

DO NOT SCALE FROM THESE DRAWINGS. USE CALLED-OUT DIMENSIONS ONLY.

All framing, bracing, door sizes, floor levels, cabinet heights, rest room and lunch room facilities (if any) and other design details should be modified to comply with latest Americans With Disabilities Act (A.D.A.) guidelines and similar State requirements. Architect or Contractor must submit plans to building and other local officials as necessary for compliance with all Federal, State and Local building codes, including A.D.A. guidelines, before commencing work. Notify Burkhart of any changes that would modify any dental treatment rooms and/or any dental cabinet layout.

These plans are not meant to be a design for building—out an operatory but, instead, represent only a sample layout; a similar layout of the equipment in a dentist's facilities will not necessarily be compatible with the A.D.A. or other applicable law or code. The manufacturers and Burkhart are not Architects or Engineers; the manufacturers and Burkhart do not warrant or represent that the the plans are in compliance with the A.D.A. or other applicable law or code. The dentist should consult their Architects prior to installing the equipment to ensure compliance with the A.D.A. or other applicable law or code.

The Contractor should furnish all electrical, plumbing, and structural require ments listed, as this is necessary before the dental equipment can be installed. The tenant, or Burkhart, will furnish the dental equipment. Check all measure ments with the actual building dimensions, or Architect's plans. The specifications shown on this plan have <u>not</u> been checked for compliance with Federal, State or Local building codes and regulations.

Listed requirements show only the services, connections and fixtures required for the dental office equipment shown; and these drawings do not provide for the electrical, mechanical and structural requirements for the building or office

See Mechanical Specification and Detail Sheets for further information.

SPECIFICATIONS FOR THE DENTAL EQUIPMENT ONLY.

THIS IS A SUGGESTED PLAN WITH

# GENERAL NOTES

equipment shown; and these drawings do not provide for the electrical, mechanical and structural requirements for the building or office as a whole.

## 1) Segregation of construction expenses.

specifications shown on this set of plans that are required for the installation and operation of dental equipment should be segregated from the remainder of the construction labor and material bids for this project since these expenses may qualify for a shorter tax depreciation schedule than the remainder of the construction costs.

2)Contractor furnish all electrical, mechanical and structural requirements listed. The specifications noted and shown on plan have not been checked for compliance with Federal, State, or local building codes and regulations; bidding and construction of this project must be done in strict compliance with the current local building code and all other federal, state and local codes that apply. All Burkhart, information is provided to assist tenant's architect or designer, and is not to be used as a construction design drawing. Burkhart does not authorize use of this information for any other purposes and disclaim all liability if used for other purposes.

3) General contractor to schedule walk—through meeting with all applicable contractors and a Burkhart representative to review dental equipment details, manufacturer's specification sheets and manufacturer's templates before commencing construction. The personnel actually doing the work must be present at this meeting. This usually takes place after the framing has been completed and before any mechanical has been run. If pouring of a concrete slab is involved, then this meeting must take place prior to that event.

At this meeting we will furnish or make available any templates and plans necessary for the placement of electrical, plumbing and backing for the dental equipment we will be providing. If the doctor is reusing some of his or her existing equipment, then the contractor is responsible for making sure that the appropriate connections are provided. Although we will help as much as possible, it will most likely require a trip by the contractor to the doctor's existing office.

5) Contractor is required to check with Burkhart for a list of subcontractors required to be on site during equipment installation.

7) Burkhart equipment installation requires approximately 1—2 days for each operatory, however time may vary depending on the configuration of equipment. Contractor to schedule with Burkhart the number of days needed at least thirty days in advance. Schedule required days for after completion

all required code official inspections.

10) Contractor to verify with tenant all items (including their dimensions and their mechanical requirements) that are not supplied by Burkhart. These items might include but are not limited to:

effect equipment installation.

## DENTAL EQUIPMENT PLACEMENT SCHEDULE

ITEM #	MANUFACTURER/DESCRIPTION	MODEL #	QUANTITY	FURNISHED & INSTALLED BY: B=BURKHART O=OTHERS	ANCHORED TO: FLOOR, WALL, OR CEILING	REMARKS/DETAILS
A	ADEC PATIENT CHAIR	511	4	FB / IB	SITS ON FLOOR	
B	ADEC RADIUS DELIVERY UNIT	532	2	FB / IB	MOUNTS ON CHAIR	
C	ADEC RADIUS DELIVERY UNIT	533	2	FB / IB	MOUNTS ON CHAIR	
D	ADEC CEILING MOUNTED TRACK LIGHT	577 LED	4	FB / IB	MOUNTS ON CEILING	
E	ADEC REAR TREATMENT CABINETRY	5562.42	4	FB / IB	SITS ON FLOOR	
F	ADEC SIDE CABINET WITH SINK	5531.58	4	FB / IB	SITS ON FLOOR	
G	PORTER GAS MANIFOLD SYSTEM,	VANGUARD	1	FB /10	MOUNTS ON WALL	
H	PORTER CONCEALED ZONE VALVE	ZONE	1	FB / IO	MOUNTS IN WALL	
	AIR TECHNIQUES DRY VACUUM SYSTEM	MOJAVE V5	1	FB / IB	SITS ON SHELF	
J	AIR TECHNIQUES AIR COMPRESSOR	AIRSTAR 50	1	FB / IB	SITS ON FLOOR	
K	VATECH AMERICA PANORAMIC XRAY	PAX-I 2D	1	FB / IB	FLOOR AND WALL	
	COLTENE ULTRASONIC CLEANER	UC300	1	FB / IB	SITS ON COUNTER	TO BE LOCATED
	SCICAN STERILIZER	BRAV02	1	FB/ IB	SITS ON COUNTER	TO BE LOCATED
N	SCICAN CASSETTE STERILIZER	STATIM 2000	1	FB / IB	SITS ON COUNTER	TO BE LOCATED

Listed requirements show only the services, connections and fixtures required for the dental office

Construction bids for labor and materials for the bracing, backing, electrical and plumbing

4) General contractor to schedule rough—in inspection with all applicable contractors and a Burkhart representative to inspect all dental plumbing and wiring prior to sheetrocking or pouring of concrete. Our office needs to be notified at least 72 hours in advance for the Burkhart branch office city area and 72 hours for all areas outside city limits. If the general contractor elects to continue without an inspection by our office, then he assumes all responsibilities for missing or incorrectly installed mechanical services.

6) Any Burkhart or tenant provided items requiring installation by contractor during construction will be delivered to job site. When the contractor or his representative takes possession of these items, he becomes responsible for their safekeeping and condition.

of construction and before occupancy of tenant.

8) The contractor shall obtain and pay for all permits. The contractor shall coordinate and schedule

9) Contractor to install paper towel, cup, glove, and miscellaneous dispensers as required. Contractor to provide wall mounted items for restrooms if applicable; tenant to provide all dispensers except towel dispensers, unless otherwise noted. Contractor to provide paper towel

dishwasher, trash compactor, clothes washer and dryer, etc.

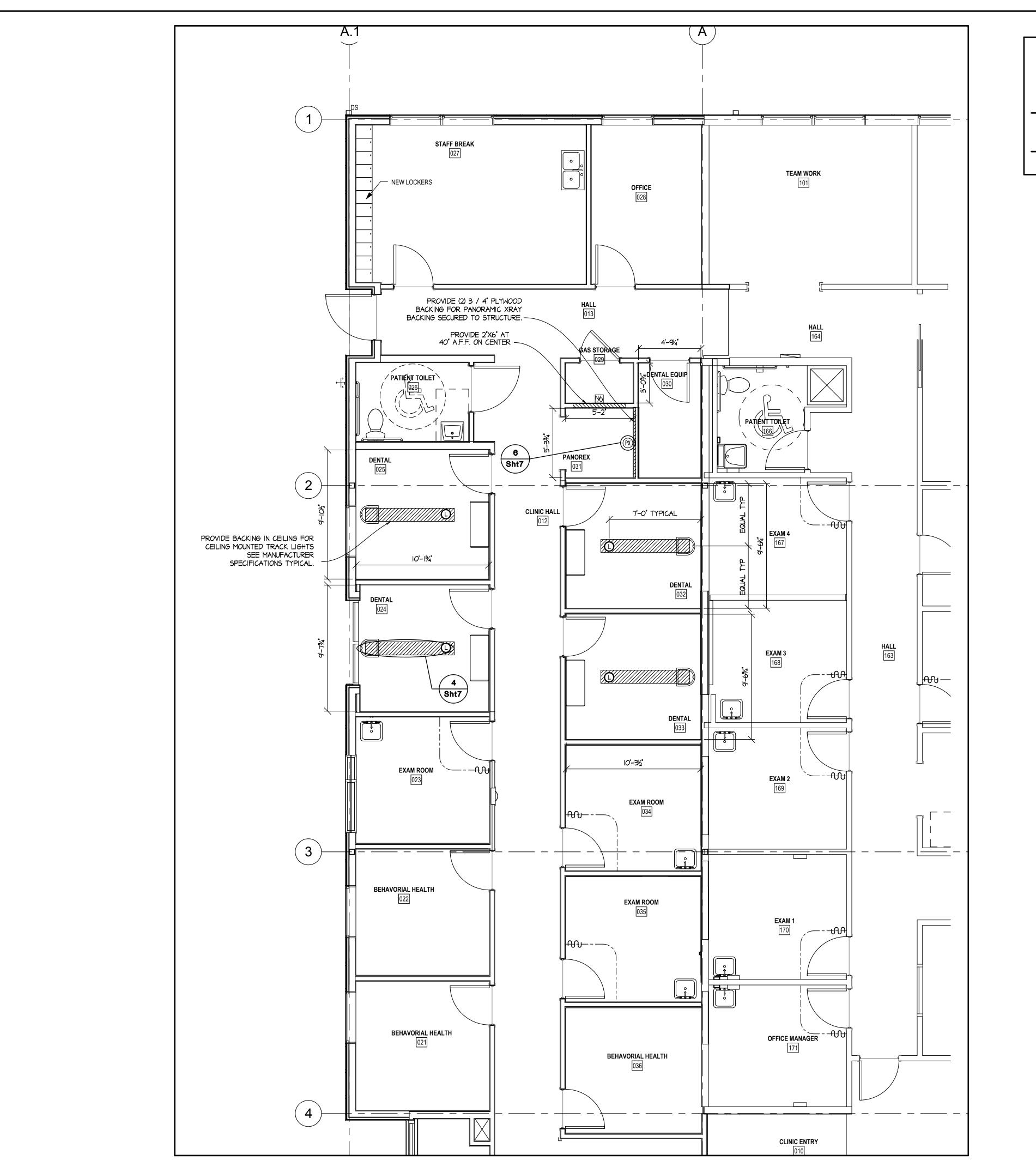
11) Notify Burkhart if ceiling height in the opertories is less than 7'-8" (92"). Ceiling height may

