

Florida State University Competitive Solicitation Acknowledgement Form

☐ Small Business State☐ Veteran/Service Disabled

Submit Response To:

Procurement Services
Florida State University
282 Champions Way, UCA 1400
Tallahassee, FL 32306-2370
Phone (850) 644-6850 | Fax (850) 644-8921
www.procurement.fsu.edu

CS No: FAC1700111-17			Title: Keen Bldg. Lab 619 Renovations		
Date of Issue: August 29, 2017			Response Due Date and Time: September 14, 2017		
		CS Point	t of Contact		
Name: Veroni	ica Cline	Phone: 850-644-7639)	Email: vcline@fsu.edu	
		Vendor 1	Information		
Federal Employer Identification Number or SS Number:					
Company Na	me:		Reason for no offer:		
Mailing Addr	ress:				
City, State, Z	ip Code:		Posting of Competitive Solicitation Tabulations		
Area Code Telephone no. Toll Free no. Fax no. Email Address:		Proposal tabulations with intended award(s) will be posted for review by interested parties at Procurement Services and our solicitation web page and will remain posted for a period of 72 hours. Failure to file a protest within the time prescribed in Florida Board of Governors Regulation 18.002 and FSU Regulation FSU 2.015, or failure to post the bond or other security as required in Florida Board of Governors Regulation 18.003, shall constitute a waiver of proceedings under that regulation.			
Chec ☐ African ☐ America ☐ Asian-H ☐ Govern ☐ Hispani ☐ MBE Fo ☐ Native A ☐ Non-Mi ☐ Non-Pro ☐ Pride	ederal American	corporation, firm or perso all respects fair and without that I am authorized to sig requirements of the Composubmitting an offer to an ais accepted, the responder interest in and to all cause. States and the State of Fpurchased or acquired by and become effective at the Printed Name/Title	in submitting an offer for the ut collusion or fraud. I agree in this offer for the responder titive Solicitation, including gency for the State of Floricing will convey, sell, assign or sof action it may now hereas Florida for price fixing related the State of Florida. At the etime the purchasing agence	derstanding, agreement, or connection with any e same materials, supplies, or equipment and is in e to abide by all conditions of this offer and certify er and that the responder is in compliance with all g but not limited to, certification requirements. In da, the responder offers and agrees that if the offer transfer to the State of Florida all rights, title and fier acquire under the Anti-trust laws of the United lating to the particular commodities of services State's discretion, such assignment shall be made by tenders final payment to the responder.	
Small Rusiness State Authorized Sign		Authorized Signatur	re		

FLORIDA STATE UNIVERSITY INVITATION TO BID FAC1700111-17 KEEN BUILDING, LAB 619 RENOVATIONS

STATEMENT OF OBJECTIVE

The objective of this Invitation to Bid (ITB) is to enable Florida State University (FSU) to enter into a purchase order (PO) with a Respondent to provide services for the Lab 619 renovations at Keen Building.

DEFINITIONS

- a. Purchase Order/Contract The Purchase Order (PO) or other form or format, provided to the awarded Respondent(s), FSU uses to make a purchase under the contract term, which includes a formal written PO, electronic PO, Procurement Card (P-card), or any other means authorized by Procurement Services and which incorporates the requirements and conditions listed in the Bid.
- Invitation to Bid a written or electronically posted solicitation for competitive sealed replies
 to select one or more Respondents to procure commodities or services during the term of the
 contract.
- c. **May, Should** Indicates something that is not mandatory, but permissible, recommended, or desirable.
- d. **Minor Irregularities** irregularities that have no adverse effect on FSU's interest, will not affect the amount of the ITB and will not give a Respondent an advantage or benefit not enjoyed by another Respondent.
- e. **Must, Shall, Will** The words "shall," "must," or "will" are equivalent and indicate mandatory requirements or conditions. FSU will not waive Responder's material deviation from any of the mandatory requirements.
- f. **Response** The entirety of the Respondent's submitted bid response to the ITB, including any and all supplemental information submitted.
- g. **Respondent** Anyone who submits a timely bid in response to this ITB.
- h. **Responsible Respondent** A Respondent that has submitted a bid that conforms in all material respects to the solicitation
- i. **Responsive Bid** A bid submitted by a responsive and responsible Respondent that conforms in all material respects to the solicitation.
- j. **Sole Point of Contact** The Procurement Officer or designee to whom Respondents shall address any questions regarding the solicitation or award process. The sole point of contact shall be the arbitrator of any dispute concerning performance of the Contract.
- k. Successful Respondent The firms or individual who is the recommended recipient of the award of a contract under this ITB (also synonymous with "Payee", "Offerer," "Contractor" and "Vendor"). If a Respondent is a manufacturer, its certified dealers and resellers may also furnish products under the Contract; in choosing to do so, the dealers and resellers agree to honor the Contract and the term "contractor" shall be deemed to refer to them. Unless awarded the

Contract as a direct Respondent, however, dealers and resellers are not parties to the Contract, and the Respondent that certifies them shall be responsible for their actions and omissions.

I. **University** – Florida State University, Florida State University Board of Trustees is a public body corporate of the State of Florida.

I. INITIAL CONTRACT PERIOD AND RENEWAL OPTION

The contract term is anticipated to be from the date of the executed purchase order until the completion of requested repairs. Any and all renewals are subject to satisfactory performance evaluations by FSU and must be executed in advance by written instrument agreed to by both parties. All terms and conditions of the original agreement will remain in force for the renewal period

II. SOLE POINT OF CONTACT

Veronica Cline Facilities Purchasing 969 Learning Way, Rm. 102A Tallahassee, FL 32306-2370

Phone: 850-644-7639 Email: vcline@fsu.edu

Preliminary questions relative to the ITB document and/or process must be submitted in advance by email to the FSU sole point of contact no later than the day and time shown in the Calendar of Events as the last day to submit questions. FSU may respond to questions via an addendum that will be posted to the Facilities Purchasing website. At all times it shall remain the responsibility of the Respondent participating in the ITB to check the website for postings of addenda, notices or award decisions. No further notice will be given.

Only those communications that are in writing from Procurement Services shall be considered as a duly authorized expression on behalf of FSU. Respondents may <u>not</u> consider any verbal instructions as an official expression on FSU's behalf. **QUESTIONS DIRECTED TO, OR ANY RESPONSES RECEIVED FROM ANY OTHER DEPARTMENT, PERSON, AGENT, OR REPRESENTATIVE OF FSU WILL NOT BE CONSIDERED VALID OR BINDING**. Also, FSU will recognize only communications from Respondents that are signed and in writing as duly authorized expressions on behalf of the Respondent.

Respondents to this ITB or persons acting on their behalf shall not contact any employee or officer of FSU, Board of Trustees, or a University Direct Support Organization concerning any aspect of this ITB, except in writing to the Sole Point of Contact or Chief Procurement Officer or as provided in this ITB document, from the date of release of this ITB through the end of the 72-hour period following FSU's posting of the notice of intended award, in accordance with Board of Governors (BOG) Regulation 18.002. Violation of this provision may be grounds for rejecting a response. If there are any changes or additions to the sole point of contact information at any time in the process, participating companies will be notified via an addendum to the ITB.

III. CALENDAR OF EVENTS

Task	Date
FSU Issues ITB	08/29/2017 @ 5:00pm

Mandatory Pre-Bid Meeting & Site Visit @ Keen Bldg.	09/06/2017 @ 10:00am	
Room 619		
Written Questions from Respondents	09/13/2017 @ 1:00pm	
FSU Issues Answers to Questions via addendum	09/18/2017 @ 5:00pm	
Written Bid Responses Due from Respondents	09/22/2017 @ 2:00pm	
FSU Posts Intent to Award on or about	09/27/2017 @ 11:00am	

^{**}If applicable, site visit information outlined under the Calendar.

Unless otherwise revised by a subsequent addendum to this ITB, the dates and times by which stated actions should be taken or completed are listed above. If FSU determines, in its sole discretion, that it is necessary to change any of these dates and times, it will issue an Addendum to the ITB and issue a Notice of Addendum on the Procurement Services website. All times listed are Eastern Standard Time (EST). It is the Respondent's responsibility to check the Procurement Services website for any updates or addendums to this ITB.

IV. SPECIFICATIONS

Demo and renovate space 619 of the Keen Building. Renovations include new lab cabinetry, refinish existing lab tables top surfaces. Install new shelving and maker boards. Other work to include mechanical and electrical work. Clean and paint exposed HVAC equipment; replace supply air louver grille.

Remove existing mop sink, maintain 1 water supply for cup sink at workstation Remove existing fume hood and associated infrastructure

Electrical:

Remove abandoned utilities/ conduit infrastructure and existing light fixtures Provide new light fixtures, provide 2 data receptacles per wall Provide cable tray at room perimeter, including bridge connection

Design document attached to end of this packet.

FSU May:

- Reject any and all bids or any part thereof, to waive informalities, and to make single or multiple awards. Incomplete bids may not be considered in the evaluation.
- Reserve the right to inspect and investigate thoroughly the establishment, facilities, equipment, business reputation and other qualifications of the Respondent(s) and any subcontractors and to reject any bid irrespective of pricing and financial terms if it is determined that the Respondent is deficient in any of the essentials necessary to assure acceptable standards of performance in the services of this ITB.
- Reserve the right to refrain from notifying the unsuccessful Respondent(s) that their bids have not been awarded by FSU until after FSU has entered into a binding agreement with the successful Respondent(s).
- Reserve the right to ask for clarifications of a bid response.

FSU Will:

- Reject bids not received by the written bid due date/time required by the ITB.
- Reject any bid that fails to meet mandatory specifications (i.e. functional, cost or contractual requirements) stated in the ITB.

V. Formatting

a. Response Format

- 1. Submit one (1) original and 2 copies of the bid in hard copy form. The original response shall contain the original manual signature of the authorized person signing the bid, and the electronic copy of the bid. Failure to include the original bid response and all signed copies may be grounds for rejection of your bid without further evaluation.
- **2.** Each Respondent's bid response shall include the information and required submittals described and as requested in the ITB.
- **3.** Questions and requests for information may not be rearranged, regrouped, or divided in any way.
- **4.** All information and required submittals requested SHALL BE in hardcopy and included in your written bid response. Responses shall not refer FSU to electronic media such as websites, CD's, disks, or tapes in order to obtain the required information or submittals.
- **5.** Information submitted that is not requested by FSU may be considered to be supplemental, not subject to evaluation.
- **6.** If there is any information or required submittals which due to size or binding cannot be incorporated, the Respondent must provide information, telling the Sole Point of Contact where the information can be found in the response.
- 7. The Addenda Acknowledgement form shall be signed by a company representative, dated and returned to FSU by the date specified in Section V. for the bid due date/time. Failure to return an Addenda Acknowledgement form issued for this ITB may be grounds for rejection of the bid response.

Note: If Respondent's bid deviates from these instructions, such bid may, at FSU's sole discretion, be REJECTED.

Note: Any award hereunder is subject to the provisions of Chapter 112, F.S. All Respondents must disclose with their bid the name of any officer, or agent who is also an employee of the State of Florida, or any of its agencies. Further, all Respondents must disclose the name of any State employee who owns, directly or indirectly, an interest of five (5) percent or more in the Respondent's firm or any of its branches.

Effective Period of Bids. Under this ITB, Bidder responses shall remain firm for a period of no less than ninety (90) days following the closing date, in order to allow time for evaluation, approval, and award of the purchase order/contract. Any bidder who does not agree to this condition shall specifically communicate in its bid response such disagreement to the University, along with any proposed alternatives. This University may accept or reject such proposed alternatives without further notification or explanation.

Mistakes/Errors. Respondents are expected to examine the specifications, delivery schedule and all instructions pertaining to supplies and services. Failure to do so will be at Respondent's risk. In case of a mistake in extension, the unit price will govern.

Condition and Packaging. It is understood and agreed that any item offered or shipped as a result of this ITB shall be new, or a current standard production model available at the time of this response. All containers shall be suitable for storage or shipment, and all prices shall include standard commercial packaging.

Discounts. A cash discount for prompt pay may be offered. However, such discounts shall not be considered in determining the lowest net cost for response evaluation purposes. Discounts will be computed from the date of satisfactory delivery at place of acceptance or from receipt of a correct invoice at the office specified, whichever is later. Respondents are encouraged to reflect cash discounts in the unit prices proposed.

Taxes. FSU, as an agency of the State of Florida, is entitled to the benefits of sovereign immunity including immunities from the payment of federal excise and state sales taxes on direct purchases of tangible personal property or services by the Respondent in the performance of the contracts with FSU.

- a. The response submitted to this ITB should enumerate a lump sum fixed fee.
- b. Provide the number of hours anticipated to complete the scope of services. Include detail as to various personnel who will be involved in the activities that will be completed during the engagement.
- c. List any other categories of ancillary expenses that may be billed. Note: FSU will not reimburse for travel, meals, or lodging expenses.

VIII. DELIVERY OF BIDS

The original and number of copies specified above shall be mailed to the FSU Sole Point of Contact noted above. These copies must be received within Procurement Services no later than the date and time noted in the Calendar of Events. Emailed and faxed copies are not acceptable and shall be considered as an invalid response.

Note: Delivery to any other point on, or off campus is NOT acceptable and shall be grounds for rejection of the ITB.

