

Request for Proposals (RFP): RFP # SCF20-1045 Title: Fireweed Building Dental Remodel RFP Release Date: October 7, 2019

SCF Contracts Department 7033 East Tudor Road Anchorage, AK 99507

Point of Contact, Will Hartman: Phone: 907-729-6734 E-Mail: SCFContracts@southcentralfoundation.com

Important Notice: You must register with the *SCF Contact Person* at the below link. Please include the RFP number and title as well as contact information with your registration. Failure to register with the *SCF Contact Person* may result in the rejection of your Proposal.

SCFContracts@southcentralfoundation.com

Revision History

Date	Revision Number	Revision Details	Revised By



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Section 1, Background and History

1.1 SCF History

Southcentral Foundation (SCF) is an Alaska Native-owned, nonprofit health care organization serving nearly 65,000 Alaska Native and American Indian people living in Anchorage, Matanuska-Susitna Valley and 60 rural villages in the Anchorage Service Unit. Incorporated in 1982 under the tribal authority of Cook Inlet Region, Inc. (CIRI), SCF is the largest of the CIRI nonprofits, employing more than 2,000 people in more than 80 programs.

1.2 Vision and Mission Statement

SCF's vision is a Native Community that enjoys physical, mental, emotional and spiritual wellness; its mission is to work together with the Native Community to achieve wellness through health and related services. The organization has developed and implemented comprehensive health-related services to meet the changing needs of the Native Community enhance culture and empower individuals and families to take charge of their lives.



Section 2, General Information

2.1 Purpose of the Request for Proposal (RFP)

SCF is soliciting detailed proposals from contractors or companies interested in providing professional services for the renovation of the SCF Fireweed Building Dental facility located at 4341 Tudor Center Drive, Suite 100, Anchorage, Alaska 99508.

A Scope of Work including construction documents and specifications for services to be performed is located in Exhibit A.

2.2 Contract Period

SCF intends to establish a contract for the construction to begin November 18, 2019 with a contract performance period of not more than (1) one year.

2.3 Bidder Registration

- You must register with the SCF Contact Person by clicking on the link posted at the bottom of the Title Page (1st page). Include the RFP Number and title in your email when you register. Failure to register with the SCF Contact Person may result in the rejection of your Proposal.
- Please visit the website frequently during the RPF process for up-to-date information, including revised RFPs, changes to the schedule, notices, and comment responses, etc. SCF will not be providing updated information via email.
- Please include all of your contact information when registering.

2.4 SCF Contact Person

Any information required or questions regarding this RFP should be addressed and/or delivered to:

SCF Contracts Department

7033 East Tudor Road Anchorage, AK 99507 Attention: Will Hartman Email: SCFContracts@southcentralfoundation.com Phone: 907-729-6734



Section 3, Request for Proposal Details

3.1 RFP Schedule

This RFP will follow the schedule in the Table 2, RFP Schedule below; SCF reserves the right to modify this schedule.

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RFP Release Date	October 7, 2019
Site Visit	October 15, 2019 at 8:30am or as communicated to registered Bidders
Deadline to Submit Additional Questions	October 18, 2019 by 3:00pm
Issue Responses to Additional Questions	October 25, 2019 by 5:00pm
Proposal Due Date	November 5, 2019 by 3:00pm
Notice of Award	November 12, 2019 by 5:00pm
Service Start Date	November 18, 2019

Table 2, RFP Schedule

3.2 Deadline for Receipt of Proposals

Proposals must be delivered in sealed envelopes and received no later than the proposal due date and time. Envelopes must be clearly marked as indicated below. Bidders are fully responsible for timely delivery of proposals. Any proposal received after the stated closing time will be returned unopened. If proposals are sent by mail, the Bidder is responsible for assuring actual delivery of the proposal to the address referenced in the General Information, Section 2.4 before the advertised date and hour located in Section 3.1. In an effort to not mistakenly open these proposals early, either the outer or inner envelope should also contain the following:

Confidential:	Do Not Open Until Posted Due Date
Proposal For:	SCF20-1045, SCF Fireweed Building Dental Remodel
Attn:	SCF Contracts Department

3.3 Other Licenses and Registrations Requirements

All Bidders must have a valid Alaska Business License prior to award of contract.

All Bidders are required to hold all necessary applicable professional licenses and registrations required by Federal, State, Municipality or Borough law and proof of such will be submitted with each proposal. Obtaining and ensuring compliance to all licensing and registering requirements is the responsibility of the Bidder.

3.4 Conflict of Interest and Restrictions

If Bidder, Bidder's employee, subcontractor, or any individual providing services under contract to SCF has a possible conflict of interest affecting the objectivity, analysis, and/or performance under contract, the Bidder is required to submit details in writing to SCF within (10) ten days of issuance of this RFP: SCF will determine if the conflict is significant and material and if so, may notify the Bidder in writing of elimination from the RFP process.

3.5 Addendum to the RFP and Right to Award

SCF reserves the right to issue a written addendums to revise or clarify the RFP, respond to questions, and/or extend or shorten the due date of the proposals.

SCF reserves the right to not award or cancel the award of the contract to a Bidder who will not agree to all of the provisions and terms and conditions as contained within this RFP.



3.6 Pre-Bid Meeting and Site Visits

The date and time of any pre-bid meeting and site visit will be communicated to and with coordinated to registered Bidders.

3.7 Cancellation of the RFP

SCF retains the right to cancel the RFP process if it is in SCF's best interest. SCF will not be responsible for costs incurred by Bidders for proposal preparation.

3.8 Contract Negotiations

This RFP does not obligate SCF or the selected Bidder until a contract is signed and approved by both parties. Upon completion of the evaluation process, contract negotiations may commence. If the selected Bidder fails to provide necessary information for negotiations in a timely manner and/or, negotiate in good faith, SCF may terminate the award of the contract. SCF will not be responsible for costs incurred by the Bidder resulting from contract negotiations.

SCF reserves the right to include additional terms and conditions during contract negotiations. However, these terms and conditions must be within the scope of the original RFP and will be limited to price, clarification, definition, administrative, and legal requirements.

3.9 Performance Bonds and Surety Deposits

SCF reserves the right to require a performance bond or surety deposit to ensure the Bidder's performance of all contract terms and conditions.



Section 4, Instructions for Bidders

4.1 Bidder's Review and Substantive Questions

Bidders should carefully review this RFP and the construction drawings dated October 7, 2019 for errors, questionable or objectionable materials, and items requiring clarification Bidders may submit these comments and/or questions in writing to SCF's contact person as directed in Section 3.1 of this RFP. This will allow time for written response, clarification, or an addendum to the RFP to be issued, if required, to all bidders.

Bidders may not rely upon verbal responses made by any SCF employees or any representatives of SCF except for the SCF Contract Specialist or their designee.

Bidders making contact with any other SCF employee regarding this RFP may be disqualified. Bidders have no claim against SCF for failure to obtain information made available by SCF and are solely responsible for conducting their own research, due diligence, or other work necessary for the preparation of proposals, negotiation of agreements, or delivery of services pursuant to any agreement.

4.2 Filing a Protest

A Bidder may protest the award of a contract or the proposed award of a contract. The protest must be filed in writing, addressed to the SCF Contact Person, and include the following information:

- The name, address, and telephone number of the protester;
- Signature of the protester or the protester's representative;
- Identification of the RFP;
- Detailed statement of the legal and factual grounds of the protest, including copies of relevant documents; and
- Form of relief requested.

Protests must be submitted to SCF Purchasing Agent within (5) five business days of Notice of Award date, as provided in Section 3.1 of this RFP. Only bidders that submitted a valid proposal may file a protest.

4.3 Proposal Content

- A. SCF requests Bidders submit (1) one proposal consisting of Bidder's detailed plan for professional services.
- B. The proposal must be addressed with a scope of work and compensation provided, as required by Section 5.1 (see details for requirements of Bid Section 6).
- C. Bidders may not bid on more than (1) one request.

4.4 Other RFP or Proposal Requirements

- A. A proposal's content will not be disclosed to other Bidders.
- B. All proposals and other material submitted become the property of SCF.
- C. SCF assumes no responsibility or liability for the transmission, delay, or delivery of proposals by either public or private carriers.
- D. SCF discourages excessive or costly proposals. All costs incurred by Bidders in preparing and submitting a proposal are the Bidder's responsibility and shall not be charged to SCF or reflected as an expense of the resulting contract.
- E. It is the responsibility of the Bidder to indicate within their proposal the applicability and compliance of any other federal, state, municipal, or other governmental statutes, regulations, ordinances, acts, and/or requirements.
- F. If all bids are over SCF's allotted budget for the project; SCF reserves the right to reduce the scope of the project as needed to fit the budget.
- G. In the event that only one bid is received, SCF reserves the right to restructure the bid and/or extend the due date of proposals.



Only qualified firms as determined by the evaluation committee shall be considered for evaluation. Bidders shall have successfully completed a minimum of three (3) construction and renovation projects with a cost of \$500,000 or more and of a relevant nature and scope within the last 10 years.

For a submitted project to be considered "relevant": Relevancy of key projects will be evaluated in terms of: depth of involvement, construction project complexity, and customer (of equal importance).

- **Depth of involvement:** A Bidder that has been directly involved in a greater number of critical disciplines on the project will be considered more relevant than if the firm has been involved in fewer critical disciplines in the project.
- **Project Complexity:** Large, complex projects will be more relevant than smaller, less complex projects. Projects involving the design of new facilities will be considered more relevant than the design of additions, alterations, renovations of existing facilities, studies, or analysis.
- **Customer:** Healthcare facilities projects, specifically dental facility projects, will be considered more relevant than private sector or municipal projects.

4.5 Proposal Withdrawal and Correction

A proposal may be corrected or withdrawn by a written request received prior to the date and time of proposals being due.



Section 5, Format for Proposals

5.1 Proposal Content and Format

The proposals should be compiled in a profession manner, such as in a binder with tabs separating sections, printed on both sides of the paper when possible, and organized in accordance with this section.

Bidders are required to submit (2) two hardcopies and (1) one electronic copy of their proposal.

Bid Section 1, Title Page

The title page should be on Bidder letterhead. It should contain the name and identification number of this RFP and identify the name, title, company, mailing address, phone numbers and email address of the person(s) authorized to commit the Bidder to contractual arrangement with SCF. This person(s) will be the Bidder's authorized contact for all communication. Bidder may also identify an alternate contact person in case the authorized contact is unavailable.

Bid Section 2, Table of Contents

The proposal will have a table of contents with page numbers and pages numbered throughout the proposal.

Bid Section 3, Introduction

Brief introductions include the following:

- A. The Bidder's name and address.
- B. A statement indicating that all information in the proposal is accurate, truthful, and factual; certifying that personnel and resources proposed will be made available to fulfill duties and obligations of the contract, if awarded.
- C. State the proposal and submitted prices shall be valid for at least (45) forty-five days from proposal submission deadline until any awarded contract is established and signed.

Bid Section 4, Qualifications

Qualifications may include the following but are not limited to:

- A. Provide statements of qualifications addressing ability to provide construction and renovation services being proposed. Statements may include, but are not limited to:
 - Provide statements of qualifications addressing ability to provide construction and renovation services being proposed. For each project, list the project name, project scope, construction budget, construction period, delivery method, the role Bidder's firm played in the project, the owner's name, owner contact and current phone number, Architect/Engineer (A/E) firm, A/E contact and current phone number.
 - Previous or current experience involving renovation projects of similar size and nature involving healthcare facilities completed within the last 10 years. Bidder must have successfully completed a minimum of three (3) projects of similar size and nature to be considered.
 - Provide a detailed statement regarding the experience of the Project Manager, Superintendent and any other key personnel providing services under this RFP.
 - Length of time employees have been employed by the Bidder, and any special qualifications employees may have.
 - If applicable, length of time Bidder has been providing services to SCF and/or other Government agencies and private industry healthcare facilities.
- B. Provide (3) three references to include work completed, contact information (name, email and phone number), and period of contract.
- C. Alaska Native/American Indian (AN/AI) owned company or AN/AI hiring preference.

Bid Section 5, License / Insurance Requirements



Insurance requirements include the following:

- A. Business license or any other licenses and/or registrations as required by this RFP.
- B. Insurance certificate, include proof of insurance to cover products in transit and during storage.
- C. Proof of professional licenses, as applicable or required by law.

Bid Section 6, Compensation and Scope of Work

A. Bidder's scope of work should address the following requirements as applicable to the nature of the location.

a. Personnel, Equipment, and Supplies

Contractor is required to supply all personnel, equipment, machinery, and all other implements necessary to execute and fulfill the duties of this contract.

b. Schedule

The project will be completed in phases to minimize disruptions to the program, Contractor to provide a draft schedule.

c. Other

Contractor to acquire all required inspections, certificates of occupancy, etc.



Section 6, Selection Process

6.1 RFP Compliance

Prior to evaluation, each proposal will be reviewed to determine whether or not it is compliant with RFP requirements. Noncompliant proposals will not be evaluated. Factors that may result in a proposal being declared noncompliant are:

- a. Not providing evidence of meeting minimum requirements.
- b. Substantial and material conflicts of interest that were not declared.
- c. Substantial and material noncompliance to requirements of RFP section on format for proposals.
- d. Insufficient information regarding scope of work or compensation.

6.2 Evaluation Process

An evaluation committee consisting of (3) three or more qualified individuals will independently evaluate proposal compliance and content. Bid evaluation will be based on Table 3 criteria and point values and will be documented by recording a final score.

	Evaluation Criteria	Point Value	Details
1	Price Proposal	95	 Evaluation of pricing provided for in Bidder's proposal, as provided in Exhibit B, Cost Proposal Schedule. Bidders with the lowest price will receive a maximum of 95 points available. Other Bidders will receive a calculated number of points less than the maximum of 95 points, based on their bids comparison to Bidder with lowest price.
2	AN / AI Preference	5	Evaluation of Bidder's AN / AI Qualifications.
	Total Point Value - 100	i	

6.3 Evaluation Criteria and Point Value

Table 3, Evaluation Criteria and Point Value

6.4 Discussions

As determined by the evaluation process, Bidders may be offered the opportunity to discuss their proposal with appropriate SCF personnel or evaluation committee and the proposal may be adjusted as a result of that discussion. Bidders may also be allowed to submit a best and final proposal as a result of any discussion.

6.5 Presentations

SCF reserves the right to require a verbal presentation of their proposal. If presentation is requested, Bidders will be notified in writing of the request, date, time, location, and amount of time allowed for the presentation and/or questions and answer period. Time frames will be strictly enforced.

The entire evaluation committee will be present for oral presentations. All costs associated with a verbal presentation will be the Bidder's responsibility.

6.6 Notice of Award

A notice of contract award or non-award will be provided to all Bidders.



Section 7, Standard Contract Terms

7.1 Introduction

SCF is providing the following provisions as a consideration for Bidders to review in advance of a submitted proposal. These and other standard provisions will be presented to a successful Bidder at the time of contract award. SCF intends to request successful Bidder prepare an AIA Document A105-2017, AIA Document A141-2004, or similar contract and agree to include SCF's specific provisions in Addendum format. Terms that may be included in that Addendum are as provided in this Section 7; the Addendum may include these or other terms as required by SCF.

7.2 Compensation

- A. Change orders and work orders may be approved by SCF at reasonable and agreed upon costs.
- B. Additional services performed by the Contractor that are not specifically provided for in an Agreement will be not compensated; nor may the Contractor perform any services not covered by the Agreement unless the services are specifically approved in writing by the SCF Project Manager or another authorized SCF agent.
- C. All invoices should include a brief description of the work completed (e.g. dates, number of hours, location services performed, applicable SCF program, SCF account line item number). Invoices shall be submitted with the SCF Contract Number.
- D. Contractor must submit monthly invoices to SCF via email to scfappillar@scf.cc or mail Southcentral Foundation, ATTN: Accounts Payable, 7033 E. Tudor Rd., Anchorage, AK 99507.
- E. Payment is due (30) thirty days after receipt of an invoice by SCF.

7.3 Termination

Either Party may terminate an Agreement, in whole or in part, for cause, at any time by written notice of the terminating Party to the other Party. Either Party may terminate an Agreement, in whole or in part, without cause, by a (30) thirty day written notice of the terminating Party to the other Party. Notice of termination will be sent by certified mail. If hand delivered, then the delivery of the notice of the termination will be evidenced by a signed and dated receipt. The obligation to pay monies due under an Agreement for services provided prior to the termination if any, will survive termination.

7.4 Status of Independent Contractor

The Parties intend that Contractor must provide the work described in an Agreement as an independent contractor. As an independent Contractor, Contractor is not an employee of SCF. Therefore, payments made to Contractor by SCF will not be eligible for unemployment compensation or other similar benefits. Contractor is responsible for paying all employment, income and any other taxes with respect to such payments. Neither Contractor nor any Party employed by the Contractor will be deemed for any purpose to be an employee, agent, servant or representative of SCF. Furthermore, Contractor shall not assert in any legal proceedings arising out of this Agreement that Contractor or any Party employed by Contractor is an employee or loaned servant of SCF.

7.5 Insurance Requirements

Contractor shall purchase and maintain in force at all times during the performance of services under an Agreement the following policies of insurance, unless expressly waived below by SCF in writing. Where specific limits are shown, it is understood they will be the minimum acceptable limits. If the Contractor's policy contains higher limits, SCF will be entitled coverage to the extent of such higher limits. Certificates of Insurance and the attachments of Additional Insured Endorsements and Transfer of the Waiver of Rights Endorsements must be furnished to the SCF Contract Administrator prior to beginning work. Failure to furnish satisfactory evidence of insurance or lapse of the policy is a material breach and grounds for termination of the Contractor's services.



- 1. *Commercial General Liability Insurance:* Contractor shall provide Commercial General Liability Insurance with coverage limits not less than \$1,000,000 Combined Single Limit for Bodily Injury and Property Damage per occurrence and \$2,000,000 Combined Single Limit of Bodily Injury and Property Damage Aggregate. Coverage is to be on a standard ISO version commercial general liability policy form, or its equivalent, providing coverage for premises-operations liability, products-completed operations liability, personal and advertising injury liability, and contractual liability including independent contractors.
- 2. Workers' Compensation Insurance: The Contractor must maintain Workers Compensation and Employers Liability Insurance for his own employees in the amount required under Statutory Limits for those states in which employees are working and Employers Liability Insurance as required by state and federal statutes. The employer's Liability Insurance shall not be less than \$1,000,000 per bodily Injury per accident, \$1,000,000 bodily injury by disease per employee and \$1,000,000 bodily injury by disease policy limit. The Contractor will also be responsible for insuring that any subcontractors who directly or indirectly provide services under this contract maintain Workers' Compensation Insurance in the amount required under Statutory Limits.
- 3. *Professional Liability Insurance:* The Contractor will carry Professional Liability coverage at a limit of \$1,000,000 Per Claim and \$2,000,000 Aggregate. The policy will be endorsed to include sexual abuse coverage with a minimum separate limit of \$1,000,000 per claim. If the professional liability policy is written on a claims form, the Contractor will provide insurance for a period of (2) two years after final payment of this agreement.
- 4. *Commercial Auto Liability Insurance:* Contractor shall maintain a commercial automobile liability insurance policy covering all owned, hired, and non-owned vehicles to be used or in connection with the Contractor, with coverage limits not less than \$1,000,000 per person/\$1,000,000 per occurrence combined single limit bodily injury and property damage.
- 5. *Subcontracting Requirements:* The Contractor is required to have prior approval by SCF before using any subcontractor. SCF may, in its sole discretion, withhold its approval for any reason or for no reason. Additionally, Contractor will be responsible for ensuring that its subcontractors comply with the same insurance provision as required herein as required by Alaska law during the course of its subcontractors' operations. Contractor shall provide copies of all subcontractors' certificates of insurance and endorsements to SCF prior to any subcontractor commencing work.

7.6 Compliance with Legal Obligations and SCF Code of Conduct

Contractor agrees to comply with all federal, state and local laws; ethical, environmental or safety business standards; and any underlying agreement or grant provisions to which SCF is subject. Contractor shall ensure that the provision of services and/or expenditure of funds under this Agreement do not violate any laws, business standards, or underlying agreement or grants. Contractor shall be responsible for any damage or injury not caused by SCF as a result of Contractor's, or any subcontractor's or their employees', servants,' or agents' failure to comply with any law, applicable business standard or underlying agreement or grant. Furthermore, Contractor has been supplied with a copy of SCF's Code of Conduct and agrees to comply with its provisions and to complete SCF compliance training if necessary.

7.7 Federal Tort Claims Act

Federal Tort Claims Act. To the extent that this Contract or any portion of it comes within the coverage of Public Law 101-512 and the Federal Tort Claims Act, 28 U.S.C. §§ 2671-2680, as implemented (the "FTCA"), all claims for damages by any person alleged to have been caused while carrying out this Agreement by the employees of Owner and/or its subsidiaries, servants, agents, representatives, affiliates, or contractors, including without limitation personal service contractors, shall be governed by the terms and to the extent provided by the FTCA, and such claims shall be made in accordance with 28 C.F.R. Part 14 and related laws.



7.8 Monitoring

SCF may establish a schedule for periodic review of Contractor's performance. Review may be at least once a year, or as frequently as SCF determines necessary.

7.9 Lobbying

The undersigned representative of Contractor certifies, to the best of his/her knowledge and belief, that:

- A. No Federal appropriated funds have been paid or will be paid, by or on behalf of Contractor, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract; the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
- B. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, Contractor shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.
- C. Contractor shall require that the language of this certification be included in the award documents for all sub-awards at all tiers (including subcontracts, sub-grants, and contracts under grants, loans, or cooperative agreements) and that all sub-recipients shall certify and disclose accordingly.

7.10 Exclusion and Debarment

Each Party represents and warrants that no adverse action by the federal government that will or may result in mandatory or permissive exclusion from a federal healthcare program pursuant to 42 U.S.C. §1320a-7 has occurred or is pending or threatened against it, its principals, its affiliates, or to the best of its knowledge, against any of its employees, agents or subcontractors providing services under this Agreement. Each Party additionally represents and warrants that neither it, its principals, its affiliates, and to the best of its knowledge, its employees, its agents, nor its subcontractors providing services under this Agreement are suspended, debarred, or otherwise determined to be ineligible for award of contract, grant or cooperative agreement by any federal, state, or other governmental body.

Each Party shall immediately provide written notice to the other Party of (1) its receipt of a notice of an adverse action by the federal government against any of the individuals or entities specified above that will or may result in mandatory or permissive exclusion from a federal healthcare program pursuant to 42 U.S.C. §1320a-7, (2) the date of any adjudication or determination that any of the individuals or entities specified above has committed any action that would subject it/them to mandatory or permissive exclusion under 42 U.S.C. §1320a-7, or (3) a notice of an adverse action by a governmental body against any of the individuals or entities specified above that will or may result in a determination of ineligibility for award of contract, grant or cooperative agreement. In the event either Party fails to provide the other Party with such written notice, or it is discovered that either Party's representations contained herein are false, the other Party has the right to immediately terminate this Agreement.

7.11 Successors, Assignment or Delegation

This Agreement may not be assigned or subcontracted or otherwise transferred by Contractor without the prior written consent of SCF, which SCF may withhold for any reason or for no reason, in its sole and absolute discretion, and any assignment or other transfer in violation hereof shall be null and void and of no force or effect. If SCF consents to an assignment or subcontract of all or any portion of this Agreement, Contractor warrants to SCF that the assignee or subcontractor shall execute a written instrument agreeing to be bound by all of the terms and conditions of this Agreement, that Contractor shall provide SCF with a



copy of the written agreement, and that any such assignment or subcontract shall not relieve the Contractor from any obligations hereunder. Contractor further agrees that Contractor shall guarantee the performance of any assignee or subcontractor hereunder. Without limiting the foregoing, this Agreement shall be binding upon, and inure to the benefit of, the parties hereto, and their successors and permitted assigns, if any.

7.12 Nondiscrimination

Contractor shall not discriminate against any employee or applicant for employment because of race, color, religion, national origin, ancestry, age, sex, marital status, or "qualified individual with a disability status."

7.13 Americans with Disabilities Act

Americans with Disabilities Act. All facilities must be constructed in compliance with the Americans with Disabilities Act, Public Law 101-336, and with the Uniform Federal Accessibility Standards ("UFAS").

7.14 Alaska Native/American Indian Preference in Employment and Training.

Pursuant to Section 7(B) of P.L. 93-638, 25 U.S.C. §450e(b), the Indian Self-Determination and Education Assistance Act, Contractor shall give preference in all phases of employment and training for all work performed under this Agreement to qualified Alaska Natives and/or American Indians regardless of age, marital status, religion, sex, or "qualified individual disability status," consistent with prevailing law.

7.15 Governing Law, Venue and Jurisdiction

Any Agreement will be governed, construed and enforced in accordance with the laws of the State of Alaska and the United States of America. All parties expressly agree that should litigation or any legal proceeding be necessary under this Agreement, the same will be commenced exclusively in Alaska Superior Court, Third Judicial District at Anchorage or in the United States District Court for the District of Alaska.

7.16 Audit and Examination of Records

Contractor agrees to maintain and make available for review by SCF all books, records, documents and other evidence pertaining to costs and expenses of an Agreement for examination and audit by SCF for a period of (6) six years from and after the termination of this Contract. SCF shall have the right to make copies of documents audited and such copies will become the confidential property of SCF.

7.17 Media Contact

Contractor, its employees, agents, and subcontractors shall not contact any member of the print or electronic media as a representative of SCF without the prior written approval of the President/CEO of SCF. If any member of the print or electronic media contacts the Contractor asking for information, the Contractor will refuse to comment and will refer the inquiry to SCF's Office of Public Relations. Further, Contractor will not use SCF's name in any advertising, publications, promotional materials or publicity release concerning any Agreement or the services performed under it.



EXHIBIT A: Scope of Work and Permit Documents

Anticipated services are summarized below.

Schedule Management:

- Prepare a detailed Construction Schedule for monitoring progress and managing the work.
- SCF and Contractor to review the schedule upon award of a contract to accommodate any ongoing operations as necessary. Staff located in the existing area are expected to vacate the space in October 2019.

