures—Other							
Corridor Separation							
Occupancy/Fire Barrier Separation							
Party/Fire Wall Separation							
Smoke Barrier Separation							
Smoke Partition							
Tenant/Dwelling Unit/							
Sleeping Unit Separation							
Incidental Use Separation							

N/A - NO RATINGS REQUIRED SINGLE TENANT OCCUPIED BUILDING

* Indicate section number permitting reduction

PERCENTAGE OF WALL OPENING CALCULATIONS - N/A NOT CLOSE TO ANOTHER BUILDING OR PROPERTY LINE

FIRE SEPARATION DISTANCE (FEET) FROM PROPERTY LINES	DEGREE OF OPENINGS PROTECTION (TABLE 705.8)	ALLOWABLE AREA (%)	ACTUAL SHOWN ON PLANS (%)

LIFE SAFETY SYSTEM REQUIREMENTS
Emergency Lighting: ☐ No ☒ Yes
Exit Signs: ☐ No ☒ Yes
Fire Alarm: ☒ No ☐ Yes
Smoke Detection Systems: ☐ No ☐ Yes ☒ Partial (Duct detectors only)
Carbon Monoxide Detection: ☒ No ☐ Yes

Life Safety Plan Sheet #: T2.1

☐ **Fire and/or smoke rated wall locations (Chapter 7) N/A SINGLE TENANT OCCUPIED BUILDING**
☐ **Assumed and real property line locations (if not on the site plan) EXISTING UNCHANGED**
☐ **Exterior wall opening area with respect to distance to assumed property lines (705.8) EXISTING UNCHANGED**
☒ **Occupancy Use for each area as it relates to occupant load calculation (Table 1004.1.2)**
☒ **Occupant loads for each area**
☒ **Exit access travel distances (1017)**
☒ **Common path of travel distances (Tables 1006.2.1 & 1006.3.2(1))**
☒ **Dead end lengths (1020.4)**
☒ **Clear exit widths for each exit door**
☒ **Maximum calculated occupant load capacity each exit door can accommodate based on egress width (1005.3)**
☒ **Actual occupant load for each exit door**
☐ **A separate schematic plan indicating where fire rated floor/ceiling and/or roof structure is provided for purposes of occupancy separation N/A**
☒ **Location of doors with panic hardware (1010.1.10) EXISTING IN BREAKROOM AND BACK EXIT**
☐ **Location of doors with delayed egress locks and the amount of delay (1010.1.9.7) N/A**
☐ **Location of doors with electromagnetic egress locks (1010.1.9.9) N/A**
☐ **Location of doors equipped with hold-open devices N/A**
☐ **Location of emergency escape windows (1030)) EXISTING UNCHANGED**
☐ **The square footage of each fire area (202) EXISTING UNCHANGED**
☐ **The square footage of each smoke compartment for Occupancy Classification I-2 (407.5) N/A**
☐ **Note any code exceptions or table notes that may have been utilized regarding the items above N/A**

ACCESSIBLE DWELLING UNITS - N/A
(SECTION 1107)

TOTAL UNITS	ACCESSIBLE UNITS REQUIRED	ACCESSIBLE UNITS PROVIDED	TYPE A UNITS REQUIRED	TYPE A UNITS PROVIDED	TYPE B UNITS REQUIRED	TYPE B UNITS PROVIDED	TOTAL ACCESSIBLE UNITS PROVIDED

ACCESSIBLE PARKING - EXISTING TO REMAIN
(SECTION 1106)

LOT OR PARKING AREA	TOTAL # OF PARKING SPACES REQUIRED	TOTAL # OF PARKING SPACES PROVIDED	# OF ACCESSIBLE SPACES PROVIDED: REGULAR WITH 5' ACCESS AISLE	VAN SPACES WITH 132" ACCESS AISLE	8' ACCESS AISLE	TOTAL # ACCESSIBLE PROVIDED

PLUMBING FIXTURE REQUIREMENTS - EXISTING, NO CHANGE (TABLE 2902.1)

USE		WATER CLOSETS MALE	WATER CLOSETS FEMALE	WATER CLOSETS UNISEX	URINALS	LAVATORIES MALE	LAVATORIES FEMALE	LAVATORIES UNISEX	SHOWERS / TUBS	DRINKING FOUNTAINS REGULAR	DRINKING FOUNTAINS ACCESSIBLE
BUS.	EXIST'G	1	1	1	0	1	1	1		1	1
	NEW	0	0	0	0	0	0	0		0	0
	REQ'D	1	1	0	0	1	1	0		1	1

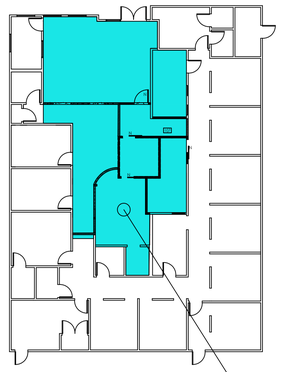
SPECIAL APPROVALS - N/A
Special approval: (Local Jurisdiction, Department of Insurance, OSC, DPI, DHHS, etc., describe below)

ENERGY SUMMARY - SEE ENGINEERING PAGES - N/A FOR ARCHITECTURAL FITUP
STRUCTURAL DESIGN - N/A EXISTING STRUCTURE TO REMAIN

CAMERON FAMILY DENTISTRY

FOR CONSTRUCTION

05/07/2024



KEY PLAN - NTS

Reviewed for Fire Code Compliance
Harnett COUNTY NORTH CAROLINA
Leslie Jackson
05/20/2024 8:11:37 AM

NOTICE TO CONTRACTOR
All construction must comply with current NC Building Codes and is subject to field inspection and verification.
Reviewed for Code Compliance
05/23/2024
Harnett COUNTY NORTH CAROLINA

DRAWING INDEX

SCOPE OF WORK:

INTERIOR RENOVATION TO A DENTAL CLINIC INCLUDING DEMO & NEW WALLS, NEW FINISHES AND PME PER NEW LAYOUT

influence by DESIGN

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INFLUENCE BY DESIGN, LLC REGISTERED INTERIOR DESIGN COMPANY CERT. NO. 1005 NORTH CAROLINA

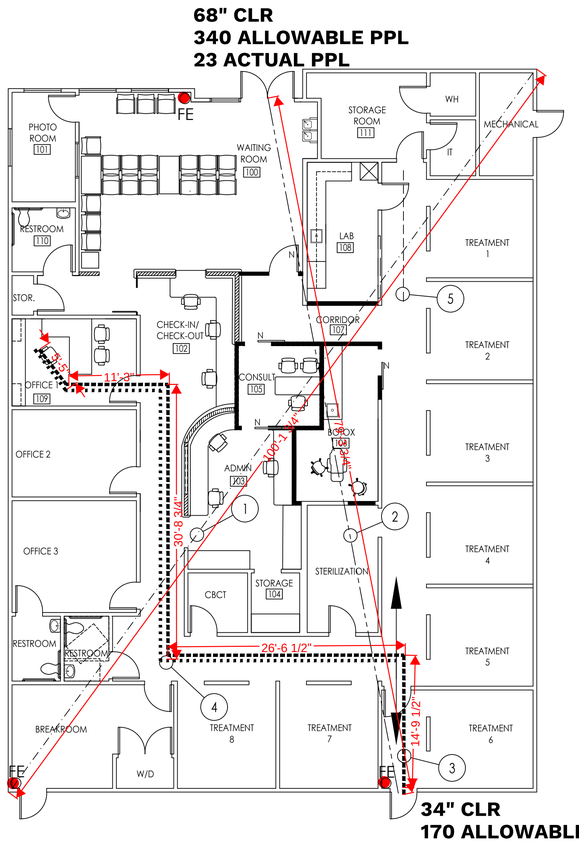
CAMERON FAMILY DENTISTRY

1054 NC 24-87
CAMERON, NC 28326

APPENDIX B

DATE: 05.07.24
SCALE: 1/8" = 1'-0"

T1.1



1 LIFE SAFETY PLAN
1/8" = 1'-0"

EXITING REQUIREMENTS - NON SPRINKLERED BUILDING - BUSINESS

1. LONGEST DIAGONAL 99'
2. ACTUAL SEPARATION OF REQUIRED EXITS (> 1/3 THE DIAGONAL 33') ACTUAL= 79'-4"
3. ACTUAL TRAVEL DISTANCE = 88'-7" (MAX. ALLOWABLE TRAVEL DISTANCE 200')
4. ACTUAL COMMON PATH OF TRAVEL = 72'-11" (MAX ALLOWABLE COMMON PATH OF TRAVEL = 75')
5. DEAD END = 14'-7" (MAX ALLOWABLE: 20'-0")

OCCUPANT LOAD - BUSINESS

4,574 SF / 100 = 46 PPL
OCCUPANT LOAD NOTED ON THE PLAN

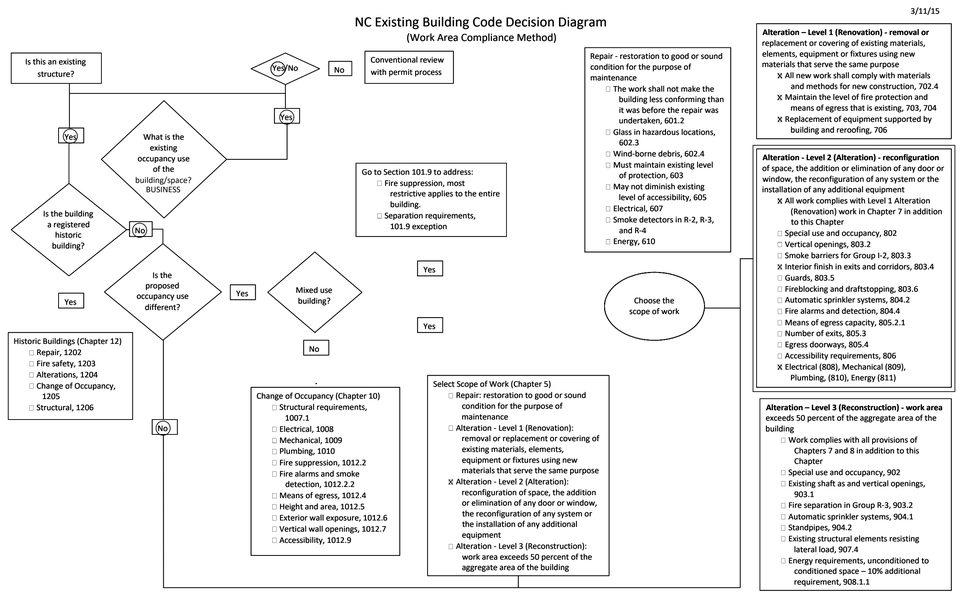
DOOR: ACTUAL WIDTH (34"CLR.)
OPENING SIZE (34")INCHES/OCCUPANT (.2") = 170 PPL ALLOWED, ACTUAL SHOWN ON PLAN.

DOOR & CORRIDOR WIDTH = .2 X 50 PPL. = 9.2" REQUIRED.
DOOR ACTUAL WIDTH 34"CLR
SMALLEST CORRIDOR WIDTH: 4'-1"

LIFE SAFETY LEGEND

- EXISTING WALLS TO REMAIN
- NEW NON-RATED INTERIOR WALL PARTITIONS TO 6" ABOVE SUSPENDED CEILING HEIGHT
  - A. Wood 2x4 Stud
  - B. Fiberglass Batt Insulation: R-11, unfaced.
  - C. Gypsum Board: 5/8"; both sides.
  - D. Level 4 gypsum board surface finish; painted.
- EXSISTING HALF WALLS TO REMAIN
- NEW HALF WALLS TO MATCH EXISTING, UNLESS OTHERWISE NOTED
- EXISTING WALL TO BE DEMOLISHED
- FE — EXISTING FIRE EXTINGUISHER TO REMAIN

2 EXISTING BUILDING CODE DECISION DIAGRAM
NTS



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CAMERON FAMILY DENTISTRY

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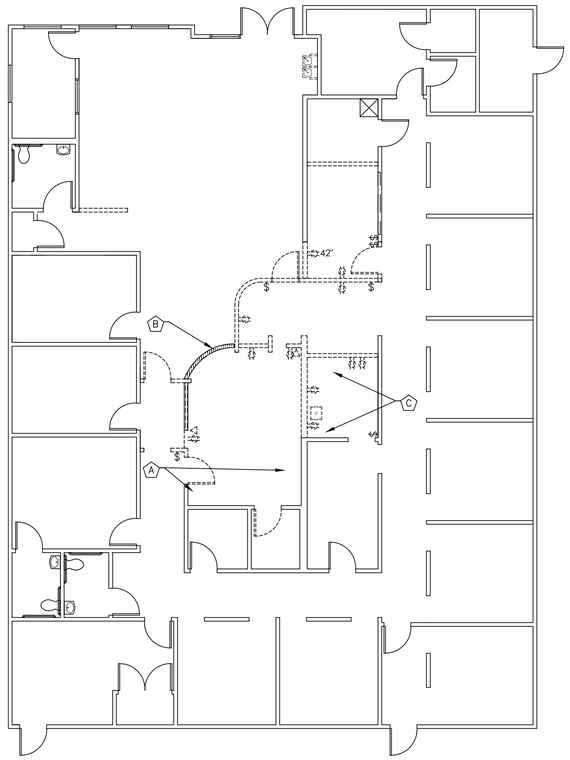
CAMERON, NC 28326

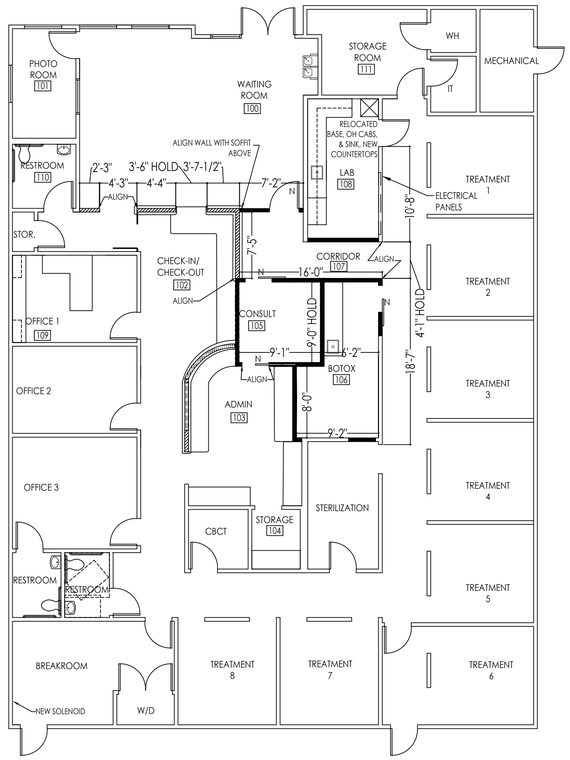
LIFE SAFETY PLAN & CODE DECISION DIAGRAM
DATE: 05.07.24

T2.1



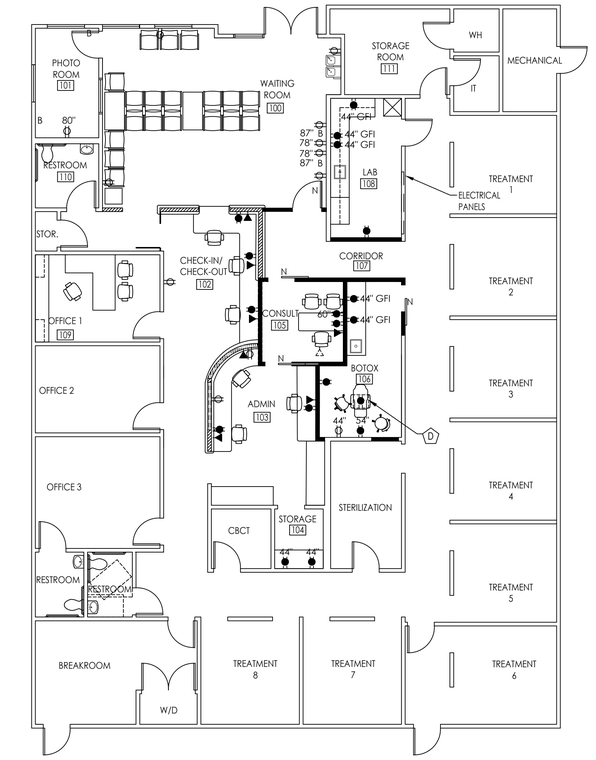
1 DEMOLITION FLOOR PLAN

SCALE: 1/18" = 1'-0"



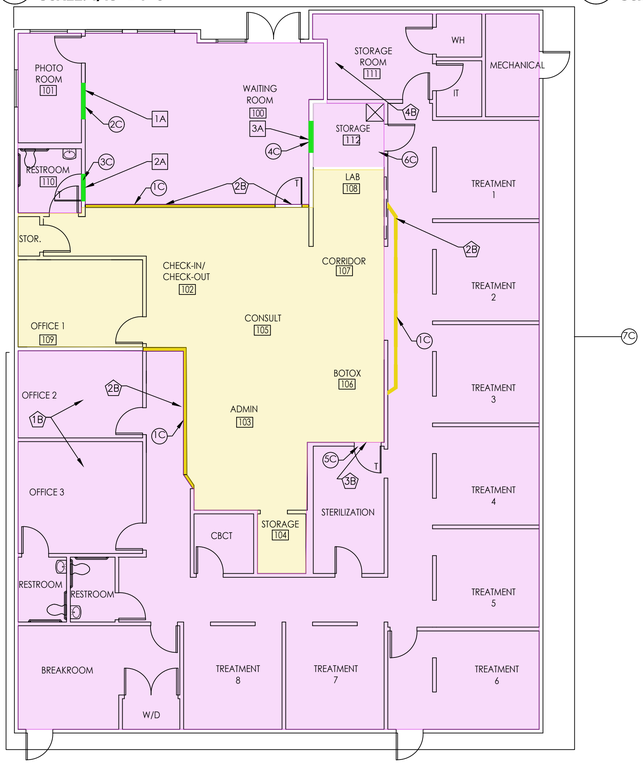
2 CONSTRUCTION AND DIMENSION PLAN

SCALE: 1/8" = 1'-0"



3 ELECTRICAL PLAN

SCALE: 1/8" = 1'-0"



4 CONSTRUCTION PHASING PLAN

SCALE: 1/18" = 1'-0"

PHASE 1 OF CONSTRUCTION	
1A	GLASS WINDOW TO BE REMOVED IN PHOTO ROOM 101 IN ORDER TO BECOME TEMP CHECK IN/CHECK OUT
2A	TEMPORARY DOOR TO BE CUT INTO RESTROOM 110 OFF OF WAITING ROOM TO PROVIDE PATIENT ACCESS
3A	CUT IN CASED OPENING FROM WAITING ROOM TO LAB 108 TO PROVIDE TRAFFIC FLOW TO TREATMENT ROOMS FOR PATIENTS