- a. All bid responses must contain the Competitive Solicitation Acknowledgement form with a manual signature (or a facsimile). Bids must be typed except for those areas where the ITB specifically allows hand written entries. If submitted by mail, do not include more than one response in a sealed envelope or package. The face of the envelope or package shall contain the Procurement Services address as provided in this ITB, the date and time of the bid opening and the ITB number. Bids submitted on any attached response form or in another specified media may be rejected. Any manual changes made to a ITB price must be initialed. All bids are subject to the conditions specified herein. Any response that does not comply with these conditions will be rejected.
- b. DO NOT ALTER THIS ITB document IN ANY WAY. The only acceptable changes or alterations to this ITB will be made in the form of addenda and issued only by FSU Procurement Services.
- c. Only fully capable and responsible companies or individuals, who are in good standing with the State of Florida and FSU, who can demonstrate the ability to fulfill all specifications, and that possess the financial capability, experience, and personnel resources to provide all goods and services of the scope and breadth described in this ITB should respond.
- d. The Respondent submitting the bid warrants that, to the best of their knowledge, there is no pending or threatened action, proceeding, or investigation, or any other legal or financial

condition, that would in any way prohibit, restrain, or diminish its ability to satisfy Contract obligations, should a contract be awarded.

- e. No Bid Submitted. If not submitting a response to this ITB, respond by returning only the ITB Competitive Solicitation Acknowledgement Form with the statement "NO RESPONSE" written on it and a brief explanation in the space provided on that form. Failure to respond to an ITB by not returning a response or this acknowledgement form may result in removal of your company from the FSU's ITB bidder database.
- f. Delivery Deadline. The absolute deadline for receipt of sealed responses is listed in Section V. The clock in the lobby of Procurement Services shall be the official timepiece for determining if a response has been received at the correct time. FSU is not responsible for lost, misdirected or mis-delivered, or late bid packages for Respondent(s) using delivery services/carriers (i.e. USPS, FedEx, DHL, UPS, etc.).
- g. Samples. Samples of items, when called for, must be furnished free of expense, and if not destroyed, may, upon request, be returned at the Respondent's expense. Each individual sample must be labeled with Respondent's name, manufacturer's brand name and number, ITB number and item reference. A request for return of samples shall be accompanied by instructions which include shipping authorization and name of carrier and must be received with your bid. If instructions are not received within this time, the samples shall be disposed of by FSU.
- h. **Disqualification of Respondent.** Only one bid response from an individual, firm, partnership, corporation or association under the same or different names will be considered. Reasonable grounds for believing that a Respondent is involved in more than one bid response for the same ITB will be cause for rejection of the highest bid response in which such Respondents are believed to be involved. Any or all bids will be rejected if there is reason to believe that collusion exists between Respondents. Bids in which the prices obviously are unbalanced will be subject to rejection.
- i. **Bid Materials.** The materials submitted in response to this ITB become the property of FSU upon delivery to Procurement Services.

Important Note Regarding Written Bid Response

The determination of the companies selected will be based on evaluation of the written response submitted. Any response that does not provide complete, accurate, and detailed answers to each question or which indicates the company prefers to defer providing complete details until a later stage in the process, may be declared non-responsive and rejected without further evaluation or consideration.

IX. RESPONSIVENESS AND RESPONSIBILITY DETERMINATION

Responsiveness Determination

A bid response that is considered responsive is one that conforms to all essential requirements and satisfies all mandatory conditions set forth in the ITB specifications. Essential requirements and mandatory conditions can include required qualifications, necessary company resources and experience, pre-qualification requirements, and required certifications, and various other required or mandatory specifications. Section 287.012(25) F.S. defines a "responsive bid, responsive proposal, or responsive reply" as "a bid, proposal, or reply submitted by a responsive and responsible vendor that conforms in all material respects to the solicitation." Section 287.012(26) F.S. defines a "responsive vendor" as "a vendor that has submitted a bid, proposal, or reply that conforms in all material respects to the solicitation."

Responsibility Determination

A Respondent is responsible if it can perform the contract as promised. Thus, the concept of responsibility focuses on the Respondent's trustworthiness, quality, fitness and capacity to satisfactorily perform. Determining whether a Respondent is responsible can include evaluation of the following: financial resources, performance schedule, performance record, organization and skills, equipment and facilities, and various other matters relating to the ability of a Respondent to perform the contract. Section 287.012(24) F.S. defines a "responsible vendor" as "a vendor who has the capability in all respects to fully perform the contract requirements and the integrity and reliability that will assure good faith performance."

X. MANUFACTURER'S NAMES, APPROVED EQUIVALENTS, BEST VALUES, OR SOLUTIONS

Any manufacturers' names, trade names, brand names, or catalog numbers used in the specifications are there for the purpose of establishing and describing general performance and quality levels. Such references are not intended to be restrictive and responses are invited on comparable brands or products of any manufacturer. The Respondent may propose any equivalent brand or product that meets or exceeds the specifications for an item(s). However, a Respondent shall not be allowed to bid more than one brand or equivalent products on any one item. It is the Respondent's responsibility to select the single equivalent brand or product that his/her firm sells which meets all specifications and is the lowest in cost. If a Respondent bids more than one equivalent brand or product on an item, only the equivalent brand or product bidding the lowest response shall be considered. If a bid is based on an equivalent brand or product the manufacturer's name and number must be indicated on the response form. Respondent shall submit with the bid, cuts, sketches, and descriptive literature, and/or complete specifications. Reference to literature submitted with a previous bid will not satisfy this provision. The Respondent shall also explain in detail the reason(s) why the proposed equivalent will meet the specifications and not be considered an exception thereto. In addition, if a Respondent has more than one best value or solution for a ITB, they should base their bid response on the best value or solution that meets FSU's requirements in the written ITB process. FSU reserves the right to determine acceptance of item(s) as an approved equivalent or best values and solutions. Bids which do not comply with these requirements are subject to rejection. Bids lacking any written indication of intent to bid an alternative brand will be received and considered incomplete of compliance with the specifications as listed on the ITB document. The Sole Point of Contact in Procurement Services is to be notified of any proposed changes in (a) materials used, (b) manufacturing process, or (c) construction. However, changes shall not be binding upon FSU unless evidenced by an addendum issued by Procurement Services.

XI. INTERPRETATIONS

Respondents shall examine the ITB to determine if FSU's requirements are clearly stated. If there are any requirements that are too vague or restrict competition, the Respondent may request, in writing, that the specifications be changed. A Respondent who requests changes in the specifications must identify and describe the Respondent's difficulty in meeting FSU's specifications; must provide detailed justification for the change, and must provide a recommended change in the specifications. Any questions concerning ITB conditions and specifications shall be directed in writing to the Sole Point of Contact for receipt by the date specified in the Calendar of Events. Inquires must reference the date of ITB opening and ITB number. No interpretation shall be considered binding unless provided in writing by the FSU in response to a request in full compliance with this provision. Oral or late requests will not be valid. A Respondent's failure to request changes by the permissible date shall be considered an acceptance of FSU's specifications and a waiver of the Respondent's right to protest the ITB specifications. FSU reserves the right to determine which changes to the ITB shall be acceptable.

XII. NONCONFORMANCE TO BID CONDITIONS

Items may be tested and/or inspected for compliance with specifications by any appropriate testing facilities. Should the items fail testing, FSU may require the Respondents to reimburse FSU for all costs incurred by FSU in connection with the examination. The data derived from any test for compliance with specifications are public records and open to examination thereto in accordance

with Chapter 119, F.S. Items delivered not conforming to specifications may be rejected and returned at Respondent's expense. Items delivered which do not comply with the ITB specification and items not delivered as per delivery date in the ITB and/or purchase order may result in Respondent being found in default. In which event, any and all reprocurement costs may be charged against the defaulting Respondent. Any violation of these stipulations may also result in Respondent's name being removed from Procurement Services bidder distribution list.

XIII. ADDITIONS, DELETIONS, SUBSTUTIONS

Should FSU find it necessary to supplement, modify, correct, or interpret any portion of the ITB during the ITB period, such action shall be taken by issuance of a written Addendum to the documents distributed to all known prospective Respondents.

XIV. LEGAL REQUIREMENTS

Applicable provisions of all Federal, State, County, and local laws, and of all ordinances, rules and regulations shall govern development, submittal and evaluation of all bid responses received in response hereto and shall govern any response by FSU by and through its officers, employees, and authorized representatives, or any other person, natural or otherwise. Lack of knowledge by any Respondent shall not constitute a cognizable defense against the legal effect thereof.

XV. LOBBYING AND GRATUITIES

It shall be a breach of ethical standards for any employee of FSU or member of FSU Board of Trustees to accept, solicit, or agree to accept a gratuity of any kind, form or type in connection with this ITB or resulting contract for commodities or services.

The Respondent shall not, in connection with this ITB or any other contract with FSU, directly or indirectly (1) offer, confer, or agree to confer any pecuniary benefit on anyone as consideration for any FSU officer or employee's decision, opinion, recommendation, vote, other exercise of discretion, or violation of a known legal duty, or (2) offer, give, or agree to give to anyone any gratuity for the benefit of, or at the direction or request of, any FSU officer or employee. For purposes of clause (2), "gratuity" means any payment of more than nominal monetary value in the form of cash, travel, entertainment, gifts, meals, lodging, loans, subscriptions, advances, deposits of money, services, employment, or contracts of any kind.

Respondents are prohibited from using funds provided under contract or PO for the purpose of lobbying the Legislature or any official, officer, commission, board, authority, council, committee, or department of the executive branch or the judicial branch of state government.

XVI. ADVERTISING

In submitting a bid, Respondent agrees not to use the results therefrom as a part of commercial advertisement.

XVII. PUBLIC INSPECTION

All material submitted and opened becomes subject to the Public Records Law set forth in Chapter 119 F.S. This includes material which the Respondent might consider to be confidential or a trade secret. Any claim of confidentiality is waived upon submission, effective after ITB opening pursuant to Section 119.07, F.S. In accordance with Florida Statutes, sealed bids received by FSU pursuant to a ITB are exempt from Chapter 119.07(1) and s. 24(a), Art. I of the State Constitution until such time as FSU provides notice of an intended decision or until 30 days after opening the ITB bids, whichever is earlier.

If FSU rejects all bids submitted in response to an ITB and FSU concurrently provides notice of its intent to reissue the ITB, the rejected bids remain exempt from s. 119.07(1) and s. 24(a), Art. I of the State Constitution until such time as FSU provides notice of an intended decision concerning the reissued ITB or until FSU withdraws the reissued ITB. A bid is not exempt for longer than 12 months after the initial notice rejecting all bids.

XVIII. COMPETITIVE SOLICITATION (ITB) TABULATION

An ITB Tabulation that serves as the "Notice of Intended Decision" will be posted for review by interested parties on the Procurement Services website (http://procurement.fsu.edu/CS Decisions) and will remain posted for a period of seventy-two (72) hours. Any person who is adversely effected by FSU decisions or intended decisions as detailed above in connection with this ITB, shall file a written "Notice of Protest" with the Director of Procurement Services. Failure to file a protest within the time prescribed in accordance with BOG Regulation 18.002 and FSU Regulation FSU-2.015, or failure to post the bond or other security as required in BOG Regulation 18.003, shall constitute a waiver of right to protest.

XIX. COVERAGE AND PARTICIPATION

With the consent and agreement of the successful Respondent, and pursuant to their own governing laws, purchases may be made under this ITB by other universities, governmental agencies or political subdivisions within the State of Florida pursuant to BOG Regulation 18.001. Other entity purchases are independent of the contract between entity and awarded Respondent, and FSU shall not be a party to any transaction between the awarded Respondent and any other purchaser.

XX. SPECIAL ACCOMMODATIONS

It is recommended that Respondent(s) arrive approx. one (1) hour before the start time of any scheduled mandatory or non-mandatory site visit. Attendees must follow all FSU parking regulations. If you have questions regarding where or how to park on campus, please contact FSU Parking Services at (850) 644-5278. Any person requiring special accommodations should contact Procurement Services at 850-644-6850 and ask for the Sole Point of Contact noted in the ITB.

XXI. ADDITIONAL QUANTITIES

Unless otherwise noted in the ITB document, for a period not exceeding ninety (90) days from the date of award of the bid by FSU, the right is reserved to acquire additional quantities up to the amount shown on the ITB, but not to exceed \$75,000, at the prices listed on the bid response to this ITB. If additional quantities are not acceptable, the tabulation sheet must be noted "RESPONSE IS FOR SPECIFIED QUANTITY ONLY."

XXII. CONFLICT BETWEEN DOCUMENTS

If any terms and conditions contained within the documents related to this ITB are in conflict with any other terms and conditions therein, then the various documents comprising this ITB, as applicable, shall govern in the following order of precedence: Change Order, Purchase Order, Addenda, ITB special Terms and Conditions, ITB Specifications, General Conditions of the ITB Acknowledgement form.

XXIII. PROPRIETARY OR CONFIDENTIAL INFORMATION.

If the Respondent needs to submit proprietary information with the bid, the Respondent shall ensure that it is enclosed in a separate envelope from the bid and that it is clearly designated and conspicuously labeled as such. Respondents who submit bids with information noted as proprietary or confidential may be asked to substantiate why the information is proprietary or is otherwise exempt from a public records request under Florida Law.

XXIV. PURCHASES OF TANGIBLE PERSONAL PROPERTY – PRICE PREFERENCES TO FLORIDA VENDORS (Attachment A – ATTESTATION OF PRINCIPAL PLACE OF BUSINESS):

Awards of Invitations to Bid: For purchases of tangible personal property, the 2012 Florida legislature enacted economic development laws establishing certain conditions and circumstances which, when applicable, <u>require</u> the granting of price preferences to businesses whose "principal place of business" is the State of Florida.

