

**INVITATION TO BID**  
**CITY OF NAPLES**  
**PURCHASING DIVISION**  
**CITY HALL, 735 8<sup>TH</sup> STREET SOUTH**  
**NAPLES, FL 34102**  
**PH: 239-213-7100    FX: 239-213-7105**

**Cover Sheet**

NOTIFICATION DATE: <b>12/19/17</b>	TITLE <b>HVAC System Construction</b>	SOLICITATION NUMBER: <b>18-019</b>	OPENING DATE & TIME: <b>01/17/2018 2:00 PM</b>
<b>PRE-BID CONFERENCE DATE, TIME AND LOCATION:</b> A non-mandatory Pre-Bid conference will be held December 28, 2017 at 10:00 A.M. local time in Community Development Building located at 295 Riverside Circle, Naples FL, 34102			

LEGAL NAME OF PARTNERSHIP, CORPORATION OR INDIVIDUAL:	
MAILING ADDRESS:	
CITY-STATE-ZIP:	
PH:	EMAIL:
FX:	WEB ADDRESS:
AUTHORIZED SIGNATURE	DATE
PRINTED NAME/TITLE	
<p>I certify that this bid is made without prior understanding, agreement, or connection with any corporation, firm, or person submitting a bid for the same materials, supplies, or equipment and is in all respects fair and without collusion or fraud. I agree to abide by all conditions of this bid and certify that I am authorized to sign this bid for the bidder. In submitting a bid to the City of Naples the bidder offers and agrees that if the bid is accepted, the bidder will convey, sell, assign or transfer to the City of Naples all rights, title, and interest in and to all causes of action it may now or hereafter acquire under the Anti-trust laws of the United States and the State of FL for price fixing relating to the particular commodities or services purchased or acquired by the City of Naples. At the City's discretion, such assignment shall be made and become effective at the time the City tenders final payment to the bidder.</p> <p style="text-align: center;"><b>FEI/EIN Number _____</b></p> <p style="text-align: center;">Please initial by all that apply          I acknowledge receipt/ review of the following addendum</p> <p> <input type="checkbox"/> Addendum #1              <input type="checkbox"/> Addendum #2              <input type="checkbox"/> Addendum #3              <input type="checkbox"/> Addendum #4       </p>	

**PLEASE NOTE THE FOLLOWING**

- > This page **must be completed and returned** with your bid.
- > Bids must be **submitted in a sealed envelope, marked with solicitation number & opening date.**
- > All submissions must be received and date stamped by Purchasing staff prior to the above "**OPENING DATE & TIME**".
- > Submission received after the above opening date and time will not be accepted.
- > Evaluation scores will be available on the City of Naples web site [www.naplesgov.com](http://www.naplesgov.com) . **If you do not have computer access and want a copy of the evaluation scores, please enclose a stamped, self-addressed envelope with your bid.**

## GENERAL CONDITIONS

**TO ENSURE ACCEPTANCE OF THE PROPOSAL, PLEASE FOLLOW THESE INSTRUCTIONS. ANY AND ALL SPECIAL CONDITIONS, ATTACHED HERETO, HAVE PRECEDENCE.**

- 1. SEALED PROPOSAL:** All proposals must be submitted in a sealed envelope. The face of the envelope shall contain the proposal name and proposal number. Proposals not submitted on attached cover form shall be rejected. All proposals are subject to the conditions specified herein. Those which do not comply with these conditions are subject to rejection.
- 2. EXECUTION OF PROPOSAL:** Proposal must contain a manual signature of authorized representative in the proposal section. Proposal must be typed or printed in ink. Use of erasable ink is not permitted. All corrections made by proposer to his proposal must be initialed.
- 3. NO PROPOSAL:** If not submitting a proposal, respond by returning the Statement of No Proposal and explain the reason in the spaces provided. Failure to respond 3 times in succession without justification shall be cause for removal of the supplier's name from the proposal mailing list. NOTE: To qualify as a respondent, proposer must submit a "NO PROPOSAL," and it must be received no later than the stated proposal opening date and hour.
- 4. PROPOSAL OPENING:** Shall be public, on the date and at the time specified on the proposal form. It is the proposer's responsibility to assure that his proposal is delivered at the proper time and place of the proposal opening. Proposals which for any reason are not so delivered will not be considered. Offers by telegram; telephone; or fax are not acceptable. Proposal files may be examined during normal working hours.
- 5. WITHDRAWAL OF PROPOSALS:** Withdrawal of a proposal within sixty (60) days after the opening of proposals is subject to suspension or debarment in accordance with Policy 7-4 for up to three years.
- 6. PRICES, TERMS and PAYMENT:** Firm Prices shall be proposal and include all packing, handling, shipping charges and delivery to the destination shown herein. Proposer is encouraged to offer cash discount for prompt invoice payment. Terms of less than 20 days will not be considered.
  - A. TAXES:** The City of Naples does not pay Federal Excise and Sales taxes on direct purchases of tangible personal property. See exemption number on face of purchase order. This exemption does not apply to purchases of tangible personal property made by contractors who use the tangible personal property in the performance of contracts for the improvement of City-owned real property.
  - B. MISTAKES:** Proposers are expected to examine the specifications, delivery schedule, proposal prices, extensions, and all instructions pertaining to supplies and services. Failure to do so will be at proposer's risk. In case of mistake in extension, the unit price will govern.
  - C. CONDITION AND PACKAGING:** It is understood and agreed that any item offered or shipped as a result of this proposal shall be a new, current standard production model available at the time of this proposal. All containers shall be suitable for storage or shipment, and all prices shall include standard commercial packaging.
  - D. SAFETY STANDARDS:** Unless otherwise stipulated in the proposal, all manufactured items and fabricated assemblies shall comply with applicable requirements of Occupational Safety and Health Act and any standards there under.
  - E. UNDERWRITERS' LABORATORIES:** Unless otherwise stipulated in the proposal, all manufactured items and fabricated assemblies shall carry U.L. approval and re-examination listing where such has been established.
  - F. PAYMENT:** Payment will be made by the buyer after the items awarded to a vendor have been received, inspected, and found to comply with award specifications, free of damage or defect and properly invoiced. All invoices shall bear the purchase order number. Payment for partial shipments shall not be made unless specified in the proposal. Failure to follow these instructions may result in delay in processing

invoices for payment. In addition, the purchase order number must appear on bills of lading, packages, cases, delivery lists and correspondence.

**7. DELIVERY:** Unless actual date of delivery is specified (or if specified delivery cannot be met), show number of days required to make delivery after receipt of purchase order in space provided. Delivery time may become a basis for making an award (see Special Conditions). Delivery shall be within the normal working hours of the user, Monday through Friday, unless otherwise specified.

**8. MANUFACTURERS' NAMES AND APPROVED EQUIVALENTS:** Any manufacturers' names, trade names, brand names, information and/or catalog numbers listed in a specification are for information and not intended to limit competition. The proposer may offer any brand for which he is an authorized representative, which meets or exceeds the specification for any item(s). If proposals are based on equivalent products, indicate on the proposal form the manufacturer's name and number. Proposer shall submit with his proposal, cuts, sketches, and descriptive literature, and/or complete specifications. Reference to literature submitted with a previous proposal will not satisfy this provision. The proposer shall also explain in detail the reason(s) why the proposed equivalent will meet the specifications and not be considered an exception thereto. Proposals which do not comply with these requirements are subject to rejection. Proposals lacking any written indication of intent to quote an alternate brand will be received and considered in complete compliance with the specifications as listed on the proposal form.

**9. INTERPRETATIONS:** Any questions concerning conditions and specifications shall be directed in writing to this office for receipt no later than ten (10) days prior to the proposal opening. Inquiries must reference the date of proposal opening and proposal number. Failure to comply with this condition will result in proposer waiving his right to dispute the proposal.

**10. CONFLICT OF INTEREST:** All proposal awards are subject to Section 2-973 Conflict of Interest, City of Naples Code of Ordinances, which states: *"No public officer or employee shall have or hold any employment or contractual relationship with any business entity or any agency which is subject to the regulation of or is doing business with the city; nor shall an officer or employee have or hold any employment or contractual relationship that will create a continuing or frequently recurring conflict between his private interests and the performance of his public duties or that would impede the full and faithful discharge of his public duties. Any member of the city council or any city officer or employee who willfully violates this section shall be guilty of malfeasance in office or position and shall forfeit his office or position. Violation of this section with the knowledge, express or implied, of the person or corporation contracting with or making a sale to the city shall render the contract or sale voidable by the city manager or the city council."*

**11. AWARDS:** As the best interest of the City may require, the right is reserved to make award(s) by individual item, group of items, all or none, or a combination thereof; to reject any and all proposals or waive any minor irregularity or technicality in proposals received.

**12. ADDITIONAL QUANTITIES:** For a period not exceeding ninety (90) days from the date of acceptance of this offer by the buyer, the right is reserved to acquire additional quantities up to but not exceeding those shown on proposal at the prices proposal in this invitation. If additional quantities are not acceptable, the proposal sheets must be noted "PROPOSAL IS FOR SPECIFIED QUANTITY ONLY." (THIS PARAGRAPH DOES NOT APPLY FOR A TERM CONTRACT.)

**13. SERVICE AND WARRANTY:** Unless otherwise specified, the proposer shall define any warranty service and replacements that will be provided during and subsequent to this contract. Proposers must explain on an attached sheet to what extent warranty and service facilities are provided.

**14. SAMPLES:** Samples of items, when called for, must be furnished free of expense, on or before proposal opening time and date, and if not destroyed may, upon request, be returned at the proposer's expense. Each individual sample must be labeled with proposer's name, manufacturer's brand name and number, proposal number and item reference. Request for return of samples shall be accompanied by instructions which include shipping authorization and name of carrier and must be received with your

proposal. If instructions are not received within this time, the commodities shall be disposed of by the City of Naples.

**15. PROPOSAL PROTEST:** The city has formal proposal protest procedures that are available on request.

**16. INSPECTION, ACCEPTANCE AND TITLE:** Inspection and acceptance will be at destination unless otherwise provided. Title and risk of loss or damage to all items shall be the responsibility of the contract supplier until accepted by the ordering agency, unless loss or damage results from negligence by the ordering

**17. DISPUTES:** In case of any doubt or difference of opinion as to the items to be furnished hereunder, the decision of the buyer shall be final and binding on both parties.

**18. GOVERNMENTAL RESTRICTIONS:** In the event any governmental restrictions may be imposed which would necessitate alteration of the material, quality, workmanship or performance of the items offered on this proposal prior to their delivery, it shall be the responsibility of the successful proposer to notify the buyer at once, indicating in his letter the specific regulation which required an alteration. The City reserves the right to accept any such alteration, including any price adjustments occasioned thereby, or to cancel the contract at no expense to the City.

**19. LEGAL REQUIREMENTS:** Applicable provision of all Federal, State, county and local laws, and of all ordinances, rules, and regulations shall govern development submittal and evaluation of all proposals received in response hereto and shall govern any and all claims and disputes which may arise between person(s) submitting a proposal response hereto and the City of Naples by and through its officers, employees and authorized representatives, or any other person, natural or otherwise; and lack of knowledge by any proposer shall not constitute a cognizable defense against the legal effect thereof.

**20. PATENTS AND ROYALTIES:** The proposer, without exception, shall indemnify and save harmless the City of Naples and its employees from liability of any nature or kind, including cost and expenses for or on account of any copyrighted, patented, or unpatented invention, process, or article manufactured or used in the performance of the contract, including its use by the City of Naples. If the proposer uses any design, device, or materials covered by letters, patent or copyright, it is mutually agreed and understood without exception that the proposal prices shall include all royalties or cost arising from the use of such design, device, or materials in any way involved in the work.

**21. ADVERTISING:** In submitting a proposal, proposer agrees not to use the results there from as a part of any commercial advertising.

**22. ASSIGNMENT:** Any Purchase Order issued pursuant to this proposal invitation and the monies which may become due hereunder are not assignable except with the prior written approval of the buyer.

**23. LIABILITY:** The supplier shall hold and save the City of Naples, its officers, agents, and employees harmless from liability of any kind in the performance of this contract.