PHASE 2 OF CONSTRUCTION	
1B	ALL ADMIN WORK AREAS TO BE MOVED INTO OFFICE 2 AND 3
2B	TEMPORARY WALL TO BE BUILT AROUND PHASE 2 CONSTRUCTION ZONE. ADD TEMP DOOR IN WAITING ROOM TO ACCESS CONSTRUCTION ZONE
3B	INSTALL TEMP DOOR FROM STERILIZATION ROOM TO CURRENT LAB (FUTURE BOTOX ROOM 106)
4B	MOVE LAB EQUIPMENT TO STORAGE ROOM 111 FOR TEMP LOCATION DURING PHASE 2

PHASE 3 OF CONSTRUCTION	
1C	REMOVE TEMPORARY WALLS - ADMIN MOVE BACK TO NEW WORKSPACE
2C	GLASS WINDOW IS RETURNED TO PHOTO ROOM 101
3C	TEMPORARY DOOR IS REMOVED AT RESTROOM 110 AND WALL IS REPAIRED
4C	CASED OPENING FROM WAITING ROOM TO LAB IS CLOSED AND REPAIRED
5C	TEMPORARY DOOR FROM STERILIZATION TO NEW BOTOX ROOM IS REMOVED AND REPAIRED
6C	NEW LAB IS UNDER CONSTRUCTION (EXTENSION OF ROOM 112 INTO ROOM 108)
7C	THE REMAINING AREAS NOT PART OF PHASE 1 AND 2 GET NEW PAINT AND FLOORS (ALL TREATMENT ROOMS, BREAK ROOM, ADMIN OFFICES)

SYMBOLS LEGEND

- EXISTING WALLS TO REMAIN
- NEW NON-RATED INTERIOR WALL PARTITIONS TO 6" ABOVE SUSPENDED CEILING HEIGHT
  - A. Wood 2x4 Stud
  - B. Fiberglass Batt Insulation: R-11, unfaced.
  - C. Gypsum Board: 5/8"; both sides.
  - D. Level 4 gypsum board surface finish; painted.
- EXISTING HALF WALLS TO REMAIN
- NEW HALF WALLS TO MATCH EXISTING, UNLESS OTHERWISE NOTED
- EXISTING WALL TO BE DEMOLISHED
- EXISTING DOOR AND DOOR FRAME TO BE REMOVED.
- EXISTING BASE BUILDING STANDARD DOOR TO REMAIN
- TEMPORARY DOOR TO BE INSTALLED DURING PHASE 2 OF CONSTRUCTION AND REMOVED DURING PHASE 3
- N — NEW BLDG STANDARD DOOR AND FRAME TO BE INSTALLED (TO MATCH EXISTING)
- N — NEW POCKET DOOR TO BE INSTALLED. (SEE DOOR SCHEDULE FOR SPECS)
- B / B — NEW BARN DOOR TO BE INSTALLED. (SEE DOOR SCHEDULE FOR SPECS). EXISTING BLANK BOX TO REMIAN
- EXISTING DUPLEX POWER OUTLET TO REMAIN
- NEW DUPLEX POWER OUTLET TO BE INSTALLED AT 18"AFF, UON DED = DEDICATED CIRCUIT
- EXISTING DUPLEX POWER OUTLET TO BE REMOVED
- NEW FLUSH FLOOR BOX TO BE INSTALLED TO PROVIDE POWER TO BOTOX CHAIR.
- NEW DATA BOX TO BE INSTALLED AT 18'AFF, UON
- EXISTING DATA BOX TO BE REMOVED
- EXISTING 2X2 SUPPLY TO BE REMOVED (AND SAVED FOR RELOCATION
- EXISTING 2X2 SUPPLY TO REMAIN
- R — RELOCATED 2X2 SUPPLY TO BE INSTALLED
- EXISTING CEILING GRID & TILE TO BE REMOVED
- EXISTING CEILING GRID & TILE TO REMAIN
- NEW CEILING GRID & TILE TO BE INSTALLED (MATCH AND ALIGN WITH EXISTING GRID)
- EXISTING SOFFIT
- NEW SOFFIT 5" D AND 8'-9" AFF OR AREA TO REPAIR EXISTING SOFFIT - SEE CEILING PLAN FOR NOTES
- EXISTING 2'X4' LIGHT FIXTURE TO BE REMOVED AND SAVED FOR RELOCATION
- EXISTING 2'X4' LIGHT FIXTURE TO REMAIN
- R — RELOCATED 2'X4' LIGHT FIXTURE TO BE INSTALLED
- N — NEW HOME DEPOT IMPERIUM 25-WATT 1 LIGHT BLACK & GOLD MODERN MINI PENDANT LIGHT FIXTURE, HUNG 6' AFF TO BOTTOM OF FIXTURE
- N — NEW HOME DEPOT IMPERIUM 9- LIGHT BLACK AND GOLD MODERN SPUTNIK GEOMETRIC CAGE CHANDELIER LIGHT FIXTURE, HUNG 8' AFF TO BOTTOM OF FIXTURE

CONSTRUCTION NOTES

- REMOVE CARPET TILE AND LVP THROUGHOUT ENTIRE SUITE. PREPARE CONCRETE TO BE SEALED AND STAINED
- ROOM 108 TO RECEIVE RELOCATED SINK FROM EXISTING LAB
- SALVAGE EXISTING UPPER AND LOWER MILLWORK IN EXISTING LAB FOR NEW LOCATION IN ROOM 108
- SALVAGE UPPER AND LOWER CABINETS IN ROOM 103 TO BE USED IN ROOM 108 (USE WHAT WILL FIT AND REMOVE THE REST)
- DEMOLISH WORK TOP, TRANSACTION TOP, AND MILLWORK IN ADMIN ROOM - REMOVE LAMINATE PANELS OFF THE FRONT OF CURRENT CHECK IN DESK. (SEE CONSTRUCTION KEYNOTE C FOR LOCATION)
- BOTOX ROOM LIGHTS ON ADJUSTABLE DIMMERS
- LOGO INSTALLED ON SOFFIT ABOVE CHECK IN DESK AND FRONT DOOR TO HAVE LOGO AND OPERATING HOURS APPLIED
- POLISHED CONCRETE ON THE ORIGINAL CONCRETE FLOOR SLAB. ED FOX FROM PROSOCO TO SUPERVISE IN ORDER TO ACHIEVE THE LOOK CLIENT WANTS FOR CONCRETE FLOOR
  - VACUUM DIAMOND GRID CONFERENCE WITH 40 AND 80 GRIT METAL BONDED DIAMONDS
  - INSTALL CONCRETE DENSIFIER
  - INSTALL CONCRETE STAIN
  - INSTALL CONCRETE STAIN GUARD

CONSTRUCTION KEYNOTES

- A — REMOVE UPPER AND LOWER CABINETS, SALVAGE FOR RELOCATION IN ROOM 108 (REPLACE EXSISTING COUNTERTOPS WITH NEW PLAM.
- B — REMOVE FRONT LAMINATE PANELS AND PREP FOR NEW LAMINATE FRONT
- C — REMOVE UPPER AND LOWER CABINETS, SINK & FAUCET, AND SALVAGE FOR RELOCATION TO NEW LAB (REPLACE EXSISTING COUNTERTOPS WITH NEW PLAM)
- D — ADD CONNECTIONS FOR AIR, WATER, VACUUM & POWER IN ROOM 106. CAP AT FLOOR FOR FUTURE USE

influence by DESIGN

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INFLUENCE BY DESIGN LLC REGISTERED INTERIOR DESIGN COMPANY CERT. NO. 1005 NORTH CAROLINA

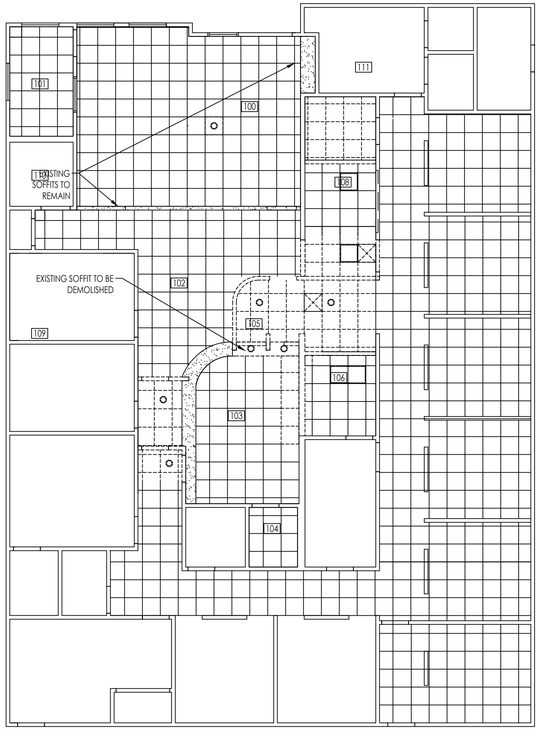
CAMERON FAMILY DENTISTRY

1054 NC 24-87
CAMERON, NC 28326

DEMOLITION AND CONSTRUCTION PLANS

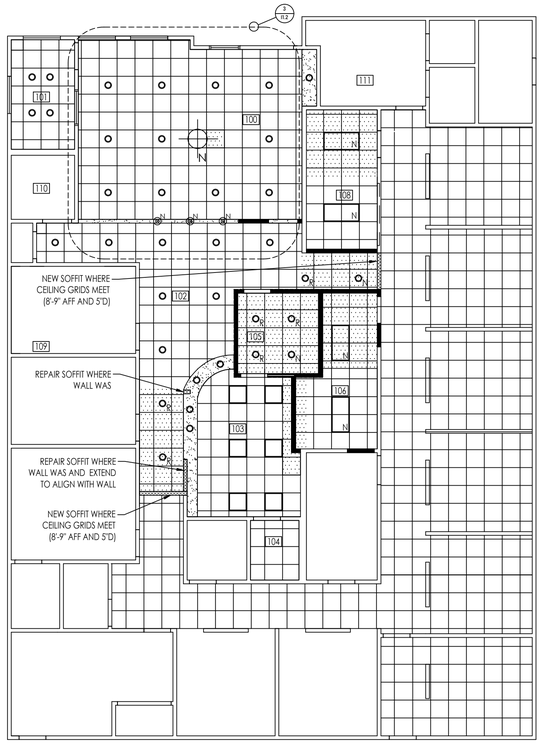
DATE: 05.07.24

I1.1



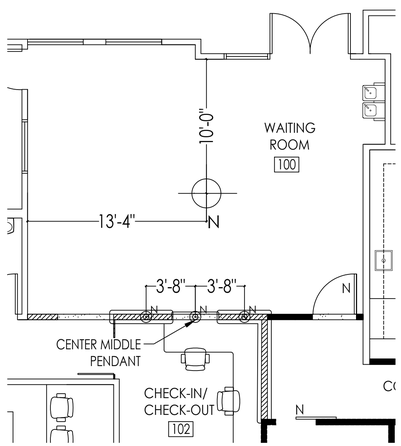
1 DEMOLITION REFLECTED CEILING PLAN

1/8"=1'-0"



2 NEW REFLECTED CEILING PLAN

1/8"=1'-0"



3 SPECIALTY LIGHT PLAN

3/16"=1'-0"

SYMBOLS LEGEND

- EXISTING WALLS TO REMAIN
- NEW NON-RATED INTERIOR WALL PARTITIONS TO 6" ABOVE SUSPENDED CEILING HEIGHT
  - A. Wood 2x4 Stud
  - B. Fiberglass Batt Insulation: R-11, unfaced.
  - C. Gypsum Board: 5/8"; both sides.
  - D. Level 4 gypsum board surface finish; painted.
- EXSISTING HALF WALLS TO REMAIN
- NEW HALF WALLS TO MATCH EXISTING, UNLESS OTHERWISE NOTED
- EXISTING WALL TO BE DEMOLISHED
- EXISTING DOOR AND DOOR FRAME TO BE REMOVED.
- EXISTING BASE BUILDING STANDARD DOOR TO REMAIN
- TEMPORARY DOOR TO BE INSTALLED DURING PHASE 2 OF CONSTRUCTION AND REMOVED DURING PHASE 3
- NEW BLDG STANDARD DOOR AND FRAME TO BE INSTALLED (TO MATCH EXISTING)
- NEW POCKET DOOR TO BE INSTALLED. (SEE DOOR SCHEDULE FOR SPECS)
- NEW BARN DOOR TO BE INSTALLED. (SEE DOOR SCHEDULE FOR SPECS)
- EXISTING BLANK BOX TO REMIAN
- EXISTING DUPLEX POWER OUTLET TO REMAIN
- NEW DUPLEX POWER OUTLET TO BE INSTALLED AT 18"AFF, UON DED = DEDICATED CIRCUIT
- EXISTING DUPLEX POWER OUTLET TO BE REMOVED
- NEW FLUSH FLOOR BOX TO BE INSTALLED TO PROVIDE POWER TO BOTOX CHAIR.
- NEW DATA BOX TO BE INSTALLED AT 18"AFF, UON
- EXISTING DATA BOX TO BE REMOVED
- EXISTING 2X2 SUPPLY TO BE REMOVED (AND SAVED FOR RELOCATION
- EXISTING 2X2 SUPPLY TO REMAIN
- RELOCATED 2X2 SUPPLY TO BE INSTALLED
- EXISTING CEILING GRID & TILE TO BE REMOVED
- EXISTING CEILING GRID & TILE TO REMAIN
- NEW CEILING GRID & TILE TO BE INSTALLED (MATCH AND ALIGN WITH EXISTING GRID)
- EXISTING SOFFIT
- NEW SOFFIT 5" D AND 8'-9" AFF OR AREA TO REPAIR EXISTING SOFFIT - SEE CEILING PLAN FOR NOTES
- EXISTING 2'X4' LIGHT FIXTURE TO BE REMOVED AND SAVED FOR RELOCATION
- EXISTING 2'X4' LIGHT FIXTURE TO REMAIN
- RELOCATED 2'X4' LIGHT FIXTURE TO BE INSTALLED
- NEW HOME DEPOT IMPERIUM 25-WATT 1 LIGHT BLACK & GOLD MODERN MINI PENDANT LIGHT FIXTURE, HUNG 6' AFF TO BOTTOM OF FIXTURE
- NEW HOME DEPOT IMPERIUM 9- LIGHT BLACK AND GOLD MODERN SPUTNIK GEOMETRIC CAGE CHANDELIER LIGHT FIXTURE, HUNG 8' AFF TO BOTTOM OF FIXTURE

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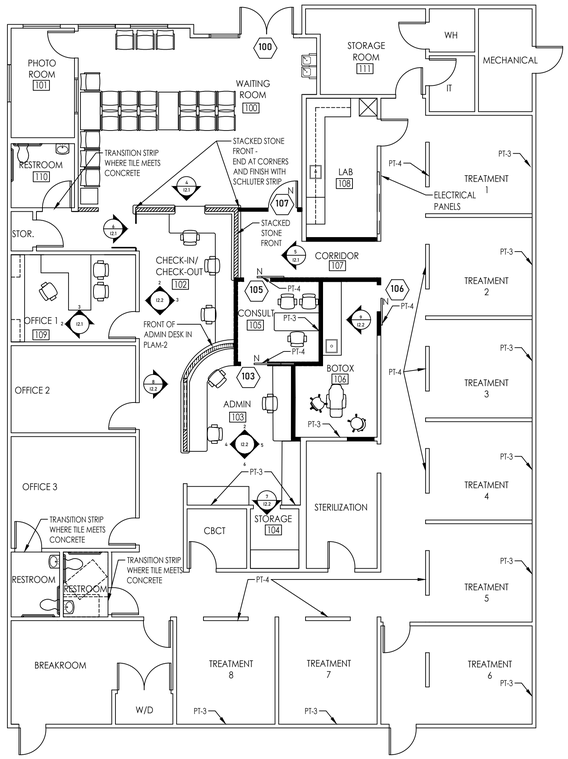
CAMERON FAMILY DENTISTRY