- <u>Principal Place of Business Definition</u>: Principal place of business is defined as location where
 a corporation's officers direct, control, and coordinate the corporation's activities (known as
 the nerve center test). In most states, corporations must report their principal place of business
 to the Secretary of State.
- <u>Personal Property:</u> When the most advantageous bid, or the best value reply is submitted by a
 Respondent whose principal place of business is in a state or political subdivision outside the
 State of Florida, which grants a preference for the same purchase to a vendor in such state or
 political subdivision, as applicable, then FSU shall grant the same preference to the responsible
 and responsive Resident Vendor with the most advantageous bid received, or the best value
 reply received pursuant to an Invitation to Bid.
 - With respect to Invitations to Bid, if the most advantageous bid or best value reply in that state does not grant a preference to companies having a principal place of business in that state, then no price preference will be granted.
 - <u>Personal Property Definition</u>: "Personal Property" shall be defined as goods and commodities, but not real estate, intellectual property or services.
- **IMPORTANT NOTICE:** Pursuant to Board of Governors Regulation 18.001, Respondents whose principal place of business is outside the state of Florida <u>must</u> include, with their ITB response document, a written statement, signed by an attorney at law licensed to practice in the Respondent's state (referred to as their "principal place of business" in the law), detailing geographical price preferences, if any or none, granted by the laws of that state or political subdivision.
- Note: The Respondent's principal place of business, as represented by the Respondent in its bid response, may be relied upon by FSU without further inquiry. If FSU determines that a Respondent has misrepresented its principal place of business, the Respondent's bid or reply shall be rejected.

XXV. CERTIFICATION OF ITB

Respondent agrees to be bound by the content of this bid and agrees to comply with the terms, conditions and provisions of the referenced ITB and any addenda thereto in the event of any award. Exceptions are to be noted as stated in the ITB. By signature on the Competitive Solicitation Acknowledgement form, the Respondent certifies that (1) bid did not involve collusion or other anticompetitive practices, (2) Respondent has not given, offered to give, nor intends to give at any time hereafter any economic opportunity, future employment, gift, loan, gratuity, special discount, trip, favor, or service to a public servant in connection with the submitted bid, (3) Respondent certifies there is no employee of FSU, or whose relative has, a substantial interest in any Agreement subsequent to this ITB, (4) Respondent certifies they are not currently debarred, or suspended or proposed for debarment by any federal entity and agrees to notify FSU of any change in this status, should one occur, until such time as an award has been made under this procurement action and (5) Respondent certifies review of the ITB in its entirety and understands the terms and conditions contained herein and referenced below.

FSU's standard Insurance requirements:

http://procurement.fsu.edu/sites/default/files/media/doc/StandardInsuranceProvisions.pdf

FSU's standard Purchase Order Terms and Conditions:

http://procurement.fsu.edu/sites/default/files/media/doc/Standard Terms and Conditions.pdf

The Federal Acquisition Regulations for federally funded contracts:

http://procurement.fsu.edu/sites/default/files/media/doc/FederalAcquisitionRegulations.pdf

ATTACHMENT A

ATTESTATION OF PRINCIPAL PLACE OF BUSINESS

(To be completed by each Respondent)

ITB Number	
Business Name	
Identify the state in which the Respondent has its principal	l place of business
Signature of Respondent representative authorized to atte	est to the accuracy of all information
Typed or printed name of above signatory	Title:
INSTRUCTIONS:	
information as indicated above and return required, however, falsely claiming Fl	ve is located within the State of Florida, provide the this form with your bid response. No further action is orida as your principle place of business, even be deemed non-responsive and eliminated from further
	utside of the State of Florida, the following must be h your bid response. Failure to comply may cause your inated from further evaluation.
	ESPONDENT ATTORNEY ON PREFERENCES ttorney for an Out-of-State Respondent)
outside this state must accompany any w opinion of an attorney at law licensed to prany or none, granted by the law of that state	des that "a vendor whose principal place of business is ritten bid, proposal, or reply documents with a written ractice law in that foreign state, as to the preferences, if ite [or political subdivision thereof] to its own business are in that foreign state in the letting of any or all public
	ABOUT STATE PREFERENCES ease Select One)
The Respondent's principal place of legal opinion that the laws of that state do not to business entities whose principal places of	business is in the State of and it is my grant a preference in the letting of any or all public contracts business are in that state.
legal opinion that the laws of that state grant t	business is in the State of and it is my he following preference(s) in the letting of any or all public all places of business are in that state: [Please describe e state law(s)]:

<u>LEGAL OPINION ABOUT POLITICAL SUBDIVISION PREFERENCES</u> (Please Select One)

The Respondent's principal place of business is in the political subdivision of and it is my legal opinion that the laws of that political subdivision <u>do not grant a preference</u> in the letting of any or all public contracts to business entities whose principal places of business are in that political subdivision.
The Respondent's principal place of business is in the political subdivision of and it is my legal opinion that the laws of that political subdivision grant the following preference(s) in the letting of any or all public contracts to business entities whose principal places of business are in that political subdivision: [Please describe applicable preference(s) and identify applicable authority granting the preference(s)]:
Signature of out-of-state Respondent's attorney
Printed name of out-of-state Respondent's attorney
Address of out-of-state Respondent's attorney
Telephone number of out-of-state Respondent's attorney ()
Email address of out-of-state Respondent's attorney
Attorney's state of bar admission



100% Construction Documents August 16, 2017



Lab 619 Modifications

Keen Building

FSU Project No.: 1700111

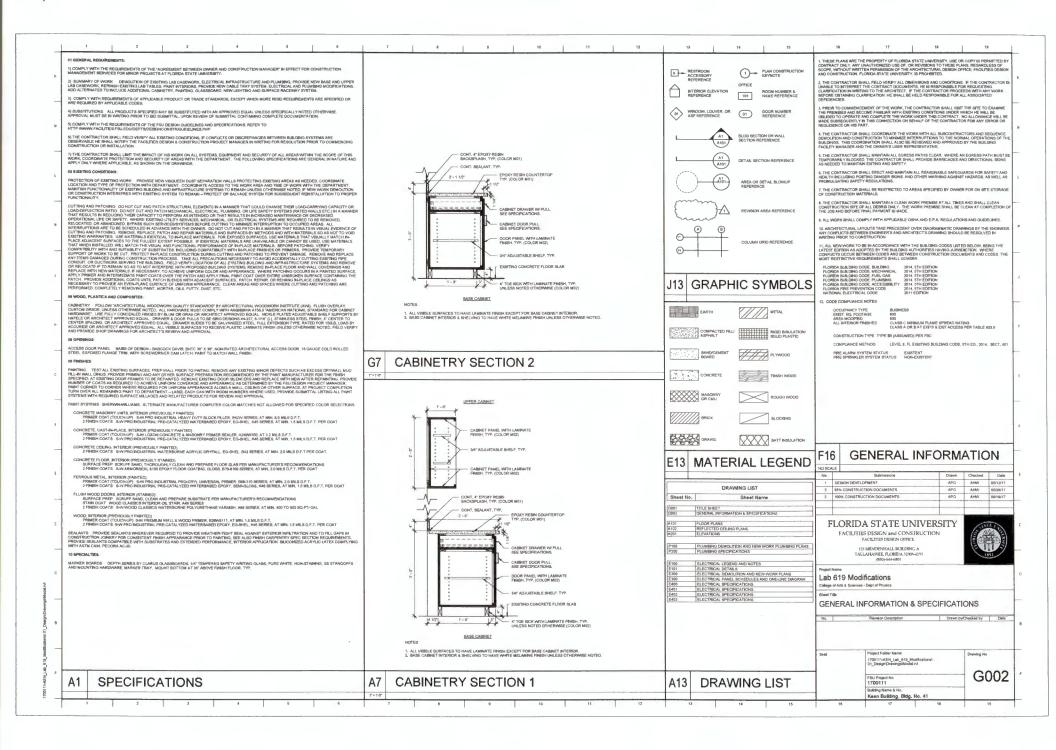
College of Arts & Sciences Department of Physics