**24. PUBLIC ENTITY CRIMES:** A person or affiliate who has been placed on the convicted vendor list following a conviction for a public entity crime may not submit a proposal on a contract to provide any goods or services to a public entity, may not submit a proposal on a contract with a public entity for the construction or repair of a public building or public work, may not submit proposals on leases of real property to a public entity, may not be awarded or perform work as a contractor, supplier, subcontractor, or consultant under a contract with any public entity, and may not transact business with any public entity in excess of the threshold amount provided in Section 287.017, for CATEGORY TWO for a period of 36 months from the date of being placed on the convicted vendor list.

**25. DISCRIMINATION:** An entity or affiliate who has been placed on the discriminatory vendor list may not submit a proposal on a contract to provide goods or services to a public entity, may not submit a

proposal on a contract with a public entity for the construction or repair of a public building or public work, may not submit proposals on leases of real property to a public entity, may not award or perform work as a contractor, supplier, subcontractor, or consultant under contract with any public entity, and may not transact business with any public entity.

**26. COUNTY TAXES:** No proposal shall be accepted from and no contract will be awarded to any person, firm or corporation that is in arrears to the government of Collier County, Florida.

**27. OFFER EXTENDED TO OTHER GOVERNMENTAL ENTITIES:** The City of Naples encourages and agrees to the successful proposer extending the pricing, terms and conditions of this solicitation or resultant contract to other governmental entities at the discretion of the successful proposer.

**IF THIS PROPOSAL IS FOR A TERM CONTRACT, THE FOLLOWING CONDITIONS SHALL ALSO APPLY**

**28. ELIGIBLE USERS:** All departments of the City of Naples are eligible to use this term contract. Such purchases shall be exempt from the competitive proposal requirements otherwise applying to their purchases.

**29. PRICE ADJUSTMENTS:** Any price decrease effectuated during the contract period by reason of market change shall be passed on to City of Naples. Price increases are not acceptable.

**30. CANCELLATION:** All contract obligations shall prevail for at least one hundred eighty (180) days after effective date of contract. After that period, for the protection of both parties, this contract may be cancelled in whole or in part by either party by giving thirty (30) days prior written notice to the other party.

**31. RENEWAL:** The City of Naples reserves the option to renew the period of this contract, or any portion thereof for up to two (2) additional periods. Renewal of the contract period shall be by mutual agreement in writing.

**32. ABNORMAL QUANTITIES:** While it is not anticipated, should any unusual or abnormal requirements arise, the City reserves the right to solicit separate proposals thereon.

**33. FISCAL NON-FUNDING CLAUSE:** In the event sufficient funds are not budgeted for a new fiscal period, the City shall notify the contractor of such occurrence and the contract shall terminate on the last day of the current fiscal year without penalty or expense to the City.

**IF THIS PROPOSAL IS FOR PERFORMING A SERVICE, THE FOLLOWING CONDITIONS SHALL ALSO APPLY**

**34. ALTERNATIVE PROPOSALS:** Proposers offering service delivery methods other than those permitted by the scope of work may submit a separate envelope clearly marked "ALTERNATIVE PROPOSAL". Alternative proposals will be deemed non-responsive and will not be considered for award. All such responses will, however, be examined prior to award. Such examination may result in cancellation of all proposals received to permit rewriting the scope of work to include the alternative method, or the alternative method may be considered for future requirements of the City of Naples.

**35. ANTITRUST:** By entering into a contract, the contractor conveys, sells, assigns and transfers to the City of Naples all rights, titles and interest it may now have or hereafter acquire under the antitrust laws of the United States and the State of Florida that relate to the particular goods or services purchased or acquired by the City of Naples under said contract.

**36. PROPOSER INVESTIGATIONS:** Before submitting a proposal, each proposer shall make all investigations and examinations necessary to ascertain all site conditions and requirements affecting the full performance of the contract and to verify any representations made by the City of Naples upon which the proposer will rely. If the proposer receives an award as a result of its proposal submission, failure to have made such investigations and examinations will in no way relieve the proposer from its obligation to comply in every detail with all provisions and requirements of the contract documents, nor will a plea of ignorance of such conditions and requirements be accepted as a basis for any claim whatsoever by the contractor for additional compensation.

**37. CERTIFICATES AND LICENSES:** The Contractor, at time of proposal, shall possess the correct occupational licenses, all professional licenses or other authorizations necessary to carry out and perform the work required by the City of Naples and Collier County for this project pursuant to all applicable Federal, State and Local Laws, Statutes, Ordinances, and rules and regulations of any kind.

**38. CHANGE IN SCOPE OF WORK:** The City of Naples may order changes in the work consisting of additions, deletions or other revisions within the general scope of the contract. No claims may be made by the contractor that the scope of the project or of the contractor's services has been changed, requiring changes to the amount of compensation to the contractor or other adjustments to the contract unless such changes or adjustments have been made by written amendment to the contract signed by the City of Naples and the contractor. If the contractor believes that any particular work is not within the scope of the project, is a material change, or will otherwise require more compensation to the contractor, the contractor must immediately notify the City in writing of this belief. If the City believes that the particular work is within the scope of the contract as written, the contractor will be ordered to and shall continue with the work as changed and at the cost stated for the work within the scope.

**39. CONTRACTOR PERSONNEL:** The City of Naples shall, throughout the life of the contract, have the right of reasonable rejection and approval of staff or subcontractors assigned to the work by the contractor. If the City reasonably rejects staff or subcontractors, the contractor must provide replacement staff or subcontractors satisfactory to the City in a timely manner and at no additional cost to the City. The day-to-day supervision and control of the contractor's employees and sub-contractors is the responsibility solely of the contractor.

**40. COST REIMBURSEMENT:** The contractor agrees that all incidental costs, including allowances for profit and tools of the trade, must be included in the proposal rates. If an arrangement is made between the contractor and the City to reimburse the contractor for the cost of materials provided in the performance of the work, the contractor shall be reimbursed in the following manner: The City shall reimburse the contractor on completion and acceptance of each assigned job, only for those materials actually used in the performance of the work that is supported by invoices issued by the suppliers of the contractor describing the quantity and cost of the materials purchased. No surcharge shall be added to the supplier's invoices or included in the contractor's invoice submitted to the City that would increase the dollar amount indicated on the supplier's invoice for the materials purchased for the assigned job.

**41. EXCEPTIONS:** Proposers taking exception to any part or section of the solicitation shall indicate such exceptions on the proposal form. Failure to indicate any exception will be interpreted as the proposer's intent to comply fully with the requirements as written. Conditional or qualified proposals, unless specifically allowed, shall be subject to rejection in whole or in part.

**42. FAILURE TO DELIVER:** In the event of the contractor to fail to deliver services in accordance with the contract terms and conditions, the City, after due oral or written notice, may procure the services from other sources and hold the contractor responsible for any resulting purchase and administrative costs. This remedy shall be in addition to any other remedies that the City may have.

**43. FAILURE TO ENFORCE:** Failure by the City at any time to enforce the provisions of the contract shall not be construed as a waiver of any such provisions. Such failure to enforce shall not affect the validity of the contract or any part thereof or the right of the City to enforce any provision at any time in accordance with its terms.

**44. FORCE MAJEURE:** The contractor shall not be held responsible for failure to perform the duties and responsibilities imposed by the contract due to legal strikes, fires, riots, rebellions and acts of God beyond the control of the contractor, unless otherwise specified in the contract.

**45. INDEPENDENT CONTRACTOR:** The contractor shall be legally considered an independent contractor and neither the contractor nor its employees shall, under any circumstances, be considered servants or agents of the City of Naples and the City of Naples shall be at no time legally responsible for any negligence or any wrongdoing by the contractor, its servants or agents. The City of Naples shall not withhold from the contract payments to the contractor any federal income taxes, Social Security tax, or any other amounts for benefits to the contractor. Further, the City shall not provide to the contractor any insurance coverage or other benefits, including Workers' Compensation normally provided by the City for its employees.

**46. ORAL STATEMENTS:** No oral statement of any person shall modify or otherwise affect the terms, conditions or specifications stated in this contract. All modifications to the contract must be made in writing by the City of Naples.

**47. QUALIFICATIONS OF PROPOSERS:** The proposer may be required, before the award of any contract, to show to the complete satisfaction of the City of Naples that it has the necessary facilities, ability, and financial resources to provide the service specified therein in a satisfactory manner. The proposer may also be required to give a past history and references in order to satisfy the City in regard to the proposer's qualifications. The City may make reasonable investigations deemed necessary and proper to determine the ability of the proposer to perform the work, and the proposer shall furnish to the City all information for this purpose that may be requested. The City reserves the right to reject any proposal if the evidence submitted by, or investigation of, the proposer fails to satisfy the City that the proposer is properly qualified to carry out the obligations of the contract and to complete the work described therein. Evaluation of the proposer's qualifications shall include:

- > The ability, capacity, skill and financial resources to perform the work or service.
- > The ability to perform the work service promptly or within the time specified, without delay.
- > The character, integrity, reputation, judgment, experience, and efficiency of the proposer.
- > The quality of performance of previous contracts or services.

**48. QUALITY CONTROL:** The contractor shall institute and maintain throughout the contract period a properly documented quality control program designed to ensure that the services are provided at all times and in all respects in accordance with the contract. The program shall include providing daily supervision and conducting frequent inspections of the contractor's staff and ensuring that accurate records are maintained describing the disposition of all complaints. The records so created shall be open to inspection by the City.

**49. RECOVERY OF MONEY:** Whenever, under the contract, any sum of money shall be recoverable from or payable by the contractor to the City, the same amount may be deducted from any sum due to the contractor under the contract or under any other contract between the contractor and the City. The rights of the City are in addition and without prejudice to any other right the City may have to claim the amount of any loss or damage suffered by the City on account of the acts or omissions of the contractor.

**50. REQUIREMENTS CONTRACT:** During the period of the contract, the contractor shall provide all the services described in the contract. The contractor understands and agrees that this is a requirements contract and that the City shall have no obligation to the contractor if no services are required. Any quantities that are included in the scope of work reflect the current expectations of the City for the period of the contract. The amount is only an estimate and the contractor understands and agrees that the City is under no obligation to the contractor to buy any amount of services as a result of having provided this estimate or of having any typical or measurable requirement in the past. The contractor further understands and agrees that the City may require services in excess of the estimated annual contract amount and that the quantity actually used whether in excess of, or less than, the estimated annual contract amount and that the quantity actually used

shall not give rise to any claim for compensation other than the total of the unit prices in the contract for the quantity actually used.

**51. TERMINATION FOR CONVENIENCE:** The performance of work under the contract may be terminated by the City in whole or in part whenever the City determines that termination is in the City's best interest. Any such termination shall be effected by the delivery to the contractor of a written notice of termination of at least seven (7) days before the date of termination, specifying the extent to which performance of the work under the contract is terminated and the date upon which such termination becomes effective. After receipt of a notice of termination, except as otherwise directed, the contractor shall stop work on the date of the receipt of the notice or other date specified in the notice; place no further orders or subcontracts for materials, services or facilities except as necessary for completion of such portion of the work not terminated; terminate all vendors and subcontracts; and settle all outstanding liabilities and claims.

**52. TERMINATION FOR DEFAULT:** The City of Naples reserves the right to terminate the contract if the City determines that the contractor has failed to perform satisfactorily the work required, as determined by the City. In the event the City decides to terminate the contract for failure to perform satisfactorily, the City shall give to the contractor at least seven (7) days written notice before the termination takes effect. The seven-day period will begin upon the mailing of notice by the City. If the contractor fails to cure the default within the seven (7) days specified in the notice and the contract is terminated for failure to perform satisfactorily, the contractor shall be entitled to receive compensation for all reasonable, allocable and allowable contract services satisfactorily performed by the contractor up to the date of termination that were accepted by the City prior to the termination. In the event the City terminates the contract because of the default of the contractor, the contractor shall be liable for all excess costs that the City is required to expend to complete the work under contract.

**53. STATE AND FEDERAL EMPLOYMENT LAWS:** Contractors providing service to the City are required to comply with all state and federal employment laws. This includes, but is not limited to, laws resulting from the Immigration and Reform and Control Act of 1986, wherein all employers are required to verify the identity and employment eligibility of all employees. The Department of Homeland Security, U.S. Citizenship and Immigration Services require employees and employers to complete Form I-9 and the employer must examine evidence of identity and employment eligibility within three business days of the date employment begins. Non compliant contractors will be subject to contract sanctions, up to and including contract termination.