1054 NC 24-87
CAMERON, NC 28326

DEMOLITION & NEW REFLECTED CEILING PLANS

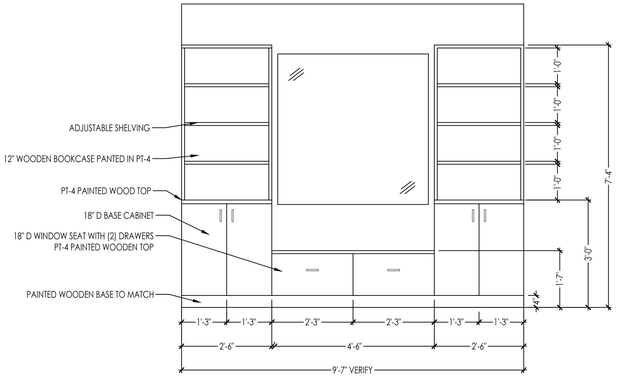
DATE: 05.07.24

I1.2

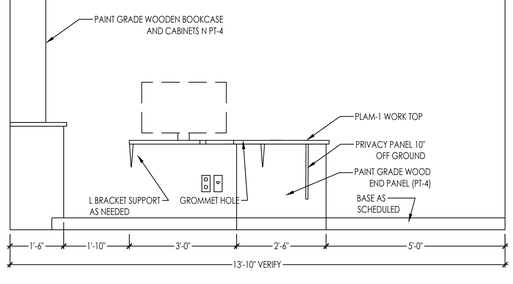


1 FINISH PLAN WITH DOOR TAGS AND ELEVATION TAGS
1/8"=1'-0"

FINISH SPECIFICATIONS SUITE 320 - RETINA INSTITUTE			
NO.	MATERIAL	SPECIFICATION	LOCATION / NOTES
C-1	POLISHED CONCRETE (OVERALL)	MANUFACTURER: PROSOCO GEMTONE STAIN COLOR: SAMPLE CONCRETE GRAY AND WELSH SLATE	SAMPLE CONCRETE GRAY AND WELSH SLATE ON FLOOR FOR CLIENT TO DECIDE. ED FOX AT PROSOCO TO HELP ACHIEVE SWIRL TECHNIQUE ON CONSTRUCTION DAY - PHONE NUMBER 704-450-3773
PT-1	PAINT (OVERALL)	MANUFACTURER: SHERWIN WILLIAMS COLOR: SW 7071 GRAY SCREEN FINISH: EGGSHELL	THROUGHOUT U.NO. UNLESS SPECIFIED OTHERWISE
PT-2	PAINT (DOOR FRAMES)	MANUFACTURER: SHERWIN WILLIAMS COLOR: SW6231 ROCK CANDY FINISH: SEMI-GLOSS	HOLLOW METAL DOOR FRAMES
PT-3	PAINT (ACCENT COLOR)	MANUFACTURER: SHERWIN WILLIAMS COLOR: SW9147 FAVORITE JEANS FINISH: EGGSHELL	SEE FINISH PLAN FOR LOCATION (ACCENT WALL IN TREATMENT ROOMS)
PT-4	PAINT (ACCENT COLOR)	MANUFACTURER: SHERWIN WILLIAMS COLOR: SW9177 SALTY DOG FINISH: EGGSHELL	SEE FINISH PLAN FOR LOCATIONS (SOFFIT AT FRONT DESK, BARN DOOR AT BOTOX ROOM, POCKET DOOR AT ADMIN), WOODEN BUILT INS IN ROOM 109. ACCENT WALLS OUTSIDE OF TREATMENT ROOMS)
RB-1	RUBBER BASE (4" HIGH COVE)	MANUFACTURER: JOHNSONITE COLOR: TBD ONCE CONCRETE STAIN IS APPLIED	THROUGHOUT U.N.O
PLAM -1	PLASTIC LAMINATE (COUNTERTOPS)	MANUFACTURER: FORMICA COLOR: STAINLESS, BRUSH FINISH 9319-BH	CHECK-IN/OUT & ADMIN WORK TOPS, NEW COUNTERTOP IN THE LAB, NEW MILLWORK COUNTERTOPS IN ADMIN ROOM (103), STORAGE ROOM (104), AND OFFICE 109 .
PLAM -2	PLASTIC LAMINATE (CABINETS)	MANUFACTURER: WILSONART COLOR: ATLANTIS	NEW BASE CABINETS IN ADMIN ROOM (103), STORAGE ROOM (104) AND BOTOX ROOM (108), LAMINATE PANEL ON FRONT OF ADMIN DESK AND SWINGING DOOR AT CHECK IN DESK
QZ-1	QUARTZ (COUNTERTOPS)	MANUFACTURER: HANSTONE QUARTZ COLOR: SPECCHIO WHITE. CT402 3CM THICKNESS, PENCIL EDGE	TRANSACTION TOP AT CHECK IN/CHECK OUT. TRANSACTION TOP IN ADMIN SPACE AND COUNTERTOPS IN BOTOX ROOM
STS-1	STAKED STONE VENEER	MANUFACTURER: KIBA - SURFACE ART LEDGER STONE COLOR:NORDIC CRYTAL	FRONT OF RECEPTION DESK AT CHECK IN AND CHECK OUT, PRODUCT REQUIRES SEALANT, USE SCHLUTER STRIP ON CORNERS WHERE STAKED STONE MEETS DRYWALL
	TRANSITION STRIP	MANUFACTURER: KUBERIT PROFILE: KR-E RETROFIT RAMP PROFILE COLOR: ANODIZED ALUMINUM SILVER	INSTALL WHERE RESTROOM TILE FLOOR IN RESTROOMS AND CONCRETE MEET
	SCHLUTER STRIP	MANUFACTURER: KUBERIT PROFILE: KO-A-150-A1-P COLOR: ANODIZED ALUMINUM SILVER	INSTALL ON CHECK IN DESK WHERE STACKED STONE VENEER EDGE IS EXPOSED
	CABINET PULLS	MANUFACTURER: HOME DEPOT LIBERTY WIRE 4 IN. CABINET DRAWER PULL OR SIMILAR TO MATCH EXISTING PULLS COLOR: SATIN NICKEL	INSTALL ON ALL NEW MILLWORK
	DOOR LATCH	MANUFACTURER: DELTANA SOLID BRASS 1-3/16" x 5/8" WINDOW SHUTTER BAR/DOOR LATCHCOLOR: SATIN NICKEL	INSTALLED ON INSIDE OF P-LAM SWINGING DOOR AT CHECK IN DESK (TO LOCK ON CLINICAL SIDE OF DESK)



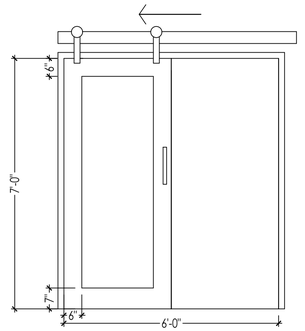
2 OFFICE 1 BUILT IN BOOKCASE & WINDOW SEAT
1/2"=1'-0"



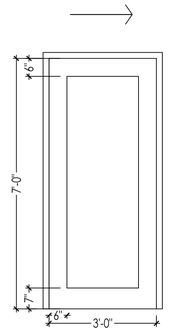
3 OFFICE 1 BUILT IN DESK
1/2"=1'-0"

DOOR SCHEDULE												
DOOR						90 CLOSER	WALL MOUNTED DOOR STOP	COORDINATOR	SILENCERS	DOOR TYPE	DOOR HARWARE	NOTES
NO.	LOCATION	OPENING SIZE	MATERIAL	FRAME MATERIAL	FIRE RATING							
100	FRONT ENTRANCE DOOR	6'-0" X 7'-0"	ALUMINUM & GLASS	ALUMINUM	0	X	X	X	X	DD	LS	5
103	ADMIN	3'-0"x 7'-0"	WOOD	HOLLOW MTL	0					PD	PS	1
105	CONSULT ROOM	3'-0"x 7'-0"	WOOD	HOLLOW MTL	0					BD	PS	2
106	BOTOX ROOM	3'-0"x 7'-0"	WOOD	HOLLOW MTL	0					BD	PS	2
107	CORRIDOR 107	3'-0"x 7'-0"	WOOD	HOLLOW MTL	0	X	X		X	SD	CL	4

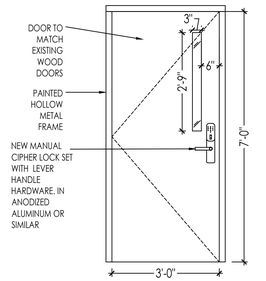
ABBREVIATION LEGEND				NOTES	
PS	PASSAGE SET	DD	DOUBLE DOOR	1	NEW POCKET DOOR HAGER COMPANIES 9800 HEAVY-DUTY POCKET DOOR FRAME KITS 9852HD-96, PAINTED IN SHERWIN WILLIAMS SALTY DOG
LS	LOCK SET	SD	SINGLE DOOR		
PL	PRIVACY LOCK	PD	POCKET DOOR	2	NEW SOLID WOOD SINGLE BARN DOOR: MEASURE OPENING ON SITE AND FIT NEW DOOR ACCORDINGLY – NATIONAL HARDWARE N700-102, TRACKS: NATIONAL HARDWARE N700-00 PAINTED IN SHERWIN WILLIAMS SALTY DOG
CL	MANUAL CIPHER LOCK	BD	BI-FOLD DOOR	3	NEW SOLID CORE DOOR TO MATCH EXISTING SOLID CORE DOORS
WOOD	SOLID CORE WOOD			4	NEW SOLID CORE DOOR WITH 3" X 33" GLASS VIEW KIT AND PASSCODE LOCK
HM	HOLLOW METAL			5	EXISTING DOOR WITH NEW FROSTED GLASS LOGO
BUILDING DOOR STANDARDS					
HARDWARE: TO MATCH EXISTING			ALL HOLLOW METAL FRAMES TO BE PAINTED IN SW 6231 ROCK CANDY FINISH: SEMI GLOSS		
ALL DOOR HARDWARE TO BE ADA LEVER TYPE					



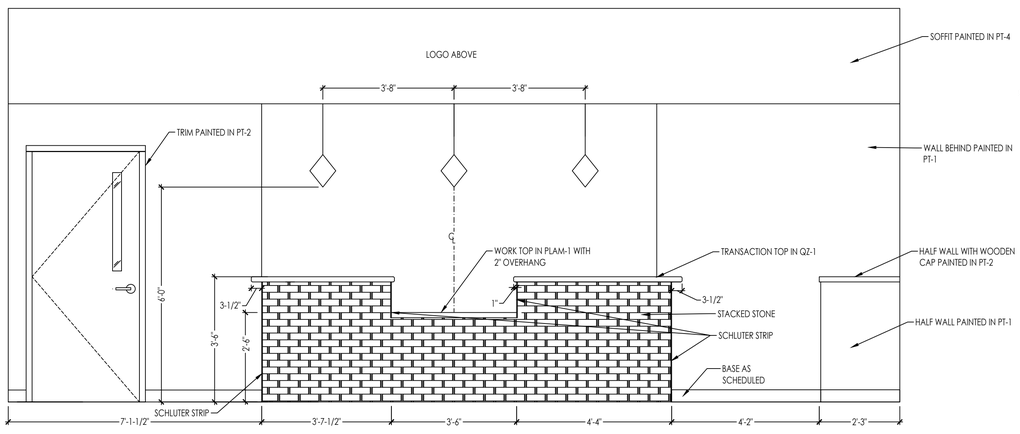
DOOR 105 AND 108 - NEW BARN DOOR
NOTE: 2



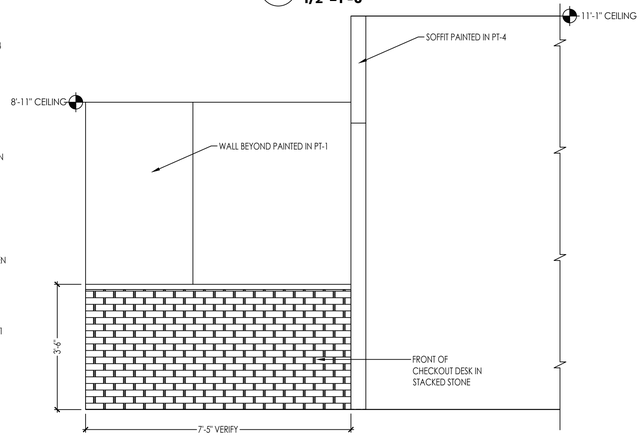
DOOR 103 - NEW POCKET DOOR
NOTE: 1



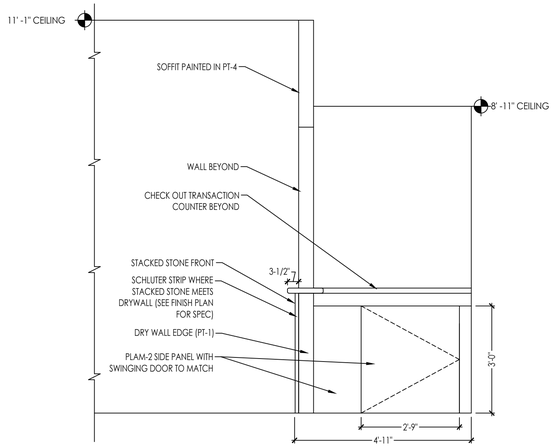
DOOR 107 - SOLID CORE DOOR WITH TEMPERED GLASS KIT
NOTE: 4



4 FRONT OF RECEPTION DESK
1/2"=1'-0"



5 CHECK OUT DESK
1/2"=1'-0"



6 SIDE OF RECEPTION DESK
1/2"=1'-0"

influence by DESIGN

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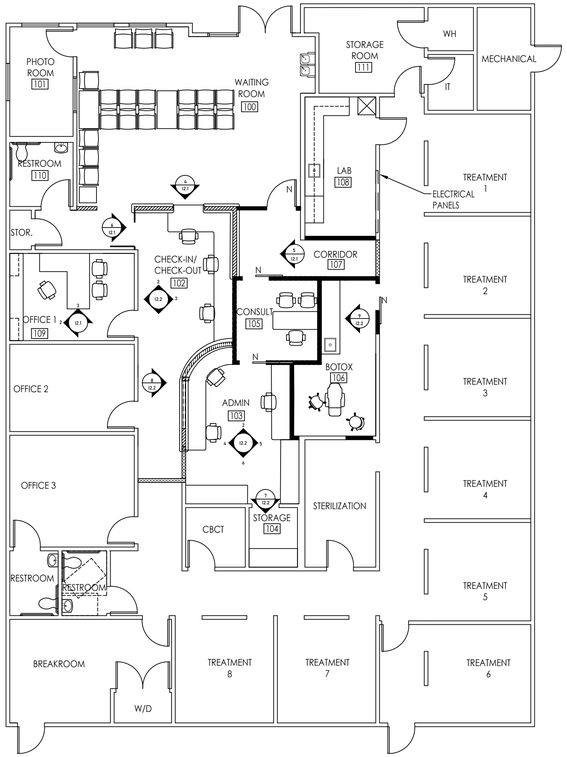
CAMERON FAMILY DENTISTRY

1054 NC 24-87
CAMERON, NC 28326

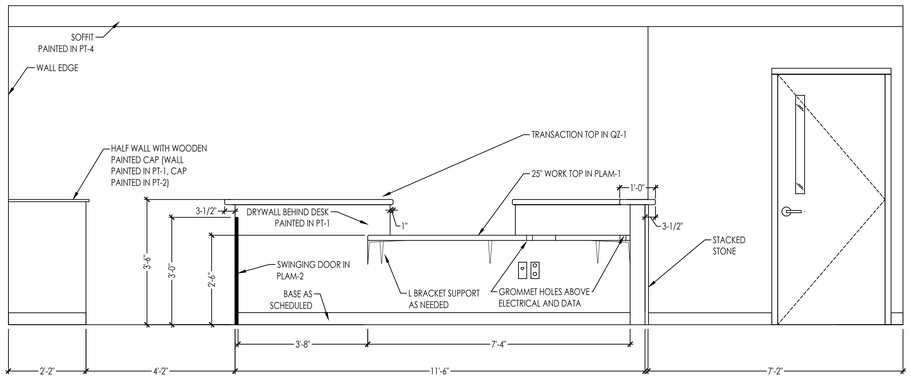
FINISH PLAN, ELEVATIONS & SCHEDULES

DATE: 05.07.24

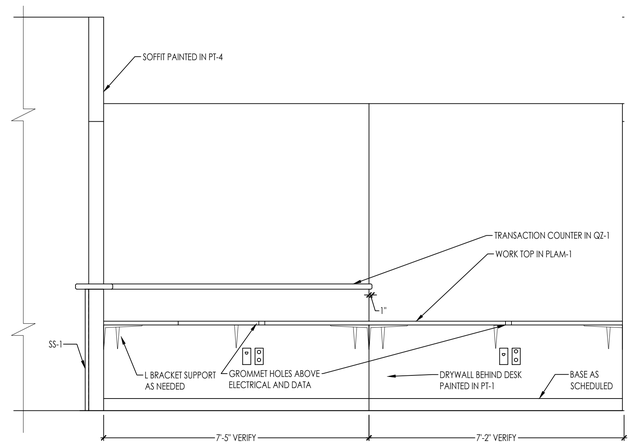
I2.1



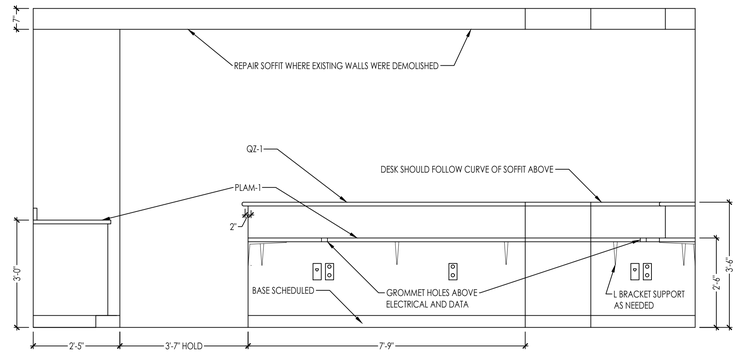
1 KEY PLAN
1/8"=1'-0"



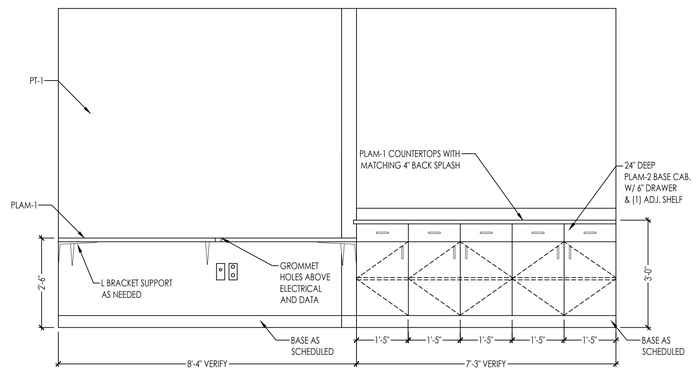
2 BACK OF CHECK-IN DESK
1/2"=1'-0"



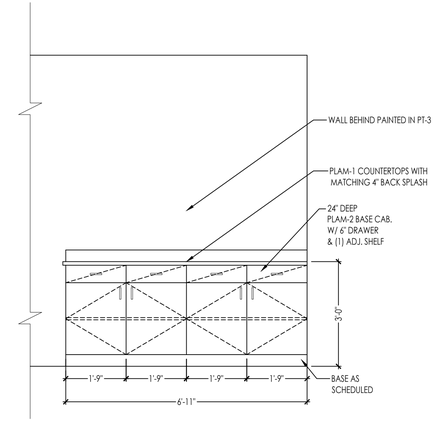
3 BACK OF CHECK-OUT DESK
1/2"=1'-0"



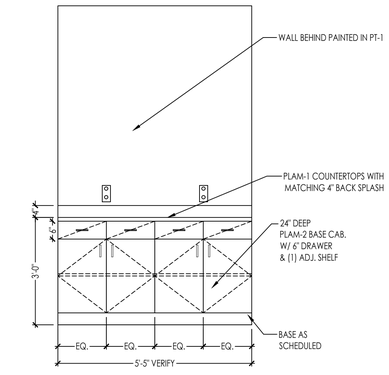
4 BACK OF ADMIN WORK DESK
1/2"=1'-0"



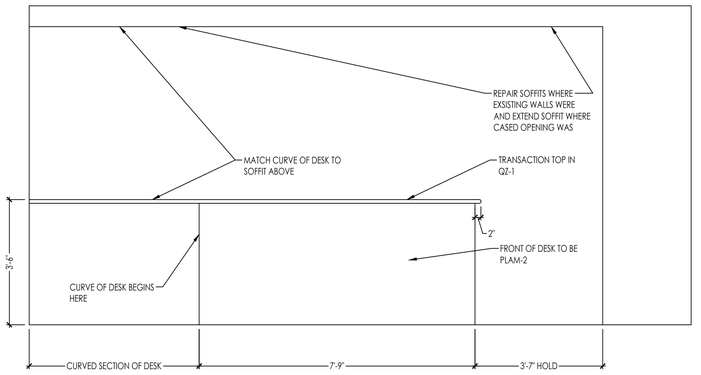
5 ADMIN WORK AREA AND NEW MILLWORK
1/2"=1'-0"