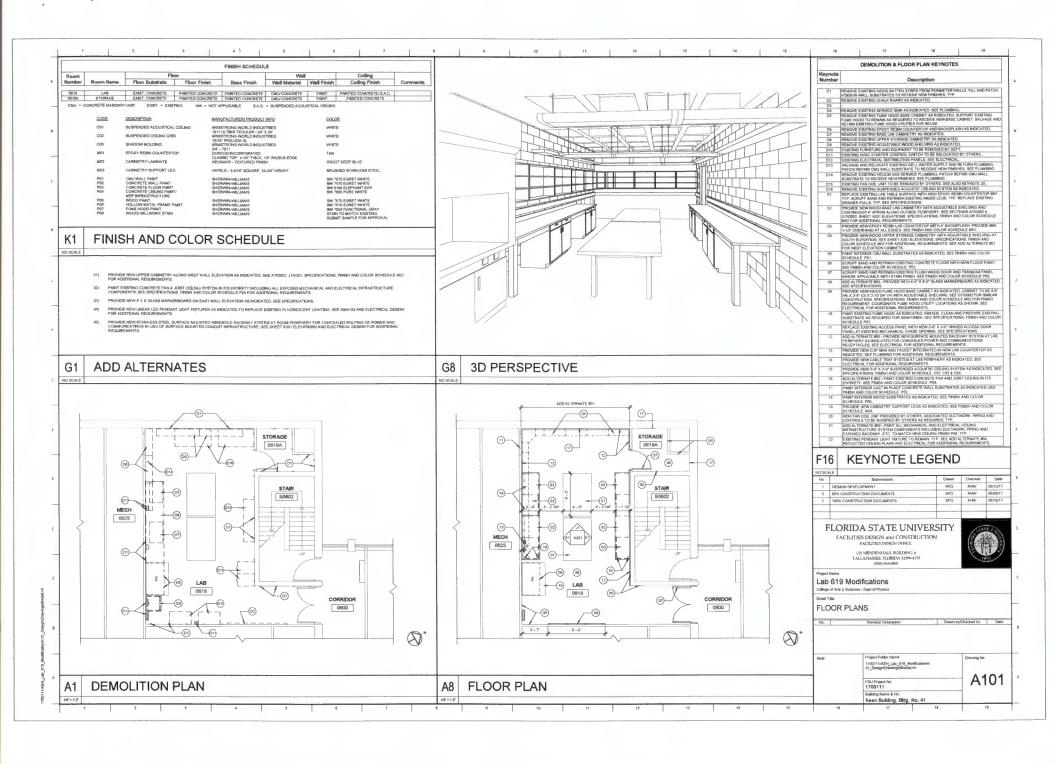


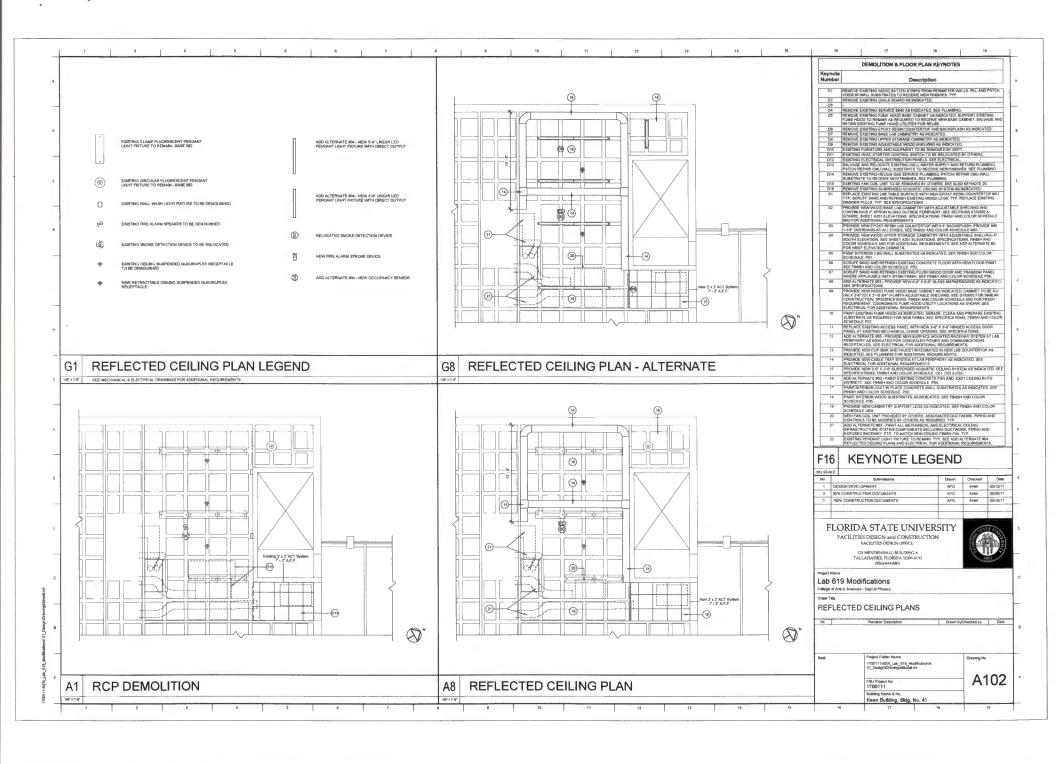
KEY PLAN - SIXTH FLOOR

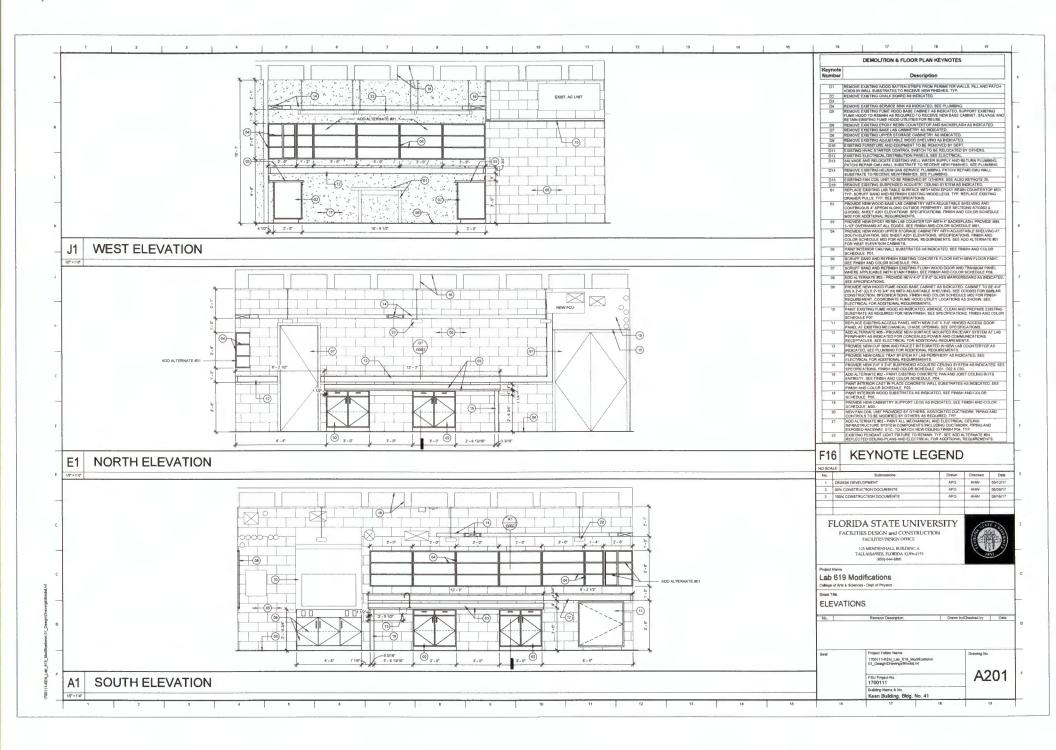
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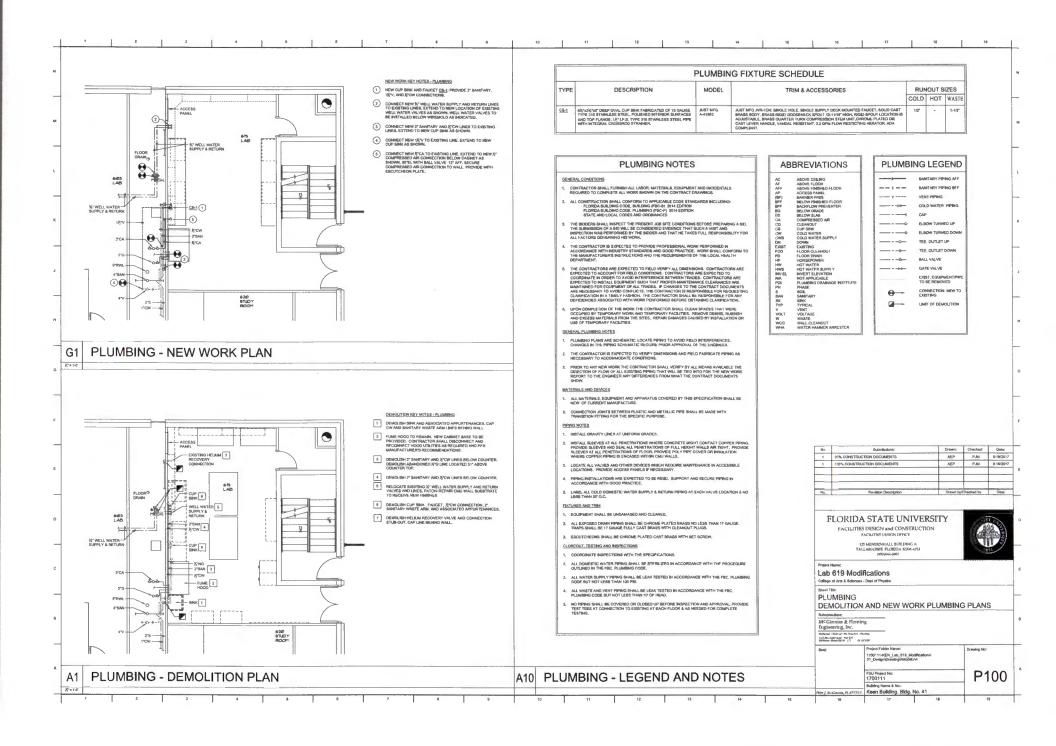
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PLUMBING

PART 1 - GENERAL

GENERAL CONDITIONS

The work described hereunder shall be installed in accordance with the "Mechanical General Conditions," Section 15010.

DESCRIPTION OF THE WORK

The extent of the work is indicated on the Drawings. In general, the work consists of, but is not limited to, the following:

Hot and cold water supply plping and all valves, fittings, etc.

A system of waste and vent plping.

Plumbing fixtures.
Domestic water heaters
Roof drain piping

QUALITY ASSURANCE

All materials and installations are to comply with the following. If conflicts occur between plumbing codes and the specifications, the most restrictive requirements shall govern. National Electric Code

Florida Bulkling Code
Florida Plumbing Code
Florida Plumbing Code
Florida Energy Efficiency Code For Bulkling
Construction
Florida Administrative Code, 10D-10,

Sanitary Facilities for Buildings Serving the Public and Places of Employment. Accessibility Requirements Manual, Flortda Board of Building Codes & Standards State Requirements for Educational Facilities

Florida State University Design Guidelines & Specifications (August 2012)

Furnish and install equipment having the characteristics and accessories indicated on the drawings or in these specifications. The manufacturer's specifications for the models shown on the drawings or given as basis for deelayn, plus all features, options, and accessories indicated on the drawings or in these specifications, whether or not standard for the model scheduled or offered as a substitute, shall constitute the minimum requirements for equipment furnished under this section.

SUBMITTALS

Submit to the Architect/Engineer for approval six (5) copies of brochures, technical data and/or shop drawings of the following, and as many additional copies as required for Contractor use: Plumbing fixtures.

Valves, cleanouts, and floor drains. Proposed fire proofing systems at penetrations of rated walks

CHANGES

The Drawings Indicate generally the locations of plumbing flutures, apparatus, piping, etc., and while these are to be followed as closely as possible, if before installation, it is found necessary to change the location of awme to accommodate the conditions at the building, such changes shall be made without additional cost to the Owner and as directed by the Architect/Englineer.

PART 2 - PRODUCTS

MATERIALS WHICH PENETRATE FIRE

Where insulated piping or plastic materials penetrate fire walls, provide a UL listed systems for maintaining the rating. Where bear metal piping systems penetrate fire walls, provide a permanent sleeve which is grouted or rocked into wall. Provide a UL listed fire caulk for the annular space.

PLUMBING FIXTURES, TRIM AND FITTINGS

Furnish and Install all plumbing fixtures and trim, floor drains and cleanouts as shown on the Drawings. Fixtures shall be as specified or equivalent quality fixtures by American Standard, Kohler, Universal Rundle or Eller.

Provide all items of brass and chrome plated finish except where otherwise noted.

Brackets, Anchors, and Cleats: Furnish and install where required for support, conceal behind finished wall.

PIPING

Where more then one material is specified for a particular application, the contractor may select. All materials shall comply with latest ASTM specifications in each instance that ASTM has specifications and standards relating to such materials.

Sankary Waste and Vent

Cast Iron Soil Pipe, service weight bell and spigot; ASTM A 74, with neoprene single service compression gaskets.

PVC Sewer Pipe, schedule 40, ASTM D2665

Dzebo.

Cast Iron Soli Pipe, service weight no-hub, ASTM A 74, with neoprene gasket and stainless steel band and screw assemblies conforming to CISPI Standard 301. May be used for vent piping, May be used for drain piping only where space prohibits use of bell's spigot piping.

Copper tubing, Type L, conforming to ASTM B88, with brazed or solder-joint copper, brass or bronze fittings conforming to ANSI B16.18 or B16.22.

Copper tubing, DWV grade, hard temper conforming to ASTM B306, with solder joint, cast bronze fittings conforming to ANSI B16.23. Tubing larger than 2 inches shall use wrought copper fittings conforming to ANSI B16.29.

Domestic Water Pipe:

Domestic water pipe shall be type L copper conforming to ASTM B88. Plping above grade shall be hard drawn. Piping below grade shall be annealed soft copper with bituminous coating.

Below Grade & Below Stab Piping & Fittings:
Ductile iron pipe: AWWA C151, working
pressure 150 paig, exterior and interfor
bituminous coating. Provide flenged and
anchored connection to interior piping.
Below Grade Piping Alternative: PVC pipe:
ASTM D2241, Class 150, working pressure
150 paig, fittings to be AWWA C151. JM
Ring-Tite or approved equal.
Below Piping Alternative 4" and Above;
PVC pipe: AWWA C900, Class 150,
working pressure 150 paig, fittings to be
AWWA C151. JM Ring Tite or approved

Lavatory and Similar Waste Arms

Type M or L copper water tube, Mueller or equivalent,

Compressed Air Pipe:

Compressed air pipe shall be type L copper conforming to ASTM B88.

PIPE ACCESSORIES:

Pipe sleeves: metal (pvc may be used where appropriate) sized to allow minimum clearance between pipe and sleeves or insulation and sleeves.

Provide chrome-plated brass escutcheon plates where exposed pipe passes through walls, floors, or celling in finished areas.
Furnish and install dielectric or isolation fittings at

all points where copper pipe connects to steel pipe. Adjustable wrought clevis type hanger and rods;

Grinnel Company or equivalent. Provide copper hangers for copper piping. Install water hammer arrestors as shown on the

VALVES

Ball Valves: 125 lb., bronze ball valve.

TRAPS

For Lavatortes and Sinks: Brass, chrome plated.

PIPE INSULATION

Pipe insulation shall be 3/4" closed-cell insulation. Armaflex or equal.

PART 3- EXECUTION

INSTALLATION OF PIPING

On vertical sanitary drain lines, connect all soil and waste inlets through sanitary tees, wyes, or wyes and elighth bends. Short radius fittings may be used for vent piping. On hortzontal lines connect all waste and sell connections through wyes or wyes and elighth bends. Double branch fittings may be used on vertical lines and hortzontal runs, providing proper grades can be maintained.

Make joints in PVC plastic pipe with solvent cement in accordance with pipe manufacturer's instructions.

Lay horizontal drain pipes to uniform grade; riser pipes, vertical. Make changes in directions of drain pipes with long bends. No screwed joints parmitted in drain pipes, except as described herein.

Lay all sewers and branches, where practicable, on undisturbed earth cut at proper grade. Where laid on fill, provide adequate supports to maintain pitch of the line.

Sizes of risers and mains of water system plping shall be as designated on the Drawings. Verify any omitted sizes before installation.

Cover pipe openings at all times that the work is

not in progress at that point.
Cut brass and copper pipe by means of hacksaw.
Remove all burns and metal chips, dirt, etc.,
before joining pipe. Chrome plated pipe shall
show no wrench marks after installation; no

threads shall show.

Adequately support all piping above floors inside the building from or on the building structure.

Support piping suspended from the building structure by means of the specified pipe hangers and rods. Make maximum spacing between pipe supports as follows:

Nominal Pipe Size	Maximum Spar
3/4" and under	5'
1"	7
1-1/4"	7
1-1/2"	9,
2"	10'
2-1/2°	11'
3"	12'
4"	14'

Sentiary and storm drain piping shall be supported by at least one hanger on each full length of pipe dose to hub where possible and at least one within 24 inches of each fitting, and wherever etse required to prevent tendency toward deflection due to load. Provide a hanger at upper angle at each drop. Locate hangers adjacent to hubs on multiple fittings not more than four feet on centers.

For support spacing of all other horizontal piping refer to MSS-SP-69 and provide additional supports at valves, strainers, in line pumps and other heavy components. Provide a support within one foot of each elbow.

Vartical Pipe Supports: Up to 6 Inch 80 feet long or not over 12 Inch pipe up to 30 feet long. Riser clamps botied to pipe below couplings, or welded to pipe and resting securely on the building structure. Vertical pipe larger than the foregoing, support on base elbows or tess, or substantial pipe lege extending to the building structure. Vertical runs less than 15 feet long may be supported by the hangers on the connecting horizontal runs.

Bases of drain stacks: If not buried in earth support on concrete, brick in cement mortar, or metal brackets permanently attached to building structure.

Make joints in PVC plastic pipe with solvent cament in accordance with pipe manufacturer's instructions.

INSTALLATION OF VALVES

Isolate all major piping assemblies as shown on the Drawings and as required for proper operation and maintenance. All valves shall be accessible. Provide velve boxes and access panels where required for accessibility. Install service valve for cold water at plumbing fixture.

INSTALLATION OF TRAPS

Trap each fixture by water sealing trap placed as near the fixture as possible.

Vent all traps and place within 5 feet of the fixture which it serves unless otherwise noted.

INSTALLATION OF PIPE SLEEVES

<u>Install pipe sleeves</u> at all locations where pipe passes through walls, floors, or cellings above or below grade.

Where subject to moisture or weather, seal sleeves with watertight sealant.

INSTALLATION OF FIXTURES, TRIM, AND FITTINGS

Install the fixtures, trim and fittings specified,

taking care to properly anchor each fixture.

When the use of a wrench is necessary on chrome plated piping, protect the pipe from marring by use of felt or cloth wrapping beneath wrench jaws.

INSULATION

Insulate all domestic cold water lines subject to amblent conditions. Pipe insulation is not required in the crawl space where located more than 10' from a ventilation opening.

Install insulation in accordance with manufacture's recommendations.