**54. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY, AND VOLUNTARY EXCLUSION:** The contractor agrees to comply with Executive Order 12549 "Debarment and Suspension" and 2 CFR 180 "OMB Guidelines to Agencies on Government wide Debarment and Suspension." These rules require all contractors using federal funds not be debarred or suspended from doing business with the Federal Government. This includes sub-recipients and lower tier participant for covered transactions. Signing and submitting this document certified the organization and its principals are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any federal department or agency, and further have not within the preceding three-year period been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction.

**THE CITY OF NAPLES IS AN EQUAL OPPORTUNITY EMPLOYER**



## GENERAL INSURANCE REQUIREMENTS

The Contractor shall not commence work until he has obtained all the insurance required under this heading, and until such insurance has been approved by the Owner, nor shall the Contractor allow any subcontractor to commence work until all similar insurance required of the subcontractor has also been obtained and approved by the Owner.

Certificates of insurance must be issued by an authorized representative of the insurance company at the request and direction of the policyholder and must include sufficient information so as to identify the coverage and the contract for Owner's improvements for which they are issued. Certificates of insurance must be issued by a nationally recognized insurance company with a Best's Rating of no less than B+VII, satisfactory to the Owner, and duly licensed to do business in the state of said Contract.

The Contractor shall procure and maintain, during the life of this Contract, Workmen's Compensation Insurance for all of his employees to be engaged in work under this Contract, and he shall require any subcontractor similarly to provide Workmen's Compensation Insurance for all of the latter's employees to be engaged in such work, unless such employees are covered by the protection afforded by the Contractor's insurance. In case any employees are to be engaged in hazardous work under this Contract, and are not protected under this Workmen's Compensation statute, the Contractor shall provide, and shall cause each subcontractor to provide, adequate coverage for the protection of such employees. It is acceptable to use a State-approved Workmen's Compensation Self-Insurance fund.

The Contractor shall take out and maintain during the life of this Contract, Public Liability and Property Damage and shall include Contractual Liability, Personal Injury, Libel, Slander, False Arrest, Malicious Prosecution, Wrongful Entry or Eviction, Broad Form Property Damage, Products, Completed Operations and XCU Coverage to be included on an occurrence basis, and to the full extent of the Contract to protect him, the Owner, and any subcontractor performing work covered by this Contract from damages for personal injury, including accidental death, as well as from claims for property damage, which may arise from operations under this contract, whether such operations be by himself or by a subcontractor, or by anyone directly or indirectly employed by either of them. The Contractor shall also maintain automobile liability insurance including "non-owned and hired" coverage. The entire cost of this insurance shall be borne by the Contractor.

The amount of such insurance shall be no less than \$1,000,000 annual aggregate for bodily injury and property damage combined per occurrence.

The City of Naples must be named as Additional Insured on the insurance certificate and the following must also be stated on the certificate. "These coverage's are primary to all other coverage's the City possesses for this contract only." The City of Naples shall be named as the Certificate Holder. The Certificate Holder shall read as follows:

The City of Naples  
735 Eighth Street South  
Naples, Florida 34102

No City Division, Department, or individual name should appear on the Certificate.  
No other format will be acceptable.

The Certificate must state the solicitation number and title.

When using the ACORD 25 – Certificate of Insurance only the most current version will be accepted.

The City of Naples requires a copy of a cancellation notice in the event the policy is cancelled. The City of Naples shall be expressly endorsed onto the policy as a cancellation notice recipient.

**Proof of insurance from the successful proposer is required at the time of issuance and award of a contract.**

**STATEMENT OF NO BID**

If you will not be bidding on this product/service, please help us by completing and returning only this page to:

City of Naples, Purchasing Division  
City Hall, 735 8<sup>th</sup> Street South  
Naples, FL 34102  
Fax 239-213-7105

Bid # \_\_\_\_\_ and Description: \_\_\_\_\_

We, the undersigned, decline to bid on the above project for the following reason(s):

- \_\_\_ We are not able to respond to the Invitation to Bid by the specified deadline.
- \_\_\_ Our Company does not offer this product or service.
- \_\_\_ Our current work schedule will not permit us to perform the required services.
- \_\_\_ Specifications are incomplete or information is unclear (Please explain below).

\_\_\_\_\_  
\_\_\_\_\_

\_\_\_ Other (Please specify below)

\_\_\_\_\_  
\_\_\_\_\_

Company Name \_\_\_\_\_

PH \_\_\_\_\_ Email \_\_\_\_\_

Name and Title of individual completing this form:

\_\_\_\_\_  
(Printed Name) (Title)

\_\_\_\_\_  
(Signature) (Date)

**REFERENCES**

**THIS SHEET MUST BE COMPLETED AND RETURNED WITH BID**

**PROVIDE AT LEAST THREE NON-CITY REFERENCES FOR WHOM YOUR COMPANY HAS PROVIDED SAME OR SIMILAR SERVICES WITHIN THE LAST 2 YEARS.**

**COMPANY NAME:** \_\_\_\_\_

**ADDRESS:** \_\_\_\_\_

**TELEPHONE:** \_\_\_\_\_

**CONTACT PERSON:** \_\_\_\_\_

**CONTACT E-MAIL ADDRESS:** \_\_\_\_\_

**COMPANY NAME:** \_\_\_\_\_

**ADDRESS:** \_\_\_\_\_

**TELEPHONE:** \_\_\_\_\_

**CONTACT PERSON:** \_\_\_\_\_

**CONTACT E-MAIL ADDRESS:** \_\_\_\_\_

**COMPANY NAME:** \_\_\_\_\_

**ADDRESS:** \_\_\_\_\_

**TELEPHONE:** \_\_\_\_\_

**CONTACT PERSON:** \_\_\_\_\_

**CONTACT E-MAIL ADDRESS:** \_\_\_\_\_

**Submitting Vendor Name:** \_\_\_\_\_

**CONSTRUCTION**  
**SPECIAL CONDITIONS**

**A. TERMS OF CONTRACT**

The resulting contract will commence on award and be in effect until completion of the project. Services to be rendered by the contractor shall be commenced subsequent to the execution of this Agreement upon written Notice to Proceed from the City for all or any designated portion of the Project must be completed by the contract dates specified within the Notice to Proceed for construction. Should CONTRACTOR fail to complete the project within this timeframe, daily liquidated damages in an amount consistent with the current Sec. 8-10.2 Florida Department of Transportation Standard Specifications will be assessed. RETAINAGE; As a method to assure completion of the total project, retainage in the amount of ten percent (10%) of all work completed will be withheld from the payment. The retainage will be released upon completion of the warranty period.

**B. PROHIBITION OF CONTACT**

Under no circumstances should any prospective organization or individual, or anyone acting for or on behalf of a prospective organization or individual, seek to influence or gain the support of any member of the City Council, public official or City staff favorable to the interest of any prospective organization or individual. Likewise, contact with City Council, any public official or city staff against the interests of other prospective organization (s) and or individual(s) is prohibited. Any such activities will result in the exclusion of the prospective organization or individual from consideration by the City.

**C. REFERENCES**

Bidder must submit a minimum of three references on the form provided. Additionally, a signed and dated IRS W-9 form with EIN is required from all vendors. Proof of insurance from the successful proposer is required at the time of issuance and award of a contract.

**D. STATEMENT OF NO BID**

If you will not be bidding on this producer/service, please help us by completing and returning the Statement of No Bid.

**E. BID FORMAT**

The Contract, if awarded, will be awarded on the basis of material and equipment illustrated and described on the Drawings or specified in the Specification. If a substitution or an “or equal” item is proposed, the proposer must submit this information to the City of Naples Purchasing Department ten (10) days prior to the Proposal Date for evaluation as an acceptable substitution or an “or equal” item. If the substitution or the “or equal” item is accepted, the City of Naples will issue an Addendum to all Proposers listing the allowable substitution or the “or equal” item. The cost of changes in related work, additional drawings which may be required to illustrate or define the substitute or “or equal” equipment and its relationship to the other parts or portions of the Work shall be paid by the

Contractor. No change will be made in the amount of time in which to complete the Work or in the liquidated damages.

**F. BID SECURITY / BID BOND**

It is the policy of the City of Naples to require a Bid Bond for all construction-related sealed bids estimated to be in excess of \$100,000. A bid bond or equivalent financial security in the amount of five (5) percent of the bid price shall be required and must accompany all bids. The Bid Bond is to be provided by a surety company authorized to do business in the State of Florida or otherwise supplied in a form satisfactory to the City. The bid bond must be submitted with the bid. When the invitation for bids requires a bid bond, noncompliance will result in rejection of the bid. Note that failure or refusal of the awarded bidder to enter into a contract within twenty (20) calendar days after receipt of said contract will result in damages to the City and bid bond will be forfeited to the City as liquidated damages.

**G. CONSTRUCTION PERFORMANCE & PAYMENT BONDS**

A Performance and Payment Bond will be required of the Awarded Proposer for any contract that is in excess of \$100,000.00 dollars and will be in an amount equal to 100 (%) percent of the price specified in the Contract. The bond(s) shall be executed by a surety company authorized to do business in the State of Florida, or otherwise secured in a manner satisfactory to the City for the protection of all persons supplying labor and material to the contractor or its subcontractors for the performance of the work provided for in the contract.

**H. QUESTIONS**

Questions regarding this proposer packet must be received in writing in the Purchasing Division **NO LATER THAN TEN CALENDAR DAYS PRIOR TO THE BID OPENING DATE TO ENSURE AN ANSWER IS PROVIDED PRIOR TO CLOSING.**

**Direct all questions to:**  
**Gerald “Jed” Secory, MBA / CPPO / CPM**  
**Purchasing and Contracts Manager**  
City of Naples, Purchasing Division  
735 8<sup>th</sup> Street South  
Naples, Florida 34102  
**PH: (239) 213-7102 FX: (239) 213-7105**  
[Jsecory@naplesgov.com](mailto:Jsecory@naplesgov.com)

## SUBMISSION CHECKLIST

Bidder should check off each of the following items as completed and submit with bid response:

CHECKLIST ELEMENTS	INCLUDED
<ul style="list-style-type: none"> <li>Submit one (1) original signature and one (1) copy of your original bid / document AND a Windows© compatible PDF of the original document on a CD or Flash / Thumb Drive that is clearly labeled.</li> </ul>	
<ul style="list-style-type: none"> <li>Include any required drawings; descriptive literature; qualifications; schedules; product compliance / exceptions; alternatives; questionnaire; references, forms, tabs, pricing/cost; and any information required of the proposer identified in the text of the bid including information for bid evaluation.</li> </ul>	
<ul style="list-style-type: none"> <li>Include any Professional Licenses that qualify the firm for this solicitation as well as applicable bond documents, if required. Note if you are not a single prime contractor. List all subcontractors to be used for our project in your bid/proposal and their professional licenses.</li> </ul>	
<ul style="list-style-type: none"> <li>Mandatory FORMS from this document to be included are: <u>Cover Sheet</u>, <u>References Sheet</u>, <u>Submission Checklist Sheet</u>, <u>IRS W-9</u> (Nov 2017) and <u>Compensation Schedule</u>.</li> </ul>	
<ul style="list-style-type: none"> <li>Have an authorized individual sign the appropriate pages including the <u>Cover Sheet</u> with bid addenda initialed.</li> </ul>	
<ul style="list-style-type: none"> <li>Bid document needs to be received by the OPENING DATE &amp; TIME indicated on the Cover Sheet. The mailing envelope must be addressed to:  <div style="text-align: center;">                     City of Naples                      Purchasing Division                      735 8<sup>th</sup> Street South                      Naples, Florida 34102                 </div> </li> </ul>	
<p style="text-align: center;">The mailing envelope should be sealed and marked with:</p> <p>Number:       <b>18-019</b>                      Title:         <b>HVAC System Construction</b>                      Opening Date: <b>01/17/2018</b></p>	

ALL COURIER DELIVERED BIDS MUST HAVE THE BID NUMBER AND TITLE ON THE OUTSIDE OF THE COURIER PACKET.