Project Controls:

- Help establish procedures for expediting and processing all shop drawings, Submittals, Requests for Information (RFIs) and other project control documents.
- Prepare safety and quality control programs, including means of implementing.

Construction Services:

 Complete the work as detailed in the SCF Fireweed Building Dental Remodel Permit Documents dated October 7, 2019. This includes acquisition of any inspections, etc. The renovation will occur in a partially occupied building with a limited lay down area. Renovation work is adjacent to active SCF services; thus noise mitigation, disruption planning, and compliance with SCF's Clean Construction Procedures is required.



EXHIBIT B: Proposal Offer and Signature Page

RFP Number: SCF20-1045

RFP Name: Fireweed Building Dental Remodel

RFP Due Date and Time: November 5, 2019 by 3:00pm

BIDDERS MUST COMPLETE THE SECTION BELOW

1.	Base Bid	\$	
2.	100% Performance and Payment Bond	\$	
3.	Total Stipulated Sum, Bid Price (1+2 above)	\$	
Alt	ernate #1 Contractor to provide Builder's All-Risk Po	licy in place of SCF \$	
ls a	ın Alaska Native / American Indian Business Owner F	reference being claimed? YES	5 🗆 or NO 🗔
Со	mpany Name:		
Со	ntact Name:		
Em	ail:		
Add	Iress City State	Zip Code	
Ph	one:		
By iss	signing below the contractor agrees to all terms and ued by SCF.	conditions as listed within this	Request for Proposal
Au	thorized Signature:		
Da	te:		

END OF RFP

SOUTH CENTRAL FOUNDATION FIREWEED BUILDING DENTAL CLINIC **INTERIOR TENANT IMPROVEMENT** 4341 TUDOR CENTER DRIVE, SUITE 100

Issue Date: 10/7/2019



MECHANICAL ENGINEERING ELECTRICAL ENGINEERING

SHEET LIST

G1.00	LIFE SAFETY
G1.01	ASSEMBLIES
G2.00	SPECIFICATIONS

ARCHITECTURAL

D1.00	DEMO LEVEL 1 FLOOR PLAN
D2.00	DEMO LEVEL 1 REFLECTED CEILING PLAN
A1.00	LEVEL 1 FLOOR PLAN
A2.00	LEVEL 1 REFLECTED CEILING PLAN
A3.00	INTERIOR ELEVATIONS
A4.00	SCHEDULES
A5.00	CASEWORK DETAILS
F1.00	FLOOR FINISH PLAN
F1.00	FLOOR FINISH PLAN

MECHANICAL

1.0	LEGEND AND SCHEDULES
1.1	SPECIFICATIONS
1.2	SEQUENCE OF OPERATIONS
2.0	GARAGE PLUMBING - DEMOLITION
2.1	LEVEL 1 PLUMBING - DEMOLITION
3.1	LEVEL 1 HVAC - DEMOLITION
4.0	GARAGE PIPING - DEMOLITION
4.1	LEVEL 1 PIPING - DEMOLITION
15.0	GARAGE PLUMBING - NEW WORK
15.1	LEVEL 1 PLUMBING - NEW WORK
6.1	LEVEL 1 HVAC - NEW WORK
6.2	WET/TECH LAB EXHAUST
7.0	GARAGE PIPING - NEW WORK
7.1	LEVEL 1 PIPING - NEW WORK
8.0	DETAILS

CONFORMED BID SET

Jernstrom Engineers

EIC Engineers, Inc.

ELECTRICAL

E0.1 LEGEND SCHEDULES E0.2 E1.1 DEMOLITION PLAN E2.1 LIGHTING PLAN E3.1 POWER & SIGNAL PLAN ONE-LINE DIAGRAMS, DETAILS & SCHEDULES E4.1



SOUTH CENTRAL FOUNDATION 4501 DIPLOMACY DR. ANCHORAGE, AK 99508

6100 A St., Anchorage, AK

6927 Old Seward Hwy, Suite 200, Anchorage, AK



LEVEL 1 LIFE SAFETY PLAN SCALE: 3/32" = 1'-0"



	LEGEND
a	

ACCESS TO EXIT EXISTING ONE HOUR FIRE BARRIER (TO BE MAINTAINED) EXIT PATH FE FIRE EXTINGUISHERS

FEC FIRE EXTINGUISHER CABINET

 $\mathbf{\Theta}$ ILLUMINATED EXIT SIGN - REFER TO ELECTRICAL

EXIT DIRECTION AND OCCUPANT LOAD

PROJECT DESCRIPTION:	INTERIOR REMODEL OF <u>SQ.FT</u> ., FOUR STOREY E DENTAL SERVICES ARE OCCUPANCY AND OCCU
APPLICABLE CODES OCCUPANCY GROUP	2012 INTERNATIONAL B BUILDING CODE INCLUE ORIGINAL BUILDING RE BASEMENT: GROUP S-2 LEVELS I-3: GROUP B - E
CONSTRUCTION TYPE	TYPE II-B - FULLY SPRIN
ACTUAL AREA	BASEMENT: 10,338 SQ.F LEVEL 1: 13,715 SQ.FT. LEVEL 2: 13,094 SQ.FT. LEVEL 3: 13,234 SQ.FT.
ALLOWABLE AREA (PER FLOOR)	TOTAL = <u>50,381 SQ.FT.</u> 23,000 SQ.FT.
ALLOWABLE NUMBER OF STORIES	3
AREA MODIFICATION	AUTOMATIC SPRINKLEF
HEIGHT MODIFICATION	AUTOMATIC SPRINKLEF
SEPARATION OF OCCUPANCIES	S-2 BASEMENT GARAGE OCCUPANCY BY 1 HOUP TO BE RETAINED.
OCCUPANT LOAD	BASEMENT: 10,338 / 200 LEVEL 1: 13,715 / 100 = 1 LEVEL 2: 13,094 / 100 = 1 LEVEL 3: 13,234 / 100 = 1
	TOTAL = <u>453</u>
EXTERIOR WALL, ROOF AND FLOOR RATING	EXTERIOR BEARING WAI INTERIOR BEARING WAL EXTERIOR NON BEARING INTERIOR NON BEARING ROOF CONSTRUCTION:
PENETRATIONS	PLUMBING, MECHANICA RATED FLOOR/CEILING
EGRESS WIDTH	0.2 INCHES PER OCCUP
	TOTAL OCCUPANT LOAD
	EGRESS WIDTH MINIMUN
COMMON PATH OF EGRESS TRAVEL	100 FEET MAXIMUM
EXIT ACCESS TRAVEL DISTANCE	300 FEET MAXIMUM WHE FIRE SPRINKLER SYSTEI
NUMBER OF EXITS	LELVEL 1: 2 EXITS REQU 3 EXITS PROVIDED
FIRE PROTECTION SYSTEM	NFPA 13
MANUAL FIRE ALARM	NOT REQUIRED FOR GR
ACCESSIBILITY	COMPLIANCE W/ IBC RE
EXIT SIGNS REQUIRED:	REFER TO ELECTRICAL
FIRE EXTINGUISHERS:	REQUIRED
EMERGENCY LIGHTING:	EMERGENCY LIGHTING I ELECTRICAL DRAWINGS
IEBC SUMMARY:	SECTION 504 ALTERATIO
	SECTION 504.1: LEVEL 2 RECONFIGURATION OF 5 DOOR OR WINDOW, OR
	ANY SYSTEM. SECTION 804: FIRE ALAR
	SECTION 811: LEVEL 2 A
	STRUCTURES ARE PERM BUILDING OR STRUCTUF REQUIREMENTS OF THE THE ENERGY REQ'S OF CONSTRUCTION ONLY

CODE INFORMATIC	DN		.K
TERIOR REMODEL OF 1,840 SQ.FT. ON L <u>Q.FT</u> ., FOUR STOREY BUILDING. REMOD ENTAL SERVICES AREA AND THE ASSOC CCUPANCY AND OCCUPANT LOAD REM/	EVEL 1 OF <u>EXISTING 50,381</u> EL AREA ALTERS EXISTING CIATED LAB ROOMS. AINS UNCHANGED		Jew.
12 INTERNATIONAL BUILDING CODE; 20 JILDING CODE INCLUDING ALL STATE AN RIGINAL BUILDING REVIEWED UNDER IB SEMENT: GROUP S-2 VELS I-3: GROUP B - BUSINESS/PROFES	12 INTERNATIONAL EXISITING ND LOCAL AMENDMENTS. IC 2000 SSIONAL SERVICES	IBC 304	
PE II-B - FULLY SPRINKLERED		IBC 602.5	
SEMENT: 10,338 SQ.FT. VEL 1: 13,715 SQ.FT. VEL 2: 13,094 SQ.FT. VEL 3: 13,234 SQ.FT.			
DTAL = <u>50,381 SQ.FT.</u> ,000 SQ.FT.		IBC TABLE 503	
JTOMATIC SPRINKLER SYSTEM: Aa = At	+ [At x 2] = 69,000 SQ.FT.	IBC 506.1	
JTOMATIC SPRINKLER SYSTEM ALLOWS 2 BASEMENT GARAGE IS SEPARATED FI CCUPANCY BY 1 HOUR FLOOR/CEILING A D BE RETAINED.	S (1) ADDITIONAL STORY ROM FIRST FLOOR B ASSEMBLY. EXISTING RATING	IBC 504.2 IBC TABLE 508.4	
SEMENT: 10,338 / 200= 52 VEL 1: 13,715 / 100 = 137 VEL 2: 13,094 / 100 = 131 VEL 3: 13,234 / 100 = 133			
TAL = <u>453</u> TERIOR BEARING WALLS: ERIOR BEARING WALLS: TERIOR NON BEARING WALLS: ERIOR NON BEARING WALLS: OF CONSTRUCTION:	0HR 0HR 0HR 0HR 0HR	IBC TABLE 601 IBC TABLE 601 IBC TABLE 602 IBC TABLE 601 IBC TABLE 601	
UMBING, MECHANICAL AND ELECTRICA	AL PENETRATIONS THROUGH BE PROTECTED.	IBC714.4 & 717.6	
INCHES PER OCCUPANT "OTHER" EGRI TAL OCCUPANT LOAD = 129 / 0.2 =	ESS COMPONENTS 25.8"	IBC TABLE 1005.1	
RESS WIDTH MINIMUM EXCEEDED			
FEET MAXIMUM		IBC 1014.3	
	H AN NFPA 13 AUTOMATIC	IBC TABLE 1016.2	
LVEL 1: 2 EXITS REQUIRED XITS PROVIDED		IBC SECTION 1015.1	
PA 13		IBC SECTION 903.2.5	
T REQUIRED FOR GROUP B OCCUPANC	CY	IBC SECTION 907.2.2	
MPLIANCE W/ IBC REQUIRED		IBC CHAPTER 11	-
FER TO ELECTRICAL DRAWINGS		IBC 1011 & 1007.6	
QUIRED		2003 IFC	
ERGENCY LIGHTING POWERED BY BAT ECTRICAL DRAWINGS	TERY BACKUP - REFER TO	IBC SECTION 1006	
CTION 504 ALTERATION - LEVEL 2 CTION 504.1: LEVEL 2 ALTERATIONS INC CONFIGURATION OF SPACE, THE ADDIT OR OR WINDOW, OR THE RECONFIGUR	CLUDE THE TON OR ELIMINATION OF ANY ATION OR EXTENSION ON		
CTION 804: FIRE ALARM AND DETECTION ACCORDANCE WITH IBC	N SYSTEMS TO BE PROVIDED		Dat
CTION 811: LEVEL 2 ALTERATIONS TO E RUCTURES ARE PERMITTED WITHOUT F ILDING OR STRUCTURE TO COMPLY WI QUIREMENTS OF THE IECC. THE ALTER E ENERGY REQ'S OF THE IECC AS THEY NSTRUCTION ONLY	XISTING BUILDINGS OR REQUIRING THE ENTIRE TH THE ENERGY ATIONS SHALL CONFORM TO (PERTAIN TO NEW		Rev No. 1
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II.I7 DESIGN STUDIO PO BOX 240407 Anchorage, 99524 (907) 399-0582
CAROLINE STORM A14647 PROFESSIONAL
SOUTH CENTRAL FOUNDATION DENTAL CLINIC MODIFICATIONS 4341 TUDOR CENTER DR ANCHORAGE, ALASKA
Date 13 SEPT, 2019
Revisions No. Description Date 1 MOA REVIEW 10/3/19
Sheet Contents
LIFE SAFETY
Sheet Number

REFERENCE SYMBOLS





	Several Notes 1. Dimensional Hierarchy: -As specifically noted -Building Gridlines -Face of Stud -Face of Concrete		
	 CONTRACTOR TO LABEL ALL RATED CONSTRUCTION IN ACCORDANCE WITH IBC 2012 SECTION 703.7 CONTRACTOR SHALL KEEP UPDATED REDLINE DRAWINGS ON SITE REFLECTING ALL DESIGN CHANGES OR APPROVED FIELD REVISIONS TO THE ORIGINAL CONSTRUCTION DRAWINGS. 		II.I7 DESIGN STUDIO PO BOX 240407 Anchorage, 99524 (907) 399-0582
	PARTITION TYPE SYMBOL	STUD SIZE KEY	OF A UN
UNDERSIDE OF " ABOVE FINISH DNS WITHOUT	1. THE PARTITION DESIGNATION IS A 3 PIECE CODE THAT INCLUDES THE PARTITION TYPE, STUD SIZE AND INTERIOR PARTITION HEIGHT DESIGNATION	METAL STUDS: 1 = 1 5/8" 2 = 2 1/2" 3 = 3 5/8"	CAROLINE STORM A14647 ATOFESSIONAL
	HEIGHT DESIGNATION ASSEMBLY TYPE STUD SIZE PER KEY	4 = 4" 6 = 6" 8 = 8" 10 = 10" 12 = 12"	
			NOLDENTRAL FOUNDATION SOUTH CENTRAL FOUNDATION SOUTH CENTRAL FOUNDATION DENTAL CLINIC MODIFICATIONS (4341 TUDOR CENTER DR ANCHORAGE, ALASKA Sheet Contents ASSEMBLIES
			Sheet Number G1.01

SPECIFICATIONS

DIVISION 01 - GENERAL REQUIREMENTS 011000 SUMMARY OF WORK

Project Identification: South Central Foundation - Fireweed Building Dental Remodel

Project Location: 4341 Tudor Center Drive, Anchorage, Alaska 99507.

Owner: South Central Foundation.

Owner's Representative: South Central Foundation Facilities Department. 6160 Tuttle PI., Anchorage, Alaska. Project Manager: Ed Zernia. Architect: 11.17 Design Studio LLC, PO Box 240407 Anchorage, Alaska 99524 Project Manager: Caroline

Owner may have Group Purchasing contracts with suppliers of material and equipment to be incorporated into the Work. Owner will assign these Purchase contracts to Contractor.

Limit use of Project site to Work in areas indicated. Do not disturb portions of Project site beyond areas in which the Work is required.

Deliveries to the site will be restricted to contractor's dedicated project entrance only, unless otherwise

specifically approved by the Owner's project manager. Owner will occupy site and existing building during entire construction period. Cooperate with Owner during

construction operations to minimize conflicts and facilitate Owner usage. Perform the Work so as not to interfere with Owner's day-to-day operations. Maintain existing exits unless otherwise indicated. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities. Do not close or obstruct walkways, corridors, or other occupied or used facilities without written permission from Owner

and approval of authorities having jurisdiction. Notify Owner not less than 72 hours in advance of activities that will affect Owner's operations. Do not interrupt utilities serving facilities occupied by Owner:

Notify Owner not less than three days in advance of proposed utility interruptions.

Obtain Owner's written permission before proceeding with utility interruptions.

Owner-Furnished Products: ADEC Dental Cabinets and Dental Chairs

012500 SUBSTITUTION PROCEDURES

Submit one copy of Request for Substitution to the Owner's representative. Substitutions submitted directly to the Architect or Engineer will be ignored. Limit each request to one proposed product.

Request must show compliance with requirements for substitutions and include aRetain and revise requirements in first 13 subparagraphs below that are applicable and necessary and are not included in the Supplementary Conditions, statement indicating why the specified product or fabrication or installation

method cannot be provided, if applicable. Coordination of information, including a list of changes or revisions needed to other parts of the Work and to construction performed by Owner and separate contractors that will be necessary to accommodate proposed substitution. Requests for substitutions will be accepted from *GENERAL CONTRACOR*

BIDDERS ONLY. Review this article with Owner to confirm what is considered a substitution by Owner and to coordinate

Owner's role in approving substitutions. If substitution requests are restricted to before bid opening, include requirements in the Instructions to Bidders. Substitutions for Cause during construction: Submit requests for substitution immediately on discovery of

need for change, but not later than 15 days prior to time required for preparation and review of related submittals.

013100 PROJECT MANAGEMENT AND COORDINATION

Informational Submittals: Subcontract list is required by AIA Document A201 to be submitted as soon as practical after award of the Contract. Coordinate with submittal requirements for subcontract list in Procurement Requirements and Contracting Requirements, if any.

Subcontract List: Prior to the Pre-Construction conference prepare a written summary identifying individuals or firms for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design. Include the following information in tabular form:

Name, address, telephone number, and email address of entity performing subcontract or supplying products.

Number and title of related Specification Section(s) covered by subcontract. Drawing number and detail references, as appropriate, covered by subcontract.

Key Personnel Names: Prior to the Pre-construction conference, submit a list of key personnel

assignments, including superintendent and other personnel in attendance at Project site. Identify individuals and their duties and responsibilities; list addresses and cellular telephone numbers and e-mail addresses. Provide names, addresses, and telephone numbers of individuals assigned as alternates in the absence of individuals assigned to Project.

The general contractor will provide trained and experienced personnel that have performed construction related activities inside an operational healthcare facility. Working knowledge of Healthcare operations and Infection Control Procedures related to construction activities is required.

Request for Information (RFI) Procedure: Immediately on discovery of the need for additional information, clarification, or interpretation of the Contract Documents, Contractor shall prepare and submit a RFI to the Owner's representative.

Owner will determine necessity of request and forward to the Architect, if required. Owner/Architect/Engineer will return without response those RFIs submitted to Architect by other entities controlled by Contractor.

Coordinate and submit RFI's in a prompt manner so as to avoid delays in Contractor's work or work of subcontractors

Architect will review RFI, determine action required, and respond. Allow 5 business days for Architect's response for each RFI

013300 SUBMITTAL PROCEDURES

Prepare and submit product submittals.

Retain "Email," "Web-Based Project Software," or "Paper" Subparagraph below. Email: Prepare submittals as PDF package, and transmit to Owner. Include PDF transmittal form. Include

information in subject line as requested by Architect. Architect, through the Owner, will return annotated file. Annotate and retain one copy of file as a digital

Project Record Document file. Allow 5 days for review of each submittal. Allow additional time if coordination with subsequent submittals is required. Architect will advise Contractor when a submittal being processed must be delayed for

coordination. Product Data: Collect information into a single submittal for each element of construction and type of

product or equipment. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data.

Samples: Submit Samples for review of kind, color, pattern, and texture for a check of these characteristics with other materials. Contractor shall review each Action& Informational submittal and check for coordination with other Work of

the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Owner.

015000 TEMPORARY FACILITIES AND CONTROLS Informational Submittals:

<u>Fire-Safety Program</u>: Show compliance with requirements of NFPA 241 and authorities having jurisdiction. Indicate Contractor personnel responsible for management of fire-prevention program. <u>Dust- and HVAC-Control Plan</u>: Submit coordination drawing and narrative that indicates the dust- and

HVAC-control measures proposed for use, proposed locations, and proposed time frame for their operation. Include the following: Locations of dust-control partitions.

HVAC system isolation schematic drawing.

Location of proposed air-filtration system discharge. Waste-handling procedures.

Other dust-control measures

Materials:

Polyethylene Sheet: Reinforced, fire-resistive sheet, 10-mil minimum thickness, with flame-spread rating of 15 or less per ASTM E 84 and passing NFPA 701 Test Method 2. Retain "Dust-Control Adhesive-Surface Walk-Off Mats" Paragraph below for dust control at entries to dust-controlled work areas.

Dust-Control Adhesive-Surface Walk-Off Mats: Provide mats minimum 36 by 60 inches. Dust-Control Partitions: Constructed as one hour rated Smoke Barriers. Constructed of metal stud framing, vapor barrier, acoustic insulation, and GWB with finished/sealed seams and joints.

Insulation: Unfaced mineral-fiber blanket, manufactured from glass, slag wool, or rock wool; with maximum flame-spread and smoke-developed indexes of 25 and 50, respectively. Fire Extinguishers: Portable, UL rated; with class and extinguishing agent as required by locations and

classes of fire exposures. Air-Filtration Units: Primary and secondary HEPA-filter-equipped portable units with four-stage filtration. Provide single switch for emergency shutoff. Configure to run continuously.

015726 CONSTRUCTION IAQ MANAGEMENT

Contractor shall prevent indoor air quality problems resulting from the construction process, to sustain

occupant health and comfort.

Protect the ventilation system components during construction and clean contaminated components after construction is complete. Control sources of potential IAQ pollutants by controlling selection of materials and processes used in

project construction. Develop a Draft Indoor Air Quality (IAQ) Management Plan for the construction that meets or exceeds the minimum requirements of the Sheet Metal and Air Conditioning National Contractors Association

(SMACNA) IAQ Guidelines for Occupied Buildings under Construction 2008 The SMACNA IAQ Guidelines for Occupied Buildings under Construction provides an overview of air pollution associated with construction, control measures, construction process management, quality control, communicating with occupants, and case studies. These guidelines can be accessed at www.smacna.org. Chapter 3 of the SMACNA Guidelines recommends Control Measures in five areas: HVAC protection, source control, pathway interruption, housekeeping, and scheduling. Review the applicability of

016000 PRODUCT REQUIREMENTS

Provide products that comply with the Contract Documents, are undamaged and, unless otherwise indicated, are new at time of installation. Architect will consider Contractor's request for comparable product when the following conditions are satisfied. If the following conditions are not satisfied, Architect may return requests without action, except to

- record noncompliance with these requirements:
 1. Evidence that proposed product does not require revisions to the Contract Documents, is consistent with the Contract Documents, will produce the indicated results, and is compatible with other portions of the Work. Detailed comparison of significant qualities of proposed product with those named in the Specifications. Significant product qualities include attributes such as type, function, in-service performance and physical properties, weight, dimension, durability, visual characteristics, and other specific features and requirements.
- specific features and requirements. 2. Evidence that proposed product provides specified warranty.

017300 EXECUTION

Before proceeding with each component of the Work, examine substrates, areas, and conditions, with Installer or Applicator present for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.

Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions

Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate

fabrication schedule with construction progress to avoid delaying the Work. Verify space requirements and dimensions of items shown diagrammatically on Drawings.

Immediately on discovery of the need for clarification of the Contract Documents caused by differing field conditions outside the control of Contractor, submit a request for information to Architect Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated. Make vertical work plumb and make horizontal work level.

Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement. Conceal pipes, ducts, and wiring in finished areas unless otherwise indicated.

Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.

Obtain and distribute to the parties involved templates for work specified to be factory prepared and field installed. Check Shop Drawings of other portions of the Work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.

Provide blocking and attachment plates and anchors and fasteners of adequate size and number to securely anchor each component in place, accurately located and aligned with other portions of the Work. Where size and type of attachments are not indicated, verify size and type required for load conditions. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Architect.

Allow for building movement, including thermal expansion and contraction. Clean Project site and work areas daily, including common areas. Enforce requirements strictly. Dispose of materials lawfully.

Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.

017419 CONSTRUCTION WASTE DISPOSAL

Salvaging Demolition Waste: Store items in a secure area until pick-up by receiver has been arranged.

Protect items from damage during storage.

Salvaged Items for Donation to Habitat for Humanity Re-Store or SCF staff:

Countertops and corresponding plumbing fixtures

All cabinets Wood chair rail

Built-in bench and upholstered seat

insurance requirements.

individual Specification Sections

DIVISION 02 - EXISTING CONDITIONS

024119 SELECTIVE DEMOLITION

demolition operations.

occupancy of completed Work.

adjacent buildings and facilities to remain.

occupied portions of building.

and construction of barriers

Completion

reauired.

Closeout Submittals

017700 CLOSEOUT PROCEDURES

Substantial Completion Procedures:

Prepare and submit a list of items to be completed and corrected (Contractor's punch list), indicating the value of each item on the list and reasons why the Work is incomplete. Complete the following a minimum of 10 days prior to requesting inspection for determining date of

- Substantial Completion.
 Certificates of Release: Obtain and submit releases from authorities having jurisdiction permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
- Project record documents, operation and maintenance manuals.

 Submit closeout submittals specified in individual Sections, including specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
 Submit maintenance material submittals specified in individual Sections, including tools, spare parts,

4. Submit maintenance material submittal specified in individual Sections, including tools, spare parts extra materials, and similar items, and deliver to location designated by Owner. Label with manufacturer's name and model number.

Schedule of Maintenance Material Items: Prepare and submit schedule of maintenance material submittal items, including name and quantity of each item and name and number of related Specification Section. Obtain Owner's signature for receipt of submittals.

- 5. Submit testing, adjusting, and balancing records.
- 6. Advise Owner of pending insurance changeover requirements.
- Complete startup and testing of systems and equipment.
 Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems. Submit demonstration and training video recordings
- Complete final cleaning requirements.
 Touch up paint and otherwise repair and restore marred exposed finishes to eliminate visual

defects.

Submit a written request for inspection to determine Substantial Completion a minimum of 10 days prior to date the Work will be completed and ready for final inspection and tests Final Completion Procedures:

B. Prior to requesting final inspection for determining final completion, complete the following: 11.Submit a final Application for Payment.

12.Certified List of Incomplete Items: Submit certified copy of Architect's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Architect. Certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.