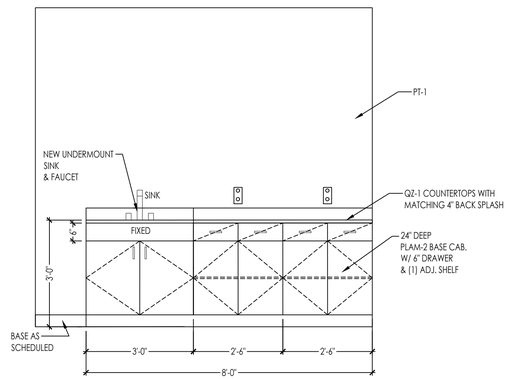
6 ADMIN AREA MILLWORK
1/2"=1'-0"



7 ADMIN STORAGE ROOM
1/2"=1'-0"



8 FRONT OF ADMIN WORK DESK
1/2"=1'-0"



9 BOTOX ROOM MILLWORK
1/2"=1'-0"

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CAMERON FAMILY DENTISTRY

1054 NC 24-87
CAMERON, NC 28326

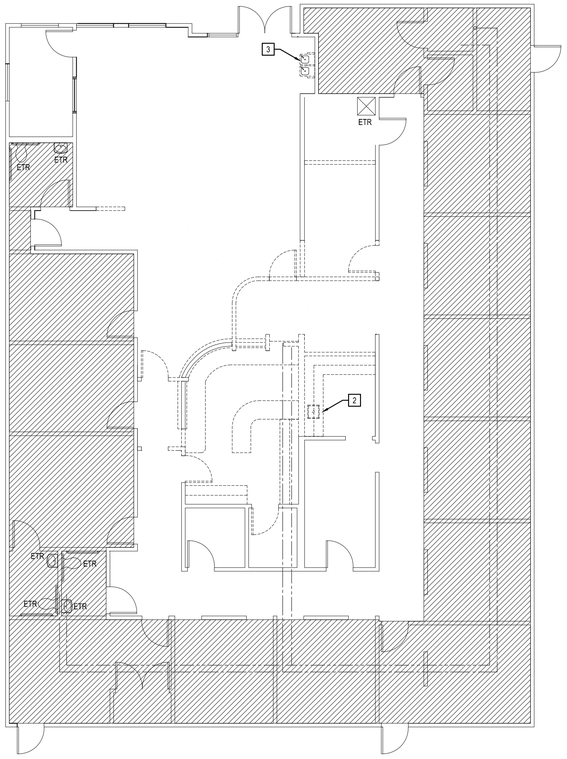
ELEVATIONS

DATE: 05.07.24

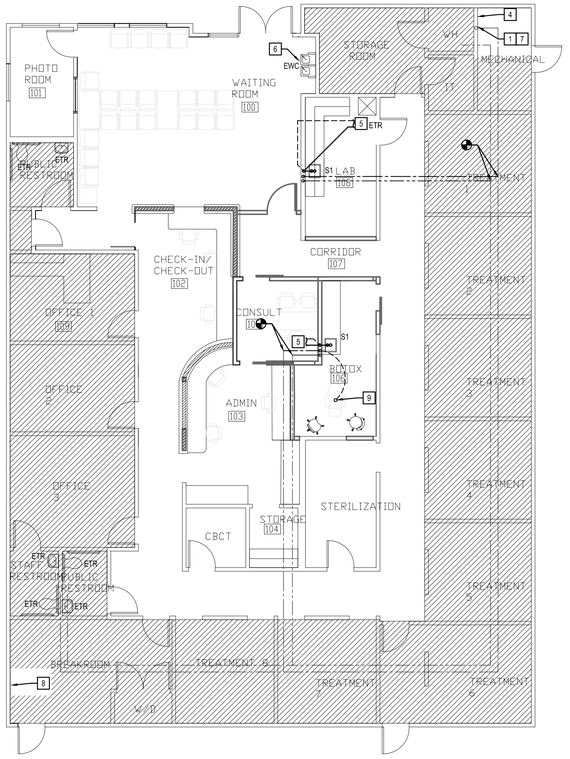
I2.2

Plumbing Specifications:

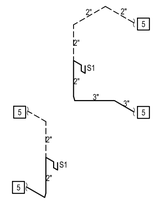
1. These plans are diagrammatic only. Contractor shall provide all necessary offsets, elbows, tees, etc for a complete working system.
2. Contractor shall obtain and pay all fees related to permitting, inspections, taps, etc. Coordinate with GC to confirm none of these costs are covered by them.
3. All work shall be coordinated with all other trades prior to installation. Contractor shall coordinate routing of all piping with existing and new conditions and shall provide any necessary rerouting, offsets, etc. required for a completely coordinated and working system.
4. The plumbing system shall be installed in accordance with 2018 NC plumbing code and local AHJ requirements.
5. New portion of the domestic water system shall be purged of damaging matter and disinfected in accordance with 2018 NC Plumbing code. Remove dirt and debris as work progresses. Submit third-party witness reports of purging and disinfecting activities.
6. All plumbing systems shall be tested as required per 2018 NC Plumbing Code.
7. All piping systems shall be strapped and supported as required by 2018 NC Plumbing Code & the manufacturer's recommendations.
8. Plumbing contractor shall provide cleanouts in compliance with IPC section 708, as well as the following locations:
   - as indicated on plans
   - at the base of the waste stack
   - at every two 90° turns or every four 45° turns
   - on all horizontal waste line, no further than 100 feet apart
9. Plumbing fixtures with automatic or quick-closing valves and kitchen equipment shall have a shock arrestors, piston type water hammer arrestor, sized according to manufacturer's recommendations & PDI standards.
10. All overhead domestic water piping (above slab) shall be type "L" copper with 95/5 lead free solder. All below grade water piping shall be type "K" soft copper. Each complying with ASTM B-88. All piping shall have manufacturers name and the applicable standard to which it was made clearly labeled on each length. Contractor shall use brazed joints on all piping 1 1/2" and larger.
11. Water piping shall be insulated with closed cell (Armacell) type insulation with a smoke density rating not exceeding 50 and a flame density rating not exceeding 25. Thickness for cold water piping insulation shall be 1/2" thick, thickness for hot water & return piping insulation shall be 1" thick.
12. Branch lines and base of risers shall have, shut-off valves. All domestic water ball valves shall be a brass body, full port, with a chrome plated ball, Teflon seals, 600 WOG, for sizes 1/2" thru 3". Sizes above 3" shall be a bronze gate valve, NRS, solid disc, cutoff valve, screw-over bonnet, 400 WOG. Provide valve handle extensions if necessary due to insulation.
13. Storm, waste, and vent piping, above slab, shall be PVC Schedule 40 DWV with piping and fittings conforming to ASTM D-2665.
14. The backflow prevention device shall be installed as required per local AHJ. Purge water piping before setting backflow preventer.
15. Sanitary sewer piping shown is below slab or within walls unless otherwise noted. Sanitary vent piping shown is within wall and above ceiling unless otherwise noted.
16. Domestic water piping shown on drawing is above ceiling or within walls unless otherwise noted.
17. The plumbing contractor shall coordinate all underslab plumbing piping with all structural foundations and footings and all underslab plumbing piping elevation inverts with site utility.
18. All piping penetrations thru new or existing walls and/or floors shall be sealed to equal the rating of the new or existing wall or floor.
19. All vent thru the roof penetrations shall be coordinated with the general contractor. Plumbing contractor shall provide all flashing material required for vent thru roof. Vents thru the roof shall be located a minimum of 10'-0" away from all fresh air intakes.
20. Contractor shall coordinate any plumbing work requiring shutdown with the owner 72 hours in advance. If other users will be affected, coordinate with owner/building management at the beginning of the project to find a workable solution.
21. Plumbing contractor shall provide shop drawings to the engineer for review and approval prior to beginning work.



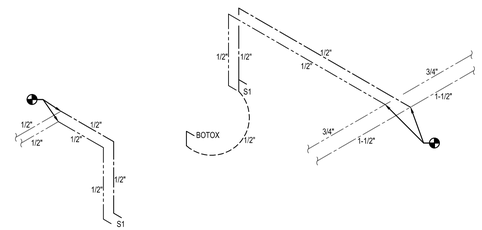
1 Floor Plan - Demolition Plumbing
Scale: 1/8" = 1' - 0"



2 Floor Plan - Plumbing
Scale: 1/8" = 1' - 0"



3 Plumbing Riser Diagram - S, W, & V
Scale: NTS



4 Plumbing Riser Diagram - Water
Scale: NTS

Plumbing Legend and Abbreviations

GW GW	Grease Waste Piping 'GW'
	Sanitary Sewer Piping 'W'
	Existing Sanitary Sewer Piping 'EX W'
	Vent Piping 'V'
	Existing Vent Piping 'EX V'
	Cold Water Piping 'CW'
	Existing Cold Water Piping 'EX CW'
	Hot Water Piping 'HW'
140 140	Hot Water Piping 140°F 'HW'
	Existing Hot Water Piping 'EX HW'
	Hot Water Return Piping 'HWR'
	Existing Hot Water Return Piping 'EX HWR'
	Check Valve
	Ball Valve
PRV	Pressure Reducing Valve 'PRV'
	Gate Valve 'GV'
	Tee Turns Up
	Tee from Below
	Ell Turns Up
	Ell Turns Down
E	Capped Line
	Connect to Existing
ETR	Existing to Remain
EWH	Electric Water Heater
GWH	Gas Water Heater
IWH	Instantaneous Water Heater
RP	Recirculation Pump
VTR	Vent Through Roof
AAV	Air Admittance Valve
RD	Primary Roof Drain
SRD	Secondary Roof Drain

Plumbing Fixtures, Equipment, & Accessories

Tag	Description		Fixture Specification	Water Line & Connection Size CW	HW	W
S1	Lab, Botox, Single Bowl		Sink Basin: Kohler #K-2882, vitreous china, undermount bowl. Dimensions 15"x19"x6 3/4" deep. Faucet: Pfister #LG42-TNT2K single handle faucet, Satin Brass finish, 1 hole faucet, 1.2 GPM flow rate. Trap & Supplies: McGuire #8992, 17 gauge 1 1/4" x 1 1/2" P-trap and nipple. McGuire #LFB02angle supply stops. Mount P-trap such that ADA clearance requirements are maintained. Accessories: Truebro 82192 Lav Guard 2 molded insulation # 101-EZ, 3 piece interlocking trap assembly and 2 piece interlocking hot water angle valve assembly, with nylon type fasteners.	1/2"	1/2"	1 1/2"
EWC/BF ADA	Electric Water Cooler & Bottle filler		Elkay #EZSTL8WSLK dual level, ADA, wall mounted water cooler and and bottle filler; hermetically sealed and air cooled refrigeration unit, Electric push buttons on front and side with vinyl covered steel skirt and stainless steel hood receptor. Mount spout on lower side at 36" AFF and provide cane apron option on higher side of water cooler.	1/2"	-	1 1/2"
WCO	Wall Clean Out		Zurn #Z1446 wall cleanout tee, dura-coated cast iron body, gas and watertight ABS tapered thread plug, and round, smooth stainless steel wall access cover with securing screw.	-	-	see plans
TP	Trap Primer		Watts #200 Flow through trap primer	1/2"	-	-
SA	Shock Absorber		Watts series #15M2 water hammer arrestor, sized to match associated line. Shock absorber shall meet all requirements ASSE 1010, ANSI A1 12.261M as well as the 2018 NCSBC and the 2018 NCSPC, section 604.9	see plans	see plans	-
VB	Vacuum Breaker		Watts #SD-3 vacuum breaker, sized to match associated line, Vacuum breaker shall meet all requirements ASSE 1022, as welll as the 2018 NCSBC and the 2018 NCSPC, section 608.16.1.	-	-	-

The intention of the depicted images above are to show the general appearance of the fixtures being specified. Exact representation is not necessarily shown nor are accessories for models or some variation of the model. The fixture specification should take precedent over the photo.

Demolition Note:

The existing locations shown on the demolition plan to be removed or relocated are for reference only and shall be field verified by contractor prior to beginning work. Any items required to be relocated or removed shall be included in contractor's cost, whether shown on this plan or not. Unless noted otherwise, where a fixture or device is noted to be demolished, the work shall include removing all associated piping, fittings, hangers, insulation etc. and shall include all patch, repair, paint or refinishing necessary to restore the location to match the surroundings. The contractor may reuse any existing piping, fittings, valves etc. where they have been inspected and are determined to be acceptable to the owner and/or are in like-new condition.

Renovation Notes:

- Contractor shall visit site to verify existing conditions.
- See architectural for scope of demolition work. Cap and/or plug all waste/vent lines installed during shell that will not be used for fitup. Confirm all capped piping will be concealed and/or will not conflict with new layout. Ensure that all waste lines being removed are plugged such that no sewer or gases will escape sanitary system.
- Contractor shall camera the existing under slab sewer piping prior to cutting concrete. Engineer shall be contacted if the existing lines are not in the location shown on plans or are not in proper working order.
- All new piping shall be concealed in walls, above ceiling, or below slab unless otherwise noted. Contractor shall verify that there is sufficient space above ceiling for all areas affected by new or demolition work.
- Any slab cutting for plumbing access requires soil compaction, vapor barrier and embedded #4 rebar dowels no less than 18" on center.
- Contractor shall reconnect any existing fixtures/piping to remain where the existing piping or surrounding area is affected by the new or demolition work by other trades.

General Notes:

- The domestic water for the building is protected by an existing 1-1/2" RPZ backflow preventer (Watts LF009). The backflow preventer is located in a hot box on site.
- Existing building water piping is copper. Contractor shall provide Type L annealed copper piping with 95/5 solder joints.
- Existing building water piping is copper. Contractor shall provide Type L annealed copper piping with 95/5 solder joints. All below grade water piping shall be Type "K" soft copper. Each complying with ASTM B-88.
- Contractor shall provide Schedule 40 PVC-DWV (conforming to ASTM D2665) fittings for S,W, & V indicated on plans.
- Contractor may run 3" waste pipe at 1/8" slope where 2 1/2" or smaller would be acceptable for the DFUs but not allow for the proper code required 1/4" sloping and fit in the given space.
- There is an existing hot water recirculation loop for this floor served by a 50 gallon, 4.5 kW, tank type water heater to remain.

Plan Notes:

1. Existing 1-1/2" tenant shut-off valve located in wall box to remain.
2. Remove existing sink. Demo CW, HW, Waste, and Vent back to respective mains and cap.
3. Remove existing drinking fountain. Prepare CW, Waste, and Vent connections from installation of new EWC in same location. Provide all necessary offsets and fittings to complete installation.
4. Existing 1/2" RPZ serving existing dental equipment to remain.
5. Connect to existing waste and vent from sink removed during demolition.
6. Connect new water cooler to existing connections from water cooler removed during demolition.
7. Provide solenoid operated emergency shut-off valve equal to JP Fluid Control DF-SA-series, 1-1/2" normally closed, 120V. Provide transformer for low voltage control for push button located in break room.
8. Emergency shut-off valve for water service. Mount push button on wall, and connect to solenoid valve located in mechanical room.
9. Provide 1/2" angle stop stubbed out of floor for botox chair. Coordinate location with chair supplier prior to rough in. Route type M copper under slab.

Wall Ratings and Types Legend

See architectural sheets for more information on ratings and additional rated constructions including structure where applicable. Protect all rated constructions as required.

- Existing Wall to Remain
- New Wall being Constructed
- New 1/2 Height Wall being Constructed
- Wall to Deck
- Existing Wall being Demolished

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REVISIONS *DESCRIPTION* *DATE*

NORTH CAROLINA PROFESSIONAL SEAL 34327 ENGINEER RICHARD T. WILLIS

4-3-24

CAMERON FAMILY DENTISTRY

1054 NC 24-87
CAMERON, NC 28326

FLOOR PLAN - PLUMBING

DATE: 04.03.24
SCALE: 1/8" = 1'-0"

P1.1

These drawings will be at the scale indicated when plotted at 24" x 36"

Outside Air Calculation

Unit Identification	Space Classification	Floor Area (SF)	People per 1000 SF	Total People	CFM per Person	CFM per SF	Zone Air Dist. Eff.	Required CFM	Design CFM	Remarks
AHU-2	Office Space	853	5	4	5	0.06	0.8	89	245	1
	Reception Area	499	30	15	5	0.06	0.8	131		1
	Corridor	212	NA	NA	NA	0.06	0.8	16		1
	Storage	47	NA	NA	NA	0.12	0.8	7		1
AHU-3	Office Space	1208	5	6	5	0.06	0.8	128	170	1
	Storage	117	NA	NA	NA	0.12	0.8	18		1
	Corridor	292	NA	NA	NA	0.06	0.8	22		1

1. Per 2018 NC Mechanical Code, Table 403.3.1.1.

Split System Heat Pump Schedule

Mark	Manufacturer	Tonnage	Model	Volt/Ph	MCA	MOCP	Remarks
AC-2	Trane	5.0	4TWA3060	208/3	24.0	40	1
AC-3	Trane	5.0	4TWA3060	208/3	24.0	40	1

1. Verify proper operation of existing heat pump. Repair/replace as required.

Split System Air Handling Unit Schedule

Mark	Manufacturer	Model	SA (CFM)	OA (CFM)	ESP (In. W.G.)	Fan (HP)	Heat (KW)	Heat Stages	Volt/Ph	MCA	MOCP	Remarks
AHU-2	Trane	TAM4A0C60	2000	245	0.5	1.0	7.2	1	208/1	53.0	60	1
AHU-3	Trane	TAM4A0C60	2000	170	0.5	1.0	7.2	1	208/1	53.0	60	1

1. Verify proper operation of existing air handling unit. Repair/replace as required. Rebalance to airflow indicated.

Air Distribution Schedule

Mark	Manufacturer	Model	Description	Panel Size	Type	Neck Size	Remarks
SA1	Titus	TMS	Steel, High Performance, Full Face, Stamped Square, 4-Way	24x24	Lay-In	8"Ø	1
X	Existing	NA	Existing or Relocated Diffuser/Grille	NA	NA	NA	2

1. Verify all ceiling and wall types with architectural plans. Coordinate color with Architect. Provide all new diffusers/grilles with foil-faced backpan insulation.
2. Clean diffuser/grille. Replace as necessary.