Submitting Vendor Name: \_\_\_\_\_

*At the discretion of the Purchasing Manager, bids or proposals with minor irregularities may be accepted and allowed to be corrected when in the best interest of the City.*

## Request for Taxpayer Identification Number and Certification

**Give Form to the  
 requester. Do not  
 send to the IRS.**

▶ Go to [www.irs.gov/FormW9](http://www.irs.gov/FormW9) for instructions and the latest information.

Print or type.  
See Specific Instructions on page 3.

1 Name (as shown on your income tax return). Name is required on this line; do not leave this line blank.
2 Business name/disregarded entity name, if different from above
3 Check appropriate box for federal tax classification of the person whose name is entered on line 1. Check only <b>one</b> of the following seven boxes. <input type="checkbox"/> Individual/sole proprietor or single-member LLC <input type="checkbox"/> C Corporation <input type="checkbox"/> S Corporation <input type="checkbox"/> Partnership <input type="checkbox"/> Trust/estate  <input type="checkbox"/> Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=Partnership) ▶ _____ <b>Note:</b> Check the appropriate box in the line above for the tax classification of the single-member owner. Do not check LLC if the LLC is classified as a single-member LLC that is disregarded from the owner unless the owner of the LLC is another LLC that is <b>not</b> disregarded from the owner for U.S. federal tax purposes. Otherwise, a single-member LLC that is disregarded from the owner should check the appropriate box for the tax classification of its owner.  <input type="checkbox"/> Other (see instructions) ▶ _____
4 Exemptions (codes apply only to certain entities, not individuals; see instructions on page 3):  Exempt payee code (if any) _____  Exemption from FATCA reporting code (if any) _____  <i>(Applies to accounts maintained outside the U.S.)</i>
5 Address (number, street, and apt. or suite no.) See instructions.
6 City, state, and ZIP code
7 List account number(s) here (optional)
Requester's name and address (optional)

### Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the instructions for Part I, later. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN*, later.

**Note:** If the account is in more than one name, see the instructions for line 1. Also see *What Name and Number To Give the Requester* for guidelines on whose number to enter.

<b>Social security number</b>										
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<b>or</b>										
<b>Employer identification number</b>										
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### Part II Certification

Under penalties of perjury, I certify that:

1. The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me); and
2. I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and
3. I am a U.S. citizen or other U.S. person (defined below); and
4. The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

**Certification instructions.** You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions for Part II, later.

<b>Sign Here</b>	Signature of U.S. person ▶	Date ▶
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## General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

**Future developments.** For the latest information about developments related to Form W-9 and its instructions, such as legislation enacted after they were published, go to [www.irs.gov/FormW9](http://www.irs.gov/FormW9).

### Purpose of Form

An individual or entity (Form W-9 requester) who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) which may be your social security number (SSN), individual taxpayer identification number (ITIN), adoption taxpayer identification number (ATIN), or employer identification number (EIN), to report on an information return the amount paid to you, or other amount reportable on an information return. Examples of information returns include, but are not limited to, the following.

- Form 1099-INT (interest earned or paid)

- Form 1099-DIV (dividends, including those from stocks or mutual funds)
  - Form 1099-MISC (various types of income, prizes, awards, or gross proceeds)
  - Form 1099-B (stock or mutual fund sales and certain other transactions by brokers)
  - Form 1099-S (proceeds from real estate transactions)
  - Form 1099-K (merchant card and third party network transactions)
  - Form 1098 (home mortgage interest), 1098-E (student loan interest), 1098-T (tuition)
  - Form 1099-C (canceled debt)
  - Form 1099-A (acquisition or abandonment of secured property)
- Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN.

*If you do not return Form W-9 to the requester with a TIN, you might be subject to backup withholding. See What is backup withholding, later.*

By signing the filled-out form, you:

1. Certify that the TIN you are giving is correct (or you are waiting for a number to be issued),
2. Certify that you are not subject to backup withholding, or
3. Claim exemption from backup withholding if you are a U.S. exempt payee. If applicable, you are also certifying that as a U.S. person, your allocable share of any partnership income from a U.S. trade or business is not subject to the withholding tax on foreign partners' share of effectively connected income, and
4. Certify that FATCA code(s) entered on this form (if any) indicating that you are exempt from the FATCA reporting, is correct. See *What is FATCA reporting*, later, for further information.

**Note:** If you are a U.S. person and a requester gives you a form other than Form W-9 to request your TIN, you must use the requester's form if it is substantially similar to this Form W-9.

**Definition of a U.S. person.** For federal tax purposes, you are considered a U.S. person if you are:

- An individual who is a U.S. citizen or U.S. resident alien;
- A partnership, corporation, company, or association created or organized in the United States or under the laws of the United States;
- An estate (other than a foreign estate); or
- A domestic trust (as defined in Regulations section 301.7701-7).

**Special rules for partnerships.** Partnerships that conduct a trade or business in the United States are generally required to pay a withholding tax under section 1446 on any foreign partners' share of effectively connected taxable income from such business. Further, in certain cases where a Form W-9 has not been received, the rules under section 1446 require a partnership to presume that a partner is a foreign person, and pay the section 1446 withholding tax. Therefore, if you are a U.S. person that is a partner in a partnership conducting a trade or business in the United States, provide Form W-9 to the partnership to establish your U.S. status and avoid section 1446 withholding on your share of partnership income.

In the cases below, the following person must give Form W-9 to the partnership for purposes of establishing its U.S. status and avoiding withholding on its allocable share of net income from the partnership conducting a trade or business in the United States.

- In the case of a disregarded entity with a U.S. owner, the U.S. owner of the disregarded entity and not the entity;
- In the case of a grantor trust with a U.S. grantor or other U.S. owner, generally, the U.S. grantor or other U.S. owner of the grantor trust and not the trust; and
- In the case of a U.S. trust (other than a grantor trust), the U.S. trust (other than a grantor trust) and not the beneficiaries of the trust.

**Foreign person.** If you are a foreign person or the U.S. branch of a foreign bank that has elected to be treated as a U.S. person, do not use Form W-9. Instead, use the appropriate Form W-8 or Form 8233 (see Pub. 515, *Withholding of Tax on Nonresident Aliens and Foreign Entities*).

**Nonresident alien who becomes a resident alien.** Generally, only a nonresident alien individual may use the terms of a tax treaty to reduce or eliminate U.S. tax on certain types of income. However, most tax treaties contain a provision known as a "saving clause." Exceptions specified in the saving clause may permit an exemption from tax to continue for certain types of income even after the payee has otherwise become a U.S. resident alien for tax purposes.

If you are a U.S. resident alien who is relying on an exception contained in the saving clause of a tax treaty to claim an exemption from U.S. tax on certain types of income, you must attach a statement to Form W-9 that specifies the following five items.

1. The treaty country. Generally, this must be the same treaty under which you claimed exemption from tax as a nonresident alien.
2. The treaty article addressing the income.
3. The article number (or location) in the tax treaty that contains the saving clause and its exceptions.
4. The type and amount of income that qualifies for the exemption from tax.
5. Sufficient facts to justify the exemption from tax under the terms of the treaty article.

**Example.** Article 20 of the U.S.-China income tax treaty allows an exemption from tax for scholarship income received by a Chinese student temporarily present in the United States. Under U.S. law, this student will become a resident alien for tax purposes if his or her stay in the United States exceeds 5 calendar years. However, paragraph 2 of the first Protocol to the U.S.-China treaty (dated April 30, 1984) allows the provisions of Article 20 to continue to apply even after the Chinese student becomes a resident alien of the United States. A Chinese student who qualifies for this exception (under paragraph 2 of the first protocol) and is relying on this exception to claim an exemption from tax on his or her scholarship or fellowship income would attach to Form W-9 a statement that includes the information described above to support that exemption.

If you are a nonresident alien or a foreign entity, give the requester the appropriate completed Form W-8 or Form 8233.

## Backup Withholding

**What is backup withholding?** Persons making certain payments to you must under certain conditions withhold and pay to the IRS 28% of such payments. This is called "backup withholding." Payments that may be subject to backup withholding include interest, tax-exempt interest, dividends, broker and barter exchange transactions, rents, royalties, nonemployee pay, payments made in settlement of payment card and third party network transactions, and certain payments from fishing boat operators. Real estate transactions are not subject to backup withholding.

You will not be subject to backup withholding on payments you receive if you give the requester your correct TIN, make the proper certifications, and report all your taxable interest and dividends on your tax return.

**Payments you receive will be subject to backup withholding if:**

1. You do not furnish your TIN to the requester,
2. You do not certify your TIN when required (see the instructions for Part II for details),
3. The IRS tells the requester that you furnished an incorrect TIN,
4. The IRS tells you that you are subject to backup withholding because you did not report all your interest and dividends on your tax return (for reportable interest and dividends only), or
5. You do not certify to the requester that you are not subject to backup withholding under 4 above (for reportable interest and dividend accounts opened after 1983 only).

Certain payees and payments are exempt from backup withholding. See *Exempt payee code*, later, and the separate Instructions for the Requester of Form W-9 for more information.

Also see *Special rules for partnerships*, earlier.

## What is FATCA Reporting?

The Foreign Account Tax Compliance Act (FATCA) requires a participating foreign financial institution to report all United States account holders that are specified United States persons. Certain payees are exempt from FATCA reporting. See *Exemption from FATCA reporting code*, later, and the Instructions for the Requester of Form W-9 for more information.

## Updating Your Information

You must provide updated information to any person to whom you claimed to be an exempt payee if you are no longer an exempt payee and anticipate receiving reportable payments in the future from this person. For example, you may need to provide updated information if you are a C corporation that elects to be an S corporation, or if you no longer are tax exempt. In addition, you must furnish a new Form W-9 if the name or TIN changes for the account; for example, if the grantor of a grantor trust dies.

## Penalties

**Failure to furnish TIN.** If you fail to furnish your correct TIN to a requester, you are subject to a penalty of \$50 for each such failure unless your failure is due to reasonable cause and not to willful neglect.

**Civil penalty for false information with respect to withholding.** If you make a false statement with no reasonable basis that results in no backup withholding, you are subject to a \$500 penalty.



**Criminal penalty for falsifying information.** Willfully falsifying certifications or affirmations may subject you to criminal penalties including fines and/or imprisonment.

**Misuse of TINs.** If the requester discloses or uses TINs in violation of federal law, the requester may be subject to civil and criminal penalties.

## Specific Instructions

### Line 1

You must enter one of the following on this line; **do not** leave this line blank. The name should match the name on your tax return.

If this Form W-9 is for a joint account (other than an account maintained by a foreign financial institution (FFI)), list first, and then circle, the name of the person or entity whose number you entered in Part I of Form W-9. If you are providing Form W-9 to an FFI to document a joint account, each holder of the account that is a U.S. person must provide a Form W-9.

**a. Individual.** Generally, enter the name shown on your tax return. If you have changed your last name without informing the Social Security Administration (SSA) of the name change, enter your first name, the last name as shown on your social security card, and your new last name.

**Note: ITIN applicant:** Enter your individual name as it was entered on your Form W-7 application, line 1a. This should also be the same as the name you entered on the Form 1040/1040A/1040EZ you filed with your application.

**b. Sole proprietor or single-member LLC.** Enter your individual name as shown on your 1040/1040A/1040EZ on line 1. You may enter your business, trade, or "doing business as" (DBA) name on line 2.

**c. Partnership, LLC that is not a single-member LLC, C corporation, or S corporation.** Enter the entity's name as shown on the entity's tax return on line 1 and any business, trade, or DBA name on line 2.

**d. Other entities.** Enter your name as shown on required U.S. federal tax documents on line 1. This name should match the name shown on the charter or other legal document creating the entity. You may enter any business, trade, or DBA name on line 2.

**e. Disregarded entity.** For U.S. federal tax purposes, an entity that is disregarded as an entity separate from its owner is treated as a "disregarded entity." See Regulations section 301.7701-2(c)(2)(iii). Enter the owner's name on line 1. The name of the entity entered on line 1 should never be a disregarded entity. The name on line 1 should be the name shown on the income tax return on which the income should be reported. For example, if a foreign LLC that is treated as a disregarded entity for U.S. federal tax purposes has a single owner that is a U.S. person, the U.S. owner's name is required to be provided on line 1. If the direct owner of the entity is also a disregarded entity, enter the first owner that is not disregarded for federal tax purposes. Enter the disregarded entity's name on line 2, "Business name/disregarded entity name." If the owner of the disregarded entity is a foreign person, the owner must complete an appropriate Form W-8 instead of a Form W-9. This is the case even if the foreign person has a U.S. TIN.