Drafted By: 1-9-2019 1-21-2019 2-5-2019

|/4<sup>"</sup>=|<sup>'</sup>-0<sup>"</sup>

2-21-2019

BURKHART DENTAL SUPPLY COMPANY REVISION 49, 2011



# BRACING / BACKING LEGEND

(A) All wood backing and bracing to be of fire resistant or substitute for other material if required by local code. Verify structural application with Burkhart and architect / designer.

(B) Notify Burkhart if ceiling height in the operatories is less than 7'-8" (92"). Ceiling height may effect equipment installation.

Miscellaneous wood backing, see notes for details. Verify size and location with Burkhart Dental. All dental x—rays require backing.

See manufacturer's templates provided by Burkhart.

Drafted By:

ments listed, as this is necessary before the dental equipment can be installed. The tenant, or Burkhart, will furnish the dental equipment. Check all measure ments with the actual building dimensions, or Architect's plans. The specifications shown on this plan have <u>not</u> been checked for compliance with Federal, State or Local building codes and regulations. Listed requirements show only the services, connections and fixtures required

for the dental office equipment shown; and these drawings do not provide for the electrical, mechanical and structural requirements for the building or office

The Contractor should furnish all electrical, plumbing, and structural require—

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1-9-2019 1-21-2019 MA #3 2-5-2019 2-21-2019 |/4"=|<sup>'</sup>-0"

# **ELECTRICAL LEGEND**

## ALL ITEMS NOT MARKED WITH A CHECK ARE NOT APPLICABLE TO THIS JOB

A) All electrical outlets and locations of utility callouts are to be measured to the bottom of a 2x4 or 4x4 electrical box. Electrical outlets not specified are 18" above floor or 6" above countertop. All outlets above countertop should be verified with cabinet elevations for conflict with backsplashes, etc. B) If dimensions of electrical and utility locations are not specified, verify and discuss locations with

Burkhart and designer and owner / tenant. C) If required by code, provide a separate disconnect switch for each x-ray location, verify. D) Burkhart equipment installers are not licensed contractors. Consequently, the final "hard" electrical and plumbing connections must be made by the applicable contractors at the time of

## equipment installation. E) Recommended lighting information: a) Strip type fluorescent task lighting mounted under upper wall—hung cabinetry. Verify

- locations with doctor. b) See plans by others for general and decorative lighting and wall switching.
- c) If required by local code or requested by building owner / tenant, provide battery backup emergency lights in each operatory. Emergency lighting in other areas of the suite to be provided per code.
- d) Provide minimum 150-200 foot-candles illuminaion at countertop height (30-32") in all operatories. Suggested lighting should meet the following criteria:
- Color Rendering Index (CRI): 90 or above Color Preference Index (CPI): 90 or above
- Spectral Energy Distribution (SED): Natural Daylight Color Temperature in Degrees Kelvin (K): 5500 K

F) The contractor shall verify location and access to existing building utiltiies, including water, gas, air, vacuum, vents, electrical and waste lines when designated on plans. Notify and obtain approval of building manager, if applicable, before discontinuing service prior to hook-up.

G) Notify Burkhart if ceiling height in the operatories is less than 7'-8" (92"). Ceiling héight may effect equipment installation.

H) All equipment, including low voltage items, which requires hard wiring to be connected by contractor. Burkhart recommends surge supression for all dedicated circuits. 1) Some of the dental equipment provided by Burkhart requires mud rings, rough—in boxes, and cover plates. Contractor provide and install as required per manufacturer's instructions. J) Data processing equipment, terminal locations and wiring by others.

K) GFCI breakers may be required at the panel for all circuits serving the patient treatment areas, verify with your local code officials.

## RECOMMEND ENTIRE OFFICE SURGE PROTECTION

- 110 volt dedicated outlet. FOR TABLETOP ULTRASONIC CLEANER TO BE LOCATED.
- See plans by others for any additional outlets that may be required in non-treatment areas. 110 volt dedicated outlet. This product draws \_\_6\_\_ amps. ☐ 220 volt dedicated outlet. This product draws \_\_\_\_ amps.
- ST= Sterilizer location TO BE LOCATED.
- ☐ Provide ethernet data drop
- Provide 110 volt dedicated circuit. This product draws \_\_12 EACH\_\_ amps. Provide 220 volt dedicated circuit. This product draws \_\_\_\_ amps.
- Provide drain.
- ☐ Provide cold water.
- Provide hot water.
- ☐ See manfuacturer's templates provided by Burkhart.
- Dental operating light location. Provide 110 volt electrical per manufacturer's specifications. This product draws \_\_2\_ amps. Confer with Burkhart for ceiling height requirements. Provide wood backing per mfg's specifications. See bracing / backing for more information.
- Provide low voltage wiring from light location to chair. See manufacturer's templates provided by Burkhart.

☐ Provide CAT 5 E cable to this location also.

- X-ray remote switch location.
- Provide the required number of stranded color coded wires from ( ) OR ( ) locations as noted on plan and per manufacturer's specifications.
- Install mfg provided cables from Burkhart. See manufacturer templates provided by Burkhart for termination information.
- (PX) Panoramic X-ray machine location.
- Provide (3 wires with ground) single phase wiring per plan and manufacturer's
- specifications. Confer with Burkhart for ceiling height requirements. Requires ethernet data drop
- Provide 110 volt dedicated circuit. This product draws \_\_15\_\_\_ amps.
- Provide 220 volt dedicated circuit. This product draws \_\_\_\_ amps.
- Install mfg provided cable per Burkhart instructions.
- See manufacturer's templates provided by Burkhart.
- Exhaust fan or other. Provide and switch separately at convenient wall location. When installed in a mechanical room, exhaust fan should be thermostatically controlled. Must supply adequate air intake to allow airflow through room.

Maintain temperatures between 40 and 90 degrees F. Mechanical room equipment produces heat: Air Compressor \_\_4400\_\_\_\_ BTU/hour Vacuum \_\_\_\_3021 - 7660\_\_\_ BTU/hour

FORCED AIR AND HVAC INPUT MUST BE USED IN ADDITION TO AN EXHAUST FAN IF NORMAL AMBIENT TEMPERATURES VARY FROM SPECIFIED OPERATING TEMPERATURE RANGE. See plans by others for additional exhaust fans that may be required.

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THIS IS A SUGGESTED PLAN WITH SPECIFICATIONS FOR THE DENTAL EQUIPMENT ONLY. Nitrous oxide and oxygen manifold location. Provide copper piping per codes and install continuously to (40) and / or (40) locations. Manifold supplied by Burkhart. Contractor install per mfg. specs. All aspects of installation to comply with all local and federal codes. Must be Medical Gas Certified plumber.

Note: Typical storage closet will contain: (2) - "G" tanks of N<sub>0</sub> at 489 CF (Cubic Feet) each and (2) - "G" tanks of  $O_0^2$  at 244 CF each.

Provide 110V separate circuit. This product draws \_\_2\_ amps. See manufacturer's templates provided by Burkhart.

Nitrous oxide / oxygen alarm monitoring station location. All aspects to comply wth all local and federal codes.

Provide 1/2" electrical conduit with pull string from \_\_ ND \_\_ (Z) location per manufacturer's specifications. Install mfg. provided cable from  $\underline{\hspace{1cm}}$  AND  $\underline{\hspace{1cm}}$  (7) location per mfg. specifications.