13.Certificate of Insurance: Submit evidence of final, continuing insurance coverage complying with

Perform final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and

Complete repair and restoration operations before requesting inspection for determination of Substantial

Submit operation and maintenance manuals indicated. Provide content for each manual as specified in

Submit manuals in the form of a multiple file composite searchable electronic PDF file for each manual type

Assemble a complete set of data indicating operation of each system, subsystem, and piece of equipment

not part of a system. Include information required for daily operation and management, operating standards,

Review and finalize selective demolition schedule and verify availability of materials, demolition

Review requirements of work performed by other trades that rely on substrates exposed by selective

Detailed sequence of selective demolition and removal work, with starting and ending dates for each

Coordination of Owner's continuing occupancy of portions of existing building and of Owner's partial

Submit report, including Drawings, that indicates the measures proposed for protecting individuals and

property, for environmental protection, for dust control and, for noise control. Indicate proposed locations

and routine and special operating procedures. Organize each manual into a separate section for each

system and subsystem, and a separate section for each piece of equipment not part of a system

Inspect and discuss condition of construction to be selectively demolished.

personnel, equipment, and facilities needed to make progress and avoid delays.

Review areas where existing construction is to remain and requires protection

activity. Ensure Owner's and other tenants' on-site operations are uninterrupted

Coordination for shutoff, capping, and continuation of utility services.

Interruption of utility services. Indicate how long utility services will be interrupted.

Owner will arrange to shut off indicated services/systems when requested by Contractor.

Provide temporary barricades and other protection required to prevent injury to people and damage to

Provide protection to ensure safe passage of people around selective demolition area and to and from

ordinances and Federal and local environmental and antipollution regulations

017823 OPERATION AND MAINTENANCE DATA

Pre-demolition Conference: Conduct conference at Project site.

Schedule of Selective Demolition Activities: Indicate the following:

Structural Work:

Do not cut and patch structural elements in a manner that would change their load carrying capacity of load deflection ratio.

Obtain approval before cutting and patching structural elements. Do not cut and patch operating elements in a manner that would reduce their capacity to perform as intended, cause increased maintenance, or decreased operational life or safety.

Do not cut and patch exposed elements of construction that in Architect's opinion would reduce visual aesthetic qualities, or result in visual evidence of cutting and patching.

Execute work by methods to avoid damage to other work, and which will provide appropriate surfaces to receive patching and finishing. In existing work, minimize damage and restore to original condition. Refinish surfaces to match existing adjacent finish, patching with seams that are durable and as invisible as possible. For continuous surfaces, refinish to nearest intersection or natural break.

Patch or replace surfaces that are damaged, lifted, discolored, or showing other imperfections due to patching work. Repair substrate prior to patching finish. Finish patches to produce uniform finish and texture over entire area. When finish cannot be matched, refinish entire surface to nearest intersections. Patch and repair all cut or damaged gypsum board sheathing material at all rated roof and floor framing members as required to provide a one hour rated assembly at the competition of the scope of work

DIVISION 06 - WOOD, PLASTICS, AND COMPOSITES

064116 PLASTIC-LAMINATE-FACED ARCHITECTURAL CABINETS Furnish casework manufacturer's 5-year warranty covering defects in material and labor including panel deformation, delamination, and discoloration. Field Measurements: Where cabinets are indicated to fit to other construction, verify dimensions of other

construction by field measurements before fabrication, and indicate measurements on Shop Drawings. Coordinate fabrication schedule with construction progress to avoid delaying the Work. Locate concealed framing, blocking, and reinforcements that support cabinets by field measurements

before being enclosed/concealed by construction, and indicate measurements on Shop Drawings. <u>Plastic-Laminate-Clad Architectural Cabinets:</u>

Quality Standard: Unless otherwise indicated, comply with the "Architectural Woodwork Standards" for grades of cabinets indicated for construction, finishes, installation, and other requirements. Grade: Premium.

Type of Construction: Frameless.

Door and Drawer-Front Style: Flush overlay. High-Pressure Decorative Laminates:

For exposed to view surfaces including, but not limited to:

a. Cabinets, Soffit, Drawer, and Door faces and edges.b. Sides of cabinets exposed to view including end panels, sides of cabinets in knee spaces,

and openings for equipment.

High Pressure Decorative Laminate (HPDL): NEMA LD 3, GP50 for horizontal surfaces, GP28 for vertical surfaces, CL20 for cabinet liner surfaces, BK20 for undecorated backing sheets, PF42 for post forming, FR50 for fire-retardant surfaces; color and finish as selected refer to finish schedule on drawings. Pattern Direction: Horizontally for drawer fronts, doors, and fixed panels.

Edge Banding:

Provide PVC-free edge banding in coordinating color to HPDL face colors. Dust Panels: 1/4-inch plywood or tempered hardboard above compartments and drawers unless located

directly under tops Concealed Backs of Panels with Exposed Plastic-Laminate Surfaces: High-pressure decorative laminate, NEMA LD 3, Grade BKL.

Wood Materials

Composite Wood and Agrifiber Products: Provide materials that comply with requirements of referenced quality standard for each type of architectural cabinet and quality grade specified unless otherwise indicated

Medium-Density Fiberboard (MDF): ANSI A208.2, Grade 130.

For standard casework boxes, doors, backs:

 Manufacturer: Roseburg Forest Products:

b. Model: Arreis.

2. For countertop and casework in wet locations (sink bases):

a. Manufacturer: Roseburg Forest Products:

b. Model: Medex

Cabinet Hardware And Accessories:

Provide cabinet hardware and accessory materials associated with architectural cabinets except for items specified in Section 087100 "Door Hardware."

Provide one pair for doors less than 4 feet high and 1-1/2 pair for doors over 4 feet. Apply such that door passes SAMA LF 13 door load test. Offset flush for overlay door construction. Hinges:

Concealed Hinge, Institutional Grade 1, steel, nickel plated, 165 degree opening, self-closing, full overlay.Manufacturer: Hafele or approved equal. Wire Pulls: Back mounted, solid metal, 4 inches long, 5/16 inch in diameter. Satin nickel finish.

Catches:

Type 1 Magnetic catches, ABS, White 2.5 kg pull Manufacturer: Hafele or approved equal. Shelf Rests:

Adjustable shelving shall be pre-bored 5mm holes at 32mm on center.

Shelf clip shall be Amco #11 Earthquake safety pin.

Drawer Slides:
For drawers up to 6" deep: Heavy-Duty easy close, Side Mounted, 150-lb rated for drawers up to 42" wide, full extension. Manufacturer/Model: Accuride Model 3634EC..
Door and Drawer Silencers: BHMA A156.16, L03011.

066116 SOLID SURFACE FABRICATIONS Furnish five-year manufacturer warranty for each type of unit.

DuPont, Corian Surfaces; Staron; or Equal

Homogenous compression molded material composed of acrylic resins or polyester/acrylic resin blend, fire-retardant filler materials, fiber reinforcement, and integral coloring agents, stain resistant to domestic

chemicals and cleaners.

Polishing Cream: Compatible polishing cream to achieve specified sheen to gel coat.

Adhesive: Silicon type, color matched.

Fabricate components by mold to achieve shape and configuration. Gel coat exposed finish surfaces smooth and polish to low sheen.

Radius corners and edges.

Cure components prior to shipment.

DIVISION 08 - OPENINGS

081416 FLUSH WOOD DOORS

Warranty Period for Solid-Core Interior Doors: Life of installation. Quality Standard: In addition to requirements specified, comply with AWI's, AWMAC's, and WI's "Architectural Woodwork Standards.

Provide AWI Quality Certification Labels indicating that doors comply with requirements of grades specified. WDMA I.S.1-A Performance Grade: Heavy Duty.

Interior Solid-Core Doors:AWI's, AWMAC's, and WI's "Architectural Woodwork Standards" requires Grade AA faces for Premium-grade doors; WDMA I.S.1-A requires Grade A faces for Premium-grade doors. Both standards require Grade A faces for Custom-grade doors unless Grade B is specified. See Evaluations.

Grade: Premium, with Grade A faces.

Species: Select white maple Cut: Plain sliced (flat sliced)

Match between Veneer Leaves: Book match."Center-balance"

Exposed Vertical Edges: Same species as faces or a compatible species - edge Type A.

Core: Structural composite lumber.

Construction: Five plies. Stiles and rails are bonded to core, then entire unit is abrasive planed before veneering. Faces are bonded to core using a hot press.

083213 SLIDING ALUMINUM FRAMED GLASS DOORS

Horton (Basis of Design):

Type 010: Profiler-ICU SR. Surface Mounted, P-X and X-P configurations. Sliding panel(s) shall slide along exterior side. Integral (trackless) bottoms. Smoke Rated.

Doors, Headers, and Trim: Extruded aluminum alloy 6063-T5, nominal 0.125 inch (3.2 mm) wall thickness. Door Construction: Heavy-duty interlocked sections, through-rod bolted construction; steel corner support at hinge stile of carrier-suspended SX panels to reduce sag in sliding or breakout mode. Door Hanger Brackets: Nylon wheels with hardened steel bearings.

Glazing Stops: 5/8 inch high, angled

Pivot Base Plate: Under each sidelight panel.

Headers: 4 inches high, 6 inches deep with extruded aluminum stop bar mounted to underside in door opening to prevent panel from swinging until slid back to full position. Hardware: Door handles, door pulls, door latch, and other hardware required for normal and emergency egress operation per NFPA 101.

Finish: Clear anodized

087100 DOOR HARDWARE

Furnish 10 year manufacturer warranty for locksets; 3 years for exit devices; 30 years for door closers & 2 years for auto door operators. Refer to drawings for hardware schedule

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DIVISION 09 - FINISHES 092116 GYPSUM BOARD ASSEMBLIES

Acoustic Attenuation for Interior Partitions Partitions to meet a 45 STC minimum in accordance with ASTM E90. Select stud size and gauge to resist minimum 10 psf uniform load and maximum 1/240 deflection, or as required to support wall mounted equipment and casework loads. Perform Work in accordance with ASTM C840. Gypsum Sheathing Board: ASTM C79/C79M; moisture resistant and fire resistant type; 5/8 inch thick, maximum available size in place; ends square cut, square edges; water repellent faces. Locations: Exterior, and as indicated Framing Members, General: Comply with ASTM C 754 for conditions indicated. Steel Sheet Components: Comply with ASTM C 645 requirements for metal unless otherwise indicated. Protective Coating: ASTM A 653/A 653M, G60, hot-dip galvanized unless otherwise indicated. Acoustic Insulation: ASTM C665; preformed glass fiber, friction fit type, unfaced, thickness as indicated on drawings. Section 07 21 16 - Batt Insulation: Acoustic and Thermal insulation. Acoustic Sealant: Non-hardening, non-skinning, for use in conjunction with gypsum board. Corner Beads: Metal Edge Trim: GA-216; Types LC, L, LK, U, exposed reveal beads, as shown on drawings and as required for conditions Joint Materials: ASTM C475; reinforcing tape, joint compound, adhesive, and water. Fasteners: ASTM C1002, and GA-216. Metal Stud Installation Installation Standard: ASTM C 754. Gypsum Board Assemblies: Also comply with requirements in ASTM C 840 that apply to framing installation Install gypsum board in accordance with GA-216 and GA-600.

Finishes in accordance with GA-214 Levels: Level 1: Above finished ceilings concealed from view.

Level 4: Walls exposed to view, and to receive wall covering/protection

Level 4: Ceilings and soffits exposed to view.

095123 ACOUSTICAL TILE CEILINGS

Installed System: Conform to current IBC Code standards, and ASCE Standard 7.

Suspension System: Rigidly secure acoustic ceiling system including integral mechanical and electrical components with maximum deflection of 1:360.

Warranty Period: Acoustical panels: Ten (10) years from date of substantial completion.

Grid: Ten (10) years from date of substantial completion. Suspended Acoustical Ceilings:

Manufacturers (Suspended Acoustical Tile Ceiling Systems): Armstrong; USG

Acoustic Panels: ASTM E1264, conforming to the following:

Size: 24 x 48 inches,.

Thickness: as indicated Composition: Mineral.

Light Reflectance: 80 percent

NRC Range: 50 to 70

STC Range: 35 to 40 Fire Hazard Classification: 0-25.

Edge: Varies - refer to schedule

Suspension System:

Components; Main beams and cross tees, base metal and end detail, fabricated from commercial quality hot dipped galvanized steel complying with ASTM A 653. Main beams and cross tees are double-web steel construction. Exposed surfaces chemically cleansed, capping prefinished galvanized steel in baked polyester paint. Main beams and cross tees shall have rotary stitching.

Structural Classification: ASTM C635 Heavy duty.

Color: White and match the actual color of the selected ceiling tile, unless noted otherwise. Attachment Devices: Size for five times design load indicated in ASTM C 635, Table 1, Direct Hung unless otherwise indicated.

Wire for Hangers and Ties: ASTM A 641, Class 1 zinc coating, soft temper, pre-stretched, with a yield stress load of at least time three design load, but not less than 12 gauge.

Edge Moldings and Trim,: Metal or extruded aluminum of types and profiles indicated or, if not indicated, manufacturer's standard moldings for edges and penetrations, including moldings with exposed flange of the same width as exposed runner.

Finish: All steel roll-formed parts shall be chemically cleansed, hot dipped galvanized steel. Capping shall be prefinished galvanized steel in a baked polyester paint finish. Color shall be Unpainted and match the actual color of the selected ceiling tile, unless otherwise specified. Off-white is not acceptable. Hanger Wire: Hanger wire shall be galvanized carbon steel per ASTM A 641, soft temper, pre-stretched.

with a yield stress load of at least three (3) times design load, but not less than 12 gauge (0.106") diameter.

096516 RESILIENT FLOORING

Warranty Period: Ten (10) year limited warranty commencing on Date of Final Completion.

For resilient sheet flooring, as determined by testing identical products according to ASTM E 648 or NFPA 253 by a qualified testing agency. Critical Radiant Flux Classification: Class I, not less than 0.45 W/sq. cm.

Resilient Wall Base (RB-1): Products complying with FS SS-W-40, Type I and with requirements specified

Surface burning characteristics: Unfaced Insulation - Maximum flame spread: 10; Maximum smoke

Paints applied on the interior of the building shall comply with Green Seal Product Specific Environmental

The surface must be dry and in sound condition. Remove oil, dust, dirt, loose rust, peeling paint or other

Remove electrical plates, hardware, light fixture trim, escutcheons, and fittings prior to preparing surfaces or

Drywall: Must be clean and dry. All nail heads must be set and spackled. Joints must be taped and covered

Apply all coatings and materials with manufacture specifications in mind. Mix and thin coatings according to

Touch-up damaged coatings after substantial completion, following manufactures recommendation for

Two Coats (or as required for complete coverage, may require more coats for darker colors): ProMar 200

One Coat: Quick dry interior/exterior stain blocking primer, 0 VOC, at 1.5 mils dry per coat.

touch up or repair of damaged coatings. Repair any defects that will hinder the performance of the coatings.

with a joint compound. Spackled nail heads and tape joints must be sanded smooth and all dust removed

<u>Linoleum Flooring</u> (LIN-1) Johnsonite - Harmonium xf2™

Style: Veneto XF2

in the Finish Schedule

developed: 10

Requirements

applying finishes.

099123 INTERIOR PAINTING

manufacture recommendation

Gypsum Board/Plaster - Latex:

Do not apply to wet or damp surfaces.

contamination to ensure good adhesion

Color: 604 Carlsbad

Product Standard: ASTM F 2034

Thickness: 0.100 inch. (2.5mm)

Sheet Width: As standard with manufacturer.

Owens Corning QuietZone Acoustic Batt Insulation

Seamless-Installation Method: Heat welded. Rod Style: 1751-604

Type I: Unfaced glass fiber insulation complying with ASTM C 665 and ASTM E 136.

prior to painting. Exterior surfaces must be spackled with exterior grade compounds.

Protect finished coatings from damage until completion of project

interior latex Zero VOC, Egg-shell, at min 1.8 mils dry per coat.

098500 SOUND TRANSMISSION CONTROL MATERIALS

DIVISION 10 - SPECIALTIES 102800 ARCHITECTURAL ACCESSORIES

Soap Dispenser:

SD-1 - Bobrick B-2111

Paper Towel Dispenser: PT-1 - Bobrick B-262

104416 FIRE EXTINGUISHERS

Warranty Period: Six years from date of Substantial Completion. Portable, Hand-Carried Fire Extinguishers, Cabinets, Brackets:

- Fire Extinguishers: Type, size, and capacity for each fire-protection cabinet and mounting bracket indicated. Manufacturers: Subject to compliance with requirements, provide products by one of the following: JL Industries, Inc.; a division of the Activar Construction Products Group.
 - Larsens Manufacturing Company. SimplexGrinnell Corp.

Valves: Manufacturer's standard.

Handles and Levers: Manufacturer's standard.

Instruction Labels: Include pictorial marking system complying with NFPA 10, Appendix B, and bar coding for documenting fire-extinguisher location, inspections, maintenance, and recharging. FX-1: Fire Extinguisher: Multi-Purpose, 10 lb., UL rating 4A:80B:C, Equal to Larsen MP10. Fire Extinguisher Cabinet: Semi-Recessed 2.5", Fire Rated, Painted Steel with narrow vision panel, box dimensions 24hx9.5wx6d, capable of accommodating above Extinguisher. Include vertical formatted identification lettering in contrasting color. Equal to Larsen 2409-6R.

Locations: As indicated on drawings, public spaces, corridors.

DIVISION 12 - FURNISHINGS 122413 ROLLER WINDOW SHADES

Where roller shades are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication and indicate measurements on Shop Drawings. Allow clearances for operating hardware of operable glazed units through entire operating range.

Warranty: Roller Shade Hardware: Manufacturer's standard non-depreciating five-year warranty. Roller Shade Cloth: Standard non-depreciating 10-year limited warranty.

Manual Single-Roller Shades: MechoShade Systems, Inc. (Basis of Design)

Manual operating, chain drive, sunscreen roller shades in all exterior windows, including fascias.

Mounting: within existing storefront WINDOW framing

Mounting Hardware: Brackets or endcaps, corrosion resistant and compatible with roller assembly, operating mechanism, installation accessories, and mounting location and conditions indicated. Shadebands:

Shadeband Material: Type 1: Light-filtering fabric. EcoVeil 1350 TPO. 5% open. Color: To be selected from manufacturers full range Shadeband Bottom (Hem) Bar: Steel or extruded aluminum. Type: Enclosed in sealed pocket of

123616 METAL COUNTERTOPS

Stainless-Steel Sheet: ASTM A 240/A 240M, Type 304. 33

Sealant for Countertops: Mildew-Resistant Joint Sealant: Mildew resistant, single component, non-sag, neutral curing, silicone. Color: Clear.

Stainless-Steel Countertops and Backsplash:

Countertops: Fabricate from 0.062-inch- thick, stainless-steel sheet. Provide smooth, 41 clean exposed tops and edges in uniform plane, free of defects. Provide front and end overhang of 1 inch over the base cabinets.

Joints: Fabricate countertops without field-made joints.

shadeband material.

Weld shop-made joints. Sound deaden the undersurface with heavy-build mastic coating.

Extend the top down to provide a 1-inch- thick edge with a 1/2-inch return flange.

Form the backsplash coved to and integral with top surface, with a 1/2-inch- thick top edge and 1/2-inch return flange.

Provide raised (marine) edge around perimeter of tops containing sinks; pitch tops containing sinks two ways to provide drainage without channeling or grooving. Where stainless-steel sinks occur in stainless-steel tops, factory weld into one integral unit.

Stainless-Steel Finish:

Grind and polish surfaces to produce uniform, directional satin finish matching No. 4 finish, with no evidence of welds and free of cross scratches. Run grain with long dimension of each piece. When polishing is completed, passivate and rinse surfaces. Remove embedded foreign matter and leave surfaces clean.





- WITH SCF PROJECT MANAGER

- REMOVE WALL BOXES AND RETAIN DOORS FOR REUSE. NEW CABINET BOXES TO REPLACE EXISTING -REFER TO A1.00

















24x48 RADIANT PANEL



DOOR AND FRAME SCHEDULE

		1 V VI			-00									
		DC	DOR					FRA	ME					
					GLAZ					DETAIL				
DOOR NO	SIZE	TYPE	MATL	FINISH	TYPE	TYPE	MATL	FINISH	HEAD	JAMB	SILL	FIRE	нw	NOTES
003	3'-0" x 7'-0"	В	WD	CLR	GL1	1	НМ	PT					2	
100	3'-0" x 7'-0"	A	WD	CLR		1	НМ	PT					2	
109	3'-0" x 7'-0"	A	WD	CLR		1	НМ	PT					4	
110	3'-0" x 7'-0"	A	WD	CLR		1	НМ	PT					1	
111	3'-0" x 7'-0"	В	WD	CLR	GL1	2		PT					3	

<u>HW-1</u> BUTT HINGE OFFICE LOCK (BLANK CORE)** KICKPLATE DOOR CLOSER WALL STOP SILENCERS

<u>HW-2</u> BUTT HINGE LATCHSET WALL STOP SILENCERS

<u>HW-3</u> SIDE WALL SLIDING TRACK ALUMINUM FASCIA DOOR PULLS

PULL PLATE KICKPLATE MOP PLATE WALL STOP GASKET CLOSER

<u>HW-4</u> BUTT HINGE (EX)

PUSH PLATE

GLAZING TYPES GL1 - Safety Glazing

<u>FINISHES</u> WD - MAPLE VENEER TO MATCH EXISTING

**INTENDED TO FUNCTION AS LATCH SET. CORES CAN BE ADDED FOR LOCK FUNCTION

<u>GENERAL NOTE</u> LOCK SETS TO ACCEPT BEST CORES. CORES PROVIDED AND INSTALLED BY OWNER

FINIS	FINISH SCHEDULE															
		FLC	OR	BAS	E				W	ALLS	;			CEILING		
						NOF	RTH	E/	AST	SO	UTH	W	/EST		1	
ROOM NO	ROOM NAME	MATL	COLOR			NOTES										
003	WAITING	*		B1	RB-1			W1	PT-1	W1	PT-1			C1	ACT-1	* PATCH EXISTING CARPET AS REQUIRED
100	HALL	F1**	LIN-1	B1	RB-1			W1	PT-1					C1	ACT-1	** OR EXISTING CARPET
100A	TESTING	F1	LIN-1	B1	RB-1					W1	PT-1	W1	PT-1		ACT-1	* EXISTING CEILING TO REMAIN
101	TREATMENT	F1	LIN-1	B1	RB-1	W1	PT-1	W1	PT-3			W1	PT-3	C1	ACT-1	
102	TREATMENT	F1	LIN-1	B1	RB-1	W1	PT-1	W1	PT-3			W1	PT-3	C1	ACT-1	
103	TREATMENT	F1	LIN-1	B1	RB-1	W1	PT-1	W1	PT-3			W1	PT-3	C1	ACT-1	
104	ALCOVE	F1	LIN-1	B1	RB-1	W1	PT-1	W1	PT-2			W1	PT-2	C1	ACT-1	PL-1&2; SS-1 FOR CASEWORK
105	WORK	F1	LIN-1	B1	RB-1	W1	PT-1	W1	PT-1	W1	PT-1	W1	PT-1	C1	ACT-1	
106	HALL	F1	LIN-1	B1	RB-1	W1	PT-2	W1	PT-2	W1	PT-2	W1	PT-2	C1	ACT-1	PL-1&2; SS-1 FOR CASEWORK
107	TREATMENT	F1	LIN-1	B1	RB-1			W1	PT-3	W1	PT-1	W1	PT-3	C1	ACT-1	
108	HALL	F1	LIN-1	B1	RB-1			W1	PT-2			W1	PT-2	C1	ACT-1	
109	WET LAB	F2		B1	RB-1	W1	PT-1	W1	PT-1	W1		W1	PT-1	C1	ACT-1	PL-1&2; SST-1 FOR CASEWORK
110	TECH LAB	F1	LIN-1	B1	RB-1	W1	PT-1	W1	PT-1	W1	PT-1	W1	PT-1	C1	ACT-1	PL-1&2; SS-1 FOR CASEWORK
111	OFFICE	F1	LIN-1	B1	RB-1	W1	PT-2	W1	PT-2	W1	PT-3	W1	PT-2	C1	ACT-1	

ALL DOOR FRAMES TO MATCH ADJACENT WALL



PRODUCTS		
<u>FLOOR:</u> F1 - LINOLEUM F2 - SEALED CONCRETE	<u>LINOLEUM:</u> LIN-1: JOHNSONITE HARMONIUM VENETO XF2 604 CARLSBAD	
<u>BASE:</u> B1 - 4" RUBBER BASE	RUBBER BASE: RB-1: JOHNSONITE 20 CHARCOAL	
WALL: W1 - GWB	PAINT: PT-1: SHERWIN WILLIAMS SW 710 PT-2: SHERWIN WILLIAMS SW 003 PT-3: SHERWIN WILLIAMS SW 65 PT-4: SHERWIN WILLIAMS SW 700	03 WHITETAIL 37 MORRIS ROOM GREY 14 RESPITE 06 EXTRA WHITE
<u>CEILING:</u> C1 - ACOUSTIC TILE	ACOUSTIC CEILING TILE: ACT-1: USG MARS SLT 24X48	
EX - EXISTING FINISH TO REMAIN		
	<u>P-LAM:</u> PL-1: WILSONART VAPOR STRANDZ 4939K-18	DECORATIVE RESIN PANEL: LUMICOR: WOVEN COLOR "IVORY"
	PL-2: WILSONART COSMIC STRANDZ 4941K-18	<u>STAND-OFF POST:</u> BRUSHED STAINLESS SLOT MOUNT BASIS OF DESIGN: CRL SM14BS
	<u>SOLID SURFACE:</u> SS-1: STARON URBAN GREY VU127	<u>STAINLESS STEEL COUNTERTOP:</u> SST-1: 16 ga. T304 # 4 FINISH SQUARE EDGE

ACCESSORIES

<u>GENERAL:</u> SD - SOAP DISPENSER PTD 1 - PAPER TOWEL DISPENSER

BASIS OF DESIGN PRODUCTS:

SD: BOBRICK B-2111 PTD 1: BOBRICK B-262

WINDOW COVERINGS: MECHO SHADE SOHO MANUAL ROLLER SHADE COLOR: 1603 BROOME











MECHANICAL LEGEND AND ABBREVIATIONS

	ABBREVIATIONS	
ADA APPROX	AMERICANS W/ DISABILITIES ACT APPROXIMATE	CW
ARCH	ARCHITECT, ARCHITECTURAL	NPV
BAS	BASEBOARD BUILDING AUTOMATION SYSTEM	HW HW
BTU	BRITISH THERMAL UNIT	PS
BTUH	BTU PER HOUR	PW
CA	COMPRESSED AIR	
CO		W
CO2 CONN	CONNECTION	FUE
dB	DECIBEL	G
DB		FOF
DEG	DEGREE	
DMPR	DAMPER	<u>FIRI</u>
DN DPS	DOWN DIFFERENTIAL PRESSURE SENSOR	I SP
DWV	DRAIN WASTE AND VENT	FDC
EA		
EGT	ENTERING AIR TEMPERATURE	CW
ELEC	ELECTRICAL	CW
ESP	EXTERNAL STATIC PRESSURE	
(E)	EXISTING	GR
FDC	FIRE DEPARTMENT CONNECTION	GS
FPM GAI	GALLON	
GALV	GALVANIZED	02
GC		N2C
GPH GPM	GALLON PER HOUR GALLON PER MINUTE	
HP	HORSEPOWER (ELEC.)	WA
		PIPI
KW	KILOWATT	SYN
KWH	KILOWATT HOUR	
LAT		
LWT	LEAVING GETCOL TEMPERATURE	
MAT	MIXED AIR TEMPERATURE	(
MAX MBH		
MECH	MECHANICAL	
MIN	MINIMUM	
MISC		E
NIC	NOT IN CONTRACT	
NO	NORMALLY OPEN	
OAT	NUT TO SCALE OUTSIDE AIR TEMPERATURE	
OFCI	OWNER FURNISHED CONTRACTOR INSTALLED	
OFOI	OWNER FURNISHED OWNER INSTALLED	TP
PD PG	PROPYLENE GLYCOL	
PH	PHASE (ELEC)	
PSI	POUND PER SQUARE INCH	
RPBFP	REVOLUTION PER MINUTE	
S.L.	ACOUSTIC OR SOUND LINED	
SS TEMD	STAINLESS STEEL	
TP	TRAP PRIMER	
TYP	TYPICAL	
V		ЗМ∨[
VEL VFD	VARIABLE FREQUENCY DRIVE	
VTR	VENT THRU ROOF	
WB	WET BULB	NO
ADDITION	IAL ABBREVIATIONS NOTED BY EQUIPMENT TAGS,	2
SYSTEM	SYMBOLS, AND ACRONYMS GENERALLY	
ACCEPTE	D DT THE INDUSTRY SHALL BE APPLICABLE.	
GRAPHIC	REFERENCES	
AFG	ABOVE FINISHED GRADE	
BOD	BOTTOM OF DUCT	
CI BOP	BOTTOM OF PIPE CENTER LINE	
ELEV.	ELEVATION	
FFL		
TOD	TOP OF DUCT	
TOP	TOP OF PIPE	
OC	ON CENTER	
DUCTWO	RK AND ACCESSORIES	<u>SYN</u>
C/A	COMBUSTION AIR	<u></u>
E/A	EXHAUST AIR	
O/A D/A	OUTSIDE AIR RETURN AIR	<u> </u>
S/A	SUPPLY AIR	}
T/A		F.
	FIRE DAMPER FIRE-SMOKE DAMPER	
BD	BALANCING DAMPER	· · ·
BDD	BACK DRAFT DAMPER	Ļ
5IVI	SHEET METAL	
	10' FINNED ELEMENT LENGTH	

BRE	VIATI	ONS								
PIPING SY	YSTEM RE	FERENCES								
PLUMBING CW NPW HW HWC PS PW RL V W	DOMESTIC COLD WATER NON-POTABLE COLD WATER DOMESTIC HOT WATER DOMESTIC HOT WATER CIRCULATION PRESSURE SEWER PUMPED WASTE RAIN LEADER SANITARY VENT SANITARY WASTE									
<u>FUEL GAS</u> G FOR FOS	<u>S SYSTEMS</u> NATURAL (FUEL OIL F FUEL OIL S	GAS RETURN SUPPLY								
<u>FIRE PRO</u> SP F FDC	TECTION S FIRE PROT FIRE MAIN FIRE DEPA	<u>YSTEMS</u> ECTION SPRINKLER PIPING RTMENT CONNECTION								
HYDRONI CWR CWS HWR HWS GR GS	IC SYSTEMS CHILLED WATER RETURN CHILLED WATER SUPPLY HEATING WATER RETURN HEATING WATER SUPPLY GLYCOL RETURN GLYCOL SUPPLY									
MEDICAL O2 N2O DA VAC WAGD	GAS SYSTE OXYGEN NITROUS C DENTAL AI VACUUM WASTE AN	E <u>MS</u> DXIDE R ESTHETIC GAS DISPOSAL								
		ITS AND ASSEMBLIES								
<u>SYMBOL</u> 	ABBREV.	DESCRIPTION PIPE UP PIPE DOWN PIPE TEE UP PIPE TEE DOWN								
	FD RD, ORD CO WCO FCO YCO	FLOOR DRAIN ROOF DRAIN, OVERFLOW ROOF DRAIN CLEANOUT, PIPE END PLUG CLEANOUT, WALL, CONCEALED CLEANOUT, FLOOR CLEANOUT, YARD W/CONCRETE COLLAR								
(#) AAV	WHA AAV	WHA WATER HAMMER ARRESTOR (# DENOTES FIXTURE UNIT LOAD) AUTOMATIC AIR VENT								
	MAV	W/SHUT-OFF VALVE(NOT SHOWN) MANUAL AIR VENT								
	TP	W/SHUT-OFF VALVE(NOT SHOWN) TRAP PRIMER, AUTOMATIC								
		BALL/GATE/SHUTOFF VALVE GLOBE VALVE								
	ST	STRAINER, IN-LINE W/HOSE-END DRAIN DRAIN VALVE W/HOSE END								
<u> </u>	BLV	BALANCING VALVE								
	FCV	FLOW CONTROL VALVE								
	MOV	CONTROL VALVE, 2-WAY								
	3MV	CONTROL VALVE, 3-WAY MIXING								
	3DV	CONTROL VALVE, 3-WAY DIVERTING								
Ť ♥ ♀	RV									
		PRESSURE REDUCING VALVE PIPE REDUCER UNION CONNECTION FLANGE CONNECTION FLEXIBLE JOINT PIPE ANCHOR								
		PIPE ALIGNMENT GUIDE								
	POC	POINT OF CONNECTION								
OUCTWO	RK COMP	ONENTS AND ASSEMBLIES								
SYMBOL	ABBREV.	DESCRIPTION								
	S.L.	ACOUSTICALLY LINED DUCT								
		THERMALLY INSULATED DUCT								
<u>}</u>		FLEX DUCT								
↓ ↓ ↓	VD RD	IURINING VANES								
	FD, FSD	FIRE DAMPER, FIRE SMOKE DAMPER								
	HC	HEATING COIL								
$(T) \vdash (T)$	T'STAT	THERMOSTAT (W/ INSULATED BASE)								
	S/A, O/A	SUPPLY AIR, OUTSIDE AIR (UP & DOWN)								
	кла, 1/А Е/А	RETURN AIR, TRANSFER AIR (UP & DOWN) EXHAUST AIR (UP & DOWN)								

√jne AB FILENAME: DRAWN BY: DATE: 9/13/

PLUMBING FIXTURE SCHEDULE NOTES

I. SINK AND HARDWARE PROVIDED BY DENTAL EQUIPMENT SUPPLIER. ROUGH-IN CONNECTIONS BY CONTRACTOR.

2. PROVIDE VALVED 1/4" CW LINE AND AIRGAP DRAIN FITTING FOR MODEL TRIMMER.

COMMENTS:

PIPE SIZES LISTED ARE THE REQUIRED SERVICE SIZE. THE ACTUAL CONNECTION SIZE SHALL BE AS REQUIRED BY THE MANUFACTURER OF THE ITEM SUPPLIED.

FIXTURE ID	DESCRIPTION	CW	HW	W	V	COMMENTS / BASIS OF DESIGN
P-1	TREATMENT SINK	1/2"	1/2"	2"	1 1/2"	COUNTERSET, SS, SINGLE COMPARTMENT, SINGLE HANDLE FAUCET, 1
P-2	WET LAB SINK	1/2"	1/2"	2"	2"	COUNTERSET, SS, SINGLE COMPARTMENT, DOUBLE HANDLE QUARTER TURN FAUCET WITH GO

FAN SCHEDULE

NOTES:

I. PROVIDE WITH BACKDRAFT DAMPER AND BIRDSCREEN AT ROOF TERMINATION.

2. PROVIDE WITH UNIT DISCONNECT SWITCH IN NEMA-3R ENCLOSURE. 2. FAN SHALL BE CONTROLLED BY A WALL MOUNTED ON / OFF SWITCH LOCATED IN THE WET LAB.

			FAN	I DATA				BASIS OF DESIGN						
			ESP									INTEGRAL		
EQ. ID	AREA SERVED	CFM	(IN WC)	TYPE	RPM	POWER	FLA	VOLTAGE	PHASE	ECM	VFD	DISCONNECT	MFR.	MOD
EF-1	WET / TECH LAB	450	1.25	DIRECT	2500	1/2 HP	6.9	120	1	Yes	No	No	GREENHECK	G-103HI

VAI																	
							HYDR	ONIC H	EATING	G COIL			MAX PRES	SSURE DROP	BASIS OF	DESIGN	
		COOLING	HEATING	MIN. VENT	CAPACITY	MAX VEL							AIR	FLUID			
TAG	AREA SERVED	CFM	CFM	CFM	(BTUH)	(FPM)	GPM	EAT	LAT	FLUID TYPE	EWT	LWT	(IN W.C.)	(FT W.C.)	MFR.	MODEL	NOTES
VAV 1	WET / TECH LAB	400	320	150	13,900 Btu/h	500	1.5	55 °F	75 °F	50% PG	190 °F	170 °F	0.20	3.00	TITUS	DESV 06	DIGITAL CONTROLS, 2-WAY CONTROL VALVE

AIR OUTLET SCHEDULE

NOTES:

I. DIFFUSER BACK PAN AND NECK SIZE AS SHOWN ON DRAWINGS.

2. DIFFUSER BLOW PATTERN AS SHOWN ON DRAWINGS.

 PROVIDE SOUND-LINED ACOUSTICAL ELBOW AS SHOWN ON DRAWINGS.
 ALL SUPPLY, RETURN, AND EXHAUST AIR DIFFUSERS TO BE PROVIDED WITH OBD OR VD FOR AIR BALANCING. LOCATE VD QUADRANTS IN AN ACCESSIBLE LOCATION FOR BALANCING.

	AREA			
TAG	SERVED	FINISH	USE	REMARKS
А	AS NOTED	WHITE	S/A	LAY-IN SQUARE DIFFUSER, TITUS TMS
В	AS NOTED	WHITE	S/A	LAY-IN, SLOT DIFFUSER, 1"SLOT WIDTH W/ SL PLENUM, TITUS TBD-30
D	AS NOTED	WHITE	E/A	SURFACE MOUNTED, DOUBLE DEFLECTION, TITUS 350RL
Е	AS NOTED	WHITE	E/A	EXHAUST GRILLE, 24"x24" CEILING (MODULE) PANEL MOUNTED, TITUS 50F

RADIANT PANEL SCHEDULE NOTES

1. PROVIDE MIN. 1" R-13 FIBERGLASS BATT INSULATION ABOVE EACH PANEL.									
	CAPACITY FLUID BASIS OF DESIGN								
EQ. ID	SERVICE	(BTU/H)	TYPE	IN	OUT	MFR.	MODEL	NOTES	
RP-1	HEATING	1680	50% PG	190 °F	170 °F	AIRTEX	HPH2448	1	

SLOT DIFFUSER KEY					
SLOT TAG	CONN. DUCT SIZE				
22-	6"				
23-	8"				
24-	8"				
42-	8"				
43-	10"				
44-	12"				
	SLOT TYPE (SEE SCHEDUL 6 = 72" 4 = 48" 2 = 24" 0 = FIELD VERIFY				
A X X - X - 1 = 1 WAY THROW 2 = 2 WAY	NUMBER OF SLOTS				

3 = DOWNWARD

CFM-

DUST COLLECTOR SCHEDULE

				ELECTRICAL		BASIS OF	DESIGN	
EQ. ID	CONNECTION	AIRFLOW	POWER	VOLTAGE	PHASE	MFR.	MODEL	NOTES
DC-1	2 x 3"ø HOSE	400 CFM	1/2 HP	120 V	1	HANDLER	60UFC	0.5 MICRON FILTERS, RATED FOR CONTINUOUS DUTY





CENTER NOTCH SLOT TO MATCH CEILING GRID AS REQUIRED



GREGORY JERNSTRO 9/13/19 Boo ME 12971 PROFESSIONAL	
OFFICE 721 DEPOT DRIVE, ANCHORAGE ALASKA 99501	PHONE 907.522.1042 ONLINE WWW JERNSTROMENGINEERING COM 1146
SOUTHCENTRAL FOUNDATION DENTAL CLINIC MODIFICATIONS 4341 TUDOR CENTRE DRIVE, SUITE 100 ANCHORAGE, AK 99508	LEGEND & SCHEDULES
THIS SHEET IS FULL S 34"x22" 1/8" 1/2" 1/4" 1" # DESCRIPTION	DATE
DATE DRAWN CHECK PROJECT 2	9/13/19 AB GJ 019-W03
SHEET NO.	

MECHANICAL SPECIFICATIONS

GENERAL PROVISIONS (DIVISION 21, 22, 23)

SCOPE OF WORK

THIS PROJECT IS GENERALLY DESCRIBED AS PROVIDING THE HEATING, VENTILATION, PIPING, PLUMBING, FIRE PROTECTION, AND CONTROL SYSTEMS TO THE SOUTHCENTRAL FOUNDATION FIREWEED DENTAL CLINIC. IT INCLUDES THE ADDITION OF EQUIPMENT AND SYSTEMS TO SERVE THE HEATING, VENTILATION, PIPING, PLUMBING, FIRE PROTECTION AND CONTROL FUNCTIONS IN THE FACILITY.

INTENT OF DRAWINGS AND SPECIFICATIONS

THE INTENT OF THE CONTRACT DOCUMENTS IS FOR THE CONTRACTOR TO INCLUDE ALL WORK NECESSARY FOR COMPLETE MECHANICAL SYSTEMS, TESTED AND READY FOR OPERATION, BY SUBMITTING A PROPOSAL. THE CONTRACTOR REPRESENTS THEY HAVE MADE A THOROUGH EXAMINATION OF THE SITE, OF THE WORK AND ALL EXISTING CONDITIONS AND LIMITATIONS. AND THEY HAVE DETERMINED THE DOCUMENTS ARE ADEQUATE AND SATISFACTORY FOR THE COMPLETION OF THE WORK.

MECHANICAL DRAWINGS DO NOT ATTEMPT TO SHOW ALL ASPECTS OF BUILDING CONSTRUCTION, WHICH WILL AFFECT THE INSTALLATION OF MECHANICAL SYSTEMS. THE MECHANICAL DRAWINGS ARE DIAGRAMMATIC AND ARE NOT INTENDED TO SHOW ALL OFFSETS, FITTINGS AND ACCESSORIES THAT MAY BE REQUIRED FOR A COMPLETE INSTALLATION.

CODES AND STANDARDS

PROVIDE ALL WORK IN COMPLIANCE WITH APPLICABLE LOCAL CODES AND STANDARDS. APPLICABLE CODES AND STANDARDS SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING:

- 2012 UNIFORM PLUMBING CODE 2012 INTERNATIONAL MECHANICAL CODE 2
- 2012 INTERNATIONAL FUEL GAS CODE 3.
- 4. 2012 INTERNATIONAL FIRE CODE
- 2012 INTERNATIONAL BUILDING CODE 5 2012 INTERNATIONAL ENERGY CONSERVATION CODE 6
- REQUIREMENTS OF OSHA AND EPA
- NATIONAL FIRE PROTECTION ASSOCIATION CODES, LATEST EDITIONS 8
- ASME CODES FOR BOILER AND PRESSURE VESSELS, LATEST EDITIONS q 10. SMACNA HVAC DUCT CONSTRUCTION STANDARDS, LATEST EDITIONS
- 11. ALL LOCAL AND STATE AMENDMENTS

12. REQUIREMENTS OF ALL AGENCIES HAVING JURISDICTIONAL AUTHORITY OVER INSTALLATION

COORDINATION AND SCHEDULING

PROVIDE ALL ADMINISTRATIVE AND SUPERVISORY REQUIREMENTS FOR THE COORDINATION AND SCHEDULING OF THE WORK. THE MECHANICAL CONTRACTOR SHALL COORDINATE THEIR WORK WITH THE WORK OF OTHER CONTRACTORS, SUBCONTRACTORS, SUPPLIERS, AND THE OWNER.

REVIEW ALL PROJECT DRAWINGS INCLUDING, BUT NOT LIMITED TO, ARCHITECTURAL, STRUCTURAL AND ELECTRICAL DRAWINGS.

PLAN AND EXECUTE WORK IN COOPERATION WITH ALL OTHER TRADES. EVERY REASONABLE EFFORT SHALL BE MADE TO PROVIDE ALL CONCERNED WITH TIMELY NOTICE OF WORK AFFECTING OTHER TRADES TO PREVENT CONFLICTS OR INTERFERENCE AS TO SPACE REQUIREMENTS, DIMENSIONS, OPENINGS, BLOCK-OUTS, SLEEVING OR OTHER MATTERS WHICH WILL CAUSE DELAYS OR NECESSITATE WORK-AROUND METHODS.

CONTRACTOR RESPONSIBILITY

THE CONTRACTOR SHALL BE REQUIRED TO MAINTAIN COMPLETE CONTROL OF THE CONSTRUCTED PROJECT SUCH THAT THE COMPLETE PROJECT SHALL BE FREE OF DEFECTS AND IN CONFORMANCE WITH THE PROJECT DOCUMENTS.

THE CONTRACTOR SHALL UTILIZE PROCEDURES THAT ASSURE QUALITY CONSTRUCTION THROUGHOUT. WITH USE OF THE BEST INDUSTRY STANDARDS FOR THE SPECIFIC PROCESS USED. REMOVE AND REPLACE ANY WORK FOUND DEFECTIVE OR NOT COMPLYING WITH REQUIREMENTS OF THE CONTRACT DOCUMENTS, AT NO ADDITIONAL COST TO THE OWNER.

WORKMANSHIP

ALL WORK TO BE DONE BY WORKMEN SKILLED IN AND REGULARLY EMPLOYED AT THAT TRADE.

PROVIDE ALL MATERIALS, PRODUCTS AND EQUIPMENT IN STRICT ACCORDANCE WITH ALL GOVERNING CODES AND ORDINANCES. THEY MUST BE OF FIRST QUALITY AND IN LINE WITH THE BEST CURRENT PRACTICES.

CUTTING AND PATCHING SHALL BE KEPT TO A MINIMUM. ALL PATCHING TO MATCH EXISTING FINISH WORK. DO NOT CUT STRUCTURAL MEMBERS.

CONTRACTOR SHALL FIELD VERIFY PRIOR TO BIDDING. VERIFY SPACE AVAILABILITY PRIOR TO FABRICATION AND INSTALLATION OF ANY WORK. VERIFY EXACT DISTANCES BETWEEN POINTS SHOWN ON DRAWINGS BY ACTUAL MEASUREMENT AT SITE.

REMOVE ALL WASTE MATERIALS AND RUBBISH FROM THE SITE, THOROUGHLY CLEAN ALL SURFACES OF WORK, AND LEAVE READY FOR OCCUPANCY BY THE OWNER. THE OWNER WILL VERIFY THE COMPLETION AND/OR CORRECTION OF THE ITEMS ABOVE.

SUBMITTALS

- SUBMIT TECHNICAL DATA AND REQUIRED INFORMATION ON EQUIPMENT AND MATERIALS AS FOLLOWS: PRODUCT DATA: SUBMIT MANUFACTURER'S PRODUCT DATA FOR THE ITEMS LISTED IN THE INDIVIDUAL SPECIFICATION SECTIONS. PRODUCT DATA SHALL DEMONSTRATE COMPLIANCE WITH ALL SPECIFIED FEATURES AND REQUIREMENTS.
- SHOP DRAWINGS: SUBMIT CONTRACTOR PREPARED DRAWINGS OF CONTRACTOR FABRICATED 2. MECHANICAL SYSTEMS. DRAWINGS SHALL SHOW EXACT LOCATION OF EQUIPMENT, PIPING AND DUCTWORK, EACH SECTION OF SHOP FABRICATED DUCT OR PIPE AND LOCATION OF FIELD JOINTS, SUPPORTS AND BUILDING ATTACHMENTS.
- 3. REPORTS AND CERTIFICATES: INDICATE AND INTERPRET TEST RESULTS FOR COMPLIANCE WITH
- PERFORMANCE REQUIREMENTS. PROVIDE PERFORMANCE CERTIFICATES. EQUIPMENT AND MATERIALS SEISMIC RESTRAINT: CONTRACTOR TO PROVIDE STRUCTURAL AND SEISMIC 4 CALCULATIONS PLUS FASTENING DETAILS FOR ALL APPLICABLE EQUIPMENT AND MATERIALS TO INCLUDE ENGINEER'S STAMP AND SIGNATURE, FOR STRUCTURAL REVIEW ON A DEFERRED SUBMITTAL BASIS.

PERMITS, INSPECTIONS AND FEES

CONTRACTOR SHALL ARRANGE AND PAY FOR ALL PERMITS, FEES, AND INSPECTIONS REQUIRED IN CONNECTION WITH THIS INSTALLATION. THE CONTRACTOR SHALL PRESENT THE OWNER WITH PROPERLY SIGNED CERTIFICATES OF FINAL INSPECTION BEFORE THE WORK WILL BE ACCEPTED.

CONTRACTOR SHALL CALL FOR ALL INSPECTIONS BY LOCAL BUILDING OFFICIALS WHEN THEY BECOME DUE AND SHALL NOT COVER ANY WORK UNTIL APPROVED BY THESE GOVERNING AUTHORITIES.

CONTRACTOR SHALL MAKE ALL ARRANGEMENTS WITH UTILITY COMPANIES FOR WATER, STEAM, GAS AND DRAINAGE SERVICES, ETC., ASSOCIATED WITH THE WORK AND INCLUDE REQUIRED PAYMENTS FOR METERS. PIPING, SERVICES, CONNECTION CHARGES AND MATERIALS FURNISHED AND INSTALLED BY UTILITY COMPANIES. WORK AND MATERIALS SHALL BE IN STRICT ACCORDANCE WITH RULES OF RESPECTIVE AUTHORITIES.

CONTRACT DOCUMENTS. THE OWNER WILL REQUIRE A COMPLETE FINAL INSPECTION OF ALL PARTS OF THE WORK. WORK SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING: PLUMBING, PIPING, EQUIPMENT, DUCTWORK, WIRING, AND FINISH WORK.

THE OWNER WILL REQUIRE A WRITTEN GUARANTY THAT ALL MATERIALS AND WORKMANSHIP THAT PROVE DEFECTIVE WITHIN ONE YEAR AFTER DATE OF ACCEPTANCE WILL BE REPLACED.

SUBMIT PROJECT DATA, WARRANTIES, O&M DATA, HYDRAULIC CALCULATIONS, AND SHOP DRAWINGS FOR REVIEW. ALSO PROVIDE ANY ADDITIONAL DATA AS REQUIRED FOR PERMIT BY THE AUTHORITY HAVING JURISDICTION.

COORDINATE WITH THE LATEST FLOOR PLANS AND BUILDING SECTIONS FOR WALL LOCATIONS, CEILING HEIGHTS, STRUCTURAL MEMBERS, ETC.

22 00 00 COMMON WORK RESULTS FOR PLUMBING

PLUMBING EQUIPMENT SHALL BE PROVIDED IN CONFORMANCE WITH MECHANICAL DRAWING SCHEDULES. ANY SUBSTITUTIONS MUST BE AN APPROVED EQUAL.

PLUMBING ACCESSORIES INCLUDING VALVES, FITTINGS AND APPURTENANCES SHALL BE SELECTED FOR THE SPECIFIC SERVICE AND SYSTEM USED.

DOMESTIC WATER PIPE: TYPE L HARD DRAWN COPPER TUBING, WROUGHT SOLDER TYPE FITTINGS, LEAD FREE SILVER SOLDER OR CROSS-LINKED POLYETHYLENE (PEX A) PIPE, FITTINGS, AND MANIFOLD SYSTEMS SUITABLE FOR DOMESTIC WATER SYSTEMS.

PIPE INSULATION: FIBERGLASS PIPE INSULATION WITH FACTORY APPLIED ALL-SERVICE JACKET; FACTORY PRE-MOLDED PVC FITTING AND VALVE COVERS. THERMAL CONDUCTIVITY K=0.24 AT 100°F MEAN TEMPERATURE. THICKNESS: 1.0-INCH.

TEST THE DOMESTIC WATER SYSTEMS AT 100 PSI WITH NO PRESSURE DROP OVER A FOUR-HOUR PERIOD, WITH SYSTEM STABILIZED AT DESIGN TEMPERATURE. OBSERVE SYSTEM FOR LEAKS, FAULTY CIRCULATION. EXPANSION AND CONTRACTION, AND REPAIR ANY DEFICIENCIES.

FLUSH AND STERILIZE THE DOMESTIC WATER SYSTEMS AS FOLLOWS: PRESSURE FLUSH THE DOMESTIC WATER PIPING SYSTEMS TO REMOVE PARTICULATE FROM THE SYSTEM. STERILIZE WITH CHLORINE TO OBTAIN 50 PPM FOR 24 HOURS; FLUSH WITH CLEAN WATER UNTIL RESIDUAL CHLORINE CONTENT IS LESS THAN 1.0 PPM. EXERCISE PROPER CARE DURING CLEANING AND FLUSHING OF SYSTEM TO ENSURE NO DAMAGE IS DONE TO ANY EQUIPMENT, VALVES, OR FITTINGS.

SOIL/WASTE/VENT: CAST IRON WITH NO-HUB FITTINGS OR DWV ABS PIPE AND FITTINGS. DWV ABS CANNOT BE USED IN EXPOSED AREAS OR RETURN PLENUMS. MINIMUM SLOPE OF 1/4" PER FOOT UNLESS NOTED OTHERWISE FOR 4" AND LARGER PIPES.