### Line 2

If you have a business name, trade name, DBA name, or disregarded entity name, you may enter it on line 2.

### Line 3

Check the appropriate box on line 3 for the U.S. federal tax classification of the person whose name is entered on line 1. Check only one box on line 3.

IF the entity/person on line 1 is a(n) . . .	THEN check the box for . . .
• Corporation	Corporation
• Individual • Sole proprietorship, or • Single-member limited liability company (LLC) owned by an individual and disregarded for U.S. federal tax purposes.	Individual/sole proprietor or single-member LLC
• LLC treated as a partnership for U.S. federal tax purposes, • LLC that has filed Form 8832 or 2553 to be taxed as a corporation, or • LLC that is disregarded as an entity separate from its owner but the owner is another LLC that is not disregarded for U.S. federal tax purposes.	Limited liability company and enter the appropriate tax classification. (P= Partnership; C= C corporation; or S= S corporation)
• Partnership	Partnership
• Trust/estate	Trust/estate

### Line 4, Exemptions

If you are exempt from backup withholding and/or FATCA reporting, enter in the appropriate space on line 4 any code(s) that may apply to you.

#### Exempt payee code.

- Generally, individuals (including sole proprietors) are not exempt from backup withholding.
- Except as provided below, corporations are exempt from backup withholding for certain payments, including interest and dividends.
- Corporations are not exempt from backup withholding for payments made in settlement of payment card or third party network transactions.
- Corporations are not exempt from backup withholding with respect to attorneys' fees or gross proceeds paid to attorneys, and corporations that provide medical or health care services are not exempt with respect to payments reportable on Form 1099-MISC.

The following codes identify payees that are exempt from backup withholding. Enter the appropriate code in the space in line 4.

- 1—An organization exempt from tax under section 501(a), any IRA, or a custodial account under section 403(b)(7) if the account satisfies the requirements of section 401(f)(2)
- 2—The United States or any of its agencies or instrumentalities
- 3—A state, the District of Columbia, a U.S. commonwealth or possession, or any of their political subdivisions or instrumentalities
- 4—A foreign government or any of its political subdivisions, agencies, or instrumentalities
- 5—A corporation
- 6—A dealer in securities or commodities required to register in the United States, the District of Columbia, or a U.S. commonwealth or possession
- 7—A futures commission merchant registered with the Commodity Futures Trading Commission
- 8—A real estate investment trust
- 9—An entity registered at all times during the tax year under the Investment Company Act of 1940
- 10—A common trust fund operated by a bank under section 584(a)
- 11—A financial institution
- 12—A middleman known in the investment community as a nominee or custodian
- 13—A trust exempt from tax under section 664 or described in section 4947

The following chart shows types of payments that may be exempt from backup withholding. The chart applies to the exempt payees listed above, 1 through 13.

IF the payment is for . . .	THEN the payment is exempt for . . .
Interest and dividend payments	All exempt payees except for 7
Broker transactions	Exempt payees 1 through 4 and 6 through 11 and all C corporations. S corporations must not enter an exempt payee code because they are exempt only for sales of noncovered securities acquired prior to 2012.
Barter exchange transactions and patronage dividends	Exempt payees 1 through 4
Payments over \$600 required to be reported and direct sales over \$5,000 <sup>1</sup>	Generally, exempt payees 1 through 5 <sup>2</sup>
Payments made in settlement of payment card or third party network transactions	Exempt payees 1 through 4

<sup>1</sup> See Form 1099-MISC, Miscellaneous Income, and its instructions.

<sup>2</sup> However, the following payments made to a corporation and reportable on Form 1099-MISC are not exempt from backup withholding: medical and health care payments, attorneys' fees, gross proceeds paid to an attorney reportable under section 6045(f), and payments for services paid by a federal executive agency.

**Exemption from FATCA reporting code.** The following codes identify payees that are exempt from reporting under FATCA. These codes apply to persons submitting this form for accounts maintained outside of the United States by certain foreign financial institutions. Therefore, if you are only submitting this form for an account you hold in the United States, you may leave this field blank. Consult with the person requesting this form if you are uncertain if the financial institution is subject to these requirements. A requester may indicate that a code is not required by providing you with a Form W-9 with "Not Applicable" (or any similar indication) written or printed on the line for a FATCA exemption code.

A—An organization exempt from tax under section 501(a) or any individual retirement plan as defined in section 7701(a)(37)

B—The United States or any of its agencies or instrumentalities

C—A state, the District of Columbia, a U.S. commonwealth or possession, or any of their political subdivisions or instrumentalities

D—A corporation the stock of which is regularly traded on one or more established securities markets, as described in Regulations section 1.1472-1(c)(1)(i)

E—A corporation that is a member of the same expanded affiliated group as a corporation described in Regulations section 1.1472-1(c)(1)(i)

F—A dealer in securities, commodities, or derivative financial instruments (including notional principal contracts, futures, forwards, and options) that is registered as such under the laws of the United States or any state

G—A real estate investment trust

H—A regulated investment company as defined in section 851 or an entity registered at all times during the tax year under the Investment Company Act of 1940

I—A common trust fund as defined in section 584(a)

J—A bank as defined in section 581

K—A broker

L—A trust exempt from tax under section 664 or described in section 4947(a)(1)

M—A tax exempt trust under a section 403(b) plan or section 457(g) plan

**Note:** You may wish to consult with the financial institution requesting this form to determine whether the FATCA code and/or exempt payee code should be completed.

**Line 5**

Enter your address (number, street, and apartment or suite number). This is where the requester of this Form W-9 will mail your information returns. If this address differs from the one the requester already has on file, write NEW at the top. If a new address is provided, there is still a chance the old address will be used until the payor changes your address in their records.

**Line 6**

Enter your city, state, and ZIP code.

**Part I. Taxpayer Identification Number (TIN)**

**Enter your TIN in the appropriate box.** If you are a resident alien and you do not have and are not eligible to get an SSN, your TIN is your IRS individual taxpayer identification number (ITIN). Enter it in the social security number box. If you do not have an ITIN, see *How to get a TIN* below.

If you are a sole proprietor and you have an EIN, you may enter either your SSN or EIN.

If you are a single-member LLC that is disregarded as an entity separate from its owner, enter the owner's SSN (or EIN, if the owner has one). Do not enter the disregarded entity's EIN. If the LLC is classified as a corporation or partnership, enter the entity's EIN.

**Note:** See *What Name and Number To Give the Requester*, later, for further clarification of name and TIN combinations.

**How to get a TIN.** If you do not have a TIN, apply for one immediately. To apply for an SSN, get Form SS-5, Application for a Social Security Card, from your local SSA office or get this form online at [www.SSA.gov](http://www.SSA.gov). You may also get this form by calling 1-800-772-1213. Use Form W-7, Application for IRS Individual Taxpayer Identification Number, to apply for an ITIN, or Form SS-4, Application for Employer Identification Number, to apply for an EIN. You can apply for an EIN online by accessing the IRS website at [www.irs.gov/Businesses](http://www.irs.gov/Businesses) and clicking on Employer Identification Number (EIN) under Starting a Business. Go to [www.irs.gov/Forms](http://www.irs.gov/Forms) to view, download, or print Form W-7 and/or Form SS-4. Or, you can go to [www.irs.gov/OrderForms](http://www.irs.gov/OrderForms) to place an order and have Form W-7 and/or SS-4 mailed to you within 10 business days.

If you are asked to complete Form W-9 but do not have a TIN, apply for a TIN and write "Applied For" in the space for the TIN, sign and date the form, and give it to the requester. For interest and dividend payments, and certain payments made with respect to readily tradable instruments, generally you will have 60 days to get a TIN and give it to the requester before you are subject to backup withholding on payments. The 60-day rule does not apply to other types of payments. You will be subject to backup withholding on all such payments until you provide your TIN to the requester.

**Note:** Entering "Applied For" means that you have already applied for a TIN or that you intend to apply for one soon.

**Caution:** A disregarded U.S. entity that has a foreign owner must use the appropriate Form W-8.

**Part II. Certification**

To establish to the withholding agent that you are a U.S. person, or resident alien, sign Form W-9. You may be requested to sign by the withholding agent even if item 1, 4, or 5 below indicates otherwise.

For a joint account, only the person whose TIN is shown in Part I should sign (when required). In the case of a disregarded entity, the person identified on line 1 must sign. Exempt payees, see *Exempt payee code*, earlier.

**Signature requirements.** Complete the certification as indicated in items 1 through 5 below.

**1. Interest, dividend, and barter exchange accounts opened before 1984 and broker accounts considered active during 1983.** You must give your correct TIN, but you do not have to sign the certification.

**2. Interest, dividend, broker, and barter exchange accounts opened after 1983 and broker accounts considered inactive during 1983.** You must sign the certification or backup withholding will apply. If you are subject to backup withholding and you are merely providing your correct TIN to the requester, you must cross out item 2 in the certification before signing the form.

**3. Real estate transactions.** You must sign the certification. You may cross out item 2 of the certification.

**4. Other payments.** You must give your correct TIN, but you do not have to sign the certification unless you have been notified that you have previously given an incorrect TIN. "Other payments" include payments made in the course of the requester's trade or business for rents, royalties, goods (other than bills for merchandise), medical and health care services (including payments to corporations), payments to a nonemployee for services, payments made in settlement of payment card and third party network transactions, payments to certain fishing boat crew members and fishermen, and gross proceeds paid to attorneys (including payments to corporations).

**5. Mortgage interest paid by you, acquisition or abandonment of secured property, cancellation of debt, qualified tuition program payments (under section 529), ABLE accounts (under section 529A), IRA, Coverdell ESA, Archer MSA or HSA contributions or distributions, and pension distributions.** You must give your correct TIN, but you do not have to sign the certification.

**What Name and Number To Give the Requester**

For this type of account:	Give name and SSN of:
1. Individual	The individual
2. Two or more individuals (joint account) other than an account maintained by an FFI	The actual owner of the account or, if combined funds, the first individual on the account <sup>1</sup>
3. Two or more U.S. persons (joint account maintained by an FFI)	Each holder of the account
4. Custodial account of a minor (Uniform Gift to Minors Act)	The minor <sup>2</sup>
5. a. The usual revocable savings trust (grantor is also trustee) b. So-called trust account that is not a legal or valid trust under state law	The grantor-trustee <sup>1</sup> The actual owner <sup>1</sup>
6. Sole proprietorship or disregarded entity owned by an individual	The owner <sup>3</sup>
7. Grantor trust filing under Optional Form 1099 Filing Method 1 (see Regulations section 1.671-4(b)(2)(i)(A))	The grantor <sup>4</sup>
For this type of account:	Give name and EIN of:
8. Disregarded entity not owned by an individual	The owner
9. A valid trust, estate, or pension trust	Legal entity <sup>4</sup>
10. Corporation or LLC electing corporate status on Form 8832 or Form 2553	The corporation
11. Association, club, religious, charitable, educational, or other tax-exempt organization	The organization
12. Partnership or multi-member LLC	The partnership
13. A broker or registered nominee	The broker or nominee

For this type of account:	Give name and EIN of:
14. Account with the Department of Agriculture in the name of a public entity (such as a state or local government, school district, or prison) that receives agricultural program payments	The public entity
15. Grantor trust filing under the Form 1041 Filing Method or the Optional Form 1099 Filing Method 2 (see Regulations section 1.671-4(b)(2)(i)(B))	The trust

<sup>1</sup> List first and circle the name of the person whose number you furnish. If only one person on a joint account has an SSN, that person's number must be furnished.

<sup>2</sup> Circle the minor's name and furnish the minor's SSN.

<sup>3</sup> You must show your individual name and you may also enter your business or DBA name on the "Business name/disregarded entity" name line. You may use either your SSN or EIN (if you have one), but the IRS encourages you to use your SSN.

<sup>4</sup> List first and circle the name of the trust, estate, or pension trust. (Do not furnish the TIN of the personal representative or trustee unless the legal entity itself is not designated in the account title.) Also see *Special rules for partnerships*, earlier.