Mechanical Notes and Specifications

General Requirements:

1. The heating and air conditioning contractor (the contractor) shall provide all specified and miscellaneous material and labor as required for a complete and operating system as described by these plans and specifications.
2. All equipment and materials shall be installed in accordance with all local, state, and national codes and recommendations of the manufacturers. If there is a conflict in the above requirements, the more stringent shall be used.
3. The contractor shall obtain and pay for all permits, fees, and inspections necessary to complete their work under this contract.
4. Prior to bidding, the contractor shall visit the site to familiarize themself with existing conditions and resolve any conflicts between existing conditions and these plans with the engineer.
5. All ductwork and equipment shown on these drawings is strictly diagrammatic. All ductwork sizes shown are free area sizes. It shall be the responsibility of the contractor to ensure that items furnished under this contract will fit in the space available. The contractor shall make necessary field measurements to ascertain space requirements, including those for connections, and shall provide such sizes and shapes of equipment that are the true intent and meaning of these drawings and specifications. Any conflicts shall be resolved with the engineer.
6. Prior to construction, the contractor shall coordinate their work with all other trades. All drawings indicate the general arrangement desired. The exact locations and details of construction may be such that variances are required. The drawings do not show all bends, offsets, and fittings that may be required for the complete execution of this contract. Such variances and contingencies shall be allowed for in the contractor's bid and shall be accomplished without additional cost to the owner. Prior to ordering equipment, the contractor shall prepare coordination drawings showing how their equipment is to be located in the space indicated. This drawing shall show the new and existing work of all other trades. The contractor shall contact the other contractors involved for dimensions, locations, and required clearances of the equipment they intend to provide for this job. The aforementioned coordination drawings shall be submitted to the engineer for approval.
7. Do not scale these drawings. Refer to the architectural plans for dimensions.
8. All equipment shall be located and installed to provide maximum space for maintenance and service.
9. All materials used shall be new and free of defects. Where trade names are mentioned, they are given as a reference to the quality of the apparatus required. All materials and equipment shall bear the UL label or equivalent where applicable. Other makes may be used if approved in writing by the engineer. Provide a complete list of materials and equipment proposed for use in this contract to the engineer within ten days following the award of contract. If such list is not submitted, the contractor shall supply the materials and equipment specified or as directed by the engineer. The contractor shall provide digital copies of submittals to the engineer for review and approval prior to ordering equipment.
10. Workmanship shall be first-class and performed by experienced and skilled craftsmen.
11. Coordinate exact location of all diffusers/grilles with lights, sprinkler heads, and other ceiling mounted devices. See the reflected ceiling plan.
12. Upon completion of the work, a certified test and balance shall be performed in accordance with "AABC" requirements. Furnish a final copy of all testing, adjusting, and balancing reports as a part of the operating and maintenance manuals. Indicate deficiencies preventing proper testing, adjusting, and balancing of systems and equipment to achieve specified performance. Adjust air handling systems to within plus or minus 10 percent of design. Adjust total air to all air outlets and inlets to within plus 10 percent and minus 5 percent of design to space. Adjust individual outlets and inlets in space to within plus or minus 10 percent of design. Adjust air handling and distribution systems to obtain required or design supply, return, and exhaust air quantities. Measure air quantities at air inlets and outlets. Vary total system air quantities by adjustment of fan speeds. Provide sheave drive changes to vary fan speed if required. Vary branch air quantities by damper regulation. Measure static air pressure conditions on air supply units, including filter and coil pressure drops, and total pressure across fan. Make allowances for 50 percent loading of filters. Adjust outside air automatic dampers, outside air, return air, and exhaust dampers for design conditions. At modulating damper locations, take measurements and balance at extreme conditions.
13. As applicable, the contractor shall verify the operation of all existing mechanical equipment in the area of work. All measurements shall be recorded necessary to ascertain the proper operation of the equipment including, but not limited to, amperage, gpm flow, inlet and outlet temperatures, airflow, and inlet and outlet static pressures. Any deficiency in the rated output of the equipment shall be reported to the engineer. In any case, said report shall be submitted to the engineer upon request.
14. All equipment shall be provided with permanent labels for identification. All pipe shall be labeled to indicate pipe function and direction of flow. Provide valve tags for all valves. Coordinate nomenclature and numbering with owner prior to installation.
15. The contractor shall furnish a bound set of operating and maintenance instructions for all equipment to the owner upon completion of project.
16. The contractor shall, at the completion of the work, clean, polish, and/or wash all exposed items of materials, equipment, and fixtures in their contract to leave such items bright and clean. The contractor shall keep the premises clear of debris from their work during construction and leave the area and building clean at completion of the contract.
17. Mechanical and electrical equipment shall operate without objectionable noise or vibration, as determined by the engineer. If such objectionable noise or vibration should be produced and transmitted to occupied portions of the building, the contractor shall make the necessary changes to correct the noise or vibration without additional cost to the owner.
18. The contractor shall provide a complete 1-year warranty on all labor and materials under this contract. Refrigeration compressors provided under this contract shall carry the manufacturer's published 5-year non-prorated warranty.
19. The electrical contractor shall be responsible for all power connections to the equipment provided under this contract.
20. The mechanical contractor shall be responsible for all control wiring for their equipment.
21. Outside air intakes shall be located a minimum of 10 feet from all exhaust discharge and plumbing vents.
22. Replace all filters just prior to acceptance by the owner.
23. Contractors and sub-contractors shall carefully review the construction documents. Information regarding the complete work is dispersed throughout the document set and cannot be accurately determined without reference to the complete document sets.
24. Route refrigerant lines from outdoor condensing units in the most direct path to the air handler. Insulate with foam insulation. Provide long line refrigeration kit as required.
25. Provide an auxiliary drain pan for any air conditioning equipment. Provide the auxiliary drain pan with a float switch that stops the fan upon accumulation of condensate in the pan. Locate all equipment above the ceiling so that adequate slope is provided for all drain lines. If a condensate pump is specified, extend the auxiliary drain pan under the condensate pump. Condensate drain lines in return air plenums shall be made of type 'K' copper pipe. Insulate drain lines to prevent sweating. Route condensate drains as directed on plans.

Materials and Equipment:

Ductwork:

- All sheet metal ductwork, unless otherwise specified, shall be constructed of galvanized steel sheets in accordance with SMACNA gages and standards. Duct shall be constructed for 1" static pressure and sealed to SMACNA Classification "B". Insulate all ductwork, unless otherwise noted, with foil-faced 1 psf density fiberglass duct wrap. Insulation R-value shall be per the 2018 NC Energy Conservation Code. For rooftop equipment, line the supply and return duct to five feet beyond first elbow downstream of the discharge and intake of the unit. Duct liner shall be 1" thick, 1.5 pound density acoustical liner.

Flexible Duct:

- Shall be insulated, sound attenuating, low velocity type, and shall comply with NFPA 90A and 90B. Flexible duct shall bear the UL Class 1 air duct label as tested under UL 181. Flexible duct shall be factory-formed, composed of spiral wound corrosion resistant wire bonded to an inner fabric liner. Duct shall be factory insulated with a foil vapor barrier jacket. Insulation R-value shall be per 2018 NC Energy Conservation Code.
- The installation of flex duct shall conform to the requirements of Chapter 3 of the SMACNA HVAC Duct Construction Standards, (latest edition). Bends in flexible duct shall not be less than two duct diameters centerline radius and bends shall not begin within three inches of a sheet metal connection. Duct shall not be compressed. Support duct from the structure at intervals not to exceed ten feet. Maximum permissible sag is 1/2 inch per foot of spacing between supports. Hanger or saddle material in contact with the duct shall be wide enough so that it does not reduce the internal diameter of the duct when the supported section rests on the support and in no case shall be less than 1" wide.

Duct Elbows:

- Use full-radius elbows or square bends with turning vanes.

System Balancing:

- Provide locking quadrant type manual volume damper at each flexible duct runout. Provide splitter dampers at supply tees and extractors at all supply air branches. Provide balancing dampers in all ducts where required for system balancing as shown or as required.

Air Distribution:

- Provide all grilles, registers, and diffusers per the schedule on the drawings. Provide support from the structure for each diffuser and damper installed in a lay-in ceiling. Linear slot diffusers shall be constructed so that each slot may be independently configured to insure a full 180° air control pattern. The contractor shall coordinate finish styles and colors with the architect prior to ordering equipment. The backs of all air distribution shall be insulated from unconditioned space.

Fire Dampers:

- The contractor shall provide fire dampers at all duct penetrations of rated walls as indicated on the drawings or where required by the authority having jurisdiction. Fire dampers shall be UL labeled, Style "B" curtain type, and dynamically rated with integral factory sleeve. Blades shall be located out of the airstream for minimum airflow restriction. Installation shall be in accordance with the SMACNA Fire, Smoke and Radiation Damper Installation Guide for HVAC, (latest edition). Provide suitable access door for testing and servicing damper mechanism. Prior to completion of job, the contractor shall test each damper for proper operation and make adjustments as necessary.

Flexible Duct Connections:

- Furnish and install flexible duct connectors on supply and return connections of all air handling units.

Escutcheons:

- Furnish and install escutcheons in all places where piping or mechanical equipment penetrates a finished wall or ceiling in an exposed location.

Smoke Detectors:

- The Mechanical Contractor shall provide smoke detectors per the 2018 NC Mechanical Code, Section 606.2.1. Smoke detectors shall be UL listed for duct installation and be located in the return airstream to shut down the supply air fan upon activation. The system shall be wired so that the fan immediately shuts down upon a signal from the detector and bypasses any built-in time delays. The mechanical contractor shall furnish, install, and wire all smoke detectors per the manufacturer's recommendations. The smoke detectors shall be capable of interconnectability for multi-fan shut down and shall be wired so that activation of any detector will shut down all supply air fans on the project. Each detector shall be provided with a visible and audible signal located to indicate general location of smoke origins per the NC Mechanical Code, Section 606. Each detector shall also be provided with a trouble signal and shall be labeled.

Access Panels:

- The Mechanical Contractor shall provide access panels as required for access to valves, dampers, controls, or any other item installed under this contract where such item is concealed behind construction which renders the item inaccessible for service or adjustment. Said access panels or doors shall be fire rated as necessary to maintain the integrity of the construction wherein the panel or door is installed.

HVAC Equipment:

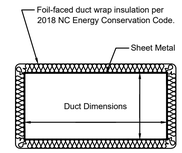
- All equipment shall bear the UL, CSA, met or other accredited testing laboratory label where appropriate. All equipment shall conform to the type, size, rating, and performance of that listed on the drawings under this contract. Submit shop drawings per the specifications.

Control Wiring:

- All control wiring shall be run in a metallic raceway. Raceway shall be routed parallel and perpendicular with the building structure. The metallic raceway may be omitted where plenum-rated cable is installed above an accessible ceiling within the building envelope. There shall be no splices in the control system wiring other than at terminal blocks. Wire nuts and crimp splices are not permitted.

Refrigerant Piping:

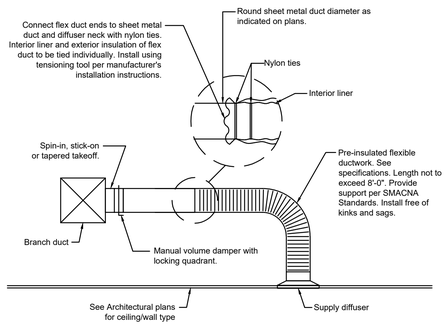
- All refrigerant piping shall be copper, sized per HVAC equipment manufacturer's recommendations. all piping shall be insulated per 2018 NC Energy Conservation Code. All insulated piping exposed to weather shall be coated with Armaflex "WB" finish or equivalent. Piping installed subject to being damaged shall be provided with UV-resistant PVC jacket.



Notes:
- All duct dimensions shown on these drawings are inside clear.
- Provide a minimum of R-6 insulation when duct is located in unconditioned space.
- Provide a minimum of R-8 insulation when duct is located outside the building envelope.

1 Duct Fabrication Detail

Scale: None



2 Flexible Duct Installation Detail

Scale: None

Drawing Legend

	Ceiling Supply Diffuser
	Ceiling Return Grille
	Ceiling Exhaust Grille
WxH	Rectangular Duct (W = Width, H = Height)
D"Ø	Round Duct (D = Diameter)
	Existing Duct, Diffuser/Grille, or Equipment
	Existing Duct, Diffuser/Grille, or Equipment to be Demolished
	Existing Diffuser/Grille to be Relocated
	Duct Tap with Transition from Hard to Flexible Duct
	Manual Volume Damper
	Rectangular Duct Turns Down
	Rectangular Duct Turns Up
	Round Duct Turns Down
	Round Duct Turns Up
	Existing Fire Damper
	Connect to Existing
SD	Duct Mounted Smoke Detector
SA1 / 200	Diffuser Tag — Diffuser Type / CFM
T	Wall Mounted Thermostat

Marks

AHU	Air Handling Unit
AC	Heat Pump

General Notes:

1. The contractor shall comply with all requirements of the 2018 NC Mechanical Code with regards to all mechanical work.
2. The Mechanical Contractor shall coordinate the installation of all equipment, piping, and ductwork under this contract with the building structure. Contractor shall make adjustments where necessary without additional cost to owner.
3. Coordinate all supply, return, and exhaust grille locations with architectural reflected ceiling plan.
4. Where ducts and/or equipment are shown crossing, the larger duct or equipment shall take precedence. The contractor must provide transitions so that the smaller of the ducts is routed up and over the top of larger ducts.
5. The Mechanical Contractor shall inspect the existing ductwork prior to bid. Verify duct sizes and locations and new duct routing. Repair insulation and patch ductwork as necessary.
6. Relocate existing thermostat and/or temperature sensor devices as shown on mechanical plans. Replace devices where necessary. Verify that all new and existing device locations are acceptable to owner/tenant prior to construction.
7. Reuse diffusers and grilles from demolition phase where possible. Clean and replace as necessary.
8. No new heating or cooling has been added as a part of this project. No energy code summary is required.
9. Insulate all new supply, return, and outside air ductwork with exterior duct wrap.

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4/4/24

CAMERON FAMILY DENTISTRY

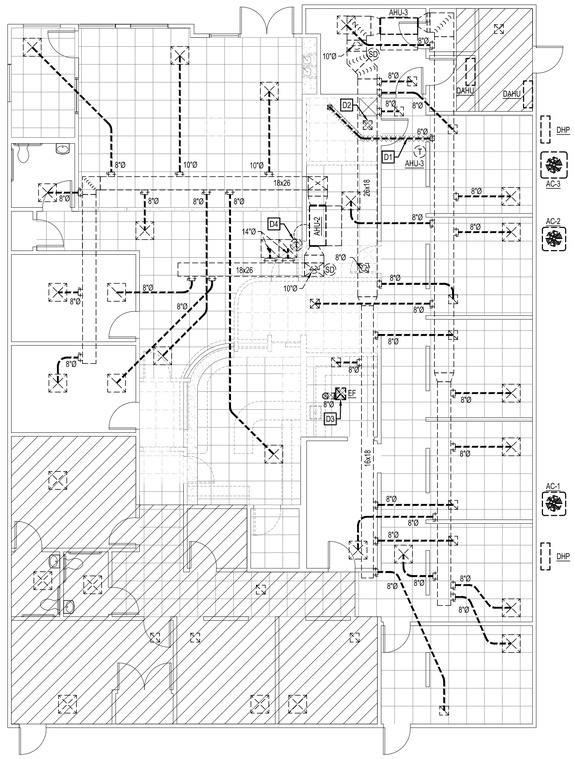
1054 NC 24-87
CAMERON, NC 28326

MECHANICAL COVER SHEET

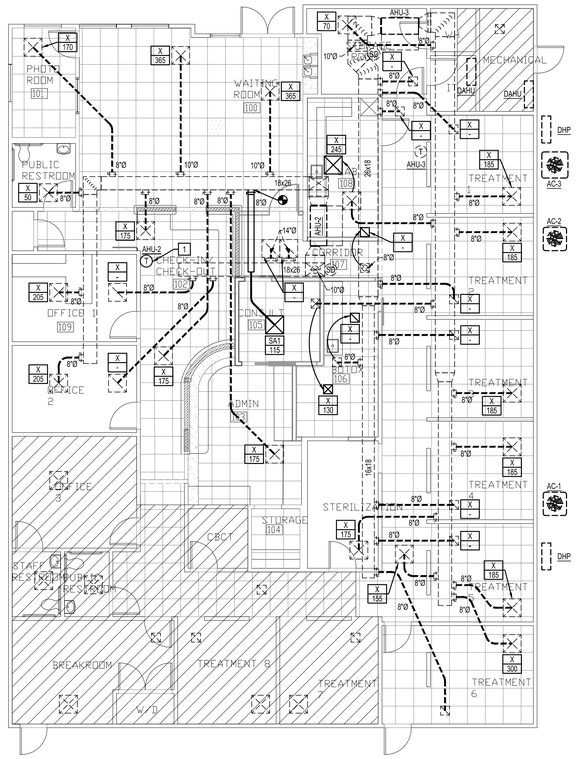
DATE: 04.04.24
SCALE: REFER TO DRAWING

M0.1

These drawings will be at the scale indicated when plotted at 24" x 36"



1 Floor Plan - Mechanical Demolition
Scale: 1/8" = 1' - 0"



2 Floor Plan - Mechanical
Scale: 1/8" = 1' - 0"

Plan Notes:

1. Install relocated wall mounted thermostat at location indicated. Relocate duct detector keyed test / shut down high on wall above thermostat.

Demolition Notes:

1. Demolish spin-in tap, runout, and diffuser as indicated. Patch and insulate remaining duct.
2. Demolish duct mounted return grille as indicated. Patch and insulate remaining duct.
3. Demolish exhaust fan and duct up through roof. Coordinate patching of remaining opening in roof with the General Contractor or cap from below within attic.
4. Remove thermostat. Thermostat shall be relocated during construction phase.

Wall Ratings and Types Legend

See architectural sheets for more information on ratings and additional rated constructions including structure where applicable. Protect all rated constructions as required.

- Existing Wall to Remain
- New Wall being Constructed
- New 1/2 Height Wall being Constructed
- Wall to Deck
- Existing Wall being Demolished

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This is not a certified drawing, but a copy of a certified drawing that has been unlocked. This document has been unlocked for the ease of use of the AHJ, contractor, etc. and was originally accompanied with the actual certified document meeting the boards rule for electronic signatures

REVISIONS *DESCRIPTION* *DATE*

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 37491 NATHAN R. ROMBLAD
4/4/24

CAMERON FAMILY DENTISTRY

1054 NC 24-87
CAMERON, NC 28326

FLOOR PLAN - MECHANICAL

DATE: 04.04.24
SCALE: REFER TO DRAWING

M1.1

These drawings will be at the scale indicated when plotted at 24" x 36"

GENERAL NOTES AND REQUIREMENTS.