TEST THE SOIL, WASTE, AND VENT SYSTEMS PER THE UPC.

MEDICAL GAS PIPE AND FITTINGS: COPPER TUBING; TYPE L, HARD-DRAWN, ASTM B819; FITTINGS, LONG RADIUS WROUGHT COPPER ALLOY, AND SILVER BRAZING OF ALL FITTINGS AND JOINTS. COMPLY WITH NFPA 99. DENTAL AIR PIPING SHALL BE PRE-CLEANED AND CAPPED BEFORE USE. FACTORY-CLEANED AND SEALED PIPING SHALL HAVE ENDS KEPT SEALED UNTIL IMMEDIATELY READY FOR USE. PROVIDE TEMPORARY CAPS FOR ALL PIPES AND STATIONS DURING CONSTRUCTION.

FINAL CERTIFICATION AND VERIFICATION TESTS SHALL BE PERFORMED PRIOR TO DENTAL GAS OR VACUUM PIPING BEING PLACED INTO SERVICE. VERIFICATION TESTS SHALL BE CONDUCTED BY A PARTY TECHNICALLY COMPETENT AND EXPERIENCED IN THE FIELD OF MEDICAL GAS AND VACUUM PIPING TESTING AND IN COMPLIANCE WITH THE REQUIREMENTS OF ASSE 6030. TESTING PARTY SHALL BE OTHER THAN THE INSTALLING CONTRACTOR.

HVAC EQUIPMENT SHALL BE PROVIDED IN CONFORMANCE WITH MECHANICAL DRAWING SCHEDULES. ANY SUBSTITUTIONS MUST BE AN APPROVED EQUAL.

HVAC ACCESSORIES INCLUDING DAMPERS, FITTINGS AND APPURTENANCES SHALL BE SELECTED FOR THE SPECIFIC SERVICE AND SYSTEM USED.

MECHANICAL SPECIFICATIONS CONT'D

FINAL CHECKOUT AND PROJECT CLOSEOUT

THE OWNER HAS FULL AUTHORITY TO SEE THAT THE WORK IS PERFORMED IN ACCORDANCE WITH THE

OPERATION AND MAINTENANCE MANUAL

INCLUDE WARRANTY CERTIFICATES FOR ALL EQUIPMENT WHERE EXTENDED WARRANTIES ARE EITHER OFFERED OR REQUIRED; PROVIDE SUPPLIER CONTACT INFORMATION.

21 00 00 COMMON WORK RESULTS FOR FIRE SUPPRESSION

PROVIDE MODIFICATIONS TO THE FIRE SUPPRESSION SYSTEM IN THE AFFECTED AREAS AS REQUIRED FOR CONFORMANCE WITH NFPA-13 AND ALL OTHER APPLICABLE CODES AND ORDINANCES. COMPLY WITH ALL CODES, REGULATIONS, ORDINANCES AND REQUIREMENTS OF THE LOCAL AUTHORITY HAVING JURISDICTION

THE ENTIRE FACILITY IS PROTECTED BY A WET PIPE SYSTEM DESIGNED IN ACCORDANCE WITH LIGHT AND ORDINARY HAZARD OCCUPANCY REQUIREMENTS BASED UPON THE TYPE OF OCCUPANCY.

WORK INCLUDES, BUT IS NOT LIMITED TO, ALL PIPING, ALARM BELLS, SPRINKLER HEADS, DRAIN CONNECTIONS, VALVES, HANGERS, SLEEVES, AND ALL ACCESSORIES FOR A COMPLETE AND OPERATIONAL SYSTEM.

FIRESTOPPING: PENETRATIONS THROUGH FIRE-RATED ASSEMBLIES SHALL BE FIRE STOPPED WITH UL LISTED FIRESTOPPING SYSTEMS INSTALLED IN ACCORDANCE WITH UL LISTING FOR ASSEMBLY PENETRATION.

22 11 00 DOMESTIC WATER PIPING

PLASTIC PIPE MARKERS: FACTORY FABRICATED, FLEXIBLE, SEMI-RIGID PLASTIC, PERFORMED TO FIT AROUND PIPE OR PIPE COVERING.

WATER HAMMER ARRESTERS: PROVIDE ASSE 1010 CERTIFIED WATER HAMMER ARRESTERS ON THE COLD AND HOT WATER PIPES SERVING EACH PLUMBING FIXTURE. SIZED PER PDI WH-201 OR MANUFACTURER RECOMMENDATIONS.

DIELECTRIC UNIONS: PROVIDE AT EACH JOINT BETWEEN DISSIMILAR-METALS.

22 13 00 SANITARY WASTE AND VENT PIPING

22 60 00 MEDICAL GAS AND VACUUM PIPING

23 00 00 COMMON WORK RESULTS FOR HVAC

FIRESTOPPING: PENETRATIONS THROUGH FIRE-RATED ASSEMBLIES SHALL BE FIRE STOPPED WITH UL LISTED FIRESTOPPING SYSTEMS INSTALLED IN ACCORDANCE WITH UL LISTING FOR ASSEMBLY PENETRATION.

MECHANICAL SPECIFICATIONS CONT'D

23 09 00 INSTRUMENTATION AND CONTROLS

PROVIDE A COMPLETE AUTOMATIC TEMPERATURE CONTROL SYSTEM TO PROVIDE THE EQUIPMENT CONTROL SEQUENCES. THE SYSTEM SHALL BE FULLY INTEGRATED AND INSTALLED AS A COMPLETE PACKAGE OF CONTROLS AND INSTRUMENTATION. THE SYSTEM SHALL INCLUDE, BUT NOT BE LIMITED TO, ALL COMPUTER SOFTWARE AND HARDWARE, OPERATOR INPUT/OUTPUT DEVICES, SENSORS AND CONTROLS REQUIRED FOR COMPLETE OPERATION.

SYSTEM SHALL BE FULLY INTEGRATED INTO THE EXISTING BUILDING CONTROL SYSTEM AND SHALL MATCH EXISTING SYSTEM STANDARD CAPABILITIES FOR OPERATION, ALTERATION, ALARMS, TOTALIZATION, TRENDING AND OPTIMIZATION. AS APPLICABLE.

OPERATIONAL SYSTEM.

CONTROL WIRING: PROVIDE ELECTRIC WIRING AND WIRING CONNECTIONS REQUIRED FOR THE INSTALLATION OF THE CONTROL SYSTEM. COMPLY WITH THE REQUIREMENTS OF THE NATIONAL ELECTRIC CODE.

THE CONTROL CONTRACTOR SHALL WORK WITH AND COORDINATE WITH THE ENGINEER ON THE COMPONENTS. SEQUENCES OF OPERATIONS AND SYSTEM CAPABILITIES. SEE SEQUENCE OF OPERATIONS

23 21 00 HYDRONIC PIPING

HEATING SYSTEM: COPPER PIPE: TYPE L. ASTM B88. WITH SWEAT FITTINGS AND 430 SILVER SOLDER JOINTS. STEEL PIPE: BLACK STEEL ASTM A120 OR A53 GRADE A OR B, STANDARD WEIGHT. STEEL FITTINGS: 1. 2 INCHES AND SMALLER – 150-POUND BLACK MALLEABLE IRON, BLACK, SCREWED, ANSI B16.3 AND ASTM

WPB

PIPE INSULATION: FIBERGLASS PIPE INSULATION WITH FACTORY APPLIED ALL-SERVICE JACKET; FACTORY PRE-MOLDED PVC FITTING AND VALVE COVERS. THERMAL CONDUCTIVITY K=0.24 AT 100°F MEAN TEMPERATURE. THICKNESS: 1.0-INCH FOR GLYCOL HEATING SUPPLY AND RETURN SYSTEM. THICKNESS: 1.5-INCH FOR GLYCOL HEATING SUPPLY AND RETURN SYSTEM, HEATING SUPPLY AND RETURN SYSTEM FOR PIPES 21/2" OR LARGER. DO NOT INSULATE HEATING PIPING WITHIN THE BASEBOARD ENCLOSURE. PROVIDE A 20-GAUGE SHEET METAL SLEEVE WITH MINERAL WOOL PACKING, FULL DEPTH, AT ALL WALL PENETRATIONS.

PLASTIC PIPE MARKERS: FACTORY FABRICATED, FLEXIBLE, SEMI-RIGID PLASTIC, PERFORMED TO FIT AROUND PIPE OR PIPE COVERING.

DIELECTRIC UNIONS: PROVIDE AT EACH JOINT BETWEEN DISSIMILAR-METALS.

PRESSURE FLUSH THE HEATING PIPING TO REMOVE IRON OXIDES AND MILL SCALE FROM THE SYSTEM. FLUSH THE PIPING WITH TRISODIUM PHOSPHATE SOLUTION, 1 POUND FOR EACH 50 GALLONS OF WATER WHICH SHALL BE CIRCULATED FOR FOUR HOURS, THEN DRAINED AND FLUSHED WITH CLEAN WATER. REPEAT THIS PROCESS UNTIL THE SYSTEM IS CLEAN. EXERCISE PROPER CARE DURING CLEANING AND FLUSHING OF SYSTEM TO ENSURE NO DAMAGE IS DONE TO ANY EQUIPMENT, VALVES, OR FITTINGS.

TEST THE HEATING AND DOMESTIC WATER SYSTEMS AT 100 PSI WITH NO PRESSURE DROP OVER A FOUR-HOUR PERIOD, WITH SYSTEM STABILIZED AT DESIGN TEMPERATURE. OBSERVE SYSTEM FOR LEAKS, FAULTY CIRCULATION, EXPANSION AND CONTRACTION, AND REPAIR ANY DEFICIENCIES

23 31 00 HVAC DUCTWORK

DUCTWORK: ALL DUCTWORK SHALL BE GALVANIZED STEEL, FABRICATED AND INSTALLED IN ACCORDANCE WITH SMACNA HVAC DUCT CONSTRUCTION STANDARDS, 2" W.G. PRESSURE CLASS FOR LOW PRESSURE SYSTEMS AND 4" W.G. FOR MEDIUM PRESSURE SYSTEMS. DUCT SEALER SHALL BE UL LABELED DUCT SEALER AS MANUFACTURED BY 3M COMPANY OR EQUAL. EXPOSED DUCT FITTINGS SHALL BE SEALED WITH HARD CAST DUCT SEALANT TAPE APPLIED IN A NEAT AND UNIFORM STYLE. HARD CAST TAPE SHALL BE SUITABLE FOR PAINTING (PAINTING BY OTHERS). DUCT FITTINGS SHALL BE FABRICATED IN ACCORDANCE WITH SMACNA STANDARDS. DUCT RUNS SHALL COORDINATE WITH WALLS, SUSPENDED CEILINGS, LIGHT FIXTURES, ROOF TRUSSES AND SIMILAR FINISHED WORK. DUCT OPENING SHALL BE COVERED DURING CONSTRUCTION TO PREVENT ENTRANCE OF DUST AND DEBRIS.

DUCT INSULATION: ALL SUPPLY AIR DUCTWORK, OUTSIDE AIR INTAKE DUCTWORK, RELIEF DUCTWORK COMBUSTION AIR DUCTWORK, AND EXHAUST DUCTWORK BACK 10 FT. FROM THE EXTERIOR DISCHARGE, SHALL BE INSULATED WITH A COMMERCIAL GRADE, GLASS FIBER, REINFORCED FOIL FACED DUCT WRAP INSULATION SIMILAR TO OWENS-CORNING TYPE 150, 2" NOMINAL THICKNESS, 1.5# DENSITY, OR APPROVED EQUAL. THE AIR HANDLING UNIT OUTSIDE AIR DUCTWORK SHALL BE INSULATED THE ENTIRE LENGTH FROM THE OUTSIDE WALL TO THE AIR HANDLING UNIT. INSULATION SHALL BE APPLIED TO COVER ALL EXTERIOR SURFACES OF DUCTWORK AND SEALED TIGHTLY TO PREVENT LEAKAGE.

DUCT LINING: INTERNALLY LINE DUCTWORK DROPS FROM ROOFTOP UNITS AND ENDING WHERE SHOWN ON THE DRAWINGS. DUCT LINING SHALL BE 1" THICK RIGID GLASS FIBER TYPE SUITABLE FOR INTERIOR DUCT APPLICATION. INSULATION SHALL BE ADHERED TO ALL INTERIOR SURFACES OF DUCTS WITH 100% COVERAGE OF FIRE-RETARDANT ADHESIVE, UL LISTED AND LABELED AND MECHANICALLY FASTENED IN ACCORDANCE WITH SMACNA DUCT LINER APPLICATION STANDARD. MANUFACTURED BY OWENS-CORNING FIBERGLASS, JOHN-MANVILLE. OR AN APPROVED EQUAL.

FLEXIBLE DUCT: FIBERGLASS SCRIM REINFORCED ALUMINIZED POLYESTER FILM VAPOR BARRIER WITH R-4.2 (1 1/2") MINIMUM DENSITY FIBERGLASS BLANKET. DO NOT INSTALL IN LENGTHS LONGER THAN 5'-0".

ADDITIONAL METHODS

COORDINATE ALL NEW WORK WITH THE CONDUITS, LIGHTS, HANGERS, STRUCTURAL MEMBERS AND OTHER TRADES.

SUBMIT PROJECT DATA, WARRANTIES, AND O&M DATA FOR REVIEW.

SEE SCHEDULES FOR EQUIPMENT REQUIREMENTS AND SPECIFICATIONS.

INSTALL ALL EQUIPMENT ACCORDING TO MANUFACTURER'S RECOMMENDATIONS. INSTALL ONLY PRODUCTS SPECIFICALLY DESIGNED AND APPROVED FOR THE TYPE OF OPERATION OR SERVICE.

BALANCING & STARTUP

AN INDEPENDENT AIR BALANCING COMPANY WILL PERFORM THE AIR BALANCING OF THE COMPLETE HEATING AND HVAC SYSTEMS PER THE SMACNA BALANCING AND ADJUSTMENT MANUAL. ADJUST AIR QUANTITIES TO WITHIN 5% OF THE DESIGN VALUES.

TESTING AND BALANCING OF THE HEATING SYSTEM BEGINS BY VERIFYING THE AIR VENTS, AT THE HIGH POINTS OF THE SYSTEM, ARE OPERATING FREELY. ENSURE ALL AIR IS REMOVED FROM THE CIRCULATING SYSTEM. SET TEMPERATURE CONTROLS SO THAT AUTOMATIC VALVES ARE OPEN TO FULL FLOW THROUGH THE HEATING DEVICE. UPON COMPLETION OF FLOW READINGS AND ADJUSTMENTS. MARK ALL SETTINGS AND RECORD ALL DATA. DELIVER THE TESTING METER TO THE OWNER.

COMPLETE AND SUBMIT THE FINAL TESTING AND BALANCING REPORT BEFORE THE PROJECT IS COMPLETE.

ALL COMPONENTS USED WILL BE ONLY COMMERCIAL GRADE. PROVIDE ALL EQUIPMENT FOR A COMPLETE AND

2. 2-1/2 INCHES AND LARGER – STANDARD WEIGHT, SEAMLESS STEEL, BUTT-WELDING TO ANSI B16.9, GRADE

GREGORY JERNSTRO 9/13/19 ME 12971 APPOFESSIONAL		
JERNSTROM ENGINERRING ENGINERRING Z21 DEPOT DRIVE, ANCHORAGE ALASKA 99501	VE 907.522.1042	NE WWW.JERNSTROMENGINEERING.COM 1146
OFFICE	NOHd	ONLIN
SOUTHCENTRAL FOUNDATION DENTAL CLINIC MODIFICATIONS 4341 TUDOR CENTRE DRIVE, SUITE 100 ANCHORAGE, AK 99508		
THIS SHEET IS FULL S 34"x22" 1/8" 1/2" 1/4" 1"	IZE A	T 2"
# DESCRIPTION	DATE	I
DATE DRAWN CHECK PROJECT 2	9/13 019-W	/19 AB GJ /03
SHEET NO.		

SEQUENCES OF OPERATION

<u>CONTROLS</u>

CONTROL REQUIREMENTS

PROVIDE A COMPLETE AUTOMATIC TEMPERATURE CONTROL SYSTEM TO PROVIDE THE EQUIPMENT CONTROL SEQUENCES. THE SYSTEM SHALL BE FULLY INTEGRATED AND INSTALLED AS A COMPLETE PACKAGE OF CONTROLS AND INSTRUMENTATION. THE SYSTEM SHALL INCLUDE, BUT NOT BE LIMITED TO, ALL COMPUTER SOFTWARE AND HARDWARE, OPERATOR INPUT/OUTPUT DEVICES, SENSORS AND CONTROLS REQUIRED FOR COMPLETE OPERATION.

SYSTEM SHALL BE FULLY INTEGRATED INTO THE EXISTING BUILDING CONTROL SYSTEM AND SHALL MATCH EXISTING SYSTEM STANDARD CAPABILITIES FOR OPERATION, ALTERATION, ALARMS, TOTALIZATION, TRENDING AND OPTIMIZATION, AS APPLICABLE.

ALL COMPONENTS USED WILL BE ONLY COMMERCIAL GRADE. PROVIDE ALL EQUIPMENT FOR A COMPLETE AND OPERATIONAL SYSTEM.

CONTROL WIRING: PROVIDE ELECTRIC WIRING AND WIRING CONNECTIONS REQUIRED FOR THE INSTALLATION OF THE CONTROL SYSTEM. COMPLY WITH THE REQUIREMENTS OF THE NATIONAL ELECTRIC CODE.

THE CONTROL CONTRACTOR SHALL WORK WITH AND COORDINATE WITH THE ENGINEER ON THE COMPONENTS, SEQUENCES OF OPERATION AND SYSTEM CAPABILITIES.

SUBMIT PROJECT DATA, WARRANTIES, O&M DATA, AND CONTROL SHOP DRAWINGS FOR REVIEW.

SEQUENCES OF OPERATION

AIR SYSTEMS

- 1. TERMINAL UNIT CONTROL (VARIABLE VOLUME TERMINAL REHEAT BOXES):
 - A. A VELOCITY PRESSURE PROBE (FURNISHED WITH THE BOX) AND PRESSURE TRANSDUCER SHALL THROUGH THE DDC CONTROLLER MODULATE THE BOX DAMPER IN A PRESSURE INDEPENDENT MANNER THROUGHOUT THE AIRFLOW MODULATION RANGE OF THE BOX.
 - B. A ROOM TEMPERATURE SENSOR SHALL MODULATE THE BOX DAMPER OPEN FROM THE MINIMUM CFM SETPOINT IN RESPONSE TO A CALL FOR COOLING. AS THE SPACE TEMPERATURE DROPS BELOW SETPOINT THE TERMINAL UNIT CONTROLLER SHALL MODULATE OPEN THE REHEAT COIL CONTROL VALVE TO MAINTAIN THE ROOM TEMPERATURE SETPOINT.
 - C. IN SPACES WITH RADIANT HEATING PANELS, THE TERMINAL CONTROLLER SHALL MODULATE THE FINNED TUBE CONTROL VALVE FULL OPEN PRIOR TO MODULATING THE REHEAT COIL CONTROL VALVE.
 - D. UNLESS INDICATED, SPECIFIED, OR SCHEDULED OTHERWISE, THE INITIAL OCCUPIED ROOM TEMPERATURE SETPOINT SHALL BE 72°F, THE INITIAL UNOCCUPIED (NIGHTTIME) ROOM TEMPERATURE SETPOINT SHALL BE 60°F.
 - E. DURING OFF HOURS WHEN THE AIR HANDLING UNIT IS OFF, IF THE SPACE TEMPERATURE DROPS BELOW THE UNOCCUPIED HEATING SETPOINT, WITH THE RADIANT PANEL VALVE FULL OPEN, THE AIR HANDLING UNIT SHALL START AND SHALL RUN UNTIL ALL ZONES ARE SATISFIED AT OCCUPIED SPACE TEMPERATURE SETPOINT.
 - F. DURING OFF-HOURS IF THE SPACE TEMPERATURE EXCEEDS THE UNOCCUPIED COOLING TEMPERATURE SETPOINT OF 80°F, THE AIR HANDLING UNIT SHALL BE STARTED TO PROVIDE SUPPLY AIR AND THE BOX DAMPER SHALL MODULATED TO COOL THE SPACE DOWN TO OCCUPIED SPACE TEMPERATURE SETPOINT. WHEN ALL ZONES ARE SATISFIED THE AIR HANDLING UNIT SHALL BE TURNED OFF.
 - G. ZONES SENSORS SHALL HAVE NIGHT SETBACK OVERRIDE BUTTONS ON THEM. WHILE IN UNOCCUPIED MODE PUSHING AN OVERRIDE BUTTON SHALL CAUSE THE SYSTEM TO RETURN TO OCCUPIED SETPOINTS FOR THE PREDETERMINED TIME PERIOD. EACH PRESS OF THE BUTTON ADDS ANOTHER TIME PERIOD TO THE TOTAL OCCUPIED TIME PERIOD UP TO A PRESET LIMIT. HOLDING THE BUTTON IN FOR 3 SECONDS OR MORE NEGATES THE OVERRIDE PERIOD AND THE SYSTEM RETURNS TO UNOCCUPIED MODE AND THE FAN STOPS. A MINIMUM FAN RUN TIME OF 15 MINUTES (ADJUSTABLE) APPLIES FOR THE OVERRIDE MODE FOR THIS MODE.
- 2. FIRE / SMOKE DAMPERS: FIRE / SMOKE DAMPERS ARE TO CLOSE UPON DETECTION OF SMOKE FROM THE DUCT SMOKE DETECTOR PROVIDED BY DIV16.
- 3. EXHAUST FANS: SEE FAN SCHEDULE FOR ADDITIONAL CONTROL INFORMATION. A. EF-1: THE FAN SHALL BE CONTROLLED BY A WALL MOUNTED ON / OFF SWITCH.

HEATING SYSTEM

1. RADIANT HEATING UNITS (RP): A ROOM THERMOSTAT SHALL MODULATE THE AUTOMATIC CONTROL VALVE TO MAINTAIN THE ROOM HEATING SETPOINT. INITIAL SETPOINT SHALL BE 72°F.



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GREGORY JERNSTROM 9/13/19 BB 9/13/19 BB 9/19		
DEROFICIENCE ALASKA 99501	907.522.1042	E WWW.JERNSTROMENGINEERING.COM 1146
OFFICE	PHONE	ONLINE
SOUTHCENTRAL FOUNDATION DENTAL CLINIC MODIFICATIONS 4341 TUDOR CENTRE DRIVE, SUITE 100 ANCHORAGE, AK 99508	GARAGE DI IMBING - DEMOLITION	
THIS SHEET IS FULL S 34"x22" 1/8" 1/2" 1/4" 1"	IZE A	T _2"
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SHEET NO. M2.0		

AREA OF <u>LEVEL 1 KEY PLAN</u>

FILENAME: \\u00edjnenas\J2\2019 (Projects)\2019-W03 (SCF Fireweed Dental Clinic)\Design Development\SCF Fireweed Dental Clinic - Mechanical.n DRAWN BY: AB DATE: 9/13/2019 3:42:42 PM

1 LEVEL 1 PLUMBING - DEMOLITION

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REFERENCED SHEET NOTES

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REMOVE (E) SINK & ASSOCIATED PIPING AS INDICATED.
 CAP (E) WATER AND WASTE PIPING TO SINK AT MAIN.

AREA OF WORK LEVEL 1 KEY PLAN



GENERAL SHEET NOTES

1. REMOVE EXISTING DIFFUSERS AND DUCTWORK AS INDICATED.

 $\langle \# \rangle$ REFERENCED SHEET NOTES

RELOCATE THERMOSTAT, SEE NEW WORK PLAN FOR NEW LOCATION.