**\*Note:** The grantor also must provide a Form W-9 to trustee of trust.

**Note:** If no name is circled when more than one name is listed, the number will be considered to be that of the first name listed.

**Secure Your Tax Records From Identity Theft**

Identity theft occurs when someone uses your personal information such as your name, SSN, or other identifying information, without your permission, to commit fraud or other crimes. An identity thief may use your SSN to get a job or may file a tax return using your SSN to receive a refund.

To reduce your risk:

- Protect your SSN,
- Ensure your employer is protecting your SSN, and
- Be careful when choosing a tax preparer.

If your tax records are affected by identity theft and you receive a notice from the IRS, respond right away to the name and phone number printed on the IRS notice or letter.

If your tax records are not currently affected by identity theft but you think you are at risk due to a lost or stolen purse or wallet, questionable credit card activity or credit report, contact the IRS Identity Theft Hotline at 1-800-908-4490 or submit Form 14039.

For more information, see Pub. 5027, Identity Theft Information for Taxpayers.

Victims of identity theft who are experiencing economic harm or a systemic problem, or are seeking help in resolving tax problems that have not been resolved through normal channels, may be eligible for Taxpayer Advocate Service (TAS) assistance. You can reach TAS by calling the TAS toll-free case intake line at 1-877-777-4778 or TTY/TDD 1-800-829-4059.

**Protect yourself from suspicious emails or phishing schemes.**

Phishing is the creation and use of email and websites designed to mimic legitimate business emails and websites. The most common act is sending an email to a user falsely claiming to be an established legitimate enterprise in an attempt to scam the user into surrendering private information that will be used for identity theft.

The IRS does not initiate contacts with taxpayers via emails. Also, the IRS does not request personal detailed information through email or ask taxpayers for the PIN numbers, passwords, or similar secret access information for their credit card, bank, or other financial accounts.

If you receive an unsolicited email claiming to be from the IRS, forward this message to [phishing@irs.gov](mailto:phishing@irs.gov). You may also report misuse of the IRS name, logo, or other IRS property to the Treasury Inspector General for Tax Administration (TIGTA) at 1-800-366-4484. You can forward suspicious emails to the Federal Trade Commission at [spam@uce.gov](mailto:spam@uce.gov) or report them at [www.ftc.gov/complaint](http://www.ftc.gov/complaint). You can contact the FTC at [www.ftc.gov/idtheft](http://www.ftc.gov/idtheft) or 877-IDTHEFT (877-438-4338). If you have been the victim of identity theft, see [www.IdentityTheft.gov](http://www.IdentityTheft.gov) and Pub. 5027.

Visit [www.irs.gov/IdentityTheft](http://www.irs.gov/IdentityTheft) to learn more about identity theft and how to reduce your risk.

## Privacy Act Notice

Section 6109 of the Internal Revenue Code requires you to provide your correct TIN to persons (including federal agencies) who are required to file information returns with the IRS to report interest, dividends, or certain other income paid to you; mortgage interest you paid; the acquisition or abandonment of secured property; the cancellation of debt; or contributions you made to an IRA, Archer MSA, or HSA. The person collecting this form uses the information on the form to file information returns with the IRS, reporting the above information. Routine uses of this information include giving it to the Department of Justice for civil and criminal litigation and to cities, states, the District of Columbia, and U.S. commonwealths and possessions for use in administering their laws. The information also may be disclosed to other countries under a treaty, to federal and state agencies to enforce civil and criminal laws, or to federal law enforcement and intelligence agencies to combat terrorism. You must provide your TIN whether or not you are required to file a tax return. Under section 3406, payers must generally withhold a percentage of taxable interest, dividend, and certain other payments to a payee who does not give a TIN to the payer. Certain penalties may also apply for providing false or fraudulent information.

# City of Naples FL

Invitation to Bid # 18-019  
HVAC System Construction

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# **City of Naples FL**

## **Invitation to Bid # 18-019**

### **Project Description**

#### **The HVAC System Construction Project Scope**

The Community Development Building Improvement Project, located at 295 Riverside Circle, is comprised of three major components. HVAC System improvement; Interior Lobby improvements; and Pervious Pavers Phase 2 improvements. The work shall be bid under three separate contracts. Contract No. GC-1: General Construction Work, Contract No. HVAC-1: HVAC Work, and Contract No. EC-1: Electrical Work.

The Community Development Building must be kept in operation between 7 am and 5 pm during weekdays and all existing building components (ie computers, furniture) must be protected from dust and debris during activity in Lobby.

HVAC System improvements was designed by AMEC and their sub-consultant AWS. The major components of the new HVAC system is the utilization of ground water well system to provide cooling water for the existing air handlers. In addition, this project includes modification to the lobby lighting system and lobby HVAC air supply. A new concrete block enclosure to house the mechanical equipment will be constructed. The new air ducts in the lobby needs to occur during a single or multiple weekend periods (Friday 5 pm to Monday 7 am).

Interior lobby improvement was designed by TKW and is being modified with the addition of internal aluminum trusses. These trusses will be used to support new HVAC ducts and new lighting fixtures designed under the HVAC System improvement project. This work needs to be accomplished during a single or multiple weekend periods (Friday 5 pm to Monday 7 am).

Pervious Pavers Phase 2 improvements were designed by ABB. Phase 1 was constructed in March/April 2017. Phase 2 is the extension of the service drive to the south. The area encompass approximately 70 square yards. The pavers for this area were purchased during Phase 1 and are stored within ½ a mile of the project site for contractors use. During Phase 1, the 12 inch drainage pipe and its surrounding geotextile was installed for Phase 2. During Phase 2, the Contractor shall carefully uncover the installed pipe and continue with the supply and installation of additional geotextile fabric, the three grades of stone, concrete curbs, flume, site work, and installation of owner supplied pavers. The Phase 2 work can only start AFTER all on the HVAC System improvements work, exterior of the building, is completed.

Contractor shall be required to provide the items, vendor, model number specified in the drawings. Should the Contractor wish to submit an alternate, this must be done 10 days prior to bid for owner review and approval.

The project duration is 135 days after Notice to Proceed to substantial completion and another 30 days to Final Completion and project closeout.

The Contractor for each separate Bid Contract must demonstrate that they are Qualified by the State of Florida or Collier County to perform the work scope described below and on the drawings. The incidental electrical work associated with the HVAC equipment, described under the HVAC Contractor scope, may be done by a license electrical contractor as a subcontractor to the HVAC contractor. The General contractor may sub contract for the electrical work described under their scope.

The Electrical Contractor shall coordinate their work to not impact: the General Contractor work schedule in constructing the heat exchanger enclosure: or, completion of the work required of the HVAC contractor. All three separate Contractors shall coordinate their work with the other contractors to avoid delays to other contractor's scope of work.

**The HVAC System Construction Project Scope includes:**

1. Well pump cooling water supply system, and all HVAC system pipes, valves, controls, etc
2. Heat exchanger, pumps, vfd's
3. HVAC system controls
4. Electrical power supply from local disconnect panels to equipment
5. All above and underground piping/valves outside and interior to the building
6. Interior lobby HVAC new air ducts including cutting concrete walls for new 16 inch air ducts
7. Repair any irrigation lines encountered the HVAC system installation

To further delineate the various scopes and changes to the design drawings, see below

**AMEC foster wheeler/AWSolutions design**

1. TL-000 Add note: "Contractor shall be required to provide the items, vendor, model number specified in the drawings. Should the Contractor wish to submit an

alternate, this must be done 10 days prior to bid for owner review and approval."

The work described on this drawing is applicable to all contracts.

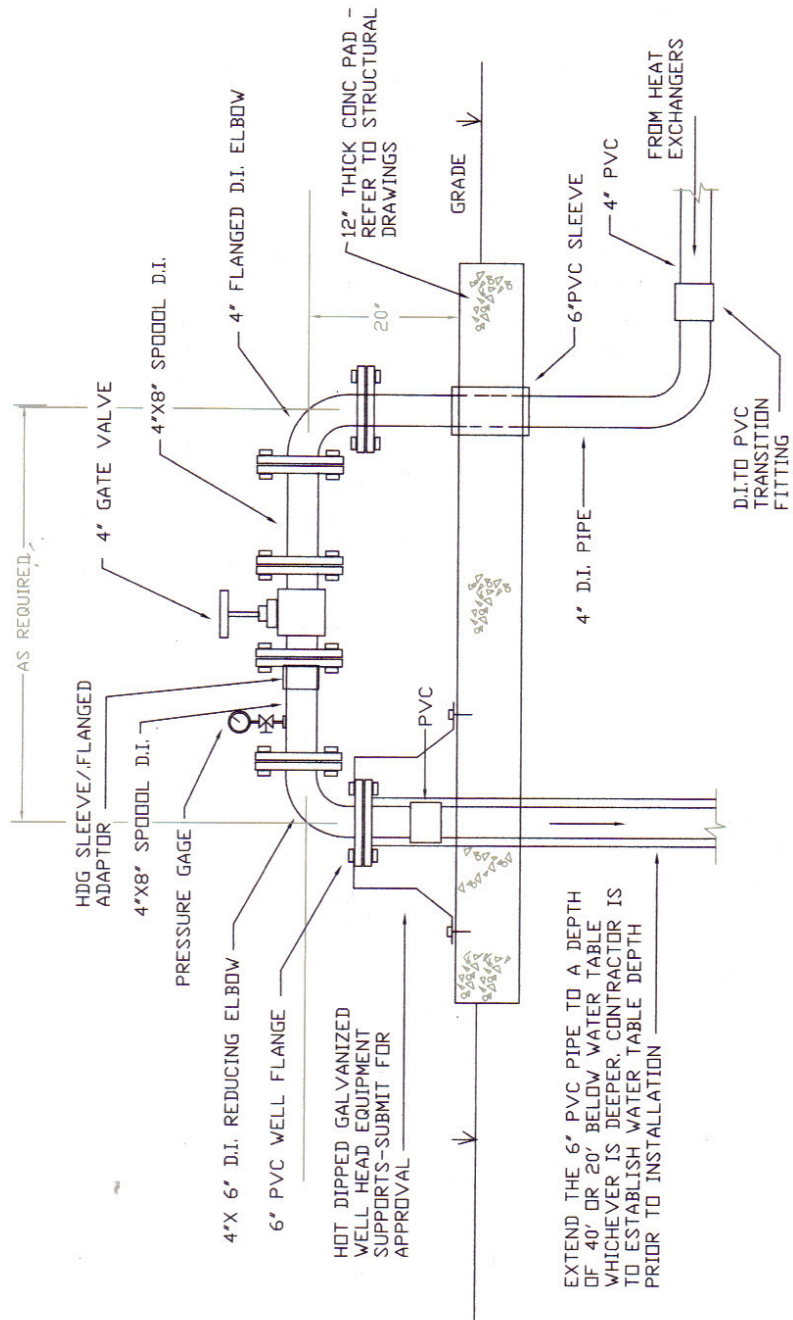
2. G-000 - The work described on this drawing is applicable to all contracts.
3. G-000 – Add New Note: "30. All valves, gages, fittings and pipe shall conform to the City of Naples Utility Standards."
4. G-000 – Add New Note : "31. All new HVAC related pipe and fittings, **within** the Community Development Building, shall be CPVC Schedule 80."
5. SP-100 – Survey and Utility Location: The work described is to be performed by the HVAC Construction Contractor for the underground lines.
6. SP-100 – Well/Pump Performance: The work described is applicable to the HVAC Contractor scope
7. SP-100 – Site Improvements: Modify item 1 to read: "Each Contractor shall be responsible for replacing and/or repairing any existing turf, pavers, irrigation lines, asphalt, planters or other site elements impacted by their work."
8. SP-100 – Site Improvements: Modify item 2, 2<sup>nd</sup> line: Replace "General Contractor" with "HVAC Contractor"
9. SP-100 – Add Note: "The HVAC Contractor shall install the underground 4 inch reject water pipe between the New Pump Enclosure gate and into the existing rejection well adjacent to the dog park. (Detail 2 – Site Plan South).
10. SP-100 – Site Plan – South detail #2: The work identified as to be done by "G.C." and "General Contractor" is to be done by the HVAC Contractor.
11. SP-100 - Site Plan – South detail #2: Filed verify the "459 FT." value prior to bid.
12. A-100 – General Demolition Notes, first item: Remove "General" and replace with "Each". The General Demolition Notes are applicable to all contractors.
13. A100 Add note: "The General Contractor shall be responsible for the work identified in detail 4 (Mez Demolition Plan) and detail 5 (Mez. New Wall Extension Plan). The HVAC Contractor shall be responsible for the cutting and repair of round wall opening on existing masonry wall for new HVAC metal duct (Demolition key note #4). Cutting of round wall opening shall occur during a weekend period."
14. A-100 – Demolition Key Notes: the General contractor shall be responsible to notes #1, #2, and #3. The HVAC Contractors shall be responsible for Note #4.
15. A-100 – Facility Operations note #1: Replace "General" with "Each".
16. A-100 – Facility Operations note #2: Remove note 2
17. A-101 - General Demolition Notes, first item: Remove "General" and replace with "Each". The General Demolition Notes are applicable to all contractors.
18. A- 101 Add note: "The General Contractor shall be responsible for the demolition of existing ceiling, detail 2 (Demolition reflective ceiling plan). The HVAC contractor shall be responsible for the work identified in detail 4 (New Reflective Ceiling Plan) associated with the new ductwork, diffusers, and ATC"
19. A- 101 Add Note: "The General Contractor shall be responsible for the new aluminum truss. See TKW drawings for details."