1. Workmanship shall conform to NECA installation standards including NECA 1.
2. Installation shall comply with National Electrical Code (NEC/ NFPA 70), state building code, and all requirements of the local inspector (furnish inspection certificate). All work shall be by licensed electrical contractor.
3. The contractor shall refer to the architectural plans for floor plan dimensions and not scale these drawings. The location of all wall mounted devices, including mounting heights, shall be field verified with the architect prior to rough-in. Coordinate locations of all light fixtures with the reflected ceiling plans. Light fixtures installed in mechanical areas shall avoid mechanical piping, equipment, ductwork, etc.
4. Contractor shall comply with all requirements of the 2018 NC Building Code and Accessibility Code which are applicable to this project regardless of whether all details are indicated on plans. All receptacles, switches, and other electrical devices required to be ADA accessible shall be mounted per ANSI 117.1 sections 308 AND 309.
5. All electrical equipment shall be installed so that all code required and manufacturer recommended working/ servicing clearances are maintained. Installation shall fully comply with NEC 110.26 and NEC 408.18 for clearance requirements.
6. All wall outlet boxes, receptacles, switches, cover plates, etc. shall be commercial grade, standard or heavy duty except where specified. Verify color/ material for all devices and cover plates prior to order. Provide label for each device identifying the circuit serving the device. Verify if label should be on inside our outside face of cover plate with building management/ tenant. All 15 and 20 amp, 125V and 250V non-locking receptacles shall be listed as tamper resistant, per NEC 406.12, when installed in the following areas: dwelling units in areas specified by NEC 210.52 and 550.13, guest rooms and suites of hotels, child care facilities, preschool and elementary education facilities, and in patient rooms, bathrooms, playrooms and activity rooms of pediatric or similar facilities.
7. The electrical contractor shall coordinate any and all work with other trades involved in the project, prior to installation of electrical equipment, so as to avoid conflicts during construction and to allow for optimum maintenance and working space.
8. All branch circuits shall be in 3/4" minimum zinc-coated EMT, IMC, or RMC as permitted or required by the NEC. LFMC (or FMC as permitted) shall be used for final connections to equipment subject to vibration. A deduct price for MC cable may be offered for approval, where permitted by owner and NEC and conduits completely concealed from view. Schedule 40 PVC conduit may be used for underground feeders/ branch circuits or underground low voltage system conduits located below slab on grade or buried outside of the building, or in concrete block walls. PVC schedule 80 conduit may be used on the building exterior where permitted by code. Contractor shall include cost of painting all exposed conduits subject to public view. Conduit sizes noted on these plans are based on EMT conduit. Where other permitted raceway types are used, contractor shall adjust conduit sizes as necessary based on type of raceway used and allowable fill. Provide pull wire in all empty conduit. Junction box covers shall be permanently labeled and conduit shall be labeled every 10'.
9. All wire and conduit sizes are based on 75° C THHN/THWN copper conductors unless otherwise noted. All conductors, terminations & devices shall be rated for minimum 75°C. All conductor and conduit sizes are calculated based on installation of no more than 3 current carrying conductors per conduit, neutral(s) included. Unless otherwise noted, contractor shall not install more than 3 current carrying conductors per conduit with the following exception: up to 9 current carrying conductors may be used in a single raceway where permitted by the NEC when minimum #12 AWG (THHN 90°c) is used and when all included circuits are protected upstream by 20 amp overcurrent devices and no other derating conditions exist.
10. All conductors shall be copper type THHN, or XHHW, solid for #10 AWG or #12 AWG, and stranded for all larger sizes. Minimum conductor size shall be #12.
11. Conduits and cables shall be concealed wherever possible by either routing above ceiling, in interstitial spaces or running exposed in unfinished spaces where possible. Conduits may be run exposed in mechanical areas or other areas not subject to public view where approved by the owner. Wherever conduits or cables are approved to be exposed, conduits and cables shall be run parallel or perpendicular to structural elements and shall be run and bundled in groups, and the installation shall be neat and orderly. Even when exposed, conduits and cables shall be routed to minimize view from personnel. Seal all penetrations air tight around all conduits passing through walls or floors. Use appropriate penetration protection when conduit passes into or through rated assemblies.
12. Where branch circuit total length is greater than sixty five (65') feet from the panel, see voltage drop schedule for wire size adjustment.
13. All mounting heights indicated are given to the bottom of the device, unless noted otherwise.
14. Where used in these documents, the word "provide" shall mean to furnish and install the item or equipment as well as make the final connection required.
15. All light fixtures shall be supported independently of the suspended ceiling system.
16. The electrical contractor shall provide all necessary disconnects, switches, receptacles, etc. under the electrical bid and shall include all necessary circuits to and make final connections to the equipment furnish by all suppliers. Coordinate closely with other trades.
17. All breakers, disconnect switches, and fuses sizes, indicated for mechanical equipment, shall be verified with equipment supplier and mechanical contractor, before the purchase or installation of that equipment.
18. All disconnect switches are to be fusible type. Fuses shall be the appropriate type for the load served by Bussmann or equal. Unless unsuitable, fuses rated 1200A or higher shall be Class I, fast-acting, and shall have a clearing time of 0.07 seconds at the available fault current per NEC 240.67. Submit fuse trip curves along with available fault current at the service entrance for engineer verification prior to beginning work or ordering equipment. The contractor shall compare all installed equipment nameplate information with the electrical plans/ schedules and notify the engineer immediately of any discrepancies. The contractor shall coordinate all fuse sizes with actual installed equipment nameplate information prior to purchasing or installing fuses. Where the nameplate information does not indicate an overcurrent protection size or maximum ampacity rating, fuses shall be installed per the electrical plans assuming other equipment parameters are in agreement with nameplate data.
19. Provide grounding conductor for all circuits per NEC. Building ground shall meet all requirements of NEC 250.
20. Ground telephone equipment per NEC. If telephone service is not located within 20' of electrical service, then provide separate grounding electrode as required per NEC 800.
21. All multiwire branch circuits shall have multipole breakers as required by NEC 210.7.
22. All circuits 100 amp and larger shall be megger tested prior to energizing. All other circuits shall be tested for continuity prior to energizing.
23. The electrical contractor shall patch any wall, ceiling, or floor opening (or penetration) resulting from demolition or new work in existing areas. Any rated constructions or assemblies affected shall be patched, protected and refinished as necessary to maintain the original appearance as well as the rating.
24. The contractor is responsible for properly disposing of all waste materials, demo materials and other trash. This includes but is not limited to proper disposal of mercury containing lamps, batteries, recyclable materials.
25. Contractor shall provide engineer with shop drawings/ submittal data for lights, switchgear/ panels, floor boxes, fire alarm devices, and any other products deemed necessary for review. Provide these in editable pdf format via email through project manager, GC, architect or other proper channel. Expected review duration, and industry standard, is 2 weeks from date of receipt by engineer. All submissions should include and acknowledge this review duration unless otherwise specifically discussed and agreed upon in advance.
26. It is the sole responsibility of the contractor to coordinate w/ all other trades regarding voltages, loads, circuit breakers, etc. prior to beginning any work.
27. All switchgear/ panels shall be commercial grade from a reputable national manufacturer such as Square D, Eaton, Siemens and GE. Panels shall be rated as indicated on panel schedules/ electrical riser diagram. If discrepancies are found, contact engineer immediately.
28. Engineer has reserved the right to choose the software package(s) deemed most efficient to deliver these plans for permitting, bid, and construction. Engineer considers any other digital files created during this process as instruments of service, and as such remain the property of the engineer. The contractor should not assume that digital files in any format will be made available during bidding or after award other than PDFs. If digital files are requested, engineer reserves the right to selectively provide them when available and/or may request additional considerations for the time incurred to prepare them.
29. Contractor shall verify all areas that are used as a return plenum with mechanical contractor and provide plenum rated cable for all cables not run in metal conduit. PVC is not allowed in plenum space. This "cable" includes all telecommunications, fire alarm, or control wiring above ceiling.
30. Contractor shall comply with all applicable seismic requirements of the area.
31. All underground raceway entering the building, (i.e. through a foundation wall or through the floor) shall be sealed in accordance with NEC 225.27 and 300.5(F). raceway seals and sealants shall be approved and listed for the specific application and materials.
32. Contractor shall provide support bushings/conduit stops for vertical branch circuits and feeders where required per NEC 300.19(A).
33. If existing building is equipped with a Bi-Directional Antenna system (BDA), contractor shall test the areas of construction before and after construction activities per NC Fire Code section 510.6.1 and possibly supplement the existing system to meet the requirements of NC Fire Code section 510.
34. Electrical boxes, conduit, and wiring shall not be recessed into or penetrate structural members. Boxes/conduits shall be surface mounted to structural member and/or recessed in stud wall where possible. Coordinate with architect.
35. All equipment associated with or connected to the electrical, fire alarm or data systems or otherwise included in the drawings/ scope of work shall be listed and labeled by a third party that is acceptable to the AHJ.
36. All non-locking type 125 volt, 15 and 20 amp receptacles that are controlled by an automatic control device or that incorporate control features that remove power from the outlet for the purpose of energy management or building automation shall be labeled per NEC 406.3(E).

Renovation Notes:

1. See architectural drawings for the extent of renovations. Locations where an existing ceiling is being raised, or a new ceiling is being installed, the contractor shall include all costs associated with relocating existing devices and systems components necessary to accommodate the installation of the new ceiling. This shall also include relocating any equipment requiring access when a new or changed ceiling does not provide access (hard ceiling).
2. Contractor shall field verify existing conditions prior to bid.
3. Reconnect circuits as shown on plans. Devices/fixtures shown to remain shall remain connected to their existing circuit. If circuit is broken during demolition, device/fixture shall be reconnected to existing circuit as necessary for complete and working system. Portions of circuits or circuits in their entirety broken during demolitions shall be removed (conductors and conduit). If the entire circuit, remove conductors and conduit back to panel, turn breaker off and mark as spare.
4. Existing light fixtures shown without circuits or controls are existing to remain as circuited and/or controlled. Existing fixtures shown with new circuitry or controls shall be connected and/or controlled as indicated.
5. If existing panel serving existing to remain equipment is demolished or relocated, the existing to remain equipment shall be reconnected to relocated or new panel as required.
6. Clean all existing light fixtures to remain and replace defective parts as necessary for a complete and functional fixture (IE driver/ballast, battery, lens, etc). Relamp if necessary.
7. Test all existing emergency batteries in fixtures and/or in emergency battery units in the space. Replace defective batteries.
8. Mount all new switches, outlets, or other electrical devices flush in existing walls. Boxes and conduit shall be concealed

Electrical Abbreviations

A	above- indicates a device is to be mounted with the bottom of box 2" above back splash unless noted otherwise.
AFF	above finished floor
AG	combination of 'A' and 'GFCI' (above counter and ground fault circuit interrupter)
ARCH	architect
C	ceiling- indicates a device is to be mounted in flush ceiling tile.
EC	electrical contractor
EX	existing
EXT	exterior
FA	fire alarm
FURN	furniture
G	GFCI- indicates a device with integral ground fault circuit interrupter (GFCI) protection and/or protected by upstream GFCI outlet.
GFI/ GFIC	same as 'G'
H	horizontal orientation of device
HG	hospital grade
IG	device shall have isolated ground and will require isolated ground circuitry back to an isolated ground bar in panelboard.
JB	junction box
MC	MC cable (when referring to NEC, wiring methods, or wiring type)
MC	mechanical contractor (when not referring to NEC wiring methods or type
MECH	mechanical contractor
NTS	not to scale
OC	on center
PC	plumbing contractor
PLUMB	plumbing contractor
S	surface- indicates device is to be surface mounted.
TP	tamper proof device per NEC 406.12
W/	with
WP	indicates a device rated for exterior use and is weatherproof or weather resistant with an approved weatherproof in-use cover.

Voltage Drop Schedule

120 V branch circuits up to 8 amps (1.0 kVA)

Distance of run, in feet			Wire size
1'	-	120'	#12
121'	-	190'	#10
191'	-	300'	#8
301'	-	470'	#6

120 V branch circuits from 8 to 14 amps (1.7 kVA)

Distance of run, in feet			Wire size
1'	-	65'	#12
66'	-	110'	#10
111'	-	170'	#8
171'	-	270'	#6

277 V branch circuits up to 14 amps (3.9 kVA)

Distance of run, in feet			Wire size
1'	-	160'	#12
161'	-	250'	#10
251'	-	390'	#8
391'	-	620'	#6

Contractor shall upsize branch circuit conductors based on load and length as indicated in schedule above. Wire sizes indicated in general notes and schedules are minimum wire sizes and shall be adjusted for length.

Electrical Legend

Symbols shown below are indicative of new devices. See Linetype Legend for distinction of existing and demolition devices.

Floor Plans

Home run to panel/ branch circuit connection- short cross line(s) represent phase conductor(s) (hot), long cross line(s) represent grounded conductor(s) (neutral), equipment grounding conductor (ground) required but not shown. Minimum size per NEC requirements based on circuit breaker / schedule / voltage drop table.

All duplex and quad receptacles shall be NEMA 5-20R unless otherwise noted.

Duplex receptacle
Power receptacle
Quad receptacle
Isolated ground duplex receptacle
} 16" AFF or as otherwise noted

USB 16" AFF or as otherwise noted. Duplex receptacle with (2) USB ports. Nema 5-20R Duplex Cooper TR7756 or equal.

Telecommunications wall outlet - 16" AFF or as noted (run 3/4" EMT to accessible point above ceiling.) Provide pull wire. Outlet/devices, bushings, and cables provided by tenant/ cabling contractor.

TV Television wall outlet - 16" AFF. Run RG6 in 3/4" EMT to telephone backboard or as indicated on plans.

AV AV wall outlet - 16" AFF or as noted (run 1 1/4" EMT to AV wall box above) Provide pull wire, bushings, and faceplate as necessary. Cables provided by tenant/ cabling contractor.

Junction box w/ whip for power for furniture system. Verify exact location and requirements with system supplier prior to rough-in and connect as required.

Junction box adequately sized to accept 2" conduit for telecommunications for furniture system. Verify exact location and requirements with system supplier prior to rough-in. Stub 2" conduit to accessible point above ceiling with pull wire.

CR Card reader- verify mounting height with tenant prior to beginning work. Stub 3/4" EMT to above ceiling with pull wire. Outlet/device and all low voltage wiring by tenant/security contractor. Coordinate with tenant/security contractor.

Junction box above ceiling for furniture systems. Power poles provided by furniture manufacturer/vendor. Verify location and requirements w/ furniture manufacturer/vendor prior to beginning work. Connect furniture systems as required.

Junction box

Telephone backboard - 4'x8'x3/4" fire-treated plywood. Pull #6 ground wire and terminate with 1/4" x 2" x 12" ground bar with holes every 1". Mount to backboard with stand-off insulators.

Electrical panel

Step-down transformer

Electrical disconnect

M Motor rated switch

All lighting control switches shall be mounted at 44" AFF unless otherwise noted.

Single pole switch
D Dimmer switch (slide type) appropriate for load served
MS Line voltage motion-sensing switch. Wattstopper #PW-301
3 3-way wall switch
4 4-way wall switch
MSD Line voltage motion-sensing 0-10v dimmer switch. Wattstopper #PW-311
R2 Line voltage dual relay motion-sensing switch. Wattstopper #PW-302. To be connected as double switch control.
Double switch (used when two switch legs are connected to each fixture for bi-level switching, step dimming or similar.)
S2 Low voltage wall/ceiling mounted motion sensor. Wattstopper #DT-200. Mount on wall at 10' AFF where ceilings are not present or are over 10' AFF. Mount to ceiling where ceilings are 10' AFF or lower.
PP 120/277V to 24V power pack. Wattstopper #BZ-150
S2 Low voltage 360° ceiling mounted motion sensor. Wattstopper #DT-300
S4 Low voltage 360° ceiling mounted motion sensor. Wattstopper #DT-305-3
DH Low voltage 360° ceiling mounted daylighting sensor. Wattstopper #LS-301.

Flush on-grade floor box - Hubbell #CFB2G30RCR w/ flush round cover #CFBS1R6CVR* (verify color with architect/ tenant prior to order). Provide 2 duplexes with 1-3/4" conduit to accessible location above tenant ceiling for power. Contractor shall verify all floor outlet locations and specifications with tenant/arch prior to rough-in.

Overhead fixture unless otherwise noted. See fixture schedule

Downlight / pendant style fixture. See fixture schedule.

Slash or shading indicates fixture connected ahead of switch/controls and to operate as night lights (fixture will be on 24/7 unless otherwise noted)

Exit sign, faces and arrows as indicated. See fixture schedule.

Emergency wallpack fixture. See fixture schedule.

Combo emergency / exit fixture. See fixture schedule.

Wall sconce/ mount fixture. See fixture schedule.

Flood light/ track head style fixture. See fixture schedule.

Pole mounted fixture. See fixture schedule.

Detail Sheets

P / 200/3 — Electrical panelboard; Main breaker or minimum ampacity

M Meter in meter base

CT CT cabinet

200/3 / 150A — Frame size/ number of poles; Fusible disconnect, frame and fuse size as indicated or noted.; Fuse size

T1 / 75 KVA — Transformer designation; Transformer size

Transformer, size and designation as indicated. Primary voltage as noted in panel schedule/ for primary feed. Secondary voltage as noted in panel schedule/ for load supplied.

Service ground

Linetypes

New device unless otherwise noted
Existing device to remain
Existing device to be demolished
New underslab or underground connection. Existing and demo underground noted with existing or demo linetype. New connections not specifically shown to be underground are not necessarily required to be run overhead unless noted as such.
Low voltage wiring

Examples of existing and demolition symbols using above linetypes.