TESTS AND INSPECTIONS

Make all water and air tests of the piping systems in the presence of and to the satisfaction of the Architect/Engineer or his designated representative. Conduct these tests at such places and with timing to permit work to proceed with as title interruption as possible. Make tests before work is concealed.

Test water piping to hydrostatic pressure at 125 psi and hold for 4 hours.

After the instellation of sanitary piping and before the pipe is concealed or the fixtures are installed, cap or piping the ends of the system and fill all lines with water to top of vents above roof and allow to stand until a thorough inspection has been made. Should leaks appear, repeat the tests until the system is light.

<u>Do not use resin</u>, candle wax or any other such substance for stopping leaks in cast tron soil, waste or vent lines or in storm drein lines. Cauliking of screw joints to stop leaks will not be permitted.

STERILIZATION

The sterilization process shall comply with all governing regulations and with the sterilization procedures recommended by the American Water Works Association. The chlorination process mey be simplified by first flushing the system thoroughly clean, then charging with water containing a minimum of 50 parts per million of chlorine, allowing this to stand for 24 hours, then thoroughly flushing. After sterilization and final flushing, the local health authority is to be notified and their approval obtained in writings.

END OF SECTION

No.	Submissions:	Drawn:	Checked:	Date:
1	95% CONSTRUCTION DOCUMENTS	AEP	PJM	5/19/2017
1	100% CONSTRUCTION DOCUMENTS	AE,P	PJM	8/16/2017
umpen do.	Revision Description	0	Checked by	Deta

FLORIDA STATE UNIVERSITY

FACILITIES DESIGN and COINSTRUCTION FACILITIES DESIGN OFFICE

125 MENDENHALL, BUILDING A TALLAHASSEE, FLORIDA 32306-4153 (1990)644-4801

Project Nerve:

Lab 619 Modifications

College of Arts & Sciences - Dept of Physics

PLUMBING SPECIFICATIONS 8-deconsident MCGimniss & Florning

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Engineering, Inc.

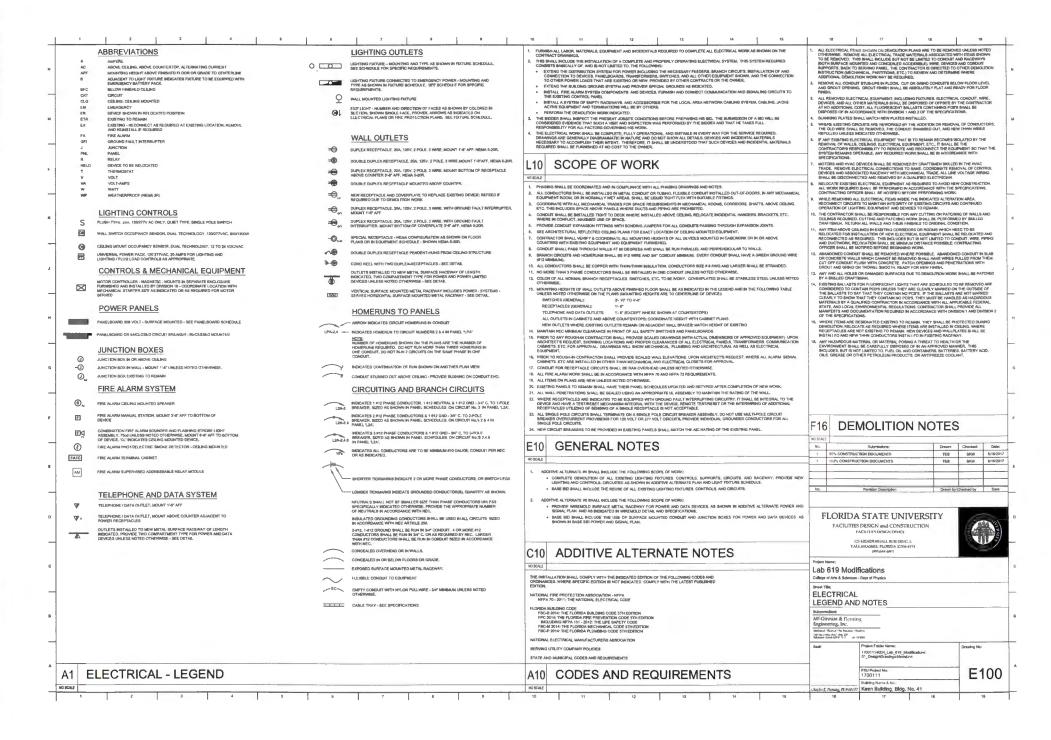
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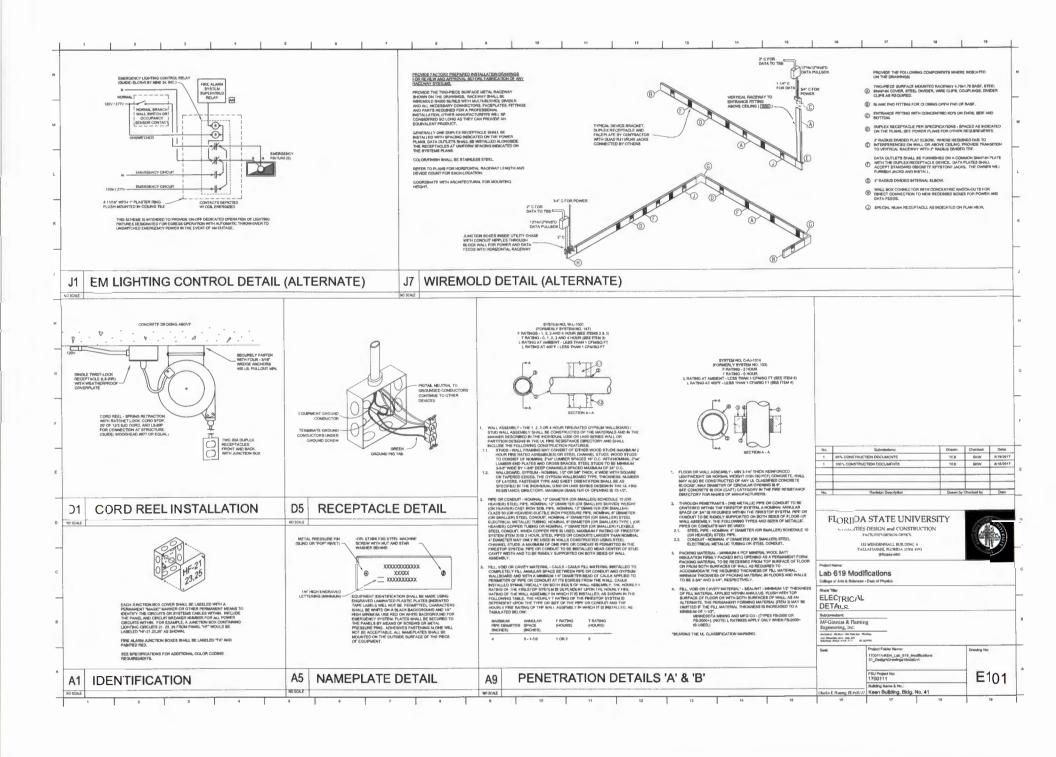
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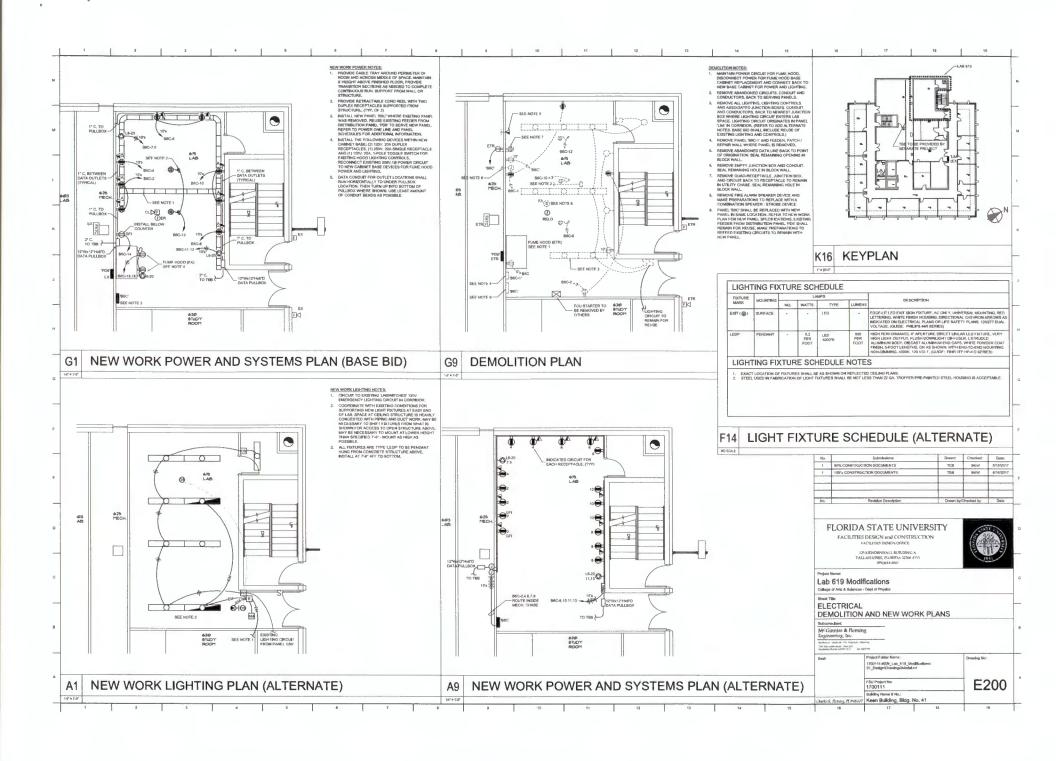
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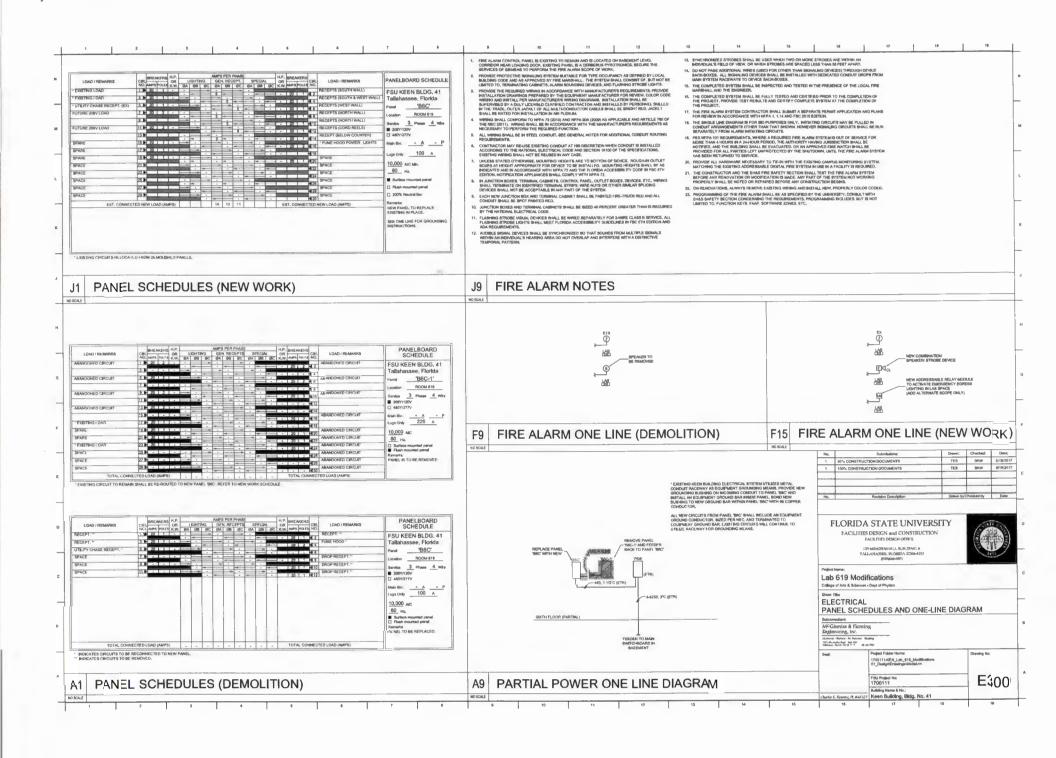
 Basin J. McCommon, 17 873726
 Keden Bulldidge, Bildg, No. 41

A1 PLUMBING - SPECIFICATIONS









PART 1 - GENERAL

APPLICATION

The work described hereunder shall be installed subject to the Contractual Conditions for the entire

These provisions apply to all sections of Division 16 of this project except as specified otherwise in each Individual section.

This Section of the Specifications and its accompanying Drawings are made separate for the convenience of the General Contractor / Construction Manager in preparing his bid and in no way relieves the General Contractor / Construction Manager of his responsibility to correlate the work under this Section with that of all other trades as regards the items to be furnished by various Subcontractors, the exact location of all equipment and materials and the necessity of plenning the work of all trades to avoid

DESCRIPTION OF WORK

Furnish all labor, materials, equipment and incidentals required to complete all electrical work as acified in this Division and as shown on the Contract Drawings. Division 16 work shall include the installation of a complete and properly operating basically of, and is not limited to, the following:

> Extend the distribution evetum for now including the necessary feeders, branch circuits, installation of and connection to devices, panelboards, transformers, switches and all other aculoment shown and the innection to other power loads that are deting or new, provided by other contracts or

Extend the building ground system and provide special grounds as indicated.

and signaling circuits to the existing control

Install a system of empty receways, and accessories for the local area network cabling system, cabling, jacks, active equipment and terminations will be by others.