See manufacturer's templates provided by Burkhart. Zone valve for nitrous oxide and oxygen with wiring per manufacturer's specifications. Valve provided by Burkhart installed by contractor. Must be Medical Gas Certified plumber. All aspects to comply with NFPA 99C Level 3 standards.

Dental unit utility center location.

Provide 110 volt hardwire connection. This product draws \_\_\_\_ amps.

Provide 110 volt quad outlet. This product draws \_\_12\_\_\_ amps. Provide compressed air for instrumentation devices with shut-off valves, (3/8" angle stop valves or 3-piece ball valves as required by local codes.)

Provide vacuum. Provide 2" conduit. ☐ Provide cold water.

Provide low voltage wires. See manufacturer's templates provided by Burkhart.

See manfuacturer's templates provided by Burkhart.

Dental unit utility center location.

Provide 110 volt hardwire connection. This product draws \_\_6\_ amps. Provide 110 volt quad outlet. This product draws \_\_\_\_ amps.

Provide compressed air for instrumentation devices with shut-off valves, (3/8" angle stop valves or 3-piece ball valves as required by local codes.)

Provide vacuum. Provide 2" conduit.

Provide cold water. Provide low voltage wires.

See manufacturer's templates provided by Burkhart.

(CP) Location of control panel for low voltage switching. Control panel supplied by Burkhart. Provide wires / cabling to each 👱 vacuum pump, 👱 compressor, \_\_\_ water shut-off valve.

- ☐ Provide and install Cat 6 cabling to each.
- ☐ Provide Cat 6 cabling to each.
- Provide \_\_4\_ sets 4 #18 wires to each. Provide 1/4" polyflow tubing to compressed air line.
- Provide 1/4" polyflow tubing to compressed air line. Provide 1/4" polyflow tubing to vacuum line.
- See manufacturer's templates provided by Burkhart.
- Dental compressed air for instrumentation devices location.

  Provide (3 wire w/ground), single phase wiring per manufacturer's specifications. Provide 1/2" minimum I.D. copper air lines to termination locations as noted on plan. Provide 3/8" angle stop valves or 3-piece ball valves as required by local codes. Install wires to control panel location per mfg specifications. See © symbol. Notify Burkhart of voltage variance in building electrical supply. See Burkhart for details. Provide 2" intake to fresh air.
  - Provide 110 volt dedicated circuit. This product draws \_\_\_\_ amps.
- Provide 220 volt 30 amp dedicated circuit. This product draws \_\_\_\_16\_\_ amps.
- Hardwire connection with disconnect. Provide receptacle. Verify finish configuration with Burkhart Dental.
- Provide ethernet data drop See manufacturer's templates provided by Burkhart.
- Central dental vacuum motor pump location.

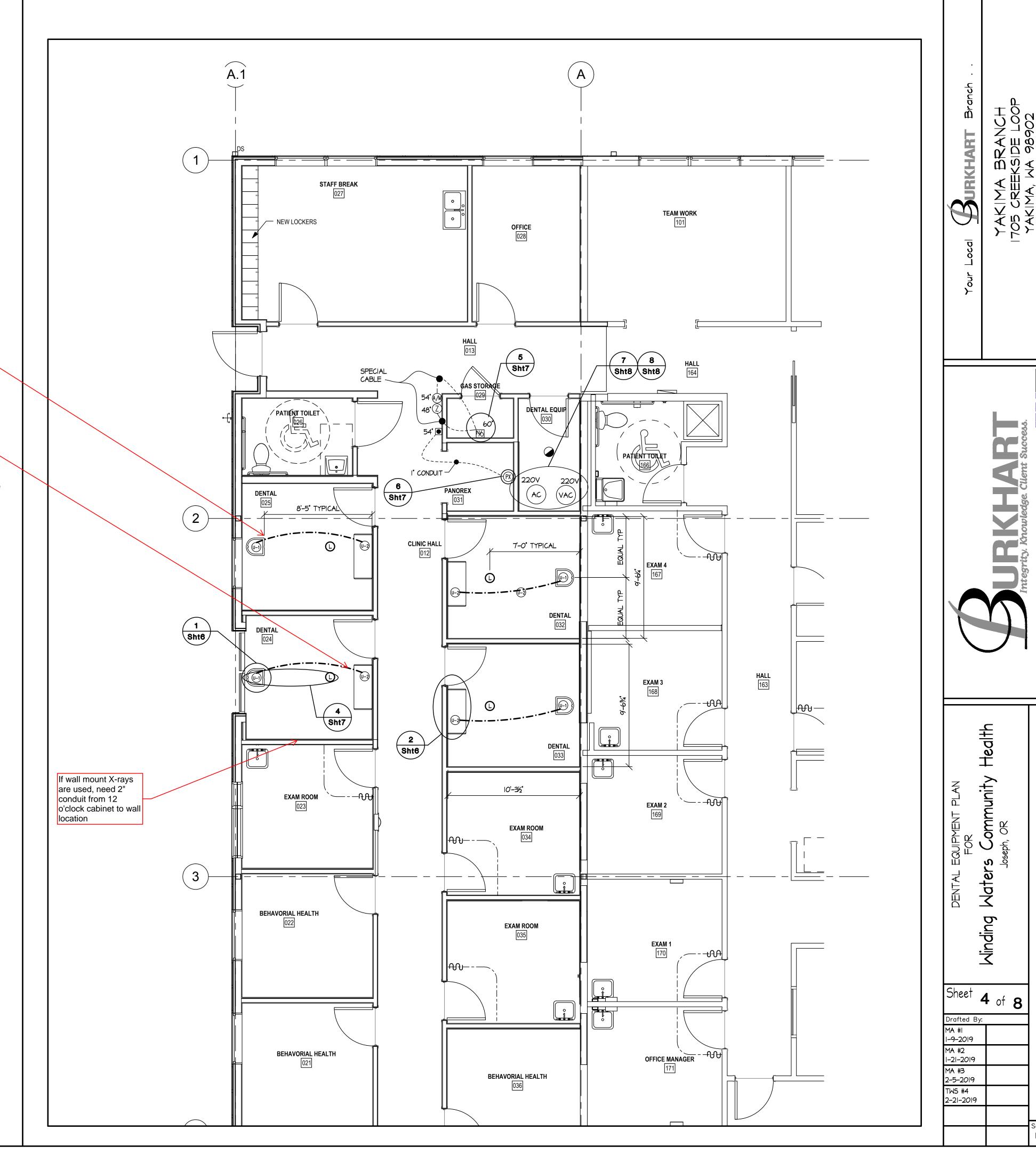
  Provide (3 wire w/ground), single phase wiring per manufacturer's specifications. Provide waste drain to sewer. Provide under floor piping continuous to locations shown and size per plan and mfg. specs. Install wires to control panel location per mfg. specs. See (p) symbol. Provide \_\_\_\_\_3" exhaust to outside of building for exhaust of pump per mfg. specs.,
- per NFPA. Notify Burkhart of voltage variance in building electrical supply. ☐ Provide \_\_\_\_ (quantity) cold water hook—up(s).
- Provide cold water location, 3/4" hose bib.
- Provide \_\_\_\_ 110 volt dedicated circuit(s). This product draws \_\_\_\_ amps. Provide \_\_1\_ 220 volt 20 amp dedicated circuit(s). This product draws \_\_15\_ amps.
- Hardwire connection with disconnect. Provide receptacle. Verify finish configuration with Burkhart Dental.
- Provide 120V dedicated outlet at 24" a.f.f. and within 4' of unit. This product draws 5 amps.
- Provide ethernet data drop
- Sewer drain to be \_\_\_\_ wall drain, \_\_\_\_ floor sink, \_ dictated by building design and / or local codes. Exhaust piping to tolerate 180 degrees Fahrenheit.

See manufacturer's templates provided by Burkhart.

AVERAGE EQUIPMENT LOADS (In Amps) Chairs 10.0 3.0 Ultrasonic Cleaner Communication system 2.0 Ultrasonic Scaler Lathe 3.0

X-ray View box 1.0

Dental Lights 2.0



4

1/4"=1'-0"

## PLUMBING LEGEND

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- A) If dimensions of electrical and utility locations are not specified verify and discuss with Burkhart
- and designer and owner / tenant. B) Burkhart equipment installers are not licensed contractors thus some of the final "hard"
- dental equipment connections must be made by the applicable contractors at the time of
- C) The contractor shall verify location and access to existing building utiltiies, including water, gas, air, vacuum, vents, electrical and waste lines when designated on plans. Notify and obtain approval
- of building manager, if applicable, before discontinuing service prior to hook—up.
- (D) All vacuums to be hooked up by contractor as well as sinks, mixing valves, nitrous controls and outlets, developing tanks, etc.
- (E) Many areas require back flow prevention—consult local codes and install as necessary.

THIS FACILITY IS A CATEGORY 3 GAS AND VACUUM SYSTEMS CLINIC AS DESCRIBED IN NFPA 99 2012 GUIDELINES, CHAPTER 5: GAS AND VACUUM SYSTEMS.