Existing floor box to remain
Existing duplex receptacle to remain
Existing panel to remain
XR Existing light fixture to remain
Existing switch to remain
Existing light fixture to remain
Existing sign to remain
Existing duplex receptacle to be demolished
Existing panel to be demolished or relocated
XD Existing light fixture to be demolished or relocated
Existing switch to be demolished or relocated

See fire alarm legend for fire alarm symbols & specifications

See wall rating legend for wall types and symbols

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NATHAN D. ROMBLAD — NORTH CAROLINA — PROFESSIONAL — SEAL 36841 — ENGINEER — RICHARD D. COPELAND JR. — 4/3/24

CAMERON FAMILY DENTISTRY

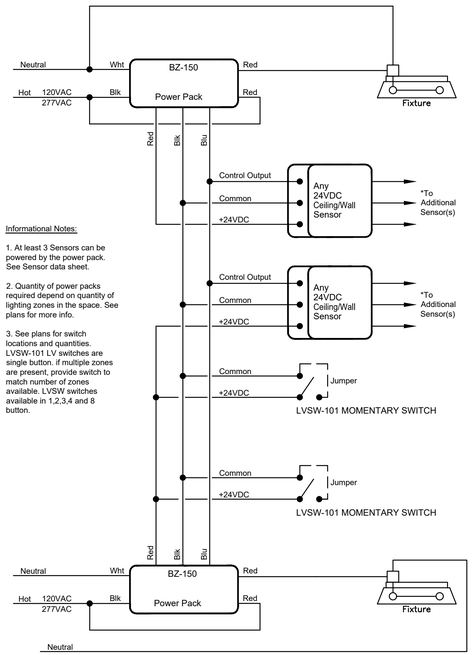
1054 NC 24-87
CAMERON, NC 28326

ELECTRICAL DETAILS

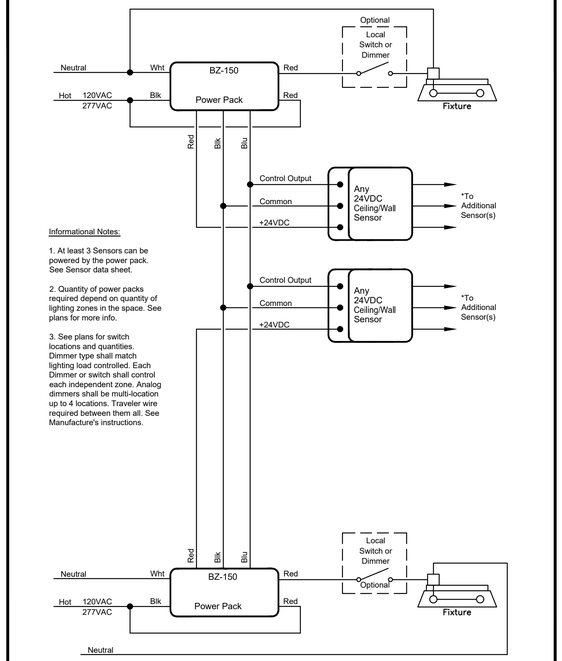
DATE: 04.03.24
SCALE: 1/8" = 1'-0"

E0.1

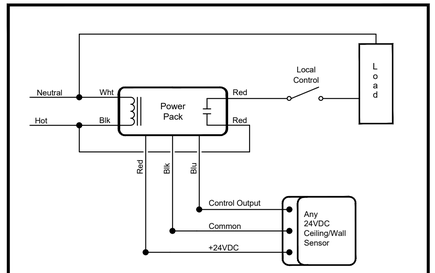
These drawings will be at the scale indicated when plotted at 24" x 36"



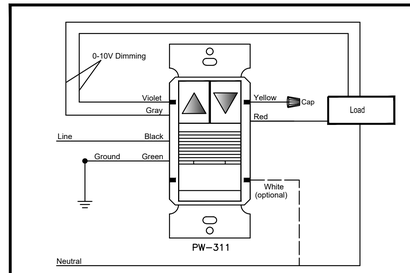
Non-Dimming Multiple Zone, Multiple Sensor and Multiple on/off switch control



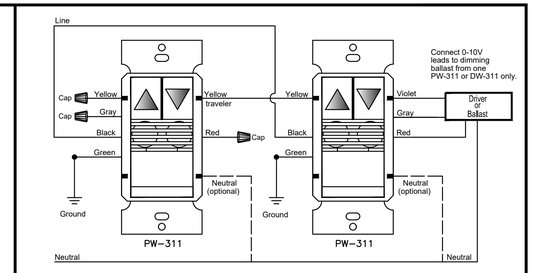
Multiple Zone, Mutiple Sensor and Multiple Dimming switch control



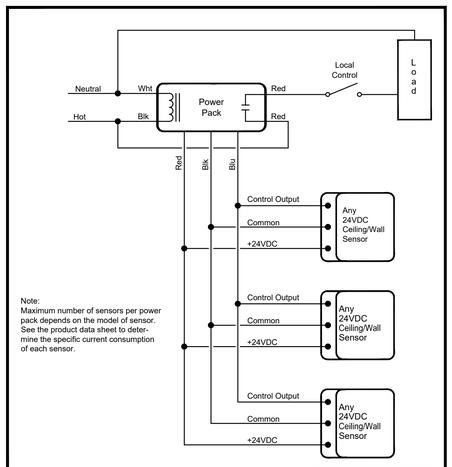
Single Occupancy Sensor Using One Power Pack



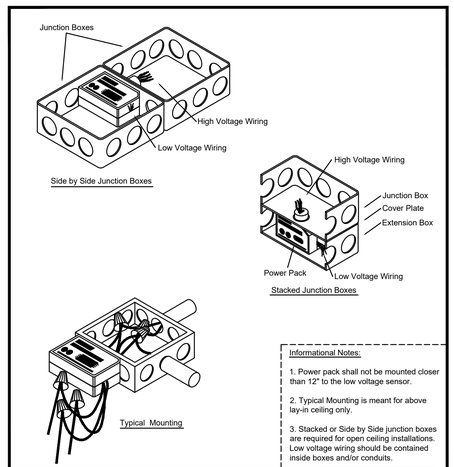
Typical PW-311 or DW-311 Wiring



Typical PW-311 or DW-311 Multi-way Wiring



Multiple Occupancy Sensors Using One Power Pack



Power Pack Installation

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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 38841 RICHARD D COPELAND JR 4/3/24

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ELECTRICAL DETAILS

DATE: 04.03.24
SCALE: 1/8" = 1'-0"

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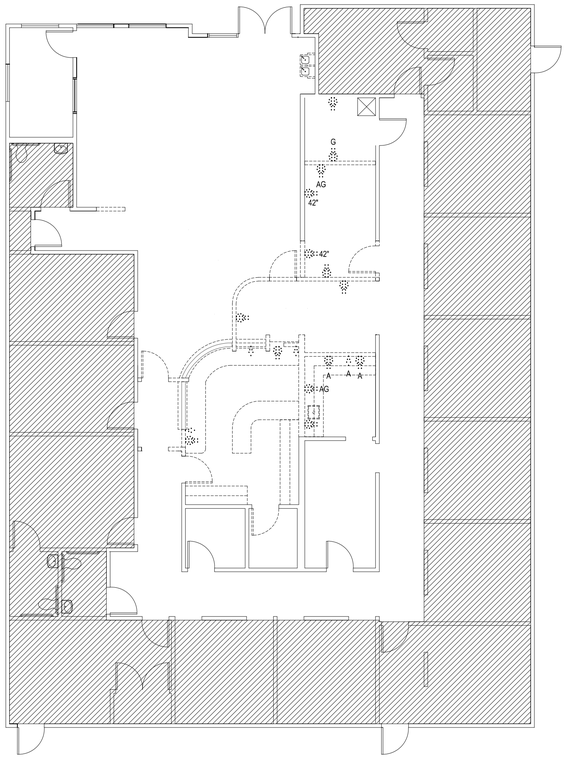
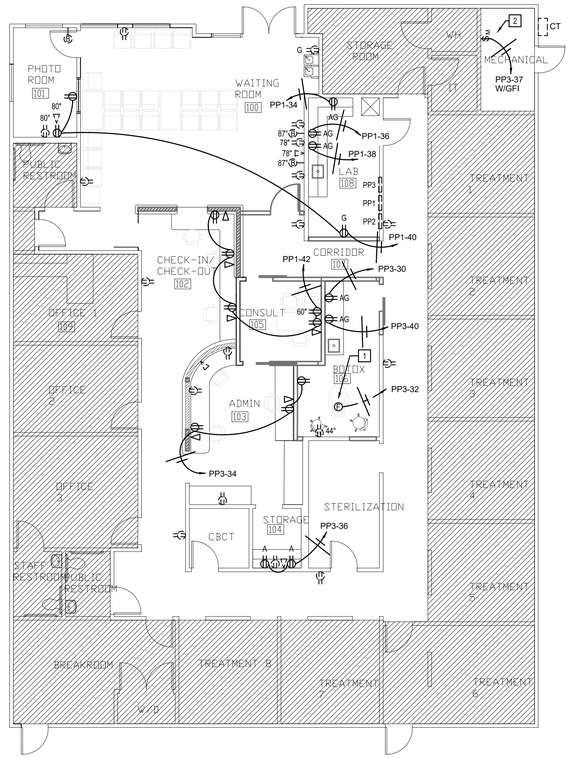


1 Floor Plan - Demolition Power
Scale: 1/8" = 1' - 0"



2 Floor Plan - Power
Scale: 1/8" = 1' - 0"

Demolition Note:

The existing locations shown on demo plan to be removed or relocated are for reference only and shall be field verified by contractor prior to beginning work. Any items required to be removed or relocated shall be included in contractor's cost, whether shown on this plan or not. Unless noted otherwise, where a device or fixture is noted to be demolished, the work shall include removing all associated boxes, conduits, hangers, conductors, cables etc. and shall include any patch, repair, paint or refinishing necessary to restore the location to match the surroundings. The contractor may reuse any existing conductors, boxes etc. where they have been inspected and are determined to be acceptable to the owner and/or in like-new condition.

Sheet Notes:

- All electrical boxes mounted in rated walls shall comply with all requirements of the 2018 NCSBC, section 714.3.2. All electrical boxes mounted in rated ceilings/horizontal assemblies shall comply with all requirements of the 2018 NCSBC, section 714.4.2. Devices shown in rated assemblies shall be flush with conduit concealed, unless otherwise indicated. Provide rated boxes, horizontal separation, putty pads, etc. as required for proper installation. Low voltage electrical devices mounted in rated assemblies shall be protected in accordance with the sections listed above as well.
- Individual branch circuits are shown with a dedicated neutral unless otherwise noted. When multi-wire branch circuits are to be installed, provide multi-pole circuit breakers as required. NEC 210.7
- See voltage drop schedule for wire sizing information for all branch circuits over 65' in length.
- All receptacles within 6 feet from the outside edge of any sink shall be GFCI. NEC 210.8(B)(5). All GFCI trip-reset receptacles shall be readily accessible. NEC 210.8.
- All 120V, 15 and 20 A receptacles in this facility shall be listed as tamper resistant.
- EC shall evaluate existing wire serving medical areas and replace where necessary with wire run in metal conduit or medical grade MC cable and shall have an insulated copper equipment grounding conductor as required per NEC 517.13

Plan Notes:

1. Flush floor box for power for exam chair. See legend for specification. Connect as required. Coordinate exact location with tenant.
2. Connect solenoid operated valve as required. Coordinate with plumbing.

Medical Notes:

1. This facility is a medical facility and shall comply with all applicable requirements of NFPA 99 and NEC article 517.
2. All circuits serving patient care spaces or patient care vicinities shall be run in metal conduit or medical grade MC cable and shall have an insulated copper equipment grounding conductor as required per NEC 517.13.
3. This facility is a general care facility and will not be used as a critical care facility per NEC 517.2. This facility will not employ the use of life support equipment (per NEC 517.45B), or wet procedure locations (per NEC 517.2). This facility is required to have essential electrical systems per NFPA 99 and therefore does not require separate branches or emergency lighting considered essential for life safety and orderly cessation of procedures if normal power is lost (per NEC 517.25). No emergency power systems are required by the previously mentioned codes and are therefore not shown on these drawings. There are no anesthetizing locations in this facility per NEC 517.2. No patients receives anesthesia that would keep them from being able to immediately get up and leave the facility under their own power in the event of an emergency.
4. All low voltage wiring in patient care spaces or vacinities shall provide equivalent insulation and isolation to that required of the electrical power distribution system per NEC 517.80.
5. All panelbaords serving this tenant space shall be bonded together as required per NEC517.14.

Wall Ratings and Types Legend

See architectural sheets for more information on ratings and additional rated constructions including structure where applicable. Protect all rated constructions as required.

Existing Wall to Remain	———
New Wall being Constructed	———
New 1/2 Height Wall being Constructed	▨▨▨
Wall to Deck	· · · · · · · · · · · · · · · · · · · ·
Existing Wall being Demolished	– – – – – – – – – – – – – – – – – – – –

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RICHARD D. COPELAND JR.
4/3/24

CAMERON FAMILY DENTISTRY

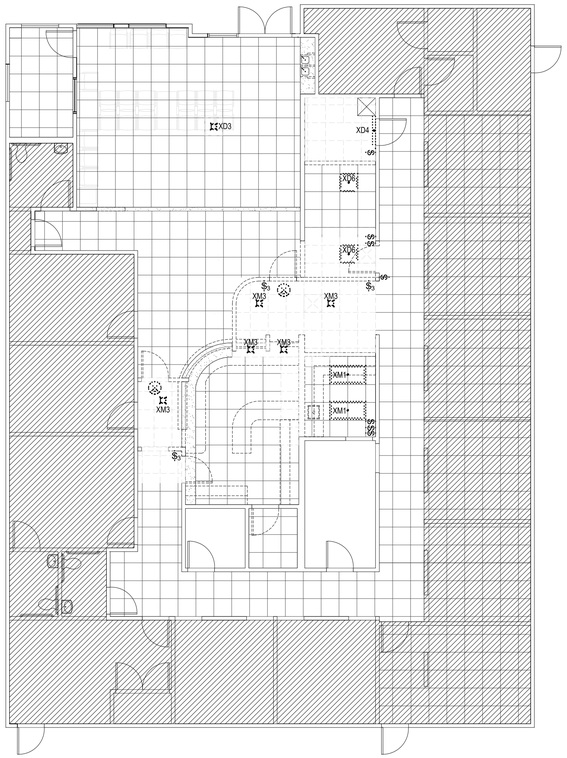
1054 NC 24-87
CAMERON, NC 28326

FLOOR PLAN - POWER

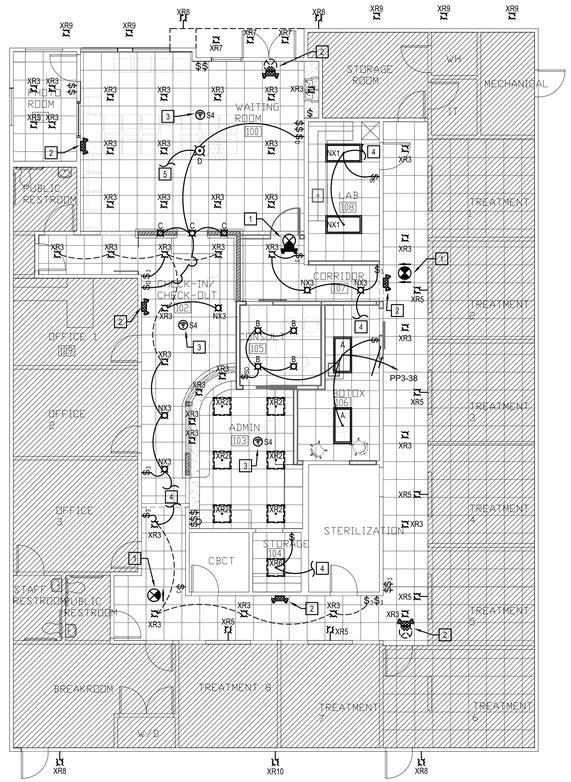
DATE: 04.03.24
SCALE: 1/8" = 1'-0"

E1.1

These drawings will be at the scale indicated when plotted at 24" x 36"



1 Floor Plan - Demolition Lighting
Scale: 1/8" = 1' - 0"



2 Floor Plan - Lighting
Scale: 1/8" = 1' - 0"

Demolition Note:

The existing locations shown on demo plan to be removed or relocated are for reference only and shall be field verified by contractor prior to beginning work. Any items required to be removed or relocated shall be included in contractor's cost, whether shown on this plan or not. Unless noted otherwise, where a device or fixture is noted to be demolished, the work shall include removing all associated boxes, conduits, hangers, conductors, cables etc. and shall include any patch, repair, paint or refinishing necessary to restore the location to match the surroundings. The contractor may reuse any existing conductors, boxes etc. where they have been inspected and are determined to be acceptable to the owner and/or in like-new condition.

Sheet Notes:

- All electrical boxes mounted in rated walls shall comply with all requirements of the 2018 NCSBC, section 714.3.2. All electrical boxes mounted in rated ceilings/horizontal assemblies shall comply with all requirements of the 2018 NCSBC, section 714.4.2. Devices shown in rated assemblies shall be flush with conduit concealed, unless otherwise indicated. Provide rated boxes, horizontal separation, putty pads, etc. as required for proper installation. Low voltage electrical devices mounted in rated assemblies shall be protected in accordance with the sections listed above as well.
- Connect wall packs or other normally off emergency lights, exit signs and night lights ahead of local switches and/or controls. (total fixture unswitched). Where lights are not indicated as night lights, fixtures with emergency batteries shall be connected with the battery ahead of switch so that the emergency battery comes on only in the event of power loss. Fixture is normally controlled with the other lights under normal conditions.
- See motion sensor details for specifications and wiring details.
- Lighting controls including occupancy sensors, automatic time switches, automatic shut-off controls, or daylight/ occupant sensing automatic controls, the electrical contractor shall be responsible for testing the lighting controls per section C408.3 of the 2018 NC Energy Conservation Code. Ensure that control devices, components, and systems are calibrated, adjusted and operate in accordance with the approved plans and/or specifications. Sequences of operation shall be functionally tested to ensure they operate in accordance with the approved plans and/or specifications.
- Individual branch circuits are shown with a dedicated neutral unless otherwise noted. When multi-wire branch circuits are to be installed, provide multi-pole circuit breakers as required. NEC 210.7
- See voltage drop schedule for wire sizing information for all branch circuits over 65' in length.
- Contractor may reuse existing emergency/ exit light, given that the device is in proper working order and it matches the established standard for the space. Replace chevrons and rotate as shown on plans.
- Exam rooms shall not require additional controls per 2018 NC Energy Conservation Code C405.2.2 Exception 3.

Plan Notes:

1. Connect emergency and exit lights ahead of local switch/controls so that total fixture is unswitched. Connect as required.
2. Existing emergency and/or exit light to remain. Confirm proper operation and replace if necessary. Provide line item price for replacement in base bid in the case that replacement is necessary.
3. Motion sensor to control all lights in this room. See motion sensor wiring diagrams. Provide required power packs to control all lights with override off switches as shown. Typical.
4. Contractor shall reconnect remaining or relocated lights to existing 120V circuit currently serving those lights. No new lights are being added to these circuits, just being relocated and/or reswitched. If multiple branch circuits are utilized in new configuration, contractor shall verify the total wattage on any circuit does not exceed 1,920 watts.
5. Connect to circuit 'PP3-38' with other lights as required.

Wall Ratings and Types Legend

See architectural sheets for more information on ratings and additional rated constructions including structure where applicable. Protect all rated constructions as required.