20. A-101 Add Note: "The Electrical Contractor shall be responsible for the installation of the new LED lobby lights to be supplied by the City."
21. A- 102 Add Note: "Work identified on this drawing is to be provided by HVAC Contractor"
22. A-102 Detail 4: Remove "Detail 1/A-102" reference from the front of building.
23. A-102 Details 2 and 3, Add note to both aluminum enclosures: "Fasten the aluminum enclosure to the existing wall with 3/16 diameter, minimum 1 ½ inch long, stainless steel Tap cons with nylon washers on 48 inch centers. Stager the tap cons every 24 inches."
24. A-102 Detail 3: Change "G.C." to "HVAC" in note "Underground pipes ... enclosure footings"
25. A- 103 Add Note: "Work identified on this drawing is to be provided by General Contractor."
26. A-103 Add Note to Detail 5: "The gate shall be dark bronze anodized aluminum."
27. A-103 Detail 2: Remove reference to "gate paint"
28. A-103 Add Note to Detail 7: "Submit color chart to City for section of coping cap color."
29. A-400, A-401, A-402: The Specifications are applicable to all contractors
30. S-001: "Work identified on this drawing is to be provided by General Contractor."
31. S- 101: Add Note - "Work identified on this drawing is to be provided by General Contractor." Add note - "The General Contractor is responsible for relocating the 2 inch water line and providing a 1 inch hose bib inside the enclosure along the West wall. Coordinate with City for location. The HVAC Contractor shall install all underground piping prior to construction of wall foundation. See mechanical drawings for details. All underground pipe shall be HDPE pipe. All pipe above grade shall be ductile iron. Transition from HDPE to DI pipe shall occur a minimum of 18 inches below ground. All piping and installation shall be in conformance with Naples Utility Department standards."
32. S-501: Add Note: "Work identified on this drawing is to be provided by General Contractor."
33. M-001, M-002, M-002, M-003, M-601: The HVAC contractor is responsible for providing and installing all the equipment and controls work described. The HVAC contractor is responsible for the supply and installation of the well pump, controls and piping. The 8 inch supply well casing is existing.
34. M-003 adjacent to V1: Change note from "(relocate gauge)" to (provide new gauge)"
35. M- 100: Add Note: "The HVAC Contractor is responsible for work described on M-100 associated with the reject pipe and reject well. The Contractor shall field measure the actual distance between the "New Mechanical Yard" and the existing "Rejection Well". The HVAC contractor shall be aware that a potential conflict exists between the Reject line and FPL underground power supply to the Community Development building as well as (480V) power supply to parking lot lights and be responsible for locating and avoiding these conflicts. The reject pipe

- shall be deflected below power supply to avoid conflict. The work associated with the supply well and reject well is the responsibility of the HVAC contractor. The pipes shall be installed in conformance with City of Naples Utility standards.”
36. M-101 Add note: “The work shown is the responsibility of the HVAC Contractor with the exception of the reject line from mechanical yard into existing reject well.”
  37. M-101: Remove note 3 reference from the outside CLR line that is parallel to the West wall of the Community Development Building (near HP-13)
  38. M- 201 Add note – “The work shown is the responsibility of the HVAC contractor”
  39. M-301 Add note: “The work shown is the responsibility of the HVAC contractor”
  40. M-302 Add note: “The HVAC contractor shall provide detail shop drawings of all piping to insure accurate payout.”
  41. M-302 Detail 1: Add a 4 inch swing check valve on the “RW” line just south of the “A” and “RW” Tee intersection.
  42. M-302 Add note - “The work shown is the responsibility of the HVAC contractor. The overhead pipe shown within the mechanical yard layout, detail 1, shall be installed so bottom of pipe flange shall be 5 feet above grade to allow easy access to maintain the equipment.”
  
  43. M-303 Add note – “The work shown is the responsibility of the HVAC contractor”
  44. M-304 Add note – “The work shown is the responsibility of the HVAC contractor”
  45. M-304 detail 1: Change the note “transition from DIP to schedule 80 PVC inside building” to “use CPVC schedule 80 pipe at location where pipe is not in direct contact with the sun.” also change note “transition from HDPE UG to DIP” to “transition from HDPE UG to CPVC”
  46. M-304 detail 2: Change “HDPE pipe” to “CPVC pipe”
  47. M-304 detail B: Please note that RW pipe/V1 and CLS pipe/V2 are not tied into the same pipe as implied in this detail.
  48. M-401 Add note: “The work shown is the responsibility of the HVAC Contractor.” Modify detail 1 to state that- “Direct buried pipe shall be installed in conformance with City Utility standards”.
  49. M-401 Detail 8 Reject Well Head Connection Elevation: Delete detail 8 and replace as shown at the end of these notes.
  50. M-401 Detail 7 Well Pump Head Connection Elevation: Make the following modifications: Reverse the location of 4 inch check valve and gate valve. Eliminate the Dresser coupling and adjacent gate valve, and install the flow meter (FM-1) and transmitter (Ts-1) at the current dresser coupling location.
  51. M- 601 Add note: “The work shown is the responsibility of the HVAC contractor”
  52. E-000 describes the standards to be used for electrical work by the Electrical and HVAC and General Contractor for their respective work.
  53. E- 301: The work described is to be completed by the Electrical Contractor. The City will provide the light fixtures for the Electrical contractor’s installation.

- 54.E-302 Detail 1 - The Electrical contractor shall be responsible to provide power supply to: Duplex Pump Controller, LED wall pack, Supply Well pump controller and outdoor GFI outlets. Providing the Duplex Pump Controller and cabinet, The Duplex pump controller, Well pump disconnects, and the power supply and controls to the specific mechanical equipment is the responsibility of the HVAC contractor. Detail 2 - The power to the controller via circuit G-1 is by the electrical contractor. All other wiring is control wiring by the HVAC contractor's responsibility. Detail 3 is the Electric contractor's responsibility.
- 55.E-401: The details are applicable to the all the Contractors.
- 56.E 501 - One line diagram reflects work by the Electrical Contractor
- 57.E-601 - the electrical specifications are applicable to all Contractors



REJECTION WELL HEAD CONNECTION ELEVATION

NOT TO SCALE

		City of Naples FL		
	<b>Compensation Schedule</b>			
	City of Naples Community Development Facility Improvements			
	HVAC System Construction Project #18-019			
	Contract # HVAC-1, CIP #560200			

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT COST \$	SUB TOTAL \$
1	Well Pump System	1	LS		
2	Heat Exchangers and Circulation Pumps Systems	1	LS		
3	HVAC System Controls	1	LS		
4	Electrical Power Supply	1	LS		
5	Interior and Exterior Piping	1	LS		
6	Other items	1	LS		
7	Permits	1	LS		
8	General Condition	1	LS		
9	Owner Allowance	1	LS	\$ 15,000.00	\$ 15,000.00
				TOTAL	\$

Company Name: \_\_\_\_\_

EIN: \_\_\_\_\_

Email: \_\_\_\_\_

Name and Title of individual completing this schedule:

\_\_\_\_\_  
(Printed Name) (Title)

X \_\_\_\_\_  
(Signature) (Date)

This solicitation has potential for P-Card Payment. Does your company accept credit card payment? YES \_\_\_ NO \_\_\_  
If "yes," please indicate payment options on the below chart.

Payment Options	YES	NO	PERCENTAGE AND/OR TERMS FOR EARLY PAYMENT
Is there a discount for a credit card payment?			
Is there an additional charge for credit card payment?			
Discount for early payment?			
Prompt payment terms: ___% ___ Days; Net 30 Days			



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8/24/2017 3:44:51 PM

**PROJECT TEAM**

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PROJECT MANAGER  
Cesar A. Rullier, Assoc. AIA, CPTED  
Amec Foster Wheeler (305) 286-5588  
ENGINEER OF RECORD / STRUCTURAL  
James L. Studor, PE  
Amec Foster Wheeler (305) 286-5588  
ENGINEER OF RECORD / MEP  
Gregory Johnson, PE  
AWS Solutions, Inc. (407) 260-0231

**ARCHITECT OF RECORD**

**REVISION SCHEDULE**

No.	DESCRIPTION	DATE

**INDEX OF DRAWINGS**

**GENERAL**

TL-000	COVER	
G-000	GENERAL NOTES	

**SURVEY**

SU-001	SURVEY	
SU-002	SURVEY	
SU-003	SURVEY	

**ARCHITECTURE**

SP-100	SITE PLAN	
A-100	FLOOR PLANS	
A-101	REFLECTED CEILING PLAN	
A-102	EXTERIOR ELEVATIONS	
A-103	NEW PUMP ENCLOSURE	
A-400	SPECIFICATIONS	
A-401	SPECIFICATIONS	
A-402	SPECIFICATIONS	

**STRUCTURE**

S-001	GENERAL NOTES	
S-101	FOUNDATION PLAN	
S-501	MASONRY DETAILS	

**MECHANICAL**

M-000	SYMBOL LEGEND	
M-001	CONTROLS - HEAT PUMP	
M-002	CONTROLS - HEAT PUMP	
M-003	CONTROL DIAGRAMS	
M-100	SITE PLAN	
M-101	1ST FLOOR PLAN - NEW	
M-201	2ND FLOOR PLAN - NEW	
M-301	ENLARGED PLANS - NEW	
M-302	YARD ENLARGED PLANS	
M-303	ELEVATIONS VIEWS	
M-304	ELEVATIONS VIEWS	
M-401	DETAILS	
M-601	SPECIFICATIONS	

**ELECTRICAL**

E-000	SYMBOL LEGEND	
E-101	1ST FLOOR POWER - NEW	
E-301	ENLARGED PLANS	
E-302	ENLARGED PLANS	
E-401	ELECTRICAL DETAILS	
E-501	PANEL SCHEDULES	
E-601	SPECIFICATIONS	

# NAPLES COMMUNITY DEVELOPMENT BUILDING RENOVATIONS

100% CONSTRUCTION DOCUMENTS - 08-15-17

COMMUNITY DEVELOPMENT BUILDING  
295 RIVERSIDE CIRCLE, NAPLES, FLORIDA 34102

## HVAC SYSTEM CONTRACTOR CONSTRUCTION

**APPROVALS AND SUBSTITUTIONS**

CONTRACTOR SHALL BE REQUIRED TO PROVIDE ITEM, VENDOR, MODEL NUMBER SPECIFIED IN THE DRAWINGS. SHOULD CONTRACTOR WISH TO SUBMIT AN ALTERNATE, THIS MUST BE DONE 10 DAYS PRIOR TO BID DATE FOR OWNER REVIEW AND APPROVAL

SANTIAGO JIMENEZ, R.A.  
AR-94369

**PROJECT TEAM**

DESIGNER  
AMEC FOSTER WHEELER - CR  
BIM / DRAWINGS BY:  
CR/GT

CHECKED BY:  
CR/SJ

**Naples Community Center**  
295 RIVERSIDE CIRCLE,  
NAPLES, FL 34102

6788-16-2867  
100%CD 08/15/2017

PROJECT NUMBER | STATUS |  
ISSUE DATE

**COVER**

SCALE: 1/4" = 1'-0"

**TL-000**  
**SHEET NUMBER**

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## Project Description

### The HVAC System Construction Project Scope

The Community Development Building Improvement Project, located at 295 Riverside Circle, is comprised of three major components. HVAC System improvement; Interior Lobby improvements; and Pervious Pavers Phase 2 improvements. The work shall be bid under three separate contracts. Contract No. 1: Electrical Work, Contract No. 2: HVAC Work, and Contract No. 3: General Construction Work.