- A Compressed air for instrumentation devices valve location. Contractor furnish and install 3/8" compression angle stop or 3-piece ball valve as required by local codes.
- Nitrous oxide, oxygen and dental vacuum outlet location. Provide copper piping per codes.

  Outlets supplied by Burkhart, contractor install per codes. Must be Medical Gas
- Certified Plumber. All aspects of installation to comply with all local and federal codes ☐ See manufacturer's templates provided by Burkhart.
- (Z) Zone valve for nitrous oxide and oxygen with wiring per manufacturer's specifications.
- Valve provided by Burkhart installed by contractor. Must be Medical Gas Certified plumber. All aspects to comply with NFPA 99C Level 3 standards.
- ☐ See manfuacturer's templates provided by Burkhart.
- Dental vacuum outlet location. Outlet supplied by Burkhart, contractor install per manufacturer's specs.
- Mercury separation and collection. Unit needs to be placed on the floor and inserted into the vacuum line immediately before the vacuum unit. Standard unit size is 23.5"Hx20"Wx8"D unless noted otherwise.
- Nitrous oxide and oxygen manifold location. Provide copper piping per codes and install continuously to wand / or wow locations. Manifold supplied by Burkhart. Contractor install per mfg. specs. All aspects of installation to comply with all local and federal codes. Must be Medical Gas Certified plumber. Note: Typical storage closet will contain:
  - (2) "G" tanks of N<sub>2</sub>O at 489 CF (Cubic Feet) each and
  - (2) "G" tanks of  $O_2^2$  at 244 CF each.

See manfuacturer's templates provided by Burkhart.

- Provide 110V separate circuit. This product draws \_\_2\_ amps. See manufacturer's templates provided by Burkhart.
- Zone valve for nitrous oxide and oxygen with wiring per manufacturer's specifications. Valve
- provided by Burkhart installed by contractor. Must be Medical Gas Certified plumber. All aspects to comply with NFPA 99C Level 3 standards.
- Dental unit utility center location.
- Provide 110 volt hardwire connection. This product draws \_\_\_\_ amps.
- Provide 110 volt quad outlet. This product draws \_\_12\_\_\_ amps.
- Provide compressed air for instrumentation devices with shut—off valves, (3/8" angle stop valves or 3-piece ball valves as required by local codes.)
- Provide vacuum.
- ✓ Provide 2" conduit. ☐ Provide cold water.
- ☐ Provide low voltage wires. See manufacturer's templates provided by Burkhart.
- Dental unit utility center location.
- Provide 110 volt hardwire connection. This product draws \_\_6\_\_ amps. Provide 110 volt quad outlet. This product draws \_\_\_\_ amps.
- Provide compressed air for instrumentation devices with shut-off valves, (3/8" angle stop
- valves or 3-piece ball valves as required by local codes.) Provide vacuum.
- Provide 2" conduit.
- Provide cold water.
- Provide low voltage wires. See manufacturer's templates provided by Burkhart.
- Dental compressed air for instrumentation devices location. Provide (3 wire w/ground), single phase wiring per manufacturer's specifications. Provide 1/2" minimum I.D. copper air lines to termination locations as noted on plan. Provide 3/8" angle stop valves or 3-piece ball valves as required by local codes. Install wires to control panel
- location per mfg specifications. See (P) symbol. Notify Burkhart of voltage variance in building electrical supply. See Burkhart for details. Provide 2" intake to fresh air. Provide 110 volt dedicated circuit. This product draws \_\_\_\_ amps.
- Provide 220 volt 30 amp dedicated circuit. This product draws \_\_\_16\_\_ amps. Hardwire connection with disconnect.
- Provide receptacle. Verify finish configuration with Burkhart Dental. Provide ethernet data drop
- See manufacturer's templates provided by Burkhart.
- Central dental vacuum motor pump location.
  Provide (3 wire w/ground), single phase wiring per manufacturer's specifications. Provide waste drain to sewer. Provide under floor piping continuous to locations shown and size per plan and mfg. specs. Install wires to control panel location per mfg. specs. See 👝 symbol.
- Provide \_\_\_\_2" or \_\_\_\_3" exhaust to outside of building for exhaust of pump per mfg. specs., per NFPA. Notify Burkhart of voltage variance in building electrical supply.
- Provide \_\_\_\_ (quantity) cold water hook-up(s). Provide cold water location, 3/4" hose bib.
- Provide \_\_\_\_ 110 volt dedicated circuit(s). This product draws \_\_\_\_ amps.
- Provide \_\_1\_ 220 volt 20 amp dedicated circuit(s). This product draws \_\_15\_ amps. Hardwire connection with disconnect.
- Provide receptacle. Verify finish configuration with Burkhart Dental. Provide 120V dedicated outlet at 24" a.f.f. and within 4' of unit.
- This product draws 5 amps.
- ☐ Provide ethernet data drop Sewer drain to be \_\_\_\_ wall drain, \_\_\_\_ floor sink, \_\_\_\_ as dictated by building
- design and / or local codes. Exhaust piping to tolerate 180 degrees Fahrenheit.
- See manufacturer's templates provided by Burkhart.

SUGGESTED PIPING LAYOUT, SEE MFG SPECIFICATIONS, TYPICAL. Run 1/2" I.D. copper air line. Terminate all locations with 3/8" compression angle stop shut off valves or 3-piece ball valves as required by

> Terminate 1" above finished floor unless otherwise specified. Provide 24 hour leak test at 100 PSI with oilless clean air. Where indicated rough—in, cap lines for future use.

Dental vacuum lines. Use only schedule 40 PVC pipe (or copper) if required by local code. Slope 1/4" for every 10 feet of run toward pump location. Avoid 90 degree angles when possible. See termination schedule. Final hook up by plumber. Vacuum lines to run sub grade and to follow trench layout.

Indicates termination point.

PLUMBING TERMINATIONS FOR EQUIPMENT

REQUIRED BY SERVICE DEPARTMENT FOR DRY VACUUM SYSTEMS THIS FACILITY IS A CATEGORY 3 GAS AND VACUUM SYSTEMS CLINIC AS DESCRIBED IN

NFPA 99 2012 GUIDELINES, CHAPTER 5: GAS AND VACUUM SYSTEMS. Operatory -1-1/2" stub up in each operatory terminating in 3/4" female pipe thread

Pump -1-1/2" - 2" (VERIFY) female pipe thread Water -3/8" compression fitting (angle stop)

Compressed air for Instrumentation Devices Systems:

At compressor -1/2" female pipe thread In operatory -3/8" compression angle stop or 3-piece ball valves as required by local codes

PLUMBING INSTALLATION INSTRUCTIONS FOR CENTRAL OXYGEN AND NITROUS OXIDE PIPING SYSTEMS

ALL ASPECTS OF INSTALLATION AND STORAGE TO COMPLY WITH CURRENT CODES.

- THIS FACILITY IS A CATEGORY 3 GAS AND VACUUM SYSTEMS CLINIC AS DESCRIBED IN NFPA 99 2012 GUIDELINES, CHAPTER 5: GAS AND VACUUM SYSTEMS.
- . Plumber furnish and install the copper tubing. A: Use type "K" or "L"; Pre-cleaned, degreased, capped copper tubing.
- B. Use 1/2" O.D. tubing for oxygen lines.
- C. Use 3/8" O.D. tubing for nitrous oxide lines. D. Braze all joints.
- Fahrenheit. Do not use corrosive flux. E. Mark pipelines every 20 feet. Blue for nitrous oxide. Green for oxygen. F. Install quick connect boxes and tank room manifold supplied by dental dealer.
- 2. Test system for leaks.
- A. Use water pumped dry nitrogen.
- B. Fill system to 150 psi.
- C. Disconnect nitrogen tank. D. System should hold pressure for 24 hours. Allow + or - 5 psi for temperature
- 3. All piping must comply with local plumbing and fire regulations. Must be
- Medical Gas Certified Plumber.
- 4. All aspects of installation must comply with current codes.
- NITROUS GAS AND OXYGEN TANK STORAGE ROOM CONSTRUCTION AND VENTILATION FOR LEVEL 3 INSTALLATIONS ONLY. Provide 1—hour construction of closet. Natural ventilation is permitted if gas stored is
- under 3000 cubic feet. Provide two louvered openings, each having a minimum free area of 72 square inches, with one located within 1 foot of the floor and one located within 1 ft of the ceiling.

Louvered natural ventilation shall only be allow directly to the outside. Provide mechanical ventilation to all indoor locations.

> DO NOT SCALE FROM THESE DRAWINGS. USE CALLED-OUT DIMENSIONS ONLY.

All framing, bracing, door sizes, floor levels, cabinet heights, rest room and lunch room facilities (if any) and other design details should be modified to comply with latest Americans With Disabilities Act (A.D.A.) guidelines and similar State requirements. Architect or Contractor must submit plans to building and other local officials as necessary for compliance with all Federal, State and Local building codes, including A.D.A. guidelines, before commencing work. Notify Burkhart of any changes that would modify any dental treatment rooms and/or any dental cabinet layout.