Refer to other Divisions of this specification for controllers, power supplies, etc. Electrical sections to aculament fumished as enecified in other sections of these Specifications or shown on other than the Electrical Drawings shall be governed by this Division of the Specifications.

The bidder shall inspect the present jobsite conditions before preparing his bid. The submission of a bid will be considered evidence that such a visit and inspection was performed by the bidder and that he takes full responsibility for all factors governing his

The electrical work shall be complete, fully operational, and suitable in every way for the service required. Drawings are generally diagrammatic in nature and do not show all details, devices and devices and incidental materials required shall be furnished at no cost to the Owner.

RELATED WORK

A1

Drawings and general provisions of Contract, including General Conditions, Supplementary General Conditions, and Special Conditions sections apply to work specified in Division 16

The Contractor shall be aware that other divisions of these Specifications may apply to related work required to perform Division 16 requirements, All ed work shall be performed in accordance with

CONFORMANCE

If the Contractor takes no exceptions to these Specifications in the Submitted Bild, the Contractor will be held totally responsible for fallure to comply

Any exception to the Specification shall reference the affected paragraph(s), subject(s), and list benefit to

The Owner reserves the right to have the Contractor replace installed material or equipment which does not comply with these Specifications at the

Obtain approval before procurement, fabrication, or delivery of items to the job site. Submit manufacturers data on the equipment listed below and as directed in other Sections of Division 1 of this Follow the procedures required in Division 1 of this specification. Data shall be in the form of manufacturer's descriptive data sheets and engineering drawings and will be reviewed by the Architect/Engineer before meterials and equipment are delivered to the work site. Review of the submittel by the Architect/Engineer is to check for general conformance to the design intent and will not relieve the Contractor of the responsibility for the correctness of all dimensions, conformance and the proper fitting of all parts of the work.

> Plugs and Receptacles Lighting Flytures Lighting Controls Circuit Breakers Surface Metal Raceway and Accessories Cable Trav Fire Alarm System and Devices and Installation Drawings

* Prepared by Manufacturer or System Supplier

Submit manufacturers' names and catalog numbers for the following materials:

Conduit, Fittings, and Couplings Boxes and Fittings 600 Volt Wire and Cables Grounding Equipment

The Contractor shall thoroughly check the submittal for accuracy and compliance with the contract nor accuracy aim compinance with the contract requirements. Shop drawings and data sheets shall bear the date checked and shall be accompanied by the Contractor's statement that they have been checked for conformity to the Speditestions and Drawings. Submittals not so checked and noted will be returned without review

Deliver the entire electrical submitted to the Architect/Engineer complete and in one package, An incomplete submitted will be returned to the Contractor without review.

EQUIPMENT SUBSTITUTIONS

Substitutions that do not increase installation value will not be accepted.

Contractor proposed substitutions may result in necessary changes to the construction documents. Coordination effort due to Contractor proposed substitutions shall be the complete responsibility of substitutions arise the rise complete responsibility of the Contractor. All potential conflicts are to be addressed. The Contractor shall also be responsible for any work of any other trades made necessary by the substitution. All potential conflicts with other

The Architect's review of the proposed substitutions and coordination documents is for the benefit of the Owner and not the Contractor and does not relieve the Contractor of responsibility for making any rections necessary to Insure the Owner receives

Detailed coordination documents shall be provided for any equipment that, in the opinion of the Architect/Engineer, materially differs from the design documents. This difference includes but is not limited

eccess requirements that differ from the design / specification

- operating characteristics that differ from the design / specification
- footprints or elevations that differ from the denian / specification
- tion requirements or locations that
- other from the design / specification vanting or combustion ler requirements that differ from the design / specification electrical characteristics that differ from the design / specification
- control requirements that differ from the design / specification
- hydronic characteristics that differ from the
- design / specification plumbing regulrements that differ from the

Documentation shall include a detailed listing of all differences from the design / specification. Also included will be a detailed explanation as to why these differences should be considered equal or an

Any physical differences shall be coordinated with drawings. All Coordination Drawings shall be produced by a competent drafts person and shall be equivalent in quality, detail, and acope to the

Acceptance of the substitution as an equal will be the acle discretion of the Architect/Engineer, Items of necessary coordination or review omitted from the documentation shall be grounds for rejection of the

No cost increase to the Owner for any changes due to coordination will be considered. The Architect/Engineer shall be compensated for any and all efforts associated with review and coordination of non-conforming equipment

CODES, INSPECTION AND FEES

Comply with the Indicated edition of the following codes and ordinances. Where specific edition is not Indicated, comply with the latest published edition.

NFPA 70 - 2011; The National Electrical Code NFPA 72 - 2010; The National Fire Alarm Code NFPA 101 - 2012; The Life Safety Code UL Standard 467; Electrical Grounding and UL Standard 467; Electrical Grounding and Bonding Equipment UL Standard 506; Enclosures ANSI C2 - 1994 - The National Electrical Safety

NEMA ICS 1 and 2, and IEEE 472
FBC 2014; The Florida Building Code, 5th
Edition
The Florida Fire Prevention Code, 5th Edition

Serving Utility Company Policies State and Municipal Codes and Requirements

Obtain all permits required. Contractor shall pay all fees for permits and inspections.

COMPLIANCE AND REVIEW

Within two weeks of the awarding of the contract, and before any work is commenced, the Contractor shall meet with all legal authorities having jurisdiction. review all materials and details of this project and agree on any required revisions. A letter shall be agree on any required revisions. A letter shall less forwarded to the Architect/Engineer likiting the names, dates and place of such review and the revisions required. A copy of the letter shall also be sent to the reviewing authority.

The Contractor shall also meet with each serving utility and repeat the above procedure. A letter certifying each meeting shall also be written with the information as described above.

TEMPORARY LIGHTING AND POWER

Provide temporary lighting and power during construction. The Contractor may utilize existing building distribution power for temporary and construction power. Temporary power shall be 120/240 volt, single phase.

Temporary wiring shall be done in a safe and nest manner. See Article 590 of the NEC.

Provide 20 amp receptacies with ground fault interrupting circuitry. Outdoor or otherwise exposed receptacies shall have weatherproof covers, Provide any necessary special outlets required.

Size temporary power conductors so that voltage drop is kept below 5% at maximum designed load at the delivery point.

RECORD DOCUMENTS

Prepare record documents in accordance with Division 1 requirements. Record documents shall be complete and accurate and clearly show deviations to the Contract Drawings. Additionally, indicate major receway sizes and routings, locations of all control devices, all equipment and locations to scale, and fuse and circuit breaker ratings and

Prepare bound sets of egulpment Operation and Maintenance Instructions. These instructions shall include the name and location of the system, the name and lesephone number of the Coministor, and all authorntractore installing the system or equipment, and the name and telephone number of each local menufacturer's representative for the system or

Furnish bound copies of all test results required in other sections of this division.

Equipment (excluding lamps): one (1) year from final acceptance by the Owner. Materials and labor; one (1) year from final acceptance by the Owner.

All equipment shall be warranted to be free from defects in workmanship, design and materials. If any part of the equipment should fall during the warranty period, it shall be replaced and the unit(s) restored to

In addition to the guarantee of equipment by the manufacturer the Contractor shall also guarantee such equipment for a period of one (1) year from final acceptance by the Owner, The Contractor's one (1) year guarantee shall be for equipment, materials, and

The manufacturer's warranty period shall run concurrently with the Contractor's warranty p concurrently with the Contractor's warranty period. No exception to this provision will be allowed.

Additional guarantee requirements specific to certain perts or assemblies or installations may be in the General and Special Conditions, or other Sections of these Specifications.

PART 2 - PRODUCTS

EQUIPMENT AND MATERIALS

Furnish materials or equipment specified by manufacturers named.

Materials furnished shall be new, undamaged and packed in the original manufacturer's packing.

All equipment and apparatus shall bear the seal of approval of the Underwriter's Laboratory where testing and listing performance criteria has been established for like items.

Protect equipment and materials from mechanical and water damage during construction. Suitable storage facilities shall be provided. Equipment shall not be stored out-of-doors except as follows:

Concrete Items, plastic condult if protected from sunlight, rigid metal conduit if protected from water and debris, pedmounted equipment for outdoor installation if mainteined in a normal weathertight condition, ground rods, and large spools of cables with ends properly sealed. In no case will materials be stored directly on the ground. Provide suitable timbers or billets on ich items will be stored ouf of direct contact

All items to be installed shall be free of rust and dirt.

All electrical panels, enclosures, raceways, conduit, and boxes shall be fabricated of metal unless indicated otherwise.

EQUIPMENT AND MATERIALS STANDARDS

Design and fabrication of electrical equipment and

The American National Standards Institute

The American Society of Mechanical Engineers (ASME)

The American Society for Testing and Materials (ASTM)
The Institute of Electrical and Electronic

Engineers (IEEE) The National Electrical Manufacturers Association (NEMA)

The Occupational Safety and Health Administration (OSHA) The Underwriters Laboratories (UL)
The National Fire Protection Association (NFPA)

Comply with the latest edition and revisions of these codes and standards.

EQUIPMENT RATINGS

Horsepower and wattages of equipment shown on the Drawlings are estimated and comply with a certain basis of design. It is the Contractor's responsibility to coordinate with, and furnish proper connections to equipment substituted and accepted

Conduit, wire, disconnects, fuses, and circuit breakers shall be sized to suit the horsepower writtens of anxionment arrivalls furnished. of equipment actually furnished, However conduit, boxes, wire or disconnects shall not be sized ler than shown on the Drawings

PART 3 - EXECUTION

QUALITY ASSURANCE

Installer's Qualifications: At least three years of ccesaful installation experience on projects with electrical work similar to that required for this project.

Manufacturer's Qualifications: Manufacturers regularly engaged in the manufacture of electrical components and equipment of the types and sizes ared, whose products have been in satisfactory use in similar service for not less than five years.

Electrical work shall be performed by experienced persons skilled in the trade.

Work shall be supervised by a licensed journeyman or master electrician who shall be on the job site at all times while work is in progress.

Work shall be done neatly and in keeping with good practice and conventions of the trade. The electrical Installation shall be of high quality, and of the performance level associated with top level commercial electrical installations as determined it the Architect/Engineer and the National Electrical

Provide laminated plastic nameplates for each panelboard, equipment enclosure and all other major pleces of equipment installed or modified as part of

Panelboards shall have typewritten directories with all loads thoroughly described for each circuit. Update existing panelboards and their directories to

CLEANING AND PAINTING

Clean all equipment and boxes thoroughly inside and outside at the completion of installation. On not leave dirt and debris inside panelboard and equipment cabinets, device and junction boxes, etc.

All painting shall be done according to the Finishes n of these specifications.

Paint all exposed conduit installed on painted surfaces to match surrounding surface. Paint exposed threads on conduits and touch up all ratches in galvanized pipe and fittings with a high quality cold galvanizing compound.

Touchup scretched or marred surfaces of lighting fixtures, etc. with paint furnished by the equipment manufacturer specifically for the purpose.

TESTS

Contractor shall test all wiring for shorts and all equipment for proper grounding before energizing. Equipment shall be thoroughly checked and edjusted

END OF SECTION

Na.	Submissionsc	Drawns	Checked:	Date:
1	95% CONSTRUCTION DOCUMENTS	TEB	BKW	5/19/2017
1	100% CONSTRUCTION DOCUMENTS	TEB	BKW	8/16/2017
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FLORIDA STATE UNIVERSITY

FACILITIES DESIGN and CONSTRUCTION EACHLITIPS DESIGN DEFICE

123 MENDEMHALL BUILDING A TALLAHASSEE, FLANDDA 32306-4153 (KSR)646-4801 Lab 619 Modifications

ELECTRICAL **SPECIFICATIONS** McGinnias & Floming Engineering, Inc.

Charles K. Flessing, PE #48107 Keen Building, Bidg. No. 41

College of Arts & Sciences - Dept of Physics

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SPECIFICATIONS 16010 - GENERAL PROVISIONS

PART 1 - GENERAL

SCOPE OF WORK

Furnish all labor, materials and equipment and incidentals required to construct and install the complete electrical systems as indicated on the Drawings and as specified in this Section.

STANDARD OF MATERIALS

All materials, equipment and apparatus covered by this specification shall be new, of current manufacture and shall bear the seal of approval of the [Independent] | September |

All eculoment and materials shall have ratings established by a recognized independent agency or laboratory. The Contractor shall apply the items used on this project within the ratings and subject to any stigulations or exceptions established by the independent agency or laboratory.

All conduits and receways, wire, devices, panelboards, switches, stc. of a given type shall be the product of one manufacturer.

SUBMITTALS

Manufacturer's data and shop drawings for all components, fixtures, assembles and accessories indicated in this Division, Submit in accordance with section 18010.

PART 2 - PRODUCTS

RIGID CONDUIT, TUBING AND FITTINGS

Rigid steel condult: zinc coated, threaded type conforming to the requirements of UL 6 and ANSI C80.1 standards. Zinc coating shall be applied to both inper and outer surfaces.

A fitted thread protector shall protect threaded ands from damage during shipment end handling.

Fittings for rigid steel condult: zinc coated, threeded type, conforming to Federal Specification W-F-408.

Electrical Metallic Tubing (EMT): UL 797 and ANSI C80,3 standards.

Fittings for electrical metallic habing: Federal Specification WF-46-3 speci compression type, galvanized or caurism plated, and suitable for location of installation. Consult business shall be metallic with insulated throats. Insulating grounding type businings shall be provided where required under "Grounding". EMT connectors shall be shalled to T&B Trauding" with completely insulated throats. Field spoiled insulated throats are not acceptable.