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GREGORY JERNSTRO 9/13/19 BB PROFESSIONALE	
OFFICE 721 DEPOT DRIVE, ANCHORAGE ALASKA 99501	PHONE 907.522.1042 AECL AECL AECL AECL AECL AECL 1146
SOUTHCENTRAL FOUNDATION DENTAL CLINIC MODIFICATIONS 4341 TUDOR CENTRE DRIVE, SUITE 100 ANCHORAGE, AK 99508	GARAGE PIPING - DEMOLITION
THIS SHEET IS FULL S 34"x22" 1/8" 1/2" 1/4" 1" # DESCRIPTION	
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AREA OF LEVEL 1 KEY PLAN



FILENAME: \\jnenas\J2\2019 (Projects)\2019-W03 (SCF Fireweed Dental Clinic)\Design Development\SCF Fireweed Dental Clinic - Mechanical.r DRAWN BY: AB DATE: 9/13/2019 3:42:47 PM

GREGORY JERNSTRO 9/13/19 ME 12971 PROFESSIONAL		
OFFICE 721 DEPOT DRIVE, ANCHORAGE ALASKA 99501	PHONE 907.522.1042	ONLINE WWW.JERNSTROMENGINEERING.COM 1146
SOUTHCENTRAL FOUNDATION DENTAL CLINIC MODIFICATIONS 4341 TUDOR CENTRE DRIVE, SUITE 100 ANCHORAGE, AK 99508	I EVEL 1 DIDING - DEMOLITION	
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AREA OF WORK LEVEL 1 KEY PLAN

FILENAME DRAWN BY DATE: 9/1

1 GARAGE PLUMBING - NEW WORK



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DEPOT DRIVE, ANCHORAGE ALASKA 99501	DNE 907.522.1042 LINE WWW.JERNSTROMENGINEERING.COM 1146
SOUTHCENTRAL FOUNDATION DENTAL CLINIC MODIFICATIONS 4341 TUDOR CENTRE DRIVE, SUITE 100 ANCHORAGE, AK 99508	GARAGE PLUMBING - NEW WORK
THIS SHEET IS FULL S 34"x22" 1/8" 1/2" 1/4" 1" # DESCRIPTION	DATE
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AREA OF WORK <u>LEVEL 1 KEY PLAN</u>



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OFFICE 721 DEPOT DRIVE, ANCHORAGE ALASKA 99501	PHONE 907.522.1042	ONLINE WWW.JERNSTROMENGINEERING.COM 1146
SOUTHCENTRAL FOUNDATION DENTAL CLINIC MODIFICATIONS 4341 TUDOR CENTRE DRIVE, SUITE 100 ANCHORAGE, AK 99508	I EVEL 1 DI LIMBING - NEW WORK	
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AREA OF WORK LEVEL 1 KEY PLAN

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RIVE, ANCHORAGE ALASKA 99501	AECL AECL 1146 1146
NNS OFFICE 721 DEPOT	PHONE 907.522.104 ONLINE WWW.JERN
SOUTHCENTRAL FOUNDATIO DENTAL CLINIC MODIFICATIO 4341 TUDOR CENTRE DRIVE, SUITE 100 ANCHORAGE, AK 99508	GARAGE HVAC - NEW WORK
THIS SHEET IS FULL S 34"x22" 1/8" 1/2" 1/4" 1"	2"
PESCRIPTION MOA COMMENT REVS.	UATE 10/1/19
DATE DRAWN CHECK PROJECT 2	9/13/19 AB GJ 019-W03
SHEET NO. M6.0	

AREA OF LEVEL 1 KEY PLAN

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REFERENCED SHEET NOTES

- 1 CAP EXISTING DUCT BRANCH.
- 2 12"x3" DUCT DOWN TO SURFACE MOUNT EXHAUST GRILLE LOCATED ABOVE COUNTERTOP APPROXIMATELY 48" AFF.
 3 3"ø FLEX HOSE FROM DUST COLLECTOR IN CABINET TO BLAST GATE LOCATED ABOVE COUNTERTOP APPROXIMATELY 48" AFF.
- _____

	AECL 1146
OFFICE 721 DEPOT DRIVE, ANCHORAGE ALASKA 99501	PHONE 907.522.1042 ONLINE WWW.JERNSTROMENGINEERING.COM
SOUTHCENTRAL FOUNDATION DENTAL CLINIC MODIFICATIONS 4341 TUDOR CENTRE DRIVE, SUITE 100 ANCHORAGE, AK 99508	LEVEL 1 HVAC - NEW WORK
THIS SHEET IS FULL 34"x22" 1/8" 1/2"	SIZE AT
1/4" 1" # DESCRIPTION 1 MOA COMMENT REVS.	DATE 10/1/19
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sheet no. M6.1	

FILENAME: DRAWN BY: DATE: 9/13/

FILENAME: DRAWN BY DATE: 9/13

REFERENCED SHEET NOTES

- 1/2" DA UP TO DENTAL CHAIR UTILITY BOX TERMINATION.
- 1/2" DA, 1 1/2" VAC UP TO UTILITY CONSOLE TERMINATION.
- 1/2" DA UP TO HOSE END AIR VALVE RECESSED IN WALL.
- 1/2" DA UP TO AIR VALVE MANIFOLD IN KNEE SPACE.
- 1/2" DA UP TO AIR VALVE MANIFOLD ABOVE COUNTERTOP.

REFERENCED SHEET NOTES

1/2" G DOWN TO TREATMENT CONSOLE VALVE TERMINATION.

AREA OF WORK LEVEL 1 KEY PLAN

2-WAY VALVE COIL DETAIL

NOTES

SUPPORT VAV TERMINAL UNIT BOX AND DUCTWORK FROM STRUCTURE PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE SEISMIC RESTRAINTS. DUCTWORK UPSTREAM OF VAV BOX TO MATCH THE NOMINAL INLET CONNECTION SIZE.

5 RADIANT PANEL PIPING DETAIL

"X" = PROVIDE SUBMITTAL

ELECTRICAL SPECIFICATIONS

26 00 00 - GENERAL REQUIREMENTS: ALL ELECTRICAL WORK SHALL BE INSTALLED IN ACCORDANCE WITH ALL REQUIREMENTS OF THE LATEST EDITION OF THE NATIONAL ELECTRIC CODE (NEC), STATE, MUNICIPAL, FEDERAL LAWS, AND AMENDMENTS GOVERNING THE PROJECT. ALL WORK SHALL BE PERFORMED UNDER THE SUPERVISION OF A CERTIFIED ADMINISTRATOR JOURNEYMAN ELECTRICIAN. ALL ELECTRICAL EQUIPMENT SHALL BE NEW COMMERCIAL GRADE AND INCLUDE THE SEAL OF A NATIONALLY RECOGNIZED TESTING LABORATORY FOR THE PURPOSE FOR WHICH IT IS INSTALLED.CONTRACTOR SHALL SUBMIT REQUEST FOR SUBSTITUTION IN WRITING TO THE ENGINEER. THE CONTRACTOR SHALL OBTAIN ALL REQUIRED CONSTRUCTION PERMITS AND PAY ALL ASSOCIATED FEES.

26 00 00.1 - WORKING CLEARANCES: THE CONTRACTOR IS REQUIRED TO COORDINATE THE MINIMUM WORKING CLEARANCES AND DEDICATED EQUIPMENT REQUIRED BY THE NEC 110.26. THE CONTRACTOR IS REQUIRED TO COORDINATE WITH ALL SUBCONTRACTORS SO THAT ENCROACHMENTS INTO THE RESTRICTED SPACE ARE PREVENTED.

26 00 00.2 - PLENUM RATING: ALL CABLING, RACEWAYS, CABLE TIES AND COMPONENTS LOCATED IN CEILING SPACES THAT ARE PLENUMS SHALL BE PLENUM RATED.

26 00 00.3 - FIRE RATING: ALL ELECTRICAL PENETRATIONS THROUGH FIRE RATED BARRIERS SHALL BE SEALED IN ACCORDANCE WITH NEC ARTICLE 300.21. PROVIDE FIRE PUTTY AT ALL BOXES IN FIRE RATED WALLS. CONTRACTOR TO PROVIDE SUBMITTAL OF ALL FIRE RATING SYSTEMS TO BE USED. VAPOR BARRIERS: SEAL ALL VAPOR BARRIER PENETRATIONS TO MAINTAIN SYSTEM INTEGRITY.

26 00 00.4 - ACCESS PANELS: PROVIDE ACCESS PANELS FOR ALL LOCATIONS NECESSARY TO ACCESS ELECTRICAL EQUIPMENT AND JUNCTION BOXES. ACCESS PANELS SHALL BE FIRE RATED EQUAL TO OR EXCEEDING THE ADJACENT WALL OR CEILING CONSTRUCTION AND PAINTED TO MATCH.

26 00 00.5 - REMODEL: EXISTING/REMODEL WORK THAT CANNOT BE CONCEALED DUE TO EXISTING SOLID CORE OR CONCRETE CONSTRUCTION SHALL BE INSTALLED USING WIREMOLD SURFACE MOUNTED RACEWAY AND BOXES IN FINISHED AREAS AND EXPOSED CONDUIT IN NON-FINISHED AREAS. PROVIDE TEMPORARY POWER AND LIGHTING FOR ALL AREAS OF THE BUILDING DURING THE RENOVATION. DEMOLISH ALL ABANDONED SPECIAL SYSTEM CABLES AND POWER WIRING BACK TO SOURCE. UPDATE ALL PANEL SCHEDULES TO REFLECT CURRENT CIRCUIT DESCRIPTIONS.

26 01 10 - SUBMITTALS: PROVIDE MATERIAL AND EQUIPMENT SUBMITTAL FOR EACH SPECIFICATION SECTION DENOTED AS REQUIRED AT MINIMUM. SUBMITTALS SHALL BE SUBMITTED ELECTRONICALLY IN PDF FORMAT (UNLESS HARD COPY IS REQUIRED BY OTHER CONTRACT APPLYING TO THE ENTIRE PROJECT). SUBMIT ALL REQUIRED SECTIONS IN A SINGLE SUBMITTAL OR BROKEN INTO NO MORE THAN THE FOLLOWING SEPARATE SECTIONS: "LIGHTING", "EQUIPMENT", "WIRING/DEVICES", AND "SPECIAL SYSTEMS". ORGANIZE SUBMITTAL AND/OR EACH SECTION BY SPECIFICATION NUMBER FOLLOWED BY ANY MAJOR EQUIPMENT REFERENCE ON THE DRAWINGS WITH ALL OPTIONS AND SELECTIONS HIGHLIGHTED TO DENOTE THE SPECIFIC EQUIPMENT PROPOSED. SUBMITTAL REVIEW IS FOR GENERAL DESIGN AND CONFIGURATION AND DOES NOT RELIEVE THE CONTRACTOR FROM PROVIDING A COMPLETE OPERATIONAL SYSTEM COMPLIANT WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS.

26 01 21 - RECORD DRAWINGS: MARK UP A SET OF DRAWINGS (REDLINES) SHOWING ALL ELECTRICAL WORK. SHOW DIAGRAMMATIC ROUTING, SIZING AND CIRCUIT REVISIONS TO THE CONTRACT PLANS. RECORD DRAWINGS SHALL BE KEPT ON SITE AVAILABLE FOR REVIEW DURING THE ENTIRE CONSTRUCTION PERIOD. SUBMIT FINAL REDLINE SET FOR APPROVAL PRIOR TO FINAL INSPECTION.

26 01 22 - WARRANTY: THE CONTRACTOR SHALL GUARANTEE ALL WORK EXECUTED UNDER THIS CONTRACT TO BE FREE FROM DEFECTS IN MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM SUBSTANTIAL COMPLETION. ANY FAULTY MATERIALS OR WORKMANSHIP SHALL BE REPAIRED DURING THE GUARANTEE PERIOD AT NO ADDITIONAL COST TO THE OWNER.

26 05 15 - POWER CONDUCTORS: ALL POWER CONDUCTORS SHALL BE THHN 90 DEGREE C INSULATED COPPER UNLESS NOTED OTHERWISE. CONDUCTORS INSTALLED WHILE AMBIENT TEMPERATURE IS LESS THAN -7C (20F) OR LOCATED IN UN-HEATED SPACES SHALL BE XHHW 90 DEGREE C INSULATED COPPER UNLESS NOTED OTHERWISE. INSTALL ALL CONDUCTORS AND CABLES IN ACCORDANCE WITH NEC REQUIREMENTS FOR AMBIENT TEMPERATURE DERATING, CONDUIT FILL DERATING, AND BOX FILL. PROVIDE UNSHARED DEDICATED NEUTRAL FOR EACH CIRCUIT.

480V/277V CONDUCTORS: COLOR CODE CONDUCTORS BROWN, ORANGE, YELLOW, GRAY AND GREEN WITH YELLOW STRIPE. MINIMUM SIZE CONDUCTORS FOR 15 AND 20 AMP BRANCH CIRCUITS MEASURED FROM THE PANELBOARD TO THE FURTHEST DEVICE ON THE CIRCUIT UNLESS OTHERWISE NOTED ON THE DRAWINGS: 12 AWG UP TO 120 FT, 10 AWG 120 FT TO 200 FT, 8 AWG GREATER THAN 200 FT.

208V/120V CONDUCTORS: COLOR CODE CONDUCTORS BLACK, RED, BLUE, WHITE, AND GREEN. MINIMUM SIZE CONDUCTORS FOR 15 AND 20 AMP BRANCH CIRCUITS MEASURED FROM THE PANELBOARD TO THE FURTHEST DEVICE ON THE CIRCUIT UNLESS OTHERWISE NOTED ON THE DRAWINGS: 12 AWG UP TO 75 FT, 10 AWG 75 FT TO 120 FT, 8 AWG GREATER THAN 120 FT.

26 05 19 - COMMERCIAL CABLES: METALCLAD (MC) CABLE WITH STEEL OUTER SHEATH (WHERE ROUTED CONCEALED AND PROTECTED).

26 05 20 - MEDICAL AREA CABLES: METALCLAD (MC) CABLE WITH REDUNDANT GROUND LISTED FOR USE IN MEDICAL AREAS PER NEC 517 (WHERE ROUTED CONCEALED AND PROTECTED).

26 05 22 - CLASS 2 CABLES: PLENUM RATED LOW VOLTAGE CABLES PER EACH SYSTEM MANUFACTURER RECOMMENDATIONS INSTALLED IN CABLE TRAYS OR CAT 5 RATED J-HOOKS SPACED NO MORE THAN 4 FT APART WHERE NO CABLE TRAY IS DENOTED. WHERE WIRING OR CABLING IS ROUTED IN NON-ACCESSIBLE LOCATION, A RACEWAY SYSTEM IS TO BE PROVIDED. DO NOT INSTALL WHEN AMBIENT TEMPERATURES ARE LESS THAN -7C (20F).

26 05 26 - GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS: PROVIDE GROUNDING CONDUCTOR IN ALL RACEWAYS BONDED TO EQUIPMENT AND TO RACEWAY SYSTEM. PROVIDE COMMUNICATION GROUND SYSTEM USING INSULATED GROUND BUS AT EACH TELECOM ROOM OR TTB BONDED TO THE MAIN SERVICE GROUND VIA #2 COPPER. PROVIDE #2 BOND FROM INSULATED GROUND BUS TO EACH RACK.

26 05 29 - HANGARS AND SUPPORTS FOR ELECTRICAL SYSTEMS: SUPPORT ALL ELECTRICAL EQUIPMENT INCLUDING, BUT NOT LIMITED TO, LIGHT FIXTURES, PANELBOARDS, BOXES, CONDUIT, ETC. PER NEC AND IBC SEISMIC REQUIREMENTS. PROVIDE SEISMIC SUPPORT AND DESIGN SEALED BY A LICENSED STRUCTURAL ENGINEER AS A DEFERRED SUBMITTAL TO THE AHJ FOR ALL EQUIPMENT OVER 400 LBS AND, EQUIPMENT OVER 20 LBS MOUNTED GREATER THAN 4FT AFF, CONDUIT 2.5"C OR GREATER AND ALL TRAPEZE SUPPORTED RACEWAY 10 LBS/LF OR GREATER.

26 05 30 - RACEWAY: ALL CLASS 1 CIRCUITS SHALL BE INSTALLED IN CONCEALED METALLIC RACEWAY EXCEPT WHERE SPECIFICALLY INDICATED ELSEWHERE IN THE SPECIFICATIONS OR SHOWN ON THE DRAWINGS. ELECTRICAL EQUIPMENT AND WIRING CAN BE EXPOSED IN MECHANICAL ROOMS, TELECOMMUNICATION ROOMS OR WHERE SPECIFICALLY NOTED. DO NOT ROUTE RACEWAYS ON THE EXTERIOR SURFACE OF THE BUILDING OR THE ROOF UNLESS SPECIFICALLY NOTED OTHERWISE.

"X" = PROVIDE SUBMITTAL

26 05 34 - ELECTRICAL METALLIC TUBING (EMT): ANSI C80.3, UL 797; GALVANIZED STEEL TUBING. FITTINGS: NEMA FB 1; GALVANIZED STEEL OR MALLEABLE IRON SET SCREW OR COMPRESSION. DIE CAST OR PRESSURE CAST FITTINGS OR LOCKNUTS ARE NOT PERMITTED. USES: CONCEALED OR EXPOSED WHERE NOT SUBJECT TO PHYSICAL DAMAGE.

26 05 40 - BOXES: PROVIDE PULL AND JUNCTION BOXES AS REQUIRED PER NEC REQUIREMENTS RATED FOR THE ENVIRONMENT INSTALLED. BRANCH CIRCUIT JUNCTION BOXES TO BE ELECTRO-GALVANIZED, 4" SQUARE BY 1 1/2" DEEP MINIMUM FOR USE IN INTERIOR AREAS. PROVIDE 4 11/16" SQUARE BY 2 1/8" DEEP OUTLET BOXES FOR ALL VOICE AND DATA OUTLETS. DO NOT INSTALL BOXES BACK-TO-BACK IN WALLS. PROVIDE SEPARATION TO MINIMIZE SOUND TRANSFER. PROVIDE FIRE RATED PADS TO COVER EACH BOX IN FIRE RATED WALLS WHERE NECESSARY TO MAINTAIN FIRE WALL RATING.

26 05 42 - FLOOR BOX: COORDINATE WITH OWNER'S REPRESENTATIVE FOR EXACT LOCATION OF EACH BOX. COORDINATE EACH BOX REQUIREMENTS WITH FLOOR TYPE/THICKNESS, NUMBER OF GANGS, DEVICE CONFIGURATION, COVER PLATES, AND RACEWAY HUBS AS DENOTED ON THE PLANS AND SPECIFICATIONS. TRIM/PLATES TO BE BRUSHED ALUMINUM. HUBBELL PART NUMBERS ARE PROVIDED AS BASIS OF DESIGN.

26 05 42.3 - FLUSH FLOOR BOX FIRE RATED: 4" ROUND FIRE RATED POKE-THRU 2 GANG - S1PTx OR AS DENOTED ON DENTAL SHOP DRAWINGS.

26 05 53 - IDENTIFICATION FOR ELECTRICAL SYSTEMS: PROVIDE PRINTED LABELS TO IDENTIFY ALL ELECTRICAL PANELBOARDS, DISCONNECTS, CONTROL EQUIPMENT, POWER OUTLETS AND WALL SWITCHES. LETTER HEIGHTS SHALL BE 1/4 INCH FOR EQUIPMENT AND 1/8 INCH ON RECEPTACLES AND WALL SWITCHES. RECEPTACLE AND SWITCH NAME PLATES SHALL INCLUDE PANELBOARD NAME AND CIRCUIT NUMBER. LABEL EACH CONDUCTOR AT EACH TERMINATION OR INTERCONNECTION OF WIRING IN PANEL BOARDS, GUTTERS, PULL BOXES, OUTLETS AND LOAD CONNECTIONS. LABEL SHALL DENOTE PANEL NAME AND CIRCUIT NUMBER. COLOR CODE PHASE CONDUCTORS PER CONDUCTOR SPECIFICATION. PROVIDE ARC FLASH WARNING LABELS ON ALL ELECTRICAL EQUIPMENT REQUIRED BY NEC SUCH AS PANELBOARDS, CONTROLS PANELS ETC. COLOR CODE FIRE ALARM RACEWAY, BOXES, AND CABLING WITH RED.

26 24 16 - PANELBOARDS: PROVIDE AND INSTALL NEMA PB1; BOLT-ON CIRCUIT BREAKER TYPE. FS W-P-115; TYPE I, CLASS 1 PANELBOARD OF THE RATING AND CONFIGURATION AS SHOWN ON THE SINGLE LINE DIAGRAM, PANEL SCHEDULES AND SCCR TABLE. PROVIDE TYPED CIRCUIT DIRECTORY SHOWING CIRCUITING ARRANGEMENT. PROVIDE BREAKER HANDLE TIES ON ALL EXISTING AND NEW MULTIWIRE BRANCH CIRCUITS SHOWN ON DRAWINGS.

26 27 26 - WIRING DEVICES: DEVICE AND DEVICE PLATES: COORDINATE COLOR WITH OWNER. FINISHED AREAS - FLUSH SMOOTH PLASTIC WITH MATCHING SCREWS. UNFINISHED AREAS - RAISED GALVANIZED STEEL. EXTERIOR AREAS - DIE CAST METAL, POWDER COAT FINISH, GASKETED, EXTRA DUTY RATED.

26 27 27 - RECEPTACLES: SIMPLEX OR DUPLEX (AS DENOTED ON THE PLANS) COMMERCIAL GRADE, 2 POLE, 3 WIRE, 120V, 20 AMP STRAIGHT BLADE, UON, UL LISTED, SMOOTH NYLON FACE, BACK AND SIDE WIRED. INSTALL RECEPTACLES VERTICALLY WITH GROUNDING POLE ON BOTTOM UNLESS NOTED OTHERWISE.

26 27 28 - GFCI RECEPTACLES: DUPLEX WITH CLASS 3 INTEGRAL GROUND FAULT CURRENT INTERRUPTER (GFCI). THE GFCI SHALL BE INSTALLED IN A READILY ACCESSIBLE LOCATION OR PROVIDE GFCI BREAKER IN PANEL. EXTERIOR OR WET LOCATIONS SHALL BE WEATHER RESISTANT MARKED "WR" ON THE FACE.

26 27 32.1 - CEILING DUPLEX: DUPLEX RECEPTACLE INSTALLED FLUSH IN CEILING.

26 27 35 - SWITCHES: 20 AMP, 120/277V AC, BACK AND SIDE WIRED CONFIGURED AS INDICATED ON THE DRAWINGS. PROVIDE NEUTRAL (GROUNDED CONDUCTOR) IN ALL SWITCH BOXES FOR EACH SWITCHED CIRCUIT TO ALLOW FUTURE TECHNOLOGIES TO BE INSTALLED WHICH REQUIRE NEUTRAL CONDUCTOR.

26 27 36 - DIMMING SWITCHES: COMPATIBLE WITH FIXTURE SPECIFIED. ON/OFF CONTROL WITH RAISE AND LOWER PUSHBUTTONS.

26 27 38 - VACANCY WALL SENSORS: DUAL TECHNOLOGY, SELF ADJUSTING, AUTOMATIC DUAL MODE WITH MANUAL ON - AUTO OFF CONFIGURATION.

26 27 41 - PILOT LIGHT SWITCH: RED PILOT LIGHT HEAVY DUTY SWITCH. LIGHT ON - LOAD ON.

26 27 42 - MOTOR RATED SWITCH: MANUAL FRACTIONAL HORSEPOWER RATED SWITCH RATED FOR VOLTAGE, PHASE AND HORSEPOWER AS DENOTED ON THE PLANS. SWITCH TO INCLUDE OVERLOADS WHERE NOT INCLUDED INTEGRAL TO THE MOTOR.

26 51 00 - LUMINAIRES: PROVIDE AND INSTALL ALL LIGHTING EQUIPMENT AS SHOWN ON THE DRAWINGS AND DESCRIBED IN THE LUMINAIRE SCHEDULE. BALLASTS SHALL BE SOUND RATED A. EXTERIOR FIXTURES SHALL BE RATED FOR OPERATION AT LEAST -20 DEG F. PROVIDE LED FIXTURES WITH LONG-LIFE LED'S, COUPLED WITH HIGH EFFICIENCY DRIVERS, L80 PERFORMANCE FOR 50,000 HOURS. DIMMING BALLASTS SHALL BE 0-10V, FLICKER-FREE, LOW INRUSH, 89% EFFICIENT MINIMUM AND LOW EMI.

27 15 00 - TELECOMMUNICATION OUTLET: DEVICE PLATES SHALL BE SINGLE GANG PLASTIC FACEPLATE WITH OPENINGS FOR 4 COUPLERS MINIMUM AND FINISH/COLOR TO MATCH RECEPTACLE COLOR. PROVIDE RJ45 TYPE COUPLERS, QUANTITY AS NOTED ON DRAWINGS. BLANK OFF UNUSED COUPLER OPENINGS IN DEVICE PLATE. HORIZONTAL CABLING TO BE CATEGORY 6, PLENUM RATED, COLOR CODED, 4 UNSHIELDED TWISTED PAIRS WITH 24 AWG INSULATED SOLID COPPER CONDUCTORS TERMINATED ON CAT 6 RATED PATCH PANEL AT NEAREST EQUIPMENT RACK. PERFORM AND DOCUMENT TESTING ACCORDING TO EIA/TIA. IDENTIFICATION: PROVIDE EQUIPMENT AND CABLE LABELING PER EIA/TIA 606 STANDARDS. LABEL EACH END OF CABLE AND DEVICE PLATE PORT WITH UNIQUE PORT NUMBER CORRESPONDING TO PATCH PANEL/PORT NUMBER TO WHICH IT IS CONNECTED.

28 31 11.1 - FIRE ALARM UPGRADE: EXISTING SYSTEM TO BE UPGRADED AND EXPANDED AS REQUIRED TO ACCOMMODATE THE NEW FLOOR PLAN LAYOUT OF TENANT SPACE. THE FIRE ALARM SYSTEM SHALL BE A DESIGN BUILD COMPONENT OF THE PROJECT TO BE PROVIDED BY THE CONTRACTOR. SYSTEM SHALL PROVIDE ALL CODE REQUIREMENTS AT MINIMUM. FIRE ALARM SYSTEM DESIGN AND MODIFICATIONS TO BE PERFORMED AND APPROVED BY A NICET LEVEL 3 DO OR HIGHER DESIGNER. SHOP DRAWINGS DENOTING ALL REQUIREMENTS OF NEC ARTICLE 760, NFPA 72 AND AUTHORITY HAVING JURISDICTION OF THE SYSTEM INSTALLATION ARE TO BE SUBMITTED TO THE FIRE MARSHAL IF REQUIRED. THE CONTRACTOR IS RESPONSIBLE FOR ALL SYSTEM REQUIREMENTS, MATERIALS, EQUIPMENT, AND RESUBMITTALS FOR THE NECESSARY FOR AN APPROVED SYSTEM.

ELECTRICAL SPECIFICATIONS

ELECTRICAL LEGEND

LUMINAIRE - TYPE AS NOTED ON PLAN.