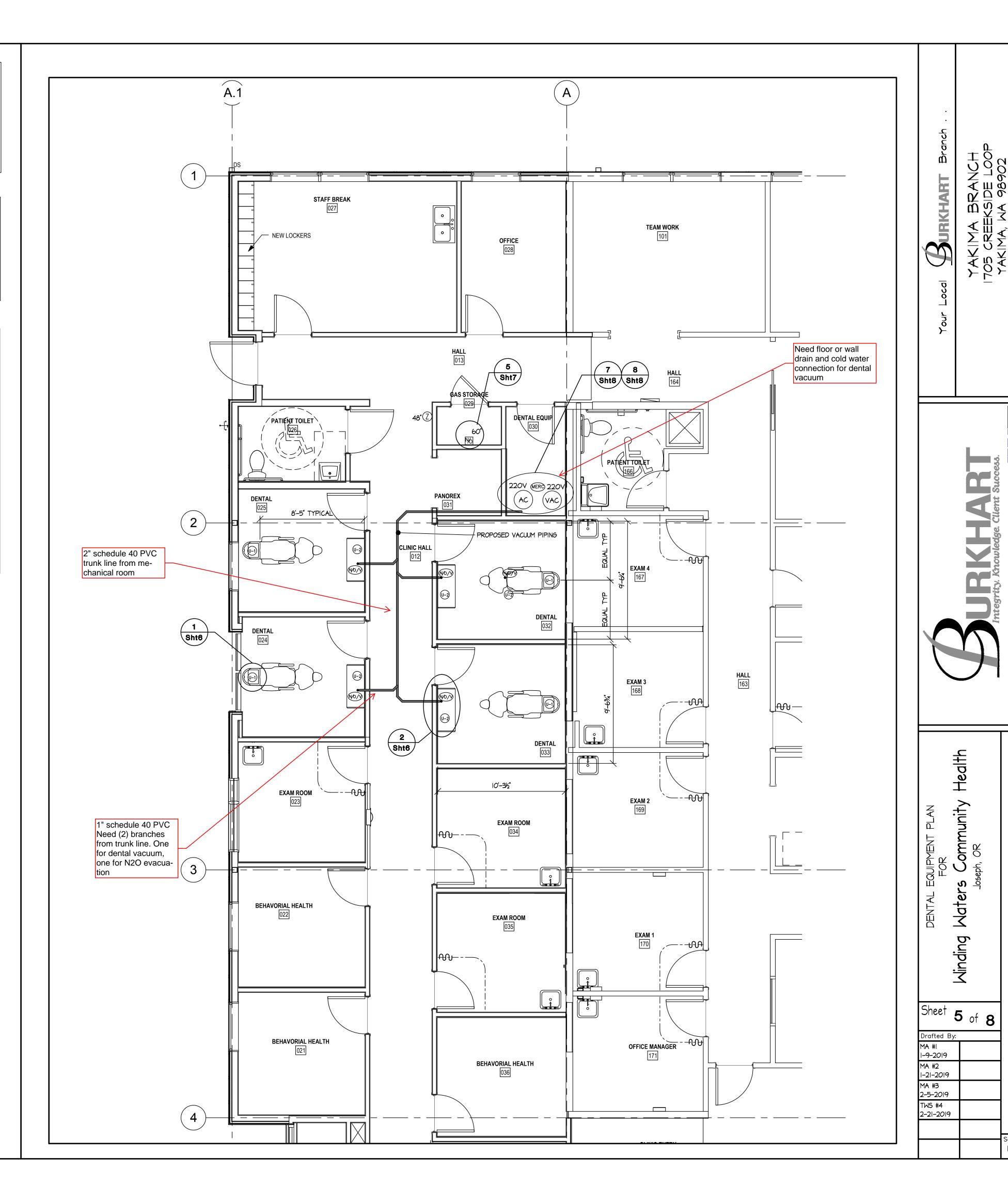
These plans are not meant to be a design for building—out an operatory but, instead, represent only a sample layout; a similar layout of the equipment in a dentist's facilities will not necessarily be compatible with the A.D.A. or other applicable law or code. The manufacturers and Burkhart are not Architects or Engineers; the manufacturers and Burkhart do not warrant or represent that the the plans are in compliance with the A.D.A. or other applicable law or code. The dentist should consult their Architects prior to installing the equipment to ensure compliance with the A.D.A. or other applicable law or code.

The Contractor should furnish all electrical, plumbing, and structural require ments listed, as this is necessary before the dental equipment can be installed. The tenant, or Burkhart, will furnish the dental equipment. Check all measure ments with the actual building dimensions, or Architect's plans. The specifications shown on this plan have <u>not</u> been checked for compliance with Federal, State or Local building codes and regulations.

Listed requirements show only the services, connections and fixtures required for the dental office equipment shown; and these drawings do not provide for the electrical, mechanical and structural requirements for the building or office as a whole.

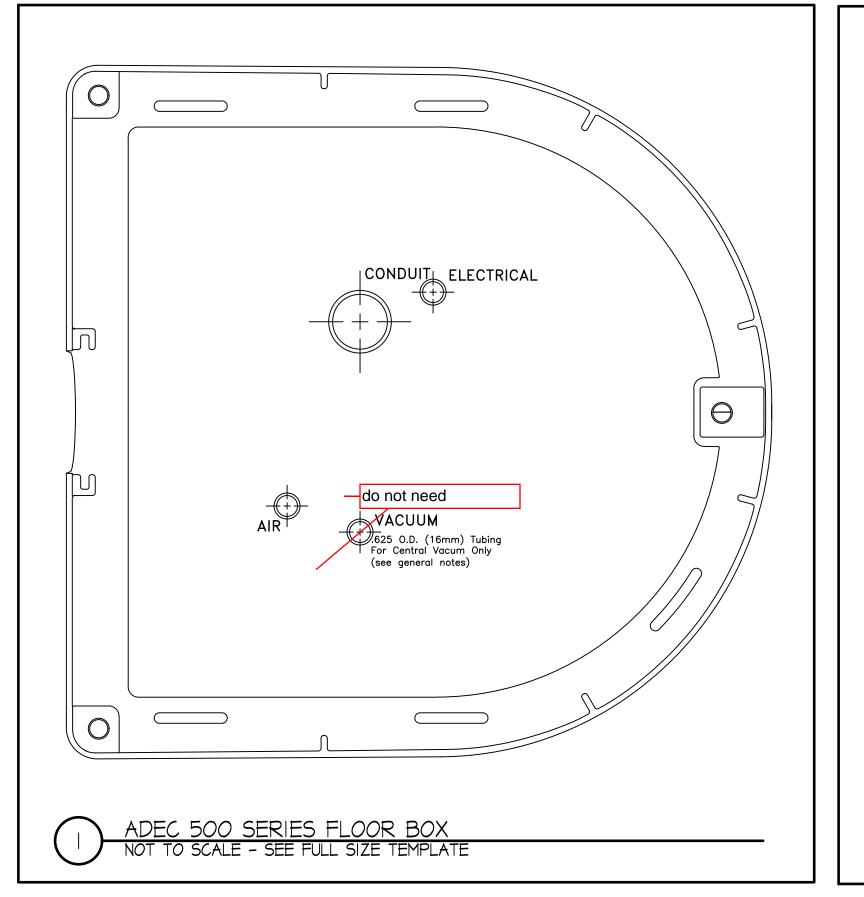
See Mechanical Specification and Detail Sheets for further information.

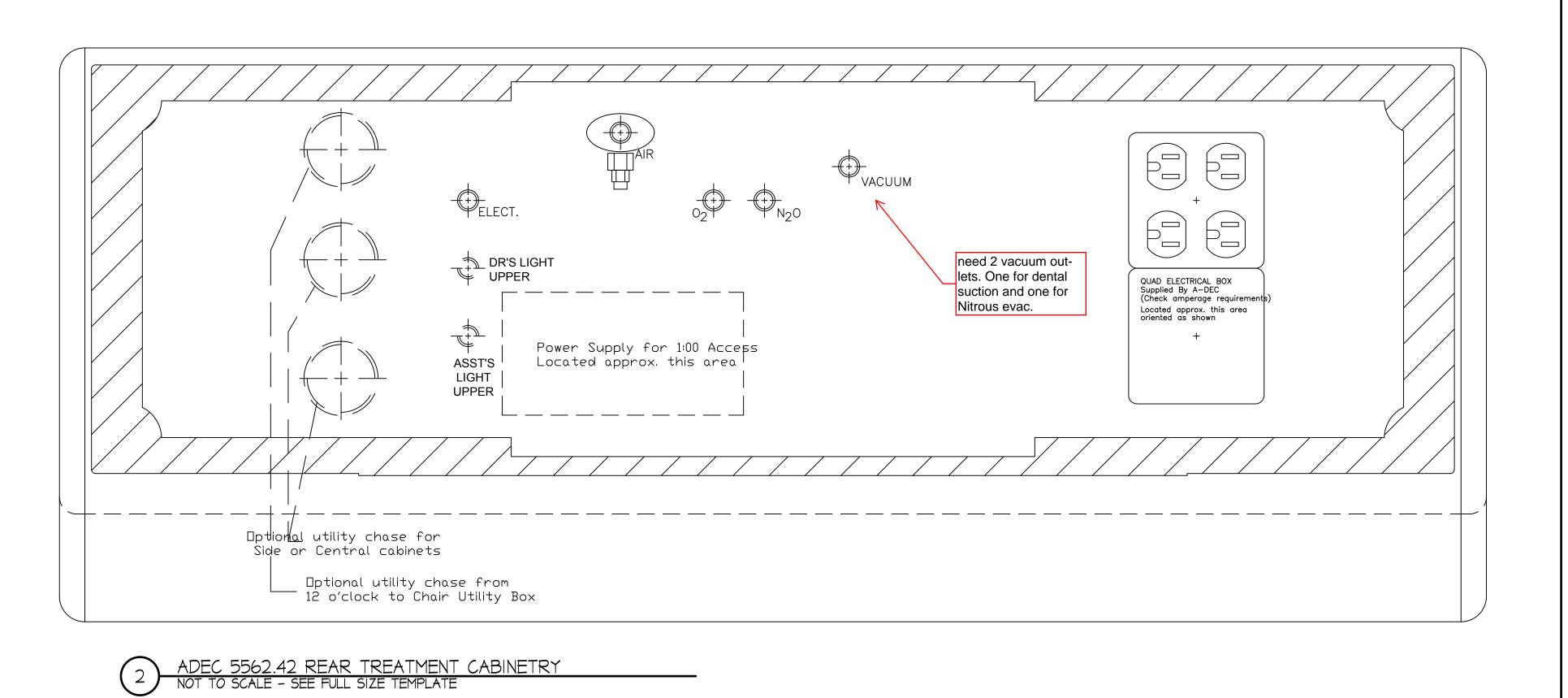
THIS IS A SUGGESTED PLAN WITH SPECIFICATIONS FOR THE DENTAL EQUIPMENT ONLY.