The Community Development Building must be kept in operation between 7 am and 5 pm during weekdays and all existing building components (ie computers, furniture) must be protected from dust and debris during activity in Lobby.

HVAC System improvements was designed by AMEC and their sub-consultant AWS. The major components of the new HVAC system is the utilization of ground water well system to provide cooling water for the existing air handlers. In addition, this project includes modification to the lobby lighting system and lobby HVAC air supply. A new concrete block enclosure to house the mechanical equipment will be constructed. The new air ducts in the lobby needs to occur during a single or multiple weekend periods (Friday 5 pm to Monday 7 am).

Interior lobby improvement was designed by TKW and is being modified with the addition of internal aluminum trusses. These trusses will be used to support new HVAC ducts and new lighting fixtures designed under the HVAC System improvement project. This work needs to be accomplished during a single or multiple weekend periods (Friday 5 pm to Monday 7 am).

Pervious Pavers Phase 2 improvements were designed by ABB. Phase 1 was constructed in March/April 2017. Phase 2 is the extension of the service drive to the south. The area encompass approximately 70 square yards. The pavers for this area were purchased during Phase 1 and are stored within ½ a mile of the project site for contractors use. During Phase 1, the 12 inch drainage pipe and its surrounding geotextile was installed for Phase 2. During Phase 2, the Contractor shall carefully uncover the installed pipe and continue with the supply and installation of additional geotextile fabric, the three grades of stone, concrete curbs, flume, site work, and installation of owner supplied pavers. The Phase 2 work can only start AFTER all on the HVAC System improvements work, exterior of the building, is completed.

Contractor shall be required to provide the items, vendor, model number specified in the drawings. Should the Contractor wish to submit an alternate, this must be done 10 days prior to bid for owner review and approval.

The project duration is 135 days after Notice to Proceed to substantial completion and another 30 days to Final Completion and project closeout.

The Contractor for each separate Bid Contract must demonstrate that they are Qualified by the State of Florida or Collier County to perform the work scope described below and on the drawings. The incidental electrical work associated with the HVAC equipment, described under the HVAC Contractor scope, may be done by a license electrical contractor as a subcontractor to the HVAC contractor. The General contractor may sub contract for the electrical work described under their scope.

The Electrical Contractor shall coordinate their work to not impact: the General Contractor work schedule in constructing the heat exchanger enclosure: or, completion of the work required of the HVAC contractor

#### The HVAC System Construction Project Scope includes:

1. Well pump cooling water supply system, and all HVAC system pipes, valves, controls, etc
2. Heat exchanger, pumps, vfd's
3. HVAC system controls
4. Electrical power supply from local disconnect panels to equipment
5. All above and underground piping/valves outside and interior to the building
6. Interior lobby HVAC new air ducts including cutting concrete walls for new 16 inch air ducts
7. Repair any irrigation lines encountered the HVAC system installation

To further delineate the various scopes and changes to the design drawings, see below

#### AMEC foster wheeler/AWSolutions design

1. TL-000 Add note: "Contractor shall be required to provide the items, vendor, model number specified in the drawings. Should the Contractor wish to submit an alternate, this must be done 10 days prior to bid for owner review and approval." The work described on this drawing is applicable to all contracts.
2. G-000 - The work described on this drawing is applicable to all contracts.
3. G-000 – Add New Note: "30. All valves, gages, fittings and pipe shall conform to the City of Naples Utility Standards."
4. G-000 – Add New Note : "31. All new HVAC related pipe and fittings, **within** the Community Development Building, shall be CPVC Schedule 80."
5. SP-100 – Survey and Utility Location: The work described is to be performed by the HVAC Construction Contractor for the underground lines.

6. SP-100 – Well/Pump Performance: The work described is applicable to the HVAC Contractor scope
7. SP-100 – Site Improvements: Modify item 1 to read: "Each Contractor shall be responsible for replacing and/or repairing any existing turf, pavers, irrigation lines, asphalt, planters or other site elements impacted by their work."
8. SP-100 – Site Improvements: Modify item 2, 2<sup>nd</sup> line: Replace "General Contractor" with "HVAC Contractor"
9. SP-100 – Add Note: "The HVAC Contractor shall install the underground 4 inch reject water pipe between the New Pump Enclosure gate and into the existing rejection well adjacent to the dog park. (Detail 2 – Site Plan South).
10. SP-100 – Site Plan – South detail #2: The work identified as to be done by "G.C." and "General Contractor" is to be done by the HVAC Contractor.
11. SP-100 - Site Plan – South detail #2: Filed verify the "459 FT." value prior to bid.
12. A-100 – General Demolition Notes, first item: Remove "General" and replace with "Each". The General Demolition Notes are applicable to all contractors.
13. A100 Add note: "The General Contractor shall be responsible for the work identified in detail 4 (Mez Demolition Plan) and detail 5 (Mez. New Wall Extension Plan). The HVAC Contractor shall be responsible for the cutting and repair of round wall opening on existing masonry wall for new HVAC metal duct (Demolition key note #4). Cutting of round wall opening shall occur during a weekend period."
14. A-100 – Demolition Key Notes: the General contractor shall be responsible to notes #1, #2, and #3. The HVAC Contractors shall be responsible for Note #4.
15. A-100 – Facility Operations note #1: Replace "General" with "Each".
16. A-100 – Facility Operations note #2: Remove note 2
17. A-101 - General Demolition Notes, first item: Remove "General" and replace with "Each". The General Demolition Notes are applicable to all contractors.
18. A- 101 Add note: "The General Contractor shall be responsible for the demolition of existing ceiling, detail 2 (Demolition reflective ceiling plan). The HVAC contractor shall be responsible for the work identified in detail 4 (New Reflective Ceiling Plan) associated with the new ductwork, diffusers, and ATC"
19. A- 101 Add Note: "The General Contractor shall be responsible for the new aluminum truss. See TKW drawings for details."
20. A-101 Add Note: "The Electrical Contractor shall be responsible for the installation of the new LED lobby lights to be supplied by the City."
21. A- 102 Add Note: "Work identified on this drawing is to be provided by HVAC Contractor"
22. A-102 Detail 4: Remove "Detail 1/A-102" reference from the front of building.
23. A-102 Details 2 and 3, Add note to both aluminum enclosures: "Fasten the aluminum enclosure to the existing wall with 3/16 diameter, minimum 1 ½ inch long, stainless steel Tap cons with nylon washers on 48 inch centers. Stager the tap cons every 24 inches."

24. A-102 Detail 3: Change "G.C." to "HVAC" in note "Underground pipes ... enclosure footings"
25. A- 103 Add Note: "Work identified on this drawing is to be provided by General Contractor."
26. A-103 Add Note to Detail 5: "The gate shall be dark bronze anodized aluminum."
27. A-103 Detail 2: Remove reference to "gate paint"
28. A-103 Add Note to Detail 7: "Submit color chart to City for section of coping cap color."
29. A-400, A-401, A-402: The Specifications are applicable to all contractors
30. S-001: "Work identified on this drawing is to be provided by General Contractor."
31. S- 101: Add Note - "Work identified on this drawing is to be provided by General Contractor." Add note - "The General Contractor is responsible for relocating the 2 inch water line and providing a 1 inch hose bib inside the enclosure along the West wall. Coordinate with City for location. The HVAC Contractor shall install all underground piping prior to construction of wall foundation. See mechanical drawings for details. All underground pipe shall be HDPE pipe. All pipe above grade shall be ductile iron. Transition from HDPE to DI pipe shall occur a minimum of 18 inches below ground. All piping and installation shall be in conformance with Naples Utility Department standards."
32. S-501: Add Note: "Work identified on this drawing is to be provided by General Contractor."
33. M-001, M-002, M-002, M-003, M-601: The HVAC contractor is responsible for providing and installing all the equipment and controls work described. The HVAC contractor is responsible for the supply and installation of the well pump, controls and piping. The 8 inch supply well casing is existing.
34. M-003 adjacent to V1: Change note from "(relocate gauge)" to (provide new gauge)"
35. M- 100: Add Note: "The HVAC Contractor is responsible for work described on M-100 associated with the reject pipe and reject well. The Contractor shall field measure the actual distance between the "New Mechanical Yard" and the existing "Rejection Well". The HVAC contractor shall be aware that a potential conflict exists between the Reject line and FPL underground power supply to the Community Development building as well as (480V) power supply to parking lot lights and be responsible for locating and avoiding these conflicts. The reject pipe shall be deflected below power supply to avoid conflict. The work associated with the supply well and reject well is the responsibility of the HVAC contractor. The pipes shall be installed in conformance with City of Naples Utility standards."
36. M-101 Add note: "The work shown is the responsibility of the HVAC Contractor with the exception of the reject line from mechanical yard into existing reject well."
37. M-101: Remove note 3 reference from the outside CLR line that is parallel to the West wall of the Community Development Building (near HP-13)
38. M- 201 Add note – "The work shown is the responsibility of the HVAC contractor"



39. M-301 Add note: "The work shown is the responsibility of the HVAC contractor"
40. M-302 Add note: "The HVAC contractor shall provide detail shop drawings of all piping to insure accurate payout."
41. M-302 Detail 1: Add a 4 inch swing check valve on the "RW" line just south of the "A" and "RW" Tee intersection.
42. M-302 Add note - "The work shown is the responsibility of the HVAC contractor. The overhead pipe shown within the mechanical yard layout, detail 1, shall be installed so bottom of pipe flange shall be 5 feet above grade to allow easy access to maintain the equipment."
43. M-303 Add note - "The work shown is the responsibility of the HVAC contractor"
44. M-304 Add note - "The work shown is the responsibility of the HVAC contractor"
45. M-304 detail 1: Change the note "transition from DIP to schedule 80 PVC inside building" to "use CPVC schedule 80 pipe at location where pipe is not in direct contact with the sun." also change note "transition from HDPE UG to DIP" to "transition from HDPE UG to CPVC"
46. M-304 detail 2: Change "HDPE pipe" to "CPVC pipe"
47. M-304 detail B: Please note that RW pipe/V1 and CLS pipe/V2 are not tied into the same pipe as implied in this detail.
48. M-401 Add note: "The work shown is the responsibility of the HVAC Contractor." Modify detail 1 to state that- "Direct buried pipe shall be installed in conformance with City Utility standards".
49. M-401 Detail 8 Reject Well Head Connection Elevation: Delete detail 8 and replace as shown at the end of these notes.
50. M-401 Detail 7 Well Pump Head Connection Elevation: Make the following modifications: Reverse the location of 4 inch check valve and gate valve. Eliminate the Dresser coupling and adjacent gate valve, and install the flow meter (FM-1) and transmitter (Ts-1) at the current dresser coupling location.
51. M- 601 Add note: "The work shown is the responsibility of the HVAC contractor"
52. E-000 describes the standards to be used for electrical work by the Electrical and HVAC and General Contractor for their respective work.
53. E- 301: The work described is to be completed by the Electrical Contractor. The City will provide the light fixtures for the Electrical contractor's installation.
54. E-302 Detail 1 - The Electrical contractor shall be responsible to provide power supply to: Duplex Pump Controller, LED wall pack, Supply Well pump controller and outdoor GFI outlets. Providing the Duplex Pump Controller and cabinet, The Duplex pump controller, Well pump disconnects, and the power supply and controls to the specific mechanical equipment is the responsibility of the HVAC contractor. Detail 2 - The power to the controller via circuit G-1 is by the electrical contractor. All other wiring is control wiring by the HVAC contractor's responsibility. Detail 3 is the Electric contractor's responsibility.
55. E-401: The details are applicable to the all the Contractors.
56. E 501 - One line diagram reflects work by the Electrical Contractor

57. E-601 - the electrical specifications are applicable to all Contractors

#### **TKW lobby renovation design**