- **test test** EXIT SIGN SHADE DENOTES FACE; ARROWS AS INDICATED
 - SWITCH SINGLE POLE, SINGLE THROW, UON
 - X SWITCH SEE SWITCH LEGEND FOR TYPE
 - POWER PANELBOARD

⑦ ② ② JUNCTION BOX OR EQUIPMENT CONNECTION (CEILING; WALL; FLOOR)

- DUPLEX RECEPTACLE
- DOUBLE DUPLEX RECEPTACLE
- DUPLEX RECEPTACLE GFCI PROTECTED
- DOUBLE DUPLEX RECEPTACLE GFCI PROTECTED
- DUPLEX RECEPTACLE PROTECTED BY GFCI CIRCUIT BREAKER IN PANEL
- SPECIAL RECEPTACLE VERIFY NEMA CONFIGURATION (WALL; CEILING)
- RECEPTACLE FLUSH MOUNTED IN CEILING
- ● FLUSH FLOOR BOX DOUBLE DUPLEX RECEPTACLE (NON-RATED; FIRE RATED)

▼ TELECOMMUNICATION OUTLET

SWITCH LEGEND

3 (THREE WAY); 4 (FOUR WAY); L (LOW VOLTAGE); D (DIMMER); K (KEYED); P (PILOT LIGHT); V (VARIABLE SPEED CONTROL); VS (VACANCY SENSOR); DV (DIMING VACANCY SENSOR); OS (OCCUPANCY SENSOR); TM (TIMER); T (INTEGRAL MOTOR OVERLOAD)

XXXX	DENOTES AVAILABLE FAULT CURRENT
	LINETYPE/LINEWEIGHT DENOTING FUTURE WORK
	LINETYPE/LINEWEIGHT DENOTING EXISTING WORK TO REMAIN
	LINETYPE/LINEWEIGHT DENOTING NEW WORK
	LINETYPE/LINEWEIGHT DENOTING DEMO WORK
	LINETYPE/LINEWEIGHT DENOTING BELOW GRADE CONDUIT
	LINETYPE/LINEWEIGHT DENOTING CONTROL WIRING

EQUIPMENT TAG LEGEND

LUMINAIRES	—LUMINAIRE TYPE (UNDERLINED) —CIRCUIT AND SWITCHLEG —PANEL
CONTROL SWITCHES	 LOWER CASE LETTER DENOTES SWITCH LEG FOR CORRESPONDING LUMINAIRE CONTROL UPPERCASE LETTER OR NUMBER DENOTES SWITCH CONFIGURATION
EQUIPMENT CONNECTIONS	—EQUIPMENT ID (UNDERLINED) —TYPICAL EQUIPMENT —CIRCUIT NUMBER(S) —PANEL
RECEPTACLES Definition of the second	—MOUNTING HEIGHT (SEE NOTE 1) —PANEL —CIRCUIT NUMBER(S)

NOTE 1: DIMENSIONS (WHEN GIVEN ARE AFF). 'C' OR TRIANGLE DENOTES 4" ABOVE COUNTER/BACKSPLASH OR ADJACENT COUNTER/SINK (COORDINATE WITH ARCHITECTURE). THIS APPLIES TO ALL ELECTRICAL DEVICES.

	ABBREVIATIONS
INDUSTRY	STANDARD ABBREVIATIONS SHALL ALSO BE APPLICABLE.
(D)	DEMOLISH
(E)	EXISTING
(R)	RELOCATED
AFCI	ARC FAULT CIRCUIT INTERRUPTER
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AL	ALUMINUM
BJ	BONDING JUMPER
СВ	CIRCUIT BREAKER
CO, C.O.	CONDUIT ONLY
СТ	CURRENT TRANSFORMER
CU	COPPER
DFACU	DEDICATED FIRE ALARM CONTROL UNIT
EGC	EQUIPMENT GROUNDING CONDUCTOR
FAA	FIRE ALARM ANNUCIATOR
FACP	FIRE ALARM CONTROL PANEL
FACU	FIRE ALARM CONTROL UNIT
FHP	FRACTIONAL HORSEPOWER
FLA	FULL LOAD AMPS
FSD	FIRE SMOKE DAMPER
G, GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GEC	GROUNDING ELECTRODE CONDUCTOR
GES	GROUNDING ELECTRODE SYSTEM
GFEP	GROUND FAULT EQUIPMENT PROTECTION
MCA	MINIMUM CIRCUIT AMPACITY
MFS	MAXIMUM FUSE SIZE
NC	NORMALLY CLOSED
NIC	NOT IN CONTRACT (NOT IN SCOPE)
NO	NORMALLY OPEN
Р	POLES
PC	PHOTO CELL
PH, Ø	PHASE
PNL	PANEL
RIB	RELAY IN A BOX (MOTOR RATED)
SCCR	SHORT CIRCUIT CURRENT RATING
SE	SERVICE ENTRANCE RATED
SSBJ	SUPPLY SIDE BONDING JUMPER
SSEBJ	SUPPLY SIDE EQUIPMENT BONDING JUMPER
TGB	TELECOMMUNICATION GROUNDING BUSBAR
TMGB	TELECOMMUNICATION MAIN GROUNDING BUSBAR
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED
VFD	VARIABLE FREQUENCY DRIVE
W	WATTS OR WIRE
WG	WIRE GUARD
WP	WEATHERPROOF
XFMR	TRANSFORMER
L	

MOUNTING HEIGHT SCHEDULE	
EQUIPMENT	HEIGHT
PANELBOARDS (TOP)	72"
SPECIAL SYSTEM PANELS (TOP)	72"
POWER METER BASE (CENTER LINE OF SOCKET)	PER UTILITY
CONTACTORS, MOTOR STARTERS, DISCONNECT (TOP)	66"
REC IN OFFICE AREAS	18"
REC LOCATED IN HAZARDOUS OR S-2 OCCUPANCIES	24" MINIMUM
REC IN NON-FINISHED AND MECHANICAL SPACES	46"
WALL MOUNTED SWITCHES	46"
TELECOMMUNICATION OUTLETS	18"
INDICATING DEVICES (BOTTOM)	80"
PULL STATIONS, PUSH BUTTONS	46"

MOA PLAN REVIEW PROJECT SUMMARY

REMODEL TO DENTAL AREA IN EXISTING DENTAL FACILITY. NEW ELECTRICAL CONNECTIONS TO EXISTING ELECTRICAL SYSTEM.

	ELECTRICAL SHEET LIST
NUM	SHEET TITLE
E0.1	LEGEND
E0.2	SCHEDULES
E1.1	DEMOLITION PLAN
E2.1	LIGHTING PLAN
E3.1	POWER AND SIGNAL PLAN
E4.1	ONE-LINE DIAGRAMS, DETAILS, AND SCHEDULES
TOTAL S	HEETS: 6

I" ACTUAL	
-	34"X22"
	LL SIZE AI
	EELISFU

							LU	MINAIRI	E SCHEDULE		
								NC	DTES		
(KEY)	'(x)' DEI	NOTES	A GENERAL, NON-REFERENCED, NOTE. NUM	BERED NO	DTES AF	RE REFE	RENCE	D IN TH	E SCHEDULE.		
(A)	QUANT	TTIES/C	COUNTS SHOWN IN SCHEDULES ARE FOR CON	IVENIENC	E ONLY	. CONT	RACTO	r to ve	RIFY ALL QUAN	ITITIE	S/COUNTS
(B)	CATAL	og nur	MBERS ARE FOR GENERAL REFERENCE AND A	ARE NOT I	NCLUSI	VE OF A	ALL OPT	IONS/R	EQUIREMENTS	DENO	TED ON P
(C)	REFER	TO AR	CHITECTURAL DRAWINGS FOR EXACT LOCAT	ON AND F	PROVID	E MOUN	TING H	ARDWA	RE/FLANGES ET	IC FO	R ALL LUN
(D)	PROVI	DE UNI	VERSAL OR MULTI-VOLTAGE VOLTAGE DRIVER	RS WHEN	AVAILA	BLE. CO	DORDIN	ATE EX	ACT VOLTAGE/F	PHASE	WITH CO
1	SECTIO	ONS OF	STRIP LIGHT ARE TO BE 3FT. ORDER ALL APP	ROPRIAT	E MOUN	ITING H	ARDWA	RE FOF	R APPLICATION.	ORDE	R POWEF
								SCH	EDULE		
QTY	TYPE		DESCRIPTION				WAT	TS	LAMPS		MOUNT
6	E2	EMER	GENCY LIGHTING UNIT W/ TWO ADJUSTABLE I	HEADS			1 V	V	(2) 1.2W LED	WAL	L +7'-0" OF
17	GB4	2' X 4'	LED VOLUMETRIC TROFFER				34 \	N	4032 LM LED		CEILING
8	GB5	2' X 4'	LED VOLUMETRIC TROFFER				45	N	5234 LM LED		CEILING
7	GB24	2' X 2'	LED VOLUMETRIC TROFFER				39	N	4302 LM LED		CEILING
7	GF24	2' X 2'	LED FLAT PANEL, ADJUSTABLE (FIELD SET SV	VITCH TO	4400 LU	MENS)	39	N	4357 LM LED		CEILING
11	U3	3FT LE	ED UNDER CABINET LED TAPE LIGHT AND CHA	NNEL			22	W 7	23 LM/FT LED	L	JNDER CA
3	X	LED E	XIT SIGN WITH BATTERY BACKUP				1 V	V	GREEN LED	W	ALL OR C
						FOI					
							JIPIVIEN			ULE	
$\frac{(N \simeq 1)}{(\Lambda)}$			COUNTS SHOWN IN SCHEDULES ARE FOR CO								
(<u>^)</u> (<u>P</u>)											.5/00001
(O) (D)											
(D) (E)	FRACI										
<u>(Ľ)</u> 1	REFE		INTAL SHOP DRAWINGS FOR ADDITIONAL REC			D FROM			DOX.		
2	EQUIP	MENT	REQUIRES ROUGH-IN ONLY. SEE POWER AND	SIGNAL P	LAN FO	R MORE		MATION	١.		
								SCH	EDULE		
ΣΤ Υ	EQUI	P ID	LOCATION OR FUNCTION	KVA	HP	FLA	MCA	MFS	TYPE		CONFIG
1				1 1 1 7 7	1/2						

QTY	EQUIP ID	LOCATION OR FUNCTION	KVA	HP	FLA	MCA	MFS	TYPE	CONFIG	V	PH	OPD	FEEDER (MINIMUM) CU U
1	DC-1	DUST COLLECTOR	1.127	1/2				DUPLEX (CEILING)		120	1	20 A	0.5"C, (2)12 AWG, (1)12 AWG EGC
4	E1	DENTAL CHAIR	1.200					QUAD (FLOOR POKE-THROUGH)		120	1	20 A	0.5"C, (2)12 AWG, (1)12 AWG EGC
4	E2	TREATMENT CONSOL	0.660					DIRECT WIRED		120	1	20 A	0.5"C, (2)12 AWG, (1)12 AWG EGC
4	E6	DENTAL LIGHT	0.150					DIRECT WIRED		120	1	20 A	0.5"C, (2)12 AWG, (1)12 AWG EGC
4	E9	MONITOR	0.300					DUPLEX GFCI		120	1	20 A	0.5"C, (2)12 AWG, (1)12 AWG EGC
4	E10	CEILING MOUNTED MONITOR	0.180					DUPLEX (CEILING)		120	1	20 A	0.5"C, (2)12 AWG, (1)12 AWG EGC
1	E20	MODEL TRIMMER	1.500					DUPLEX		120	1	20 A	0.5"C, (2)12 AWG, (1)12 AWG EGC
1	E21	POLISHER	1.000					DUPLEX GFCI		120	1	20 A	0.5"C, (2)12 AWG, (1)12 AWG EGC
1	E22	PRESSURE MOLDING MACHINE	0.850					DUPLEX		120	1	20 A	0.5"C, (2)12 AWG, (1)12 AWG EGC
1	E23	LIGHT CURING SYSTEM	0.276		2.3			DUPLEX GFCI		120	1	20 A	0.5"C, (2)12 AWG, (1)12 AWG EGC
3	E24	SMART BOX	0.100					DUPLEX		120	1	20 A	0.5"C, (2)12 AWG, (1)12 AWG EGC
1	E26	SAND VAC	0.600		5			DUPLEX GFCI		120	1	20 A	0.5"C, (2)12 AWG, (1)12 AWG EGC
2	E27	TWISTER EVOLUTION	0.180					DUPLEX		120	1	20 A	0.5"C, (2)12 AWG, (1)12 AWG EGC
1	E31	UNDER COUNTER REFRIGERATOR	1.800			15		DUPLEX GFCI CB		120	1	20 A	0.5"C, (2)12 AWG, (1)12 AWG EGC
1	E33	LAB HANDPIECE SYSTEM	0.180					DUPLEX GFCI		120	1	20 A	0.5"C, (2)12 AWG, (1)12 AWG EGC
1	E40	CAD MILLING UNIT	0.420		3.5			DUPLEX GFCI		120	1	20 A	0.5"C, (2)12 AWG, (1)12 AWG EGC
1	E42	SMALL 3D PRINTER	0.065					DUPLEX GFCI		120	1	20 A	0.5"C, (2)12 AWG, (1)12 AWG EGC
1	E43	LARGE 3D PRINTER	0.360		3			DUPLEX GFCI		120	1	20 A	0.5"C, (2)12 AWG, (1)12 AWG EGC
1	EF-1	EXHAUST FAN	1.176	1/2				MOTOR SWITCH	NEMA 3R	120	1	20 A	0.5"C, (2)12 AWG, (1)12 AWG EGC

LEGEND

HEALTH CARE AREA

HEALTH CARE NEC 517 NOTES

ALL PATIENT CARE AREAS ARE TO BE WIRED PER NEC 517 REQUIREMENTS AS FOLLOWS:

517.13(B) THE GROUNDING TERMINALS OF ALL RECEPTACLES AND ALL NON-CURRENT-CARRYING CONDUCTIVE SURFACES OF FIXED ELECTRIC EQUIPMENT LIKELY TO BECOME ENERGIZED THAT ARE SUBJECT TO PERSONAL CONTACT, OPERATING AT OVER 100 VOLTS, SHALL BE GROUNDED BY AN INSULATED COPPER CONDUCTOR. THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE SIZED IN ACCORDANCE WITH TABLE 250.122 AND INSTALLED IN METAL RACEWAYS OR AS A PART OF LISTED CABLES HAVING A METALLIC ARMOR OR SHEATH ASSEMBLY WITH THE BRANCH CIRCUIT CONDUCTORS SUPPLYING THESE RECEPTACLES OR FIXED EQUIPMENT.

			10			
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					THER SITUATIONS	
WER						
	//01//					
UNTIN	G	N	/ANUFA	CTURER	MODEL	NOTES
0" OR		G	LITH	ONIA	ELM2L	
ING GI	RID		LITH	ONIA	2BLT4 40L ADP EZ1 LP950	
ING G	RID		LITH	ONIA	2BLT4 48L ADP EZ1 LP950	
ING GI	RID		LITH	ONIA	2BLT2 40L ADP EZ1 LP950	
ING GI	RID		LITH	ONIA	CPANL 2X2 24/33/44LM 40K M4	
R CAB	INET		KEL	.VIX	LIGHT: DK5K-24V, CHANNEL: CH506A	1
DR CE	ILING		LITH	ONIA	LQM S W 3 G 120/277 ELN	
UNTS	FROM	PLA	NS.			
NFIG	V	PH	OPD		FEEDER (MINIMUM) CU UON	NOTES
	120	1	20 A	0.5"C, (2)12 AWG, (1)12 AWG EGC	
	120	1	20 A	0.5"C, (2)12 AWG, (1)12 AWG EGC	1
	120	1	20 A	0.5"C, (2)12 AWG, (1)12 AWG EGC	1
	120	1	20 A	0.5"C, (2)12 AWG, (1)12 AWG EGC	1
	120	1	20 A	0.5"C, (2)12 AWG, (1)12 AWG EGC	1
	120	1	20 A	0.5"C, (2)12 AWG, (1)12 AWG EGC	1,2
	120	1	20 A	0.5"C, (2)12 AWG, (1)12 AWG EGC	1
	120	1	20 A	0.5"C, (2)12 AWG, (1)12 AWG EGC	1
	120	1	20 A	0.5"C, (2)12 AWG, (1)12 AWG EGC	1
	120	1	20 A	0.5"C, (2)12 AWG, (1)12 AWG EGC	1
	120	1	20 A	0.5"C, (2)12 AWG, (1)12 AWG EGC	1
	120	1	20 A	0.5"C, (2)12 AWG, (1)12 AWG EGC	1
	120	1	20 A	0.5"C, (2)12 AWG, (1)12 AWG EGC	1
	120	1	20 A	0.5"C, (2)12 AWG, (1)12 AWG EGC	1

1

1

1

1

				19		
	ENERGY CODE: MOA IECO	C 2012			(BLDG	TYPE: OFFICE)
				ALLOW		DESIGN
RM NUM	RM NAME	AREA	SPACE TYPE	LPD (W/FT^2)	LPA (W)	TOTAL CONNECTED POWER (W)
100	HALLWAY	59.76 SF	Hospital/Healthcare_Corridors/Tra nsition	2.13 W/ft ²	127 W	39 W
101	TREATMENT	154.66 SF	Hospital/Healthcare_Exam/Treat ment	2.13 W/ft ²	329 W	137 W
102	TREATMENT	171.28 SF	Hospital/Healthcare_Exam/Treat ment	2.13 W/ft ²	364 W	137 W
103	TREATMENT	160.43 SF	Hospital/Healthcare_Exam/Treat ment	2.13 W/ft ²	341 W	137 W
104	STORAGE ALCOVE	49.57 SF	Storage	1.00 W/ft ²	50 W	34 W
106	HALLWAY	273.22 SF	Hospital/Healthcare_Corridors/Transition	2.13 W/ft ²	581 W	196 W
107	TREATMENT	182.58 SF	Hospital/Healthcare_Exam/Treat ment	2.13 W/ft ²	388 W	137 W
108	HALLWAY	176.59 SF	Hospital/Healthcare_Corridors/Tra nsition	2.13 W/ft ²	375 W	117 W
109	WET LAB	192.23 SF	Laboratory_Medical/Industrial/Res earch	2.25 W/ft ²	433 W	272 W
110	TECK LAB	221.14 SF	Laboratory_Medical/Industrial/Res earch	2.25 W/ft ²	498 W	290 W
111	DOCTOR OFFICE	107.07 SF	Office - Enclosed	1.38 W/ft ²	147 W	117 W
TOTALS:		1748.53 SF			3631 W	1612 W

★ 0 F. A. 49 [™] ERIC D. COWING ERIC D. COWING 0 EE - 9773 0 0FESSION
EICE ENGINEERS, INC. ELECTRICAL ENGINEERS ELECTRICAL ENGINEERS CORPORATION LICENSE: AECC1105 CORPORATION LICENSE: AECC1105 EICI DISEWARD HWY, STE 200 ANCHORAGE, AK 99518 907:349:9712 BIC JOB NO. E19-3011 WWW.EICENGE. COM
SOUTH CENTRAL FOUNDATION DENTAL CLINIC MODIFICATIONS 4341 TUTOR CENTER DR, SUITE 100 ANCHORAGE, AK 99508
REVISIONS NUM DESCRIPTION
JOB NO. E19-3011 DATE 9/13/2019 DRAWN SLKB REVIEWED EDC SCHEDULES
E0.2

GENERAL NOTES

1. ALL ITEMS SHOWN ARE TO BE DEMOLISHED UNLESS DENOTED WITH AN (E) FOR EXISTING TO REAMIN.

ENGINEERS, INC.		6927 OLD SEWARD HWY, STE 200 ANCHORAGE, AK 99518 907.349.9712 . E19-3011 WWW.EICENG.COM	
		CENTER DR, SUITE 100 DRAGE, AK 99508	
REVISION NUM		4341 TUTOR C ANCHO	
JOB NO.	E 9	:19-3011 /13/2019 :LKB	

(#) REFERENCED SHEET NOTES

- REF NOTE
- 002 MAINTAIN EXISTING POWER AND CONTROL CIRCUITING OF HALLWAY LIGHTING. NEW LIGHTING IS LED AND LOAD IS REDUCED.
- 003 CONNECT LIGHTING TO DEMOLISHED LOCAL AREA LIGHTING CIRCUIT. ASBUILTS INDICATE LIGHTING IS ON PANEL 'LL1' CIRCUIT 6, CONTRACTOR TO VERIFY. NEW LIGHTING IS LED AND LOAD IS REDUCED.
- 004 CONNECT LIGHTING TO DEMOLISHED LOCAL AREA LIGHTING CIRCUIT. ASBUILTS INDICATE LIGHTING IS ON PANEL 'LL1' CIRCUIT 8, CONTRACTOR TO VERIFY. NEW LIGHTING IS LED AND LOAD IS REDUCED.
- 005 POWER EGRESS SIGN FROM UNSWITCHED LOCAL AREA LIGHTING CIRCUIT. 010 CONNECT TO LOCAL AREA LIGHTING CIRCUIT AHEAD OF ANY SWITCHES.

HEALTH CARE NEC 517 NOTES

ALL PATIENT CARE AREAS ARE TO BE WIRED PER NEC 517 REQUIREMENTS AS FOLLOWS:

517.13(B) THE GROUNDING TERMINALS OF ALL RECEPTACLES AND ALL NON-CURRENT-CARRYING CONDUCTIVE SURFACES OF FIXED ELECTRIC EQUIPMENT LIKELY TO BECOME ENERGIZED THAT ARE SUBJECT TO PERSONAL CONTACT, OPERATING AT OVER 100 VOLTS, SHALL BE GROUNDED BY AN INSULATED COPPER CONDUCTOR. THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE SIZED IN ACCORDANCE WITH TABLE 250.122 AND INSTALLED IN METAL RACEWAYS OR AS A PART OF LISTED CABLES HAVING A METALLIC ARMOR OR SHEATH ASSEMBLY WITH THE BRANCH CIRCUIT CONDUCTORS SUPPLYING THESE RECEPTACLES OR FIXED EQUIPMENT.

	Ę OF А 91 91 RIC D. COW EE - 9773 9/13/14 РЮГЕССІО	
SINEERS, INC.	RPORATION LICENSE: AECC1105	927 ULD SEWARD HWY, STE 200 ANCHORAGE, AK 99518 907.349.9712 1 WWW.EICENG.COM
		EIC JOB NO. E19-301
SOUTH CENTRAL FOUNDATION	DENTAL CLINIC MODIFICATIONS	4341 TUTOR CENTER DR, SUITE 100 ANCHORAGE, AK 99508
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JOB NO DATE DRAWN REVIEW). E19 9/13 I SLK /ED ED0	3011 3/2019 KB C
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GENERAL NOTES

1. SEE DETAIL 2/E4.1 FOR GENERAL LOCATION OF COMM ROOM WHERE ALL DATA CABLES ARE TO BE ROUTED.

ALL PATIENT CARE AREAS ARE TO BE WIRED PER NEC 517 REQUIREMENTS AS FOLLOWS:

FIXED EQUIPMENT.

(#) REFERENCED SHEET NOTES

- REF NOTE 001 PROVIDE 1" CONDUIT FROM BELOW SINK TO UPPER CABINET. SEE INSTALLATION MANUAL FOR POWER AND DATA ROUTING. SEE ARCHITECTURAL DRAWINGS FOR DETAIL.
- 006 PROVIDE MC FLEX TO JBOX.
- 009 DASH LINE INDICATES CONTRACTOR PROVIDED 2" CONDUIT ROUTED UNDERFLOOR FROM HEAD CABINET TO DENTAL CHAIR UTILITIES AND BOTH
- SIDE SINK CABINETS. 011 SWITCH TO CONTROL EF-1 LOCATED ON ROOF. SEE DETAIL 2/4.1 FOR MORE INFORMATION.
- 013 PROVIDE ROUGH IN ONLY FOR POWER AND DATA TO FUTURE CEILING MOUNT MONITOR. CIRCUITING IS SHOWN FOR REFERENCE AND LOAD CALCULATION PURPOSES ONLY.