4

1/4"=1'-0"





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These plans are not meant to be a design for building—out an operatory but, instead, represent only a sample layout; a similar layout of the equipment in a dentist's facilities will not necessarily be compatible with the A.D.A. or other applicable law or code. The manufacturers and Burkhart are not Architects or Engineers; the manufacturers and Burkhart do not warrant or represent that the the plans are in compliance with the A.D.A. or other applicable law or code. The dentist should consult their Architects prior to installing the equipment to ensure compliance with the A.D.A. or other applicable law or code.

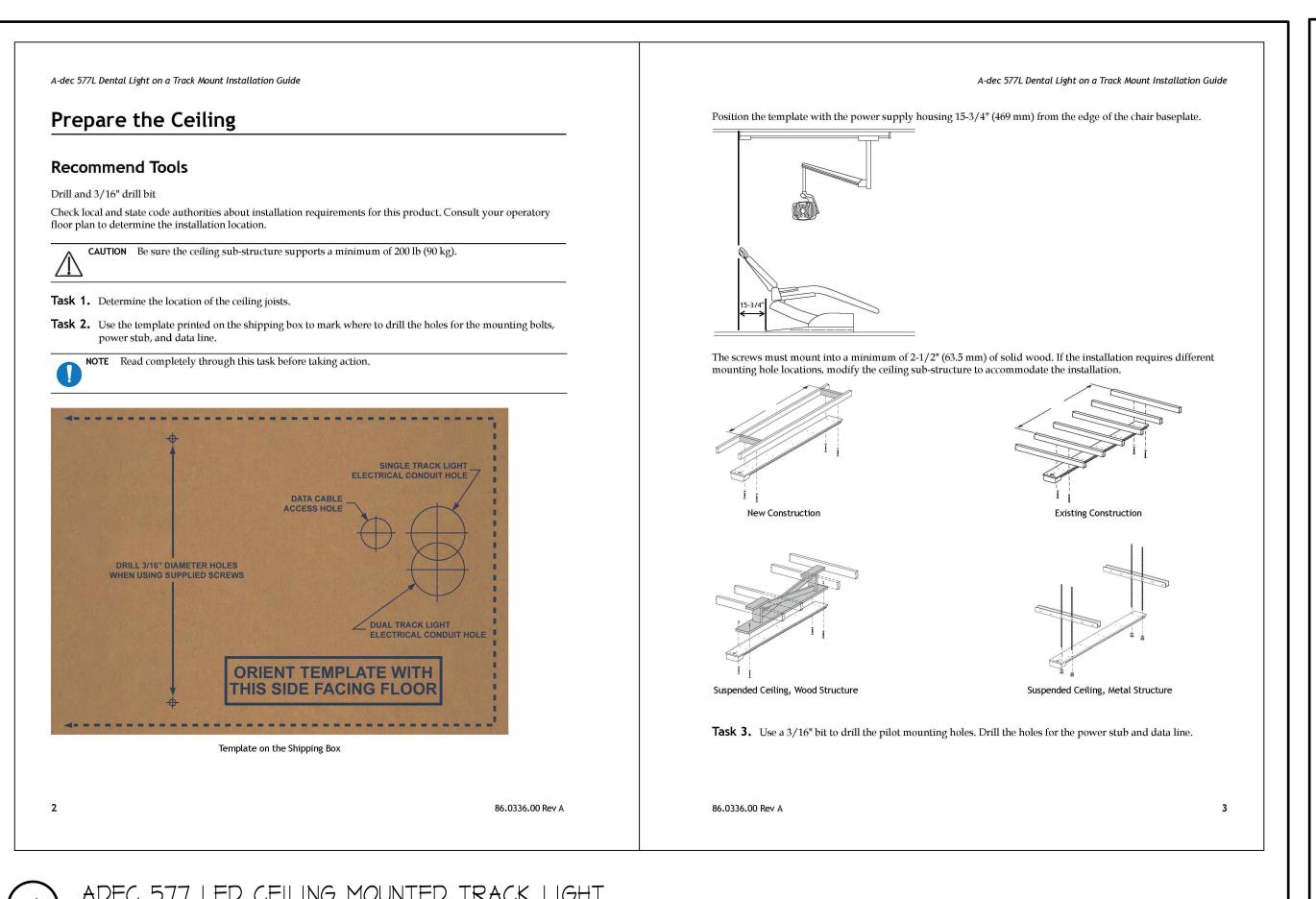
The Contractor should furnish all electrical, plumbing, and structural require ments listed, as this is necessary before the dental equipment can be installed. The tenant, or Burkhart, will furnish the dental equipment. Check all measure ments with the actual building dimensions, or Architect's plans. The specifications shown on this plan have <u>not</u> been checked for compliance with Federal, State or Local building codes and regulations.