Acceptable Metal Conduit and Tubing Manufacturers

Allied Tube & Conduit Co. Wheatland Tube Co. Triangle PWC, Inc.

Fittings: Steel City
Thomas & Betts (T&B)

FLEXIBLE METAL CONDUIT, COUPLINGS AND FITTINGS

Flexible metal condult for dry Interior applications: Federal Specification WW-C-588 and UL 1,

continuous, spiral wound galvenized steel type.

Flexible metal condult for damp or exterior applications: liquid tight, UI, listed, spiral wound galvanized steel with PVC outer jacket.

Fittings for liquid tight condult: Federal Specification W-F-406. Provide cadmium plated, mellineble fron fittings with compression type steel femule and gasket sealing rings and insulated throats.

Acceptable Metal Condult and Fittings Manufacturers:

FMC: Affex Corp. American Fluidale Conduit Co. Anaconda Metal Hose, ANAMET Inc.

Fittings: Steel City Thomas & Betts (T&B)

CONDUIT MOUNTING EQUIPMENT

Hangers, rods, backplates, beam clamps etc., shall be hot-dipped galvanized iron or steel. They shall be as manufactured by the Appleton Electric Co., Thomas and Betts Co., Unistrut Corp., or approved equal.

JUNCTION BOXES

Sheet Steel Outlet Boxes: conform to UL 514A, "Metallic Outlet Boxes, Electrical", UL 514B, "Fittings for Condult and Outlet Boxes, Covers, and Box Supports", and NEMA OS1, "Sheet Steel Outlet Boxes, Device Boxes, Covers, and Box Supports",

Sheet Steel: Flat-rolled, code gauge galvenized steel.

Acceptable Menufacturers: Sheet-steel boxes shall be manufactured by RACO, Steel City or equal.

All junction boxes and pull boxes shall be sized per NEC requirements and be of the proper NEMA classification for the locations where they are installed. Where boxes occur above other than lift-out cellings, access panels must be provided.

OUTLET BOXES

Switch, receptacle and wall or ceiling mounted junction boxes shall be the 4" X 2 1/8" square type. Tile, dry wall, or flat oover plates for one or two devices shall be furnished for each box as required.

LOCATION OF OUTLETS

The approximate locations of outlets, etc. are shown on the drawings. The exact locations shall be determined at the building.

It is the responsibility of the Contractor to note the locations and heights of cabinets, counters, shelving units, etc. before the installation of outlets,

CONDUCTORS

Compliance: Provide wires, cables and connectors that comply with the following standards as applicable:

UL Standard 83 Thermoplastic Insulated Wires and Cables UL Standard 488A Wire Connectors and Soldering Lugs for Use with Copper

Conductors
NEMA/ICEA WC-5 Thermoplastic Insulated
Wire and Cable for the Transmission and
Distribution of Electrical Energy
IEEE Standard 82 Test procedures for Impulse
Voltage Tests on Insulated Conductors

Wire and cable manufactured more than twelve

Wire and cable manufactured more than twelvemonths before delivery to the jobelle shall not be used.

All conductors shall be soft-drawn copper of not less than ninety-eight percent (18%) conductivity, with NEC Type THHN or THWN for No. 4 and smaller, and Type THWN for No. 2 and larger, 800 volt insulation.

Jackets: Factory applied nylon or PVC external jacketed wires and cables for Installation in raceways and where indicated,

Color coding of all ungrounded service, feeder, and brench circuits conductors shall be required according to the following convention:

120/208 Volt, 3 phase: black, red, and blue 277/480 Volt, 3 phase: brown, orange, and

Ground wifes shall be green and neutrals shall be write. Isolated grounding conductors shall be green with spokes stripe or green with spokes stripe or green with spokes stripe or green with spokes yet conductors shall be used for these purposes only. Where grounded conductors of different systems are installed in the same receively, box, availably guitary, or other type of inclinational productors of striped by the same receively. Not, availably guitary, or other types of inclinational productions and the striped productors of inclinational productions shall be written with a readily distinguishable conductors shall be write to the production of the production of the production of the product many green.

Conductors No. 12 AWG through No. 10 AWG shall be salld and No. 8 AWG and larger shall be stranded. No conductors smaller than No. 12 AWG shall be used except as otherwise noted.

Acceptable manufacturers: Aneconda Wire and Cable Co., General Electric Co., Okonite Co., Sauthwire Co., or Rome Cable Co.

CABLE AND WIRE SPLICES

General: the materials shall be compatible with the conductors, insulations and protective jackets of the respective cables and wires. Use connectors with empactly and temperature ratings equal to or greater than those of the wires upon which used.

Connectors: UL 488A. Aluminum and aluminum alloy fittings will not be accepted.

Conductor Sizes No. 6 AWG and Larger: Splicas in conductors shall be made with copper, long barrel compression sleeves with cold shrink insulation.

Conductor Sizes No. 8 AWG and Smaller: Wire nuts secured with electrical tape.

WIRE AND CABLE MARKERS

Wire and cable markers shall be "Omni-Grip" as manufactured by Brady Worldwide, Inc., or equal.

Wire and cables with diameters exceeding the capacity of the "Omni-Grip" shall be marked with pre-printed, self-adhesive why! tages as manufactured by Brady Worldwide, Inc., 3M Co., or

RECEPTACLES

Receptacies shall be furnished and installed where shown on the drawings and shall conform to the following requirements:

Grounding type duplex receptacle; rated 20 amperes, 125 volt, 2 wire, 3 pole with grounded shunt (yoke permanently grounded to third clip), NEMA Configuration No. 5-20R, and conforming to Federal Specification W-C-586F (submit proof of compiliance).

All receptacles listed on the drawings shall be specification grade receptacles.

Acceptable manufacturer: Eagle, GE, Hubbell, Leviton or Pass and Seymour.

DEVICE PLATES

All plates for switch, receptacles and telephone outlets located on finished walks shall be UL listed steinless steel with the number of gangs required for

GROUNDING AND BONDING

Conductors: type THHN/THWN to match power supply wiring.

CABLE TRAY

Provide ventilated trough type tray for suspension of cabling as indicated on the plans. Ventilated bottom pan shall be convugated with solid panels spaced 6 inches on center for cable support and shall be walded to alde rails.

Cable trny shall be supplied in lengths of 12 or 24 and shall have a mishrum loading width of 5. Tray and shall have a mishrum loading width of 5. Tray states the state of th

Loading: Tray shall support 100 lbs/ft with 1.5 safety factor over 12 (oot apan.

Installation; suspend cable tray from concrete roof system using acceptable anchors and threaded rods. Rods shall not be less than 3/6" dismeter. Suspend cable tray 5 foot on center or as required to meet manufactures loading performance.

Cable drop-outs shell be through bushed openings.

Acceptable manufacturer: B-Line Systems, Atlas Manufacturing, or equivalent.

PANELBOARDS

Compliance: NFPA 70 National Electrical Code, UL 67, "Electric Panelboards", NEMA Publication PB1, "Panelboards", Federal W-P-115a Type 1, Class 1 specifications and NEMA PB 1.1, "Instructions for Safe Installation, Operation and Maintenance of Panelboards Rated 800 Volts or Less",

Provide factory assembled panelboards in sizes and rating as Indicated. Panelboards shall be Ui. listed and labeled.

Acceptable manufacturers: panelboards shown on the drawings shall be manufactured by Cutter-Hammer, Square D, or Siemens.

Provide dead front safety type lighting and appliance psnelboards as Indicated, with panelboard switching and protective devices in quantities, ratings, types, and with arrangement shown; with anti-um sold-orders pressure type main lug connectors encomment for use with congress one for the processing the property of the process of the provided process of the process

Refer to the drawings to determine each panelboards pertinent, characteristics such as bus rating, main drauft breaker or fuge only, voltage rating, number of phases, number of positions required, etc.

Select unit with feeders connecting at the top of the panel. Equip with copper but bers with not less than 98 percent conductivity, and with full size neutral bus; provide suitable lugs on neutral bus for outgoing feeders requiring neutral connections.

Internation, ratings shall be coordinated with the available short drout current. Provide moised case main and branch circuit brealer types for each circuit, with toggle handles that indicate when tripped. Where multiple pole breakers are indicate, provide with common trip so overfood on any pole will trip all poles simultaneously.

All panels shall be provided with an equipment grounding bus similar to, but isolated from the solid-neutral bus. Provide panelboards with bere uninsulated grounding bers suitable for botting to enclanums.

Panels shall be carefully aligned and rigidly secured in place with the top of the cabinets located 78 inches above the finished floor,

Each panel shall be furnished with an identification plate se specified in the "Equipment identification" section of this specification.

<u>Distribution panels</u> which are flush mounted must have door on front of panel.

Circuit Breakers:

Qualifications: NEMA AB3 - 1984 "Molded Case Circuit Breakers".

Panelboards shall be equipped with thermal-magnetic molded case circuit breakers with trip ratings as shown on the drawings.

Circuit breakers shall be quick-make and quick-break units with positive trip indicating mechanism and common trip on all multi-pole breakers,

Single pole 15 and 20 amp circuit breakers shall be UL listed as "Switching Breakers" and be marked

Circuit breakers shall be the bolt-on type.

Bus Assembly:

Bus ber connections to the branch circuit breakers shall be the "phase sequence" type,

Bus bars shall be of copper construction. All current carrying parts of the bus shall be plated.

Buses shall be full length with constant cross sectional area, designed for the bus current indicated.

Cable lugs shall be furnished in the quantity and size required for the size and number of conductors indicated.

Mains ratings; as shown on the drawings,

Short derout current rating: as shown on the drawings. Panelboards, as a complete unit, shall have a short dirout current rating equal to or greater than that indicated. It shall be understood that the reinferrum rating for 240 and 450 vot reted panelboards shall be 10,000 and 14,000 RMS symmetrical emopres respectively.

Cabinet construction:

Panel endoures: Ut. 50. Enclosures shell be furnished without knockouts. All knockouts shall be

The panelboard bus assembly shall be enclosed in a dead front safety constructed steel cabinet.

The size of the wiring gutters and gauge of steel shall be in accordance with NEMA and UL standards; except that the thickness of steel shall not be less than 16 causes.

The box shall be fabricated from galvanized steel. Boxes intended for outdoor duty, or where indicated, shall be reted NEMA 3R.

Select enclosures which are fabricated by same manufacturer as panelboards, which mate and metch properly with panelboards.

Construction shall be such that circuit breaker mounting hardware is not required when circuit breakers are added in the future.

The panelboard front cover shall be hinged 1-piece with integral door. The integral door shall have completely conceeled hinges and door swings, flush

A circuit directory frame and card with a clear plastic covering shall be provided on the Inside of the door. Typed directory cards shall be furnished in each

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FACILITIES DESIGN and CONSTRUCTION FACILITIES DESIGN OFFICE

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Lab 619 Modifications

ELECTRICAL SPECIFICATIONS Subconstant MCGiumias & Ficmine

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0 1, Design-Robert-grade Andelbury

F. Pull Project No:
1700111

F 93.0 Project No. 1700111 E401

B.886to Norman, IR. 844107 Keen Building, Bidg. No. 41

A1 SPECIFICATIONS 16100 - BASIC MATERIALS AND METHODS

PART 3 - EXECUTION

RACEWAY INSTALLATION

All interior and above grade exterior wiring shall be installed in a metal conduit and all embedded in concrete or below grade wiring shall be in PVC conduit unless indicated otherwise on the drawings.

No conduit smaller than 3/4 Inch electrical trade size shall be used, nor shall any have more than three 90 degree bends in any one run. Pull boxes shall be

No wire shall be pulled until the conduit system is complete in all details.

The ends of all conduits shall be tightly plugged to exclude dust and moisture during construction.

Conduit support shall be spaced at intervals of 8 ft. or teas, as required to obtain rigid construction.

Single conduits shall be supported by means of two-hole pipe clamps. Multiple runs of conduits shall be supported on trapeze type hangers with steel hortxontal members and threaded hanger rods. The rods shall be not less than 3/8 Inch diameter. The channel shall be not less then 1 1/2" nominal size,

Conduit hangers shall be attached to structural steel

All conduits on exposed work shell be run at right engine to and parallel with the surrounding walls and shall confrom to the form of the celling. No dispositions will be allowed. Bends in parallel conduit runs shall be concentric. All conduit shall be run straight

Conduit terminating in sheet steel boxes shall have double locknuts and insulated bushings.

Provide expansion coupling every 100 feel for long runs of condult and at concrete expansion joints. Provide ground bonding jumpers around expansion couplings, used on metallic condult, sized according

Seel all wall penetrations to watertight condition. Finish as applicable to location.

proval by the Architect shall be required to Install dult in structural members.

In general, the condult installation shall follow the layout shown on the plans. This layout is, howeve diagrammatic only, and where changes are necessary due to structural conditions, other apparatus or other causes, such changes shall be made without additional cost to the Owner. It is recognized that branch circuit routing shown on the drawings may not always be the most sconomical or the most feasible method. Routing may be changed by the Contractor subject to the following provisions:

Conduits shown routed overhead may not be

any one conduit. Care must be taken to provide the appropriate number of neutrals where two or three circuits are on the same phase.

noted on the drawings.

Exposed conduit will be permitted only as shown on the drawings. Exposed conduit shall be run parallel with or at right angles to the building walls.

All empty conduits shall be provided with a plastic pull wire rated for a minimum of 200 (tos,

Conduit stub-ups at panels shall be secured in place

Condult and tubing shall be kept at least twelve (12) inches from parallel runs of flues, steem pipes or hot

Telephone and data raceways shall be 1' minimum, This includes conduits stubbed up into ceiling cavity. dible conduit in all areas subject to molature shall iquid-tight flexible conduit.