HEALTH CARE NEC 517 NOTES

517.13(B) THE GROUNDING TERMINALS OF ALL RECEPTACLES AND ALL NON-CURRENT-CARRYING CONDUCTIVE SURFACES OF FIXED ELECTRIC EQUIPMENT LIKELY TO BECOME ENERGIZED THAT ARE SUBJECT TO PERSONAL CONTACT, OPERATING AT OVER 100 VOLTS, SHALL BE GROUNDED BY AN INSULATED COPPER CONDUCTOR. THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE SIZED IN ACCORDANCE WITH TABLE 250.122 AND INSTALLED IN METAL RACEWAYS OR AS A PART OF LISTED CABLES HAVING A METALLIC ARMOR OR SHEATH ASSEMBLY WITH THE BRANCH CIRCUIT CONDUCTORS SUPPLYING THESE RECEPTACLES OR

		STE 200 K 99518 349.9712 VG.COM
EIC ENGINEERS, I	CORPORATION LICENSE: AE	6927 OLD SEWARD HWY, ANCHORAGE, A 907.3 EIC JOB NO. E19-3011 WWW.EICEN
SOUTH CENTRAL FOUNDATION	DENIAL CLINIC MUDIFICATIONS	4341 TUTOR CENTER DR, SUITE 100 ANCHORAGE, AK 99508
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V	OLTAGE: 208Y/120V. 3PH	I, 4W	۹)	N)F	PAN	EL	"PA	5" 5	SCH		UL on:	E	LAB 110	
OPD	RATING: 100 A	.,							EN		IRE:	NEMA	1 SSED	
кт	LOAD DESCRIPTION	A	MP	Р		4	E	3		C	P		LOAD DESCRIPTION	СК
1 LTG: I	RM 109-110	2	20	1	0.67	1.00					1	20	NCNT: RM 109 E21	2
3 CONT	7/REC: RM 101 E9	2	20	1			0.84	0.96			1	20	REC/NCNT: RM 109 E26	4
5 NCNT	: RM 101 E1	2	20	1					1.20	1.50	1	20	NCNT: RM 109 E20	6
CONT	T/REC: RM 101 E6	2	20	1	0.69	0.66					1	20	NCNT: RM 109 E24s,E27s	8
	: RM 101-102 E2s	2	20	1			1.32	1.21	4.00	0.04	1	20	REC/NCNT: RM 109-110 E22	10
		2	<u>.0</u>	1	0.04	0.70			1.08	0.64	1	20	REC/NONT: RM 109 E23	
	7REC: RM 102 E9	2	20	1	0.84	0.72	1 20	0.70			1	20	REC/NCNT: RM 106,109 E33	14
	/REC: RM 102 E6	2	20	1			1.20	0.79	0.69	0.54	1	20	REC/NGNT. RM 110 E42,E43	19
BREC:	RM 101-103.107 E10s	2	20	1	0.72	0.78			0.00	0.04	1	20	REC/NCNT: RM 110 F40	20
1 CONT	7/REC: RM 103 E9	2	20	1			0.84	1.13			1	20	NCNT: DC-1	2
3 NCNT	: RM 103 E1	2	20	1					1.20	1.18	1	20	MTR: EF-1	24
5 CONT	7/REC: RM 103 E6	2	20	1	0.69	0.00					1	20	SPARE	20
7 NCNT	: RM 103 E2	2	20	1			0.66	0.00	0.04		1	20	SPARE	28
			20	1	0.60	0.00			0.84	0.00	1	20	SPARE	30
	NT: RM 107 F1		20	ו 1	0.09	0.00	1 20	0.00			1	20	SPARE	3
5 REC	RM 106-108	2	20	1			1.20	0.00	0.72	0.00	1	20	SPARE	3
7 NCNT	CNT: RM 107 E2		20	1	0.66	0.00							- SPACE -	3
9 REC:	REC: RM 111		20	1			0.72	0.00					- SPACE -	4
1 NCNT	NCNT: RM 109 E31		20	1					1.80	0.00			- SPACE -	4
I	T	TOTAL KVA/	PHA PHA	ASE: ASE:	8	.1 7.7	10 94).9 I.0	1 ⁻ 98	1.4 3.4		1	1	I
UMMAR	PHASE BALANC Y BY LOAD TYPE	СЕ %: А-В В	8-C	C-A	2	.7		5	3	32				
	ASSIFICATION	C	CON	NEC	TED	NEC	FACTO	DRS	TOT)			
		1.8	UU k\ 7ない	/A /A	1	25.00%		2.2	50 kVA			PANEL TOTALS		
rr			1.1	76 k\	/A	1	25.00%		1.4	70 kVA	-+		CONNECTED KVA: 30.368 kVA	
CNT			16.2	278 k	VA	1	00.00%		16.2	278 kVA		1	NEC CALCULATED KVA: 31.061 kVA	
EC			10.4	40 k	VA	ç	97.89%		10.2	20 kVA			CONNECTED AMPS: 84 A	
												NE	EC CALCULATED AMPS: 86 A	
					LUA	DCLA	NC	DTES	13 SCH		-			
(KEY)	'(x)' DENOTES A GENER	RAL, NON-RE	EFEI	REN	CED, N	IOTE.	NUMB	ERED	NOTES	S ARE I	REFE	ERENC	ED IN THE SCHEDULE.	
()	NOT ALL LOAD CLASSI	FICATIONS A	ARF	NF		RILYI	ISFD		CLASS			S FRO	M LOADS THAT ARE CONNECTED TO	
(A)	PANEL ARE SHOWN IN	THE SUMM	ARY	SEC		OF TH	E PANI	EL SCI	HEDUL	ES.				, (C
(B)	PANELBOARD BUS RAT	TINGS TO EC	QUA	L OF	REXCE	ED OF	D RAT	TINGS	SHOW	'N IN P	ANEI	SCHE	EDULES UNLESS OTHERWISE NOTE	D.
	THE NEC DEMAND PER	RCENTAGE I	S Sł	HOM	/N AS /	A WEIG	HTED	AVER	AGE. I	FOR EX	KAMF	PLE 12	5% OF 100VA PLUS 100% OF 100VA	WILL
1	SHOW THE WEIGHTED	AVERAGE F	PER	CEN	TAGE	OF 112	2.5% RI SCH	esult Edulf	ing in	225VA	۸.			
CLASS.	NEC REFERENCE								D	ESCR	PTIC	N		
CONT	NEC 2014: 210.20(A)	125% OF 1	THE	COI	NTINU	OUS LO	DAD							
ETR	NEC 2014: 220.87	RECORDE	ED D LO/	DEMA ADS	AND LO TO RE)AD * 1 MAIN \ SECT	125%. WHICH	INDIVI WERE	DUAL (E REC(TS V PEF	VITH 0 R NEC	.00 IN THE KVA/PHASE COLUMNS AF REQUIREMENTS AND IS INCLUDED	RE IN TH
KTOU	NEC 2014: 220 56		.L 3 0 56					רוע ס				ЛТ		
	NEC 2014. 220.00										ועו⊏ן 2צט∕	<u>ייי.</u> רב די		
	NEC 2014. 210.20(A)					יטבאב ין דרי י		יסידוס		עס. ו או באי				ากอ
MTD	NEC 2014. 210.20(A)							RATIN						5113. F
IVI I F	INLO 2014. 430.24	FULL-LOA	⊐⊏ 				S OF 4		HER M	111⊑ ⊓11 10T∩R	ытн S. <i>(</i> S	SEF NO		L
NCDN	NEC 2014: 220.60	NONCOIN USE SIMU				S: WH	ERE IT _ARGE	IS UN			TW JSED	O OR N D. LOA	MORE NONCOINCIDENT LOADS WILL DS CLASSIFIED AS NCDN WILL HAV	_ BE E ZEI
		LOAD.												
NCNT	NEC 2014: 210.20(A)	100% OF 1	THE	NO	N-CON	TINUO	US LO	AD						
REC	NEC 2014: 220.44	NON-DWE	ELLII F NG		RECEP	TACLE	LOAD	S = FI	RST 10	KVA O	R LE	SS AT	100% PLUS REMAINDER OVER 10K	VA AT
MCA	(SEE MTR)			BAS		THE C	GIVEN				CUIT	T AMPA	ACITY) WHICH INCLUDES 125% OF T	ΉE
		LARGEST	МÖ	UOR	COF TH	1E UNI	1. 100	%	IHE M	UA LO/	чD.			
								יייוס		LEC				
						, 31 V L I			 E	J				
EY' '(x)	:)' DENOTES A GENERAL Y '[#]'. (NOT ALL NUMBEI	., NON-REFE RED NOTES	EREI ARI	NCE E RE	D, NOT	E. NU	MBER	ED NO	TES A	RE REI	FERE	ENCED	FROM THE PANEL SCHEDULES DE	NOTI
(A) RE	EFER TO POWER ONE-L	INE DIAGRA	MS	FOR	ADDI	TIONAL	PANE	LCON	IFIGUF	RATION	I AN[D REQ	UIREMENTS.	
(B) RE	EFER TO EQUIPMENT SO	CCR SCHED	ULE	FOF	r Pane	EL SHO	ORT CI	RCUIT	RATIN	IGS.				
[1] PF	ROVIDE RED BREAKER I	DENTIFICAT	ION	I WIT	TH OEM	/ DEVI	CE TH	AT CA	N BE L	OCKE	D IN ⁻	THE "C	N" POSITION FOR FIRE ALARM CIRC	
[2] PF	ROVIDE 30mA GFPE CIR	CUIT BREAK	ER.											
[3] PF	ROVIDE OEM DEVICE TH	IAT CAN BE	LOC	KE) IN TH	E "OFF	-" POS	ITION	FOR U	SE AS	DISC	CONNE	CT PER NEC.	
[4] PF	ROVIDE SHUNT TRIP CIF	RCUIT BREAK	KER	CO	NTROL	LED B	Y FIRE	SUPF	RESSIC	ON SYS	TEM			
[5] PF	ROVIDE 6mA GFCI PROT	ECTED CIRC	CUIT	BR	EAKEF	R								
[6] PF	ROVIDE UL LISTED COM	IBINATION-T	YPE	EAF	CICIR	CUIT B	REAKE	ER.						
[7] PF	ROVIDE BREAKER RATE	D FOR "BAC	KFE	ED"	USE.									
[8] EX	EXISTING LOAD TO REMAIN.													

			/ N	<u>, \ r</u>	<u> </u>		"D^	ה" כ		חםו]
OP	VOLTAGE: 208Y/120V, 3PH D RATING: 100 A	l, 4W	(1	N)F	AN	EL	PA	.5 C			UL ION: JRE:	TECK	LAB 110 1	
							1		N	IOUNT	ING:	RECES	SSED	
CKT	LOAD DESCRIPTION	4		P		A		B	(P			СКТ
1 LIG	3: RM 109-110 NT/REC: RM 101 E9		20	1	0.67	1.00	0.84	0.96			1	20	NCNT: RM 109 E21 REC/NCNT: RM 109 E26	4
5 NCI	NT: RM 101 E1		20	1			0.04	0.00	1.20	1.50	1	20	NCNT: RM 109 E20	6
7 COI	NT/REC: RM 101 E6		20	1	0.69	0.66					1	20	NCNT: RM 109 E24s,E27s	8
9 NCI	NT: RM 101-102 E2s		20	1			1.32	1.21	1.00	0.64	1	20	REC/NCNT: RM 109-110 E22	10
11 REC 13 CO	5: RM 101-104 NT/RFC: RM 102 F9		20	1	0.84	0.72			1.08	0.64	1	20	REC/NCNT: RM 109 E23	12
15 NCI	NT: RM 102 E1		20	1		0=	1.20	0.79			1	20	REC/NCNT: RM 110 E42,E43	16
17 CO	NT/REC: RM 102 E6		20	1					0.69	0.54	1	20	REC: RM 110	18
19 RE0	2: RM 101-103,107 E10s		20 20	1	0.72	0.78	0.84	1 13			1	20	REC/NCNT: RM 110 E40	20
23 NCI	NT: RM 103 E1		20	1			0.01	1.10	1.20	1.18	1	20	MTR: EF-1	24
25 CO	NT/REC: RM 103 E6		20	1	0.69	0.00					1	20	SPARE	26
27 NCI	NT: RM 103 E2		20	1			0.66	0.00	0.84	0.00	1	20	SPARE	28
31 COI	NT/REC: RM 107 E6		20	1	0.69	0.00			0.04	0.00	1	20	SPARE	30
33 NCI	NT: RM 107 E1		20	1			1.20	0.00			1	20	SPARE	34
35 RE0	REC: RM 106-108		20	1	0.66	0.00			0.72	0.00	1	20	SPARE	36
39 RE(REC: RM 111		20	1	0.00	0.00	0.72	0.00					- SPACE -	40
41 NCI	NCNT: RM 109 E31		20	1					1.80	0.00			- SPACE -	42
			A/PH/ S/PH/	ASE: ASE:	8	.1 7.7	1(94).9 1.0	11 98	1.4 3.4				
SUMMA	RY BY LOAD TYPE	ע איזע איזע איזע איזע איזע איזע איזע איז	D-C	U-A		.7		5	3	2				
LOAD C	LASSIFICATION		CON	NEC	TED	NEC	FACTO	ORS	TOT	AL NE	C			
CONT LTG			1.8 0.6	600 k\ 674 k\	/A /A	1	25.00% 25.00%))	2.2	50 kVA 43 kVA			PANEL TOTALS	
MTR			1.1	76 k\	/A	1	25.00%)	1.47	70 kVA			CONNECTED KVA: 30.368 kVA	
			16.2	278 k	VA	1	00.00%	>	16.278 kVA			1	NEC CALCULATED KVA: 31.061 kVA	
NLC			10.4	440 K	VA		97.0970		10.2	.20 KV <i>F</i>	`	NE	EC CALCULATED AMPS: 86 A	
		ľ						•			-		·	·
							SSIFIC		IS SCH		F			
					LOA		N	DTES	0001		-			
(KEY) (A)	'(x)' DENOTES A GENER NOT ALL LOAD CLASSI PANEL ARE SHOWN IN	RAL, NON-F FICATIONS THE SUMN	REFE 6 ARE MARY	REN E NE(7 SE(CED, N CESSA CTION	iote. Rily L Of Th	NUMB JSED. E PAN	ERED ONLY EL SCI	NOTES CLASS HEDUL	S ARE SIFICA ⁻ ES.	REFE TION	ERENC S FRO	CED IN THE SCHEDULE. M LOADS THAT ARE CONNECTED	TO EACH
(B)	PANELBOARD BUS RAT	TINGS TO E	EQUA	AL OF	R EXCE	EED OF	PD RA	TINGS	SHOW	n in P	ANEI	SCH	EDULES UNLESS OTHERWISE NOT	ED.
1	THE NEC DEMAND PER SHOW THE WEIGHTED	RCENTAGE AVERAGE	IS S PER		/N AS A TAGE	A WEIG OF 112	GHTED 2.5% R	AVER ESULT	age. F 'Ing in	OR EX 225V/	XAMI 4.	PLE 12	25% OF 100VA PLUS 100% OF 100VA	A WILL
							SCH	EDUL	-	Eeop	ידקו			
CONT		125% OF	THE	: 00		ו פוור	חער		U	ESCR		N		
ETR	NEC 2014: 220.87	RECORD		DEM/	AND LO	DAD * 1	125%. WHICH	INDIVI I WERI	DUAL (E RECC	CIRCU	ITS V) PEF	VITH 0 R NEC	.00 IN THE KVA/PHASE COLUMNS A REQUIREMENTS AND IS INCLUDED	ARE D IN THE
КТСН	NEC 2014: 220 56		20 56	301 3 - DF			ORS F			FOLIE		ЛТ		
ITG	NEC 2014: 220.30		<u>20.30</u> G I O					SF CON			25%		IE CONTINOUS LOAD	
LTGE	NEC 2014: 210.20(A)	CALCUL	ATEC) SAI	ME AS	'LTG' E	BUT EX	CLUD	ED FRO	OM EN	ERG	Y LIGH	ITING POWER DENSITY CALCULAT	IONS.
MTR	NEC 2014: 430.24	125% OF FULL-LO	F THE DAD C	E FUL Surf	L-LOA RENT R	D CUR ATING	RENT	RATIN ALL OT	g of t Her M	THE HI	GHTI S. (S	EST R/ GEE NO	ATED MOTOR PLUS THE SUM OF T DTE 1)	HE
NCDN	NEC 2014: 220.60	NONCOI USE SIM LOAD.	NCID IULTA	NENT	LOAD	S: WH , THE L	ere It .arge	ST LO	LIKELY AD WIL	/ THAT .L BE l	T TWO JSEC	o or i). Loa	MORE NONCOINCIDENT LOADS WII DS CLASSIFIED AS NCDN WILL HA	L BE IN VE ZERO
NCNT	NEC 2014: 210.20(A)	100% OF	THE	NO	N-CON	TINUO	US LO	AD						
REC	NEC 2014: 220.44	NON-DW 50%. (SE	/ELLI EE N	NG F OTE	RECEP 1)	TACLE	LOAD	S = FI	RST 10	KVA O	RLE	SS AT	100% PLUS REMAINDER OVER 10	KVA AT
MCA	(SEE MTR)	THE LOA	AD IS T MC	BAS DTOF	ED ON OF TH	THE C	GIVEN T. 100	MCA (I % OF	MINIMU	JM CIR CA LO	CUIT AD.	amp <i>i</i>	ACITY) WHICH INCLUDES 125% OF	THE
					F	PANE	L SCH	EDUL		TES				
REF 'KEY'	(x)' DENOTES A GENERAL	., NON-REF	ERE	NCE	D, NOT	E. NU	IMBER	NOT ED NC	E ITES AI	RE RE	FERE	ENCED) FROM THE PANEL SCHEDULES D	ENOTED
(A)	SY '[#]'. (NOT ALL NUMBEI REFER TO POWER ONE-L	KED NOTE	S AR AMS			NCED.) FIONAL) _ PANE				I AN[) REQ	UIREMENTS.	
(B) [1]	KEFEK I U EQUIPMENTS(PROVIDE RED RREAKED I			: רטו ז איז			ראר <u>CF</u> רב די		NREI	שט. חרגדי	י ואו ר	THF "C		
[2]	PROVIDE 30mA GFPE CIR	CUIT BREA	KER	• • • • • • • • • • • • • • • • • • •										
[3]	PROVIDE OEM DEVICE TH	IAT CAN BE	ELO	CKED) IN TH	IE "OFI	-" POS	ITION	FOR U	SE AS	DISC		ECT PER NEC.	
[4]	PROVIDE SHUNT TRIP CIF		AKEF	200		LED B	Y FIRE	SUPF	RESSIC	N SYS	STEM	l		
[5] [6]	-KUVIDE 6mA GFCI PROT		רעד <u>ר</u>			ל. רי דוו ור	REAL	=p						
[0] [7]	PROVIDE OL LISTED COM	D FOR "RA						_r \ .						
[8]	[8] EXISTING LOAD TO REMAIN.													

				/ •		<u>م</u> ۸	<u>.</u> .								
	M		4107	(f	N)F	PAN	IEL	"PA	5" 5	SCH			E	AB 110	
С	PD	RATING: 100 A	,400							EN	CLOSU	UN: IRE:	NEMA	LAB 110 1	
СКТ					D		Δ	1	8	N		NG:			יאי
1 L	TG: F	RM 109-110		20	г 1	0.67	1.00					г 1	20	NCNT: RM 109 E21	2
3 C		/REC: RM 101 E9		20	1			0.84	0.96	1.00	1.50	1	20	REC/NCNT: RM 109 E26	4
5 N 7 C		RM 101 E1 /REC: RM 101 E6		20	1	0.69	0.66			1.20	1.50	1	20	NCNT: RM 109 E20 NCNT: RM 109 E24s,E27s	ю 8
9 N	CNT:	RM 101-102 E2s		20	1			1.32	1.21			1	20	REC/NCNT: RM 109-110 E22	10
11 R 13 C	EC: F	RM 101-104 /REC: RM 102 E9		20 20	1	0.84	0.72			1.08	0.64	1	20	REC/NCNT: RM 109 E23	12 14
15 N	CNT:	RM 102 E1		20	1			1.20	0.79			1	20	REC/NCNT: RM 110 E42,E43	16
17 C		/REC: RM 102 E6 RM 101-103 107 E10s		20	1	0.72	0.78			0.69	0.54	1	20	REC: RM 110 REC/NCNT: RM 110 E40	18 20
21 C	ONT	/REC: RM 103 E9		20	1	0.72	0.70	0.84	1.13			1	20	NCNT: DC-1	22
23 N	CNT:	RM 103 E1		20	1	0.69	0.00			1.20	1.18	1	20	MTR: EF-1	24 26
20 0 27 N	CNT:	RM 103 E2		20	1	0.00	0.00	0.66	0.00			1	20	SPARE	28
29 C		/REC: RM 107 E9		20	1	0.69	0.00			0.84	0.00	1	20	SPARE	30 32
33 N	CNT:	RM 107 E1		20	1	0.00	0.00	1.20	0.00			1	20	SPARE	34
35 R	EC: F	RM 106-108		20	1	0.66	0.00			0.72	0.00	1	20	SPARE	36 38
39 R	EC: F	RM 107 E2		20	1	0.00	0.00	0.72	0.00					- SPACE -	40
41 N	NCNT: RM 109 E31			20	1					1.80	0.00			- SPACE -	42
		т	TOTAL K OTAL AM	VA/PH/ IPS/PH/	ASE: ASE:	6	5.1 7.7	10 94).9 1.0	11 98	1.4 3.4				
CLIMANA			Е%: А-Е	B B-C	C-A	2	27	ļ	5	3	2				
		SSIFICATION		CON	NEC	TED	NEC	FACTO	DRS	тот	AL NEG	>			
				1.8	800 k	VA VA	1	25.00%)	2.2	50 kVA			PANEL TOTALS	
MTR				1.1	76 k	VA VA	1	25.00 % 25.00%	, ,	1.47	70 kVA			CONNECTED KVA: 30.368 kVA	
NCNT				16.	278 k		1	00.00%	,	16.2	78 kVA		Ν	NEC CALCULATED KVA: 31.061 kVA	
				10.	440 K	VA		97.0970		10.2	20 KV7		NE	C CALCULATED AMPS: 86 A	
						LOA	D CLA	SSIFIC	ATION	S SCH	EDULE				
								NC	DTES						
(KE	Y)	'(X)' DENOTES A GENER	RAL, NON											ED IN THE SCHEDULE.	лоц
(A))	PANEL ARE SHOWN IN	THE SUN	MMAR)	SE(OF TH	E PAN	EL SCH	HEDUL	ES.		5110		
(B))	PANELBOARD BUS RAT	TINGS TO) EQUA	AL OI	R EXCI	EED OF	PD RA	TINGS	SHOW	N IN P	ANEL	SCHE	EDULES UNLESS OTHERWISE NOTED.	
1		THE NEC DEMAND PER		E IS S		/N AS / TAGE	A WEIG OF 112	SHTED	AVER.	AGE. F	OR E	Kamf	PLE 12	5% OF 100VA PLUS 100% OF 100VA WIL	L
						INCL		SCH	EDULE		22011				
CLA	SS.	NEC REFERENCE								D	ESCR	PTIC	N		
	NT N	NEC 2014: 210.20(A)	125% (OUS L(1 * חמר	JAD	וועורסאו				ИТН О	00 IN THE KVA/PHASE COLUMNS ARE	
	`	NEC 2014. 220.07	EXISTI	NG LO	ADS	TO RE	EMAIN V	WHICH	I WERE	E RECO	DRDED	PEF	R NEC	REQUIREMENTS AND IS INCLUDED IN T	ΉE
			SCHED	DULE'S	SUN		SECT	ION.					. 		
	л Э	NEC 2014: 220.56		220.50 NG I O				<u>0R5 F</u> D TO F				25%	NT. OF TH	IE CONTINOUS LOAD	
LTG	Ë	NEC 2014: 210.20(A)	CALCU	ILATE) SA	ME AS	'LTG' E	BUT EX	CLUDI	ED FRO	OM EN	ERG	Y LIGH	ITING POWER DENSITY CALCULATIONS	
MT	R	NEC 2014: 430.24	125% (OF THE		L-LOA			RATIN	G OF T		GHTE		ATED MOTOR PLUS THE SUM OF THE	
NCE)N	NEC 2014: 220.60	NONC				S: WH	ERE IT	IS UN		THAT	5. (3 TW		AORE NONCOINCIDENT LOADS WILL BE	IN
			USE SI	MULT		DUSLY	, THE L	ARGE	ST LO	AD WIL	L BE U	JSED	D. LOA	DS CLASSIFIED AS NCDN WILL HAVE ZE	RO
NC	JT	NEC 2014: 210 20(A)	LOAD.					0 1 211							
RE	C	NEC 2014: 220.44	NON-D	WELLI	NG F	RECEP	TACLE		S = FIF	RST 10	KVA O	R LE	SS AT	100% PLUS REMAINDER OVER 10KVA A	T
	•		50%. (SEE N	OTE	1)				A15 115 A1					
MC	A	(SEE MIR)	LARGE	SAD IS	BAS DTOF		HE UNI	JVEN T. 100	MCA (I % OF	THE M	CA LO	AD.	AMPA	ACTIY) WHICH INCLUDES 125% OF THE	
							PANE	L SCH	EDUL		TES				
REF									NOT	E					
'KEY'	(x))' DENOTES A GENERAL		EFERE		D, NO	FE. NU	IMBER	ED NO	TES AI	RE REI	FERE	ENCED	FROM THE PANEL SCHEDULES DENOT	ED
(A)	RE	FER TO POWER ONE-LI	NE DIAG	RAMS			TIONAL	, _ Pane	L CON	IFIGUR	ATION	I ANE) REQI	JIREMENTS.	
(B)	RE	FER TO EQUIPMENT SC	CR SCH	EDULE	FO	R PAN	EL SHO	ORT CI	RCUIT	RATIN	GS.				
[1]	PR	OVIDE RED BREAKER I			1 WI	TH OE	M DEVI	CE TH	AT CA	N BE L	OCKE) IN ⁻	THE "C	N" POSITION FOR FIRE ALARM CIRCUIT	S.
[2]	PR			EAKER	CKFI) IN TH	E "OFF	-" POS	ITION	FORU	SE AS	DISC	ONNF	CT PER NEC.	
[4]	PR	ROVIDE SHUNT TRIP CIR		EAKEF	<u>R CO</u>	NTRO		Y FIRE	SUPF	RESSIC	N SYS	TEM			
[5]	PR	OVIDE 6mA GFCI PROTI	ECTED C		T BR	EAKEF	<u></u>								
[6] [7]	R4 R4	OVIDE UL LISTED COM	BINATIO		⊢ AF דרק=		CUITB	REAK	=K.						
[8]	EX	ISTING LOAD TO REMAI	IN.		/	JUL.									
[9]	NE	W LOAD ON EXISTING E	BREAKEF	٦.											
[10]	PR				OAD	איססדות					יססדו	0			
	[11] PROVIDE SHUNT TRIP CIRCUIT BREAKER CONTROLLED BY FIRE ALARM CONTROL PANEL.														

PANEL PA2 LOAD SU	JMMARY
EXISTING LOA	D
RECORDED LOAD:	13.9 KVA
NEC 220.87 (125%):	17.3 KVA
NEW LOADS	
NEW LOAD:	31.1 KVA
NOT USED:	0.0 KVA
NOT USED:	0.0 KVA
NOT USED:	0.0 KVA
TOTAL LOAD:	48.4 KVA
TOTAL CURRENT:	134 AMPS
EXISTING 225A, 208V, 3	PH, 4 WIRE
PANEL PA2 CAPACITY IS	ADEQUATE
MDP LOAD SUMN	IARY
EXISTING LOA	D
ASBUILT DRAWINGS:	907.0 KVA
FROM DWGS DATED	7/8/2002
NEW LOADS	
NEW LOAD:	24 4 1/2 / 4
	31.1 KVA
NUT USED.	0.0 KVA
NOT USED:	0.0 KVA 0.0 KVA
NOT USED: NOT USED: NOT USED:	0.0 KVA 0.0 KVA 0.0 KVA 0.0 KVA

TOTAL CURRENT: 1,128 AMPS

EXISTING 1600A, 480V, 3PH, 4 WIRE

MDP CAPACITY IS ADEQUATE

THEFERENCED SHEET NOTES

- 007 PROVIDE BREAKER IN PANEL FROM SPACE MADE AVAILABLE AFTER DEMOLITION. UPDATE PANEL SCHEDULE TO REFLECT NEW CONFIGURATION.
- 012 ALL DATA CABLE TO TERMINATE ON PATCH PANEL LOCATED IN DATA ROOM.
- 014 DUST COLLECTOR TO BE MOUNTED TO SUSPENDED FROM STRUCTURE IN BASEMENT GARAGE. PROVED RECEPTACLE, COORDINATE LOCATION OF RECEPTACLE WITH LOCATION OF DC-1. LINE CORD ON/OFF SUPPLIED WITH DC-1 AND TO BE EXTENDED AS REQUIRED. ON/OFF CONTROL TO BE IN WET LAB 109, COORDINATE EXACT LOCATION WITH OWNER.

11112 CTRICAL ENGINEERS, INC. RD HWY ORAGE, 907 AN SE OLD ШC TIONS FOUNDATION 100 R DR, SUITE AK 99508 MODIFICA JTOR CENTER I NCHORAGE, A CENTRAL CLINIC MO **DIA** SOUTH 4341 DENT/ REVISIONS NUM DESCRIPTION JOB NO. E19-3011 9/13/2019 DATE DRAWN SLKB REVIEWED EDC **ONE-LINE** DIAGRAMS, DETAILS, AND SCHEDULES SHEET NO. E4.1