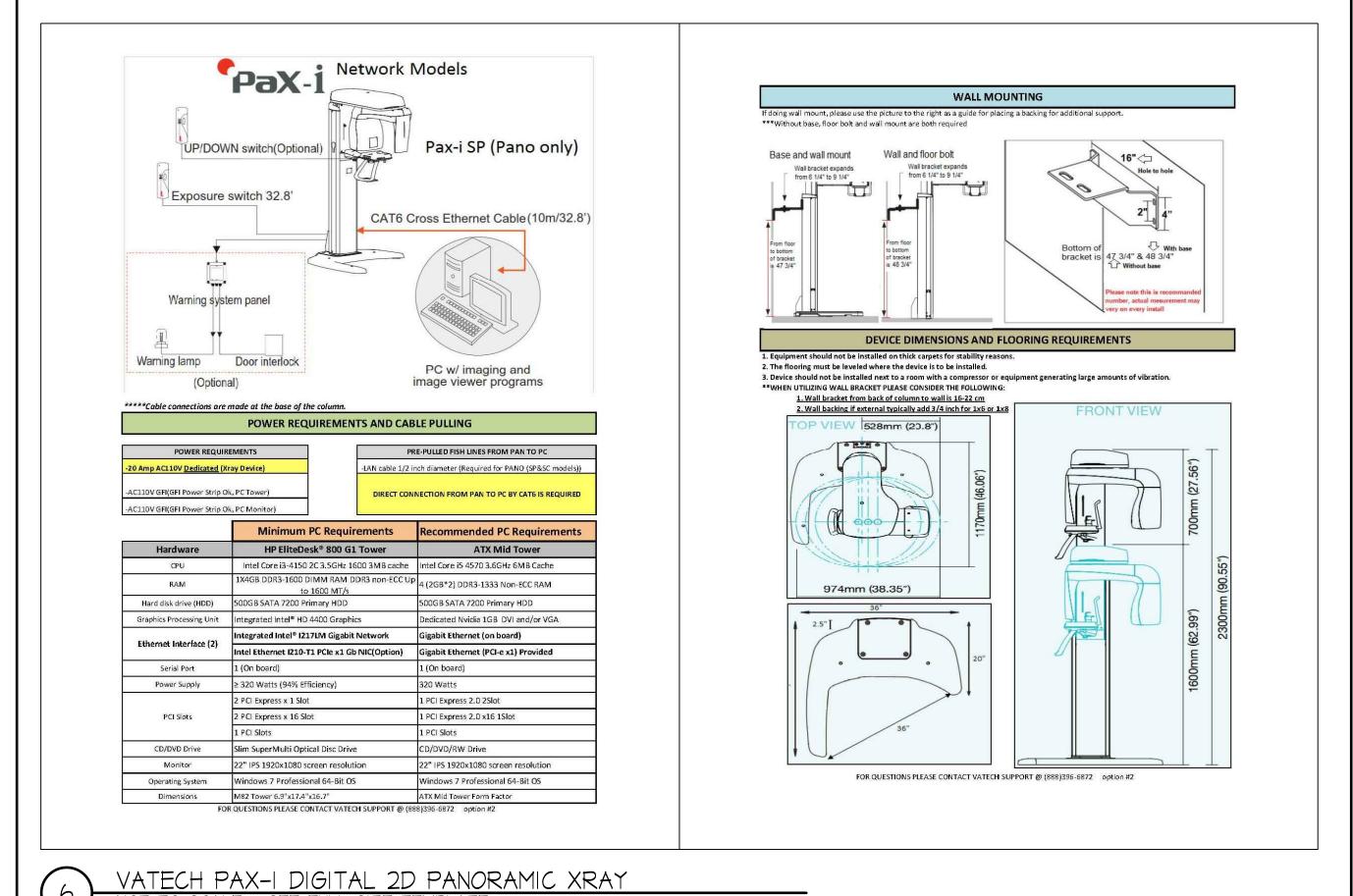
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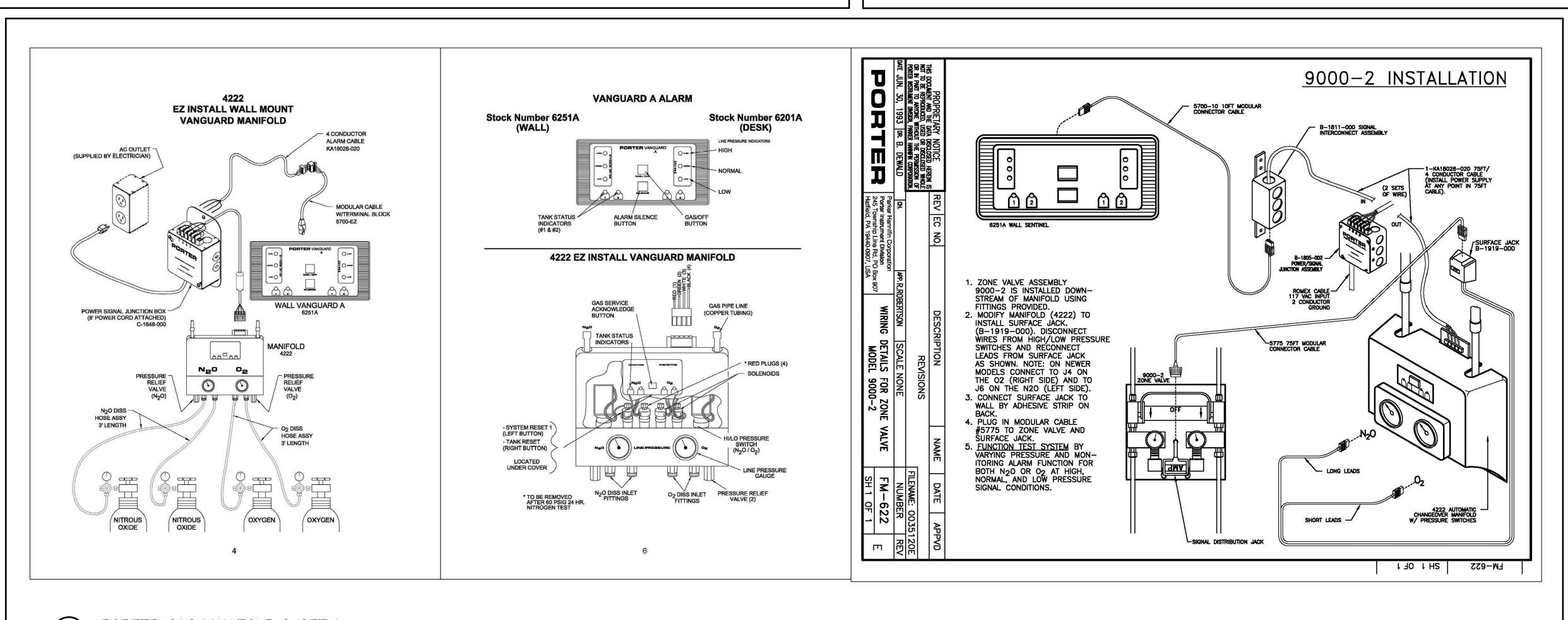
See Mechanical Specification and Detail Sheets for further information. THIS IS A SUGGESTED PLAN WITH SPECIFICATIONS FOR THE DENTAL EQUIPMENT ONLY.

Winding

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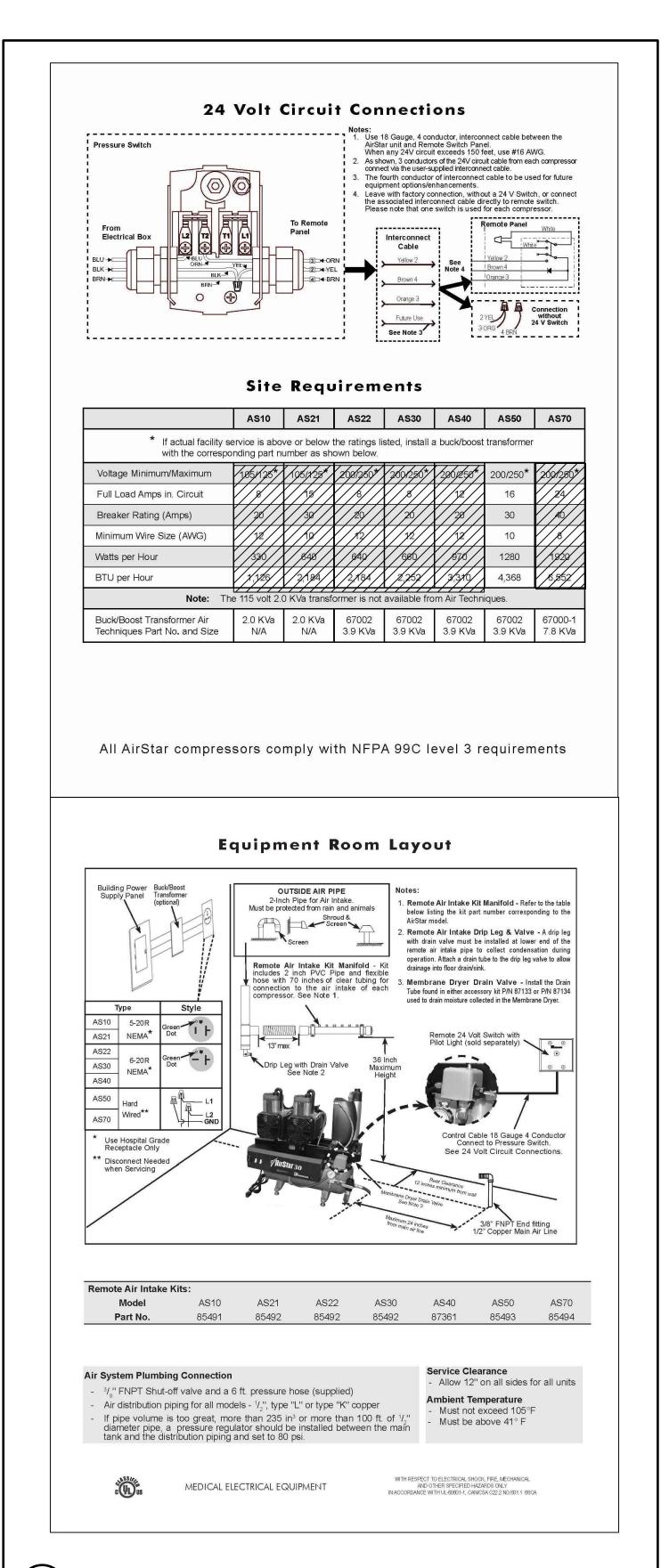


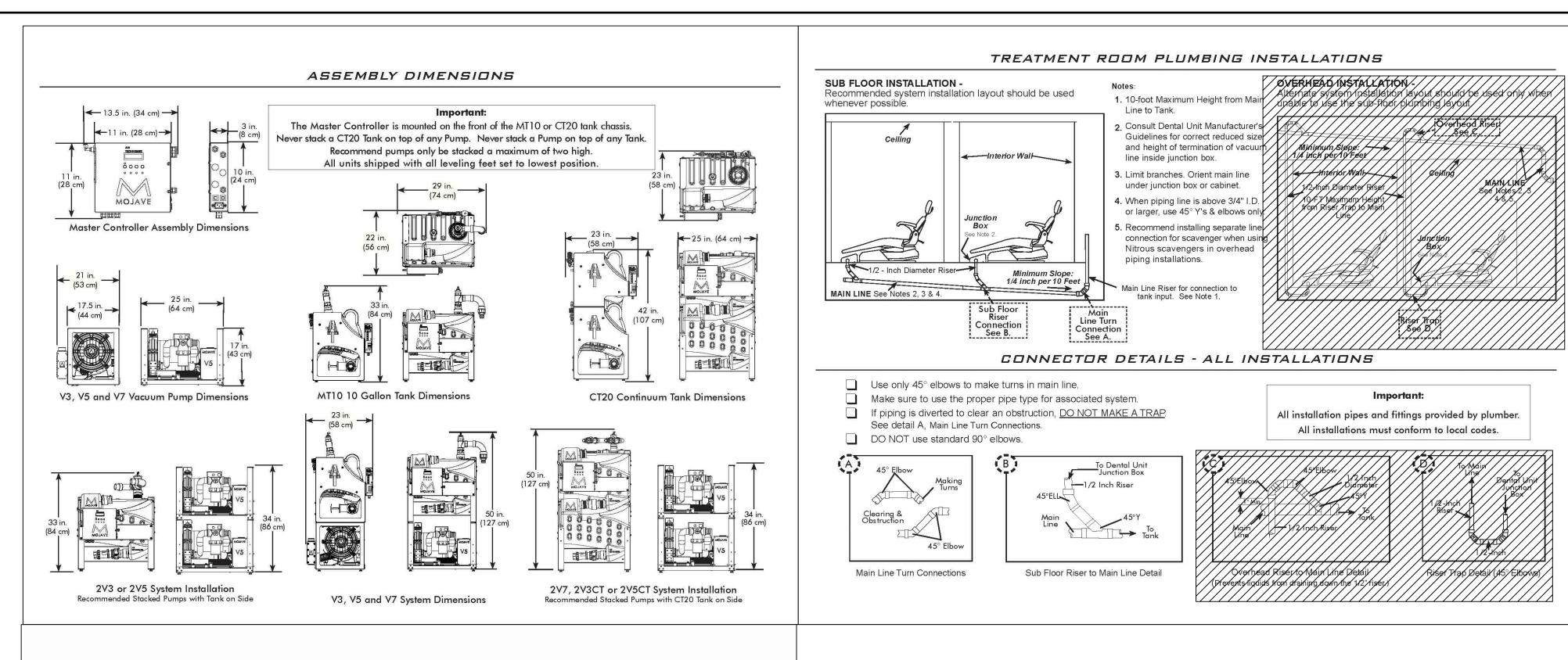


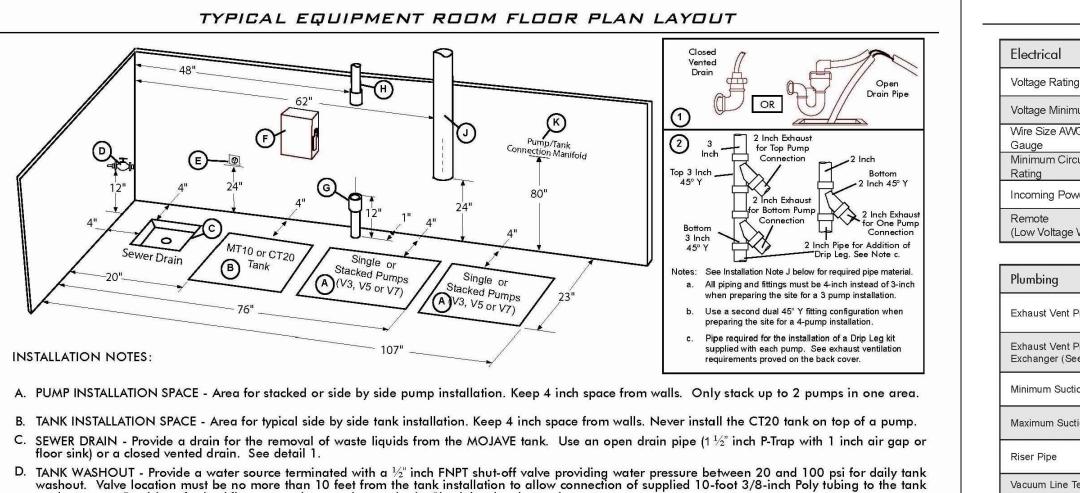
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PORTER GAS MANIFOLD SYSTEM







- washout port. Provisions for backflow prevention may be required. Check local code requirements. MASTER CONTROLLER ELECTRIC OUTLET - Master Controller requires a dedicated standalone 120V, 5 AMP grounded receptacle.
- F. PUMP ELECTRIC SERVICE Each Mojave pump is wired directly with a dedicated 220V, 20 AMP, single phase 60 Hz circuit. If Main Circuit panel is not located in equipment room, a disconnect box with approved ground is needed for each pump. Disconnect boxes should be mounted no more than 3 feet of each other and 3 feet of installation center line.
- G. SUB FLOOR INSTALLATION VACUUM LINE See Plumbing Requirements for connection to tank input via supplied hose. H. OVERHEAD INSTALLATION VACUUM LINE - See Plumbing Requirements for connection to tank input via supplied hose.
- J. HEAT EXHAUST See Plumbing Requirements for the exhaust vent line required for specific Mojave configurations. Use metal pipe on systems whenever the Heat Exchanger is removed. Schedule 40 pipe can normally be used on typical Mojave configuration installations with a Heat Exchanger. When installing two
- pumps, a reducing Y adapter (shown by detail 2 above) is needed to connect both vent tubes to a common 3-inch exhaust vent line.

# SITE REQUIREMENTS

Electrical	V3 & V5	V7	2V3 & 2V3CT	2V5 & 2V5CT	2V7	3V5	4V5	Master Controller
Voltage Rating Volts AC	All pumps 220 Volts Single Phase AC, 60 Hz							
Voltage Minimum/Maximum	205/240 Volts AC All pumps							
Wire Size AWG Minimum Gauge	#12 AWG (Qty 1)	#10 XVG/ / Øty 1/	# 12 KMG///	//#12/N/3/// ///////////////////////////////	#10 KVXG/	/#X2AXVB /XX/SY/	#12 AXVG//	#14 AWG
Minimum Circuit Breaker Rating	20A	1/24//	//2×/2×/2//	/ /2/4/4/2V		24 (4 X)	/294/3ky/4y/	15A
Incoming Power		Н	ard wire Connection (E	ach pump is supplied a	6 foot BX cal	ole)		NEMA 5-15R for 120V (Supplied 10-ft. line cord)
Remote (Low Voltage Wiring)		#18 AWG (0	Qty 4) Wire Connection	between the MMC and	the Remote S	witch Panel . (Se	ee Figure 14, page	26.)

Plumbing	V3	V5	<b>V</b> 7	2V3 & 2V3CT	2V5 & 2V5CT	2V7	3V5	4V5		
Exhaust Vent Pipe Using Heat Exchanger	2 PVg 8cp. 40	2" PVC Sch. 40	12° 15 VC 15° N. 140/	/ohe/37/05/kwo /27/20/25ch.40/	100	0ne/3"/or/wo 2" #VC/5ch.40/	One A of three 2" PVC Sch. AO	7wg 37 or four 27 PXI ( Seh/4g		
Exhaust Vent Pipe Not Using Heat Exchanger (See note 1)	2" Metal Pipe	2" Metal Pipe	2 Metal Pipe	Øne 37 of two 2 Meral Pipe	Ogle 2" or Xwg 2" Nijetal Dipa	Øne 37 or two 2" Metal Pipe	One 47 or three 2" Metal Pipe	Two 3" of four 2" Metal Pipa		
Minimum Suction Line Pipe	1" PYC Sph, 49	1 ½" PVC Sch. 40	27 5/19 5/ch/. 4/0	1/1/ DVQ Sph. 49	2	3" PYC Sph ,49	37 PN 2 Sch. 48	37 PN 9 34 PN 49		
Maximum Suction Line Pipe (See note 2)	1/// DX() 5/K. JK()	2" PVC Sch. 40	2 /2 7 VC   Sch/48	2° \$16 50 x x x	12 12 12 15 12 15 14 14 1	4" #YC 85H. #0	47 PX C   Sen 49	47 PX (5)   Sph / 49		
Riser Pipe	12 18 VC 25 VK. 960	½" PVC Sch. 40	/// ÞX 5/ Søn 49/	12 pt 15 25 pt 16		12 pt 10 20 pt 10	/?/PXC /Sph.,49			
Vacuum Line Termination	////www.	1 ½" FNPT	Z Fyr T	23/ FM P4	# * Y Y Y / /	27 FMP4	274	// <i>2</i> /7/9 <sup>2</sup> 7//		
Branch Line Pipe	Line Pipe  Size requirement of Branch piping differs by the number of operatories being serviced.  Up to two operatories use 1" PVC Schedule 40.  Three to six operatories use 1 ½" PVC Schedule 40.  More that six operatories use 2" PVC Schedule 40									
Drain Line Pipe	1 ½" PVC Schedule 40									
Wash-Out Water Line	½" FNPT Shut-off Valve									

Recommended for all new installations.

2. Use maximum internal diameter for the main line when preparing any new installation.

AIR TECHNIQUES DRY VACUUM SYSTEM MOJAVE V5 NOT TO SCALE - SEE FULL SIZE TEMPLATE

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K. PUMP/TANK MANIFOLD - User fabricated to connect 3 or 4 pumps to a tank. Used with 3V5 and 4V5 systems. See Pump/Tank Connection Manifold.