All electrical connections to vibration isolated equipment shall be made with flexible conduit.

All conduit passing through a structural expansion joint shell be provided with a UL approved expansijoint fitting and bonded as required by the National

Any wiring in a finished area which cannot be concealed in conduit shall be installed in a surface metal raceway system as manufactured by Wireman metal raceway system as manufactured by Wiremold or equal. Utilization of surface metal raceway, if not indicated as such on the plane, will be accomplished only with the written approval of the Architect.

Conduit run in areas with hung ceillings shall be installed in the space above the hung ceilling as close to the structure as possible. Conduits shall be supported from the structure.

Where flex conduit is used from junction box to light fixture it shall be supported such that it does not touch ceiling tiles or interfere with their placement.

Flexible metal conduit connections to light flutures shall be at least 4 feet but not more than 8 feet in length per NEC 410-117(c).

RACEWAY INSTALLATION - CONDITIONS

Conduit raceways shall be installed as indicated inerely. Where more than one type of raceway is listed under one condition, the Confractor may exercise his option of the raceway used. Conditions of receway installation are as follows:

Exposed Receivey Selow 8'-0" from Finish Floor and in Areas Subject to Molsture: Rigid gelvenized steel

Final Receway Connection to Recessed Fixtures in Accessible Locations: Flexible steel conduit maximum of 6"-0" long.

All conductors shall be carefully handled to avoid kinks or damage to insulation.

All wires, cables and each conductor of multi-conductor cables shall be uniquely identified at each end by color or with wire end cable markers. Lighting and receptacle wiring shall be distinctly

Lubrications shall be used, if required, to facilitate wire pulling. Lubricants shall be UL approved for use with the insulation specified.

Neutral wires shall be pigtelled to receptacles so that a receptacle can be removed for replacement without the neutral connection to other receptacles on the

Tighten electrical connectors and terminals, including screws and boits, in eccordance with manufacturer's published torque sightening values. Where manufacturer's torqueing requirements are not indicated, tighten connectors and terminals to comply with tightening torques specified in UL 486A.

When stranded wire is used for receptacle and lighting circuit, connections to the devices shall be made using vinyl insulated "Sta-Kon" connector

All 600 Volt wire insulation shall be tested with a "megger" after installation. Tests shall be made at not less than 500 Volts.

Outlet boxes for flush mounted lighting fixtures shall be accessible. If lighting fixture is in a non-accessible ceiling the box shall be accessible when the fixture is

Set boxes plumb and auch that their device mounting plane is within 1/8" of the finished well.

The location of boxes on the electrical plans is approximate. Review architectural drawings for specific location or if not shown center and align within erchitectural detail. The Architect shall reserve the right to move boxes during rough in.

DEVICES

<u>Unless indicated otherwise on the drawings</u> or in the specifications all receptacles shall be mounted with the centerline of the device 18" above the finished

Receptacles shall be installed with the grounding contact at the top, Where receptacles are required to be mounted horizontally they shall be installed with

Mount all devices so that the cover plate edges are in contact with the wall and are parallel to building

Mount panelboards such that top most circuit breaker handles shall not be more than 6'-6" above finished

Where panelboards are to be installed on masonry unit walls. Including poured reinforced concrete or brick veneer type, install two vertical sections of galvanized steel channel between enclosure and mounting surface. Channel shall be lagged to wall in three places (each length) and the enclosure bolted

Only one conductor shall be allowed under each terminal of circuit breatens. No oplices are permitted in panelboards. Tighten connectors and terminals in accordance with equipment manufacturer's published torque tightening values for equipment connectors.

Complete and install a typewritten directory for each panelboard that accurately indicates all loads being served by each breaker.

Ground all non-current carrying metal parts of the electrical system to provide a low impedance path for ground fault current. Route ground connections and conduction to pround and professible devices it. conductors to ground and protective devices in shortest and straightest paths as possible.

Insulated grounding bushings shall be required for all raceways, service entrance panels, distribution penels, all raceways one inch and larger and any

Where there are parallel feeders installed in more than one raceway, each raceway shall have a ground

Where conduits terminate without mechanical connection (i.e., locknuts and bushings) to panelboards, and for all terminations of conduit sizes one inch and targer; and for all sizes of metallic condult (rigid or flexible) terminating in concentric knockouts, the following procedure shall be followed: Each conduit shall be provided with an insulated grounding bushing and each bushing connected with a bare copper conductor to the ground bus in the electrical equipment. The ground conductor shall be in accordance with Article 250 of the NEC.

Grounding conductors shall be attached to equipment with a both-on lug or approved tapered acrew used for no other purpose. Use crimp-on spede lugs for stranded conductors.

IDENTIFICATION

Junction Box Identification: Each junction box cover shall be labeled with a permanent "magic" marker or other means to identify the circuits within. For example, a junction box containing lighting circuits 21, 23, 25 from Panel L2A would be labeled

color coded as to phase per convention. See color coding above

awtich or what a receptible is dedicated for then the device plate shall be engraved appropriately. Blank plates for future devices shall be engraved "FUTURE". All plates shall be factory-engraved.

All conduit and boxes passing through or installed within fire wells and smoke wells shall be installed so as to maintain the integrity and rating of the wall-through which it passes. Boxes shall be installed within 1/8" of wall surface. Conduits penetrating rated floors shall be installed to maintain the fire rating of the floor using UL approved sealing

END OF SECTION

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FACILITIES DESIGN and CONSTRUCTION FACILITIES DESIGN OFFICE

TALLAHASSEE, FLORIDA 32306-4153 (8305644-689)

Lab 619 Modifications ELECTRICAL SECIFICATIONS

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SPECIFICATIONS 16100 - BASIC MATERIALS AND METHODS (continued)

Curies K. Hemmy, Pt. 848707 Keen Building, Bldg. No. 41

PART 1 - GENERAL

RELATED DOCUMENTS

<u>Drawings and general provisions of the Contract</u>, Including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

SUMMARY

This Section Includes all labor, material, equipment and services necessary and incidental to complete all the demolition and removal of electrical work as shown on the Drawings or as required.

The demolition drawings do not necessarily indicate all the conditions, details, or work required. The Contractor shall examine the building to determine the actual conditions and extent of the work. Any details not clear to this Contractor shall be referred to the Engineer for clerification prior to bidding.

The Contractor shall be responsible for demolition and removal of all existing electrical systems where shown for demolition. No portion of electrical systems where for demolition may be sharedness for demolition and the

SUBMITTALS

Shop Drawings: Indicate demolition and removal sequence and location of salvageable items.

Schedules: Submit schedule showing time and detailed sequence of demolition, removel of materials and arranged coordination of anticipated electrical interestrictions.

Schedule demolition and removal work to ensure uninterrupted progress of Owner's on-alte operations.

Project Record Documents: Submit In accordance with Section 16010.

Accurately record actual locations of abandoned or dead ended utilities.

QUALITY ASSURANCE

Contractor shall verify the extent of the demolition work. Any questions as to which systems are to be removed versus which systems are to remain shall be referred to the Engineer for clarification prior to commencing demolition work.

The demolition work shall be a phased operation and shall comply with the construction sequence schedule.

Do not close or obstruct egress width of fire exits or access.

Do not disable or disrupt building fire or life safety systems without written permission from the Owner. In all cases, permission shall have been granted not leas than ten (10) working days prior to the Intended interruption.

PROJECT CONDITIONS

A1

Owner will vacate demolition area prior to start of demolition work.

Owner will continuously occupy areas of building immediately adjacent to selective demolition areas.

Conduct selective demolition work in manner that will minimize need for disruption of Owner's normal operations,

Provide minimum of ten (10) working days advanced nodee to Owner of demolition schildles which will severely impact Owner's normal operations.

Maintain free and safe passage to end from Owner occupied areas.

Condition of Structures: Owner assumes no responsibility for actual condition of areas to be demolished.

Treffic and Passageways; Maintain accessibility for fire fighting apparetus.

- Conduct demolition operations and debris removal to avoid interference with adjacent occupied facilities.
- Obtain written permission from authorities having jurisdiction prior to closing or obstructing adjacent occupied facilities.
- Provide atternate routes when closing or obstructing treffic ways when required by governing authorities.
- Ensure safe passage of persons around area of demolition. Provide and maintain temporary covered passageways; comply with requirements of governing authorities.

Protection: Perform work in manner to eliminate hazardas to persons or property and avoid

- Maintain existing utilities that are to remain in service and protect from damage during description operations.
- Do not interrupt endeting utilities serving accupied facilities, except when authorized by Owner in writing. Provide temporary services during interruptions.
- Coordinate in advance with Owner electrical Interruptions.
- Protect existing floors with suitable coverings when necessary.

COORDINATION

The Contractor shall be responsible for coordinating demolition of all effected electrical systems to prevent disruption to the Owner and minimize downtime.

The Contractor shall be reaponable for coordinating demolition by other Divisions of the Specifications to prevent disruption to the Owner and minimize downtime.

PART 2 - PRODUCTS

Not used.

PART 3 - EXECUTION

EXAMINATION

Beginning alterations to existing building systems means the installer accepts existing conditions.

PREPARATION

Provide, erect, and maintain temporary barriers, warning notifications (signs) and other security devices as mey be required for personnal safety

Inventory and panelboard where dizulfa are fidicitated to be praud. Sequinally consolidate existing dizulfa within and panelboard with regard to area served. Massimize capacity for service to the project area by including adding spersy with the group of dizulfa breakers to be disconnected so result of this selective demolition. Prepare a current directory, post demolition, for each parelboard as the base spon which no final directions with or services. Temporally lag every droub breaker sanding grainm outside the dentition size. The lag shall be an OSHA compliant, commercially respirated, 3½ including the compliant of the compliant of the compliant of the including and the compliant of the compliant of the including and the compliant of the compliant of the including and compliant of the compliant of the message on the card front shall resist "DANGER, DO NOT OPEN and the message on the reverse side shall rest: "DANGER, DO NOT REMOVE THIS TAG, NECESSARY DISCIPLIANTY ACTION WILL BE TAKEN IF "THESE ORDERS ARE DISRECANDED, SEE OTHER SIDE." The lags shall DISRECANDED, SEE OTHER SIDE. The lags shall provide the compliant of the compliant of the SIDE CANDED, SEE OTHER SIDE. The lags shall compliant of the compliant of the compliant of the compliant of the SIDE CANDED, SEE OTHER SIDE. The lags shall compliant of the co

TEMPORARY CONDITIONS

The Contractor shall include all temporary connections necessary to permit the Owner to occupy sress of the building during the various construction phases.

SALVAGEABLE MATERIAL AND EQUIPMENT

Carefully remove, store and protect the salvage materials and equipment shown on the Drawings for Owner's use, Deliver to location directed by Owner.

Carefully salvage, remove and store, and protect for re-installation the materials and equipment shown on the Drawings.

Materials Retained by Contractor:

- Items of salvageable value not indicated as Owner salvaged or scheduled for reinstallation may be removed as work progresses.
- Salvaged items must be removed from site as they are removed. Storage or sele of salvaged items on site will not be permitted.

REMOVAL OF DEMOLITION MATERIAL

Contractor shall remove englishing systems, shown or specifiled, increases yor reasonably inferred, for completion of higher work. Owner will have the option of reliabing any liter of materials removed under this contract, term or materials not metallously Owner will become the property of the Contractor, removed from the premises and legally disposed off-shire.

Contractor shall dispose of fluorescent lamps, belliasts, and other hazardous materials in accordance with all Local, State and Federal regulation.

Contractor shall remove all whing determined to be disconnected and abandoned, and remove all conduit and junction boxes determined to be empty and not intended to be used during the reconstruction phase.

Remove abandoned wiring to source of supply.

Remove all exposed abandoned condult, including abandoned condult above accessible celling finishes. Remove all junction boxes and condult supports associated with condult being removed.

Repair ediacent construction and finishes damaged during demolition and extension work.

Maintain continuity of circuits, which remain in service.

Remove all existing luminaires, awritches, receptacles, and other electrical equipment and devices and associated winting from walls, cellings floors, and other surfaces scheduled for demolition unless specifically shown as retain or relocate on drawings.

Remove audiliary and signel systems (IE: fire alarm, security, telephone, data, sound/paging and the like) not schaduled for reuse or relocation. Remove associated devices, appliances and cabling complete.

PERFORMANCE

Perform drilling, cutting, block-offs, and demolition work required for removal of necessary portions of electrical system. Do not cut joists, beams, girders, trusses, or columns without prior written permission from Architect/Engineer.

CLEANING

Broom clean demolition areas of dust, dirt, and debria caused by demolition operations. Return adjacent areas to condition additing prior to start of work.

Remove temporary work and protection when no improve peopled

Unless noted otherwise, existing fixtures that are to romain shall be cleaned and lamps and ballasts replaced with new lamps and ballasts,

END OF SECTION

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FACILITIES DESIGN OFFICE

125 MENDENHALL, BUBLDING A TALLAHASSEE, FLORIDA 32306-4153 (NS)644-4891



Lab 619 Modifications
College of Arts & Sciences - Dept of Pr Tyelica

ELECTRICAL SPECIFICATIONS

Subconsultant:
McGinniss & Fleming
Engineering, Inc.

McManual Petronal Production Mentions
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Seat	Project Folder Marie: 1700111-IGEN_Leb_619_Modifications 01_Design\Drawfriger\ModeLv<	Drawing No:
-	FSU Project No: 1700111	E403
Charles K. Henning, 19, #48107	Building Name & No.: Keen Building, Bldg, No. 41	

SPECIFICATIONS 16115 - SELECTIVE DEMOLITION