Existing Wall to Remain	———
New Wall being Constructed	———
New 1/2 Height Wall being Constructed	▨▨▨
Wall to Deck	· · · · · · · · · · · · · · · · · · · ·
Existing Wall being Demolished	– – – – – – – – – – – – – – – – – – – –

influence by DESIGN

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REVISIONS *DESCRIPTION* *DATE*

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CAMERON FAMILY DENTISTRY

1054 NC 24-87
CAMERON, NC 28326

FLOOR PLAN - LIGHTING

DATE: 04.03.24
SCALE: 1/8" = 1'-0"

E2.1

These drawings will be at the scale indicated when plotted at 24" x 36"

Light Fixture Schedule

Mark	Manufacturer	Fixture Description	Voltage	Driver Type	Lamp Type/Quantity	Total Wattage
XD3	Existing Fixture to be Demolished	6" Can Light	120/1	N/A	1-30W Incandescent	30
XD4	Existing Fixture to be Demolished	4' Fluorescent Strip Light	120/1	1- Electronic	3-F32T8	89
XD6	Existing Fixture to be Demolished	2x2 Fluorescent Prismatic	120/1	1- Electronic	2-F32U6T8	64
XM1	Existing Fixture to Move	2x4 Fluorescent Light	120/1	1- Electronic	3-F32T8	96
XM3	Existing Fixture to Move	6" Can Light	120/1	N/A	1-30W Incandescent	30
XR2	Existing Fixture to Remain	2x2 Fluorescent Parabolic Light	120/1	2- Electronic	4-F17T8	68
XR3	Existing Fixture to Remain	6" Can Light	120/1	N/A	1-30W Incandescent	30
XR5	Existing Fixture to Remain	Wall Sconce	120/1	Verify	Verify	Verify
XR6	Existing Fixture to Remain	2x2 Fluorescent Prismatic	120/1	1- Electronic	2-F32U6T8	64
XR7	Existing Fixture to Remain	Exterior Can Light	120/1	Verify	Verify	Verify
XR8	Existing Fixture to Remain	Exterior Wall Sconce	120/1	Verify	Verify	Verify
XR9	Existing Fixture to Remain	Exterior Inground Light	120/1	Verify	Verify	Verify
XR10	Existing Fixture to Remain	Exterior Flood Light	120/1	Verify	Verify	Verify
NX1	New Location of Existing Fixture	2x4 Fluorescent Light	120/1	1- Electronic	3-F32T8	96
NX3	New Location of Existing Fixture	6" Can Light	120/1	N/A	1-30W Incandescent	30
A	Elite Lighting #24-OVHP-LED-4000L-DIM10-MVOLT-35K-85	2X4 LED Volumetric Troffer	120/1	1- LED Driver	4000 Lumen LED Light Engine	36
B	Elite Lighting #RPL637-1100L-DIMTR-120-35K-90-WH	6" LED Can Light	120/1	1-LED Driver	1100 Lumen LED Light Engine	15
C	Artika #PDT1-IM-BG	Black & Gold Mini Pendant	120/1	1- LED Driver	1-LED	5
D	Artika #CHMP-BN	Black & Gold Sputnik Geometric Cage Chandelier	120/1	1- LED Driver	9-LED	40
⊗	New To Match Building Standard (Similar to Lithonia ECRG SQ)	Emergency Exit/ Wallpack Combo Light (w/ Battery)	120/1			

General Notes:

1. All fixtures and components shall comply with NC Building Code, 2018 North Carolina Energy Conservation Code and shall be UL listed. All led drivers shall comply with NEMA 410.
2. All new, relocated, or reswitched fixtures that utilize ballasts shall be provided with a luminaire disconnect where required per NEC section 410.130(G). Use Ideal PowerPlug or equal inside fixture.
3. All fixtures noted as emergency shall have emergency illumination functionality as described below. Batteries must be rated for the environment in which they are installed, in all cases.
   - Interior linear led and fluorescent fixtures shall have 1,100 lumen (minimum) output, 90 minute battery. Led and fluorescent downlights shall have a 500 lumen (minimum) output, 90 minute battery. Otherwise fixture shall be provided with a full output inverter.
   - Exterior emergency fixtures shall have an integral exterior rated (0° F) or remotely mounted 1,100 lumen (minimum) output, 90 minute battery.
   - Test switches for emergency batteries/inverter shall be integral to the fixture/device served, unless otherwise noted.
   - Emergency fixtures shall operate at least one lamp where multiple emergency fixtures are to be installed in that area, and shall operate at least two lamps where the loss of a single lamp would leave the space in total darkness during emergency operation.
   - Where emergency lights provide emergency illumination in areas normally illuminated by metal halide fixtures (or similar) with restrike delay, the emergency battery shall be provided with a minimum 15 minute time delay to maintain battery illumination after the restoration of normal power.
   - Emergency lighting design is based on fixtures lumen outputs as described above. Contractor shall verify all existing emergency batteries to ensure lumen outputs are as indicated and shall replace any batteries rated less outlined above.
   - Emergency lighting units with dedicated emergency heads are spaced based on their unique output. If contractor selects an alternate fixture, they are responsible for ensuring an average of 1 fott candle is provided along the paths of egress for at least 90 minutes.
4. Lamp color temperature for new lamps shall match existing to remain lamps, and all lamp colors for different fixture types and sources shall be consistent throughout the space or area unless specifically noted otherwise. Contractor shall ensure that all interior and exterior lamps are the same color temperature.
5. Light fixtures indicated as dimmable shall be provide with all necessary components (driver, switch etc.) necessary to achieve 5% minimum dimming unless another specific minimum dimming level is noted.

Demand Loads

	Load Type		Load	
	*** Existing Loads		57.1	KVA
	Receptacles and Miscellaneous		8.1	KVA
	Lights (@ 125%)		0.3	KVA
		Total:	65.5	KVA
	181.8 AMPS @ 208V/3Ø			

*** Peak demand kW for building, over last 12 months, converted from kW to kVA and with a 125% factor.

Electrical System and Equipment: Energy Code Compliance

Compliance Method: Prescriptive

Total Interior Wattage Specified vs Allowed: **182 vs 240**

See Exterior Lighting Summary for exterior lighting energy code calculations (if required)
See Light Fixtures Schedule for interior fixture lamp type, quantity, driver, total fixture wattage and additional information.

Engineer Statement:

To the best of my belief, understanding, and knowledge; the design of electrical system of this building complies with the NC State Building Code and the 2018 NC Energy Conservation Code.

Name: Richard D. Copeland, Jr. PE

Panel: PP1

Voltage: 120/208 **Poles:** 42 **Phase:** 3 **Wires:** 4
Panel Bus Rating: 225 Amp Bus **Main Rating:** 200/3 Main Breaker **Fed From:** Utility **Manufacture:** Square D NQ
Enclosure: NEMA 1 **Mounting:** Surface

Load Type	kVA	Breaker Size		ø		Breaker Size	kVA	Load Type
Ex. Outlets	0.6	20/1	1	A	2	20/1	0.4	Ex. Lights
Ex. Outlets	0.5	20/1	3	B	4	20/1	0.8	Ex. Lights
Ex. Lights	0.4	20/1	5	C	6	20/1	0.6	Ex. Lights
Ex. Outlets	0.8	20/1	7	A	8	20/1	0.7	Ex. Lights
Ex. Lab Outlets	0.4	20/1	9	B	10	20/1	0.4	Ex. Lights
Ex. Lights	0.8	20/1	11	C	12	20/1	0.5	Ex. Lights
Ex. Lab Outlets	0.6	20/1	13	A	14	20/1	0.5	Ex. Lights
Ex. Lights	0.7	20/1	15	B	16	20/1	0.4	Ex. Front Lights
Ex. Lab Outlets	0.4	20/1	17	C	18	20/1	0.8	Ex. Lab Outlets
Ex. Vac	0.5	20/2	19	A	20	20/2	0.5	Ex. Vac
	0.5		21	B	22		0.5	
Ex. Lights	0.4	20/1	23	C	24	20/1	0.6	Ex. Lights
Ex. Lights	0.6	20/1	25	A	26	20/2	1.0	Ex. Microwave/Sterliz Eq.
Ex. Sign	0.5	20/1	27	B	28		1.0	
Ex. Lights	0.6	20/1	29	C	30	20/2	0.5	Existing
Ex. Sign	0.5	20/1	31	A	32		0.5	
Ex. Sign	0.5	20/1	33	B	34	**20/1**	**1.0**	**Lab 108 Equipment**
Ex. CBCT	1.0	20/1	35	C	36	**20/1**	**1.0**	**Lab 108 Equipment**
Ex. Panel PP2	9.8	100/3	37	A	38	**20/1**	**1.0**	**Lab 108 Equipment**
	9.0		39	B	40	**20/1**	**0.6**	**Office 101 Rec**
	7.0		41	C	42	**20/1**	**1.0**	**Check 102/Consult 105**

Demand Load Summary:

Lighting:	20.3 kVA	@ 125%	25.4 kVA	Phase A:	17.6 kVA	146.8 Amps
Largest Motor:	kVA	@ 125%	kVA	Phase B:	16.8 kVA	140.3 Amps
Gen Receptacles:	16.2 kVA	Diversified	13.1 kVA	Phase C:	15.2 kVA	126.8 Amps
Kitchen Equipment:	kVA	Diversified	kVA	Total Panel Load:	49.7 kVA	137.9 Amps
All Other:	11.2 kVA	@ 100%	11.2 kVA			

[X] UL SE rated
[X] Separate Neutral Bar
[X] Ground bar
[ ] Feed thru lugs
[X] Existing Panel
[ ]

1. All breakers shall match existing AIC.

Panel Schedule Notes (All Panels, All Sheets):

1. All panel directories shall be completed in accordance with NEC 408.4.
2. Values for demand loads include all code factors such as 125% for continuous loads, 125% largest motor, etc.
3. Breaker sizes shown in panel schedules for new equipment are for reference only, see equipment connection schedule for additional information. Where breaker / fuse size between schedules conflict, the equipment connection schedule shall take precedence. Contractor shall ultimately confirm breaker size with equipment provider
4. Circuit breakers used as overcurrent protection for HVAC equipment shall be "HACR" type.
5. Contractor shall provide identification for new feeders and any new branch circuits per NEC 200.6, 210.5, and 215.12.
6. Contractor shall label breakers feeding emergency and exit lighting per NEC 700.12(F).
7. Provide arc flash hazard warning labels as required on all panels affected by this work to comply with NEC 110.16.
8. Where circuit breakers or fuses are noted to be series rated, the equipment shall be listed per NEC 110.22 as applicable. Tested series combination systems, the placard shall state the following "Caution - Series Combination System Rated _____ Amperes. Identified Replacement Components Required." See NEC 110.22(b), for engineered series combination systems placarding language.
9. **Bolded** text indicates a new or changed breaker, label, load on an existing panel. **Bolded** breakers are new or relocated breakers to location shown.
10. Contractor shall provide handle ties as required for cubicle circuits per NEC 605.7.
11. Contractor shall provide multipole breakers in place of all single pole breakers shown, when multiwire branch circuits are installed per NEC 210.4(B).
12. New circuits in locations determined to be spare or space based on panel directories and other available information from site visit or existing plans. Contractor shall confirm that placement shown does not interfere with existing circuits necessary to remain. Confirm available circuits based on new and demo plans and contact engineer with conflicts.
13. Breakers indicated as (L) shall have a breaker lock provided. 20/1(L) means a 20 amp single pole breaker with lock. Breaker lock shall be accessible from outside of panel and shall not require the removal of panel cover in order to reset the breaker.
14. Breakers indicated as (G) shall have GFCI protection provided. 20/1(G) means a 20 amp single pole breaker with GFCI protection.

Panel: PP2

Voltage: 120/208 **Poles:** 42 **Phase:** 3 **Wires:** 4
Panel Bus Rating: 225 Amp Bus **Main Rating:** 100A Main Lugs Only **Fed From:** Panel PP1 **Manufacture:** Square D NQ
Enclosure: NEMA 1 **Mounting:** Surface

Load Type	kVA	Breaker Size		ø		Breaker Size	kVA	Load Type
Ex. Outlets	0.5	20/1	1	A	2	20/1	1.0	Ex. Lights
Ex. Outlets	0.6	20/1	3	B	4	20/1	0.6	Ex. Outlets
Ex. Lights	0.4	20/1	5	C	6	20/1	0.4	Ex. Outlets
Ex. Outlets	0.9	20/1	7	A	8	20/1	0.5	Ex. Outlets
Ex. Lights	0.2	20/1	9	B	10	20/1	0.7	Ex. Lights
Ex. Outlets	0.3	20/1	11	C	12	20/1	0.8	Ex. Outlets
Ex. Lights	0.7	20/1	13	A	14	20/1	0.6	Ex. Lights
Ex. Lights	0.8	20/1	15	B	16	20/1	1.0	Ex. Outlets
Ex. Outlets	0.6	20/1	17	C	18	20/2	0.4	Ex. Outlets
Ex. Lights	1.0	20/1	19	A	20		0.4	
Ex. Outlets	0.6	20/1	21	B	22	20/2	0.4	Ex. Outlets
Ex. Outlets	0.4	20/1	23	C	24		0.4	
Ex. Lights	0.5	20/1	25	A	26	20/2	0.4	Ex. Outlets
Ex. Lights	0.7	20/1	27	B	28		0.4	
Ex. Lights	0.8	20/1	29	C	30	20/2	0.4	Ex. Outlets
Ex. Outlets	0.6	20/1	31	A	32		0.4	
Ex. Lights	1.0	20/1	33	B	34	20/1	0.4	Ex. Lights
Ex. Lights	0.6	20/1	35	C	36	20/1	0.5	Ex. Lights
Ex. Lights	0.4	20/1	37	A	38	20/1	0.7	Ex. Lights
Ex. Outlets	0.5	20/1	39	B	40	20/1	0.2	Ex. Outlets
Ex. Outlets	0.4	20/1	41	C	42	-		Space

Demand Load Summary:

Lighting:	11.0 kVA	@ 125%	13.8 kVA	Phase A:	9.8 kVA	81.9 Amps
Largest Motor:	kVA	@ 125%	kVA	Phase B:	9.0 kVA	74.6 Amps
Gen Receptacles:	10.5 kVA	Diversified	10.4 kVA	Phase C:	7.0 kVA	58.1 Amps
Kitchen Equipment:	kVA	Diversified	kVA	Total Panel Load:	25.8 kVA	71.5 Amps
All Other:	1.6 kVA	@ 100%	1.6 kVA			

[ ] UL SE rated
[X] Separate Neutral Bar
[X] Ground bar
[ ] Feed thru lugs
[X] Existing Panel
[ ]

1. All breakers shall match existing AIC.

Panel: PP3

Voltage: 120/208 **Poles:** 42 **Phase:** 3 **Wires:** 4
Panel Bus Rating: 225 Amp Bus **Main Rating:** 200/3 Main Breaker **Fed From:** Utility **Manufacture:** Square D NQ
Enclosure: NEMA 1 **Mounting:** Surface

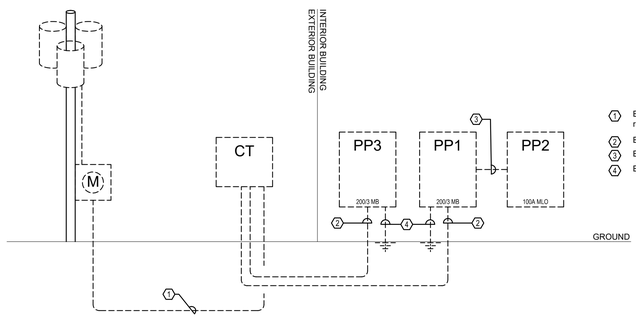
Load Type	kVA	Breaker Size		ø		Breaker Size	kVA	Load Type
Ex. AHU-1	3.4	50/2	1	A	2	40/2	2.7	Ex. AHU-2
	3.4		3	B	4		2.7	
Ex. AHU-3	3.4	50/2	5	C	6		3.1	
	3.4		7	A	8	40/3	3.1	Ex. AC-2
	3.1		9	B	10		3.1	
Ex. AC-3	3.1	40/3	11	C	12		0.7	
	3.1		13	A	14	20/3	0.7	Ex. AC-1
Ex. WH1	2.1	30/2	15	B	16		0.7	
	2.0		17	C	18	20/2	1.0	Ex. Mini Split
Ex. Washer/GFI	1.5	20/2	19	A	20		1.0	
	1.5		21	B	22	30/2	2.5	Ex. Dryer
Ex. Rec	0.4	20/1	23	C	24		2.5	
Ex. GFI Rec	0.6	20/1	25	A	26	20/2	0.2	Existing
Ex. Rec	0.7	20/1	27	B	28		0.2	
Ex. Rec	0.7	20/1	29	C	30	**20/1**	**1.0**	**Botox 106 Dedicated Rec**
Ex. Rec/Wall Sign	0.5	20/2	31	A	32	**20/1**	**0.4**	**Botox 106 Chair**
	0.5		33	B	34	**20/1**	**0.6**	**Admin 103 Recs**
Existing	0.2	20/1	35	C	36	**20/1**	**0.4**	**Storage 104 Recs**
Solenoid Valve	**0.1**	**20/1(G)**	37	A	38	**20/1**	**0.2**	**Lighting**
Space		-	39	B	40	**20/1**	**1.0**	**Botox 106 Dedicated Rec**
Space		-	41	C	42	-		Space

Demand Load Summary:

Lighting:	0.2 kVA	@ 125%	0.3 kVA	Phase A:	21.0 kVA	174.6 Amps
Largest Motor:	kVA	@ 125%	kVA	Phase B:	22.1 kVA	184.2 Amps
Gen Receptacles:	4.0 kVA	Diversified	4.0 kVA	Phase C:	18.5 kVA	154.2 Amps
Kitchen Equipment:	kVA	Diversified	kVA	Total Panel Load:	61.6 kVA	170.8 Amps
All Other:	57.3 kVA	@ 100%	57.3 kVA			

[X] UL SE rated
[X] Separate Neutral Bar
[X] Ground bar
[ ] Feed thru lugs
[X] Existing Panel
[ ]

1. All breakers shall match existing AIC.



Riser Key Notes:

1. Existing conductors and conduit by power company to remain.
2. Existing 200A conductors and conduit to remain.
3. Existing 100A conductors and conduit to remain.
4. Existing ground to remain.

1 Existing Electrical Riser Diagram
Scale: None

influence by DESIGN

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REVISIONS *DESCRIPTION* *DATE*

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NORTH CAROLINA PROFESSIONAL SEAL 36841 ENGINEER RICHARD D. COPELAND JR.
4/5/24

CAMERON FAMILY DENTISTRY

1054 NC 24-87
CAMERON, NC 28326

ELECTRICAL DETAILS

DATE: 04.03.24
SCALE: 1/8" = 1'-0"

E3.1

These drawings will be at the scale indicated when plotted at 24" x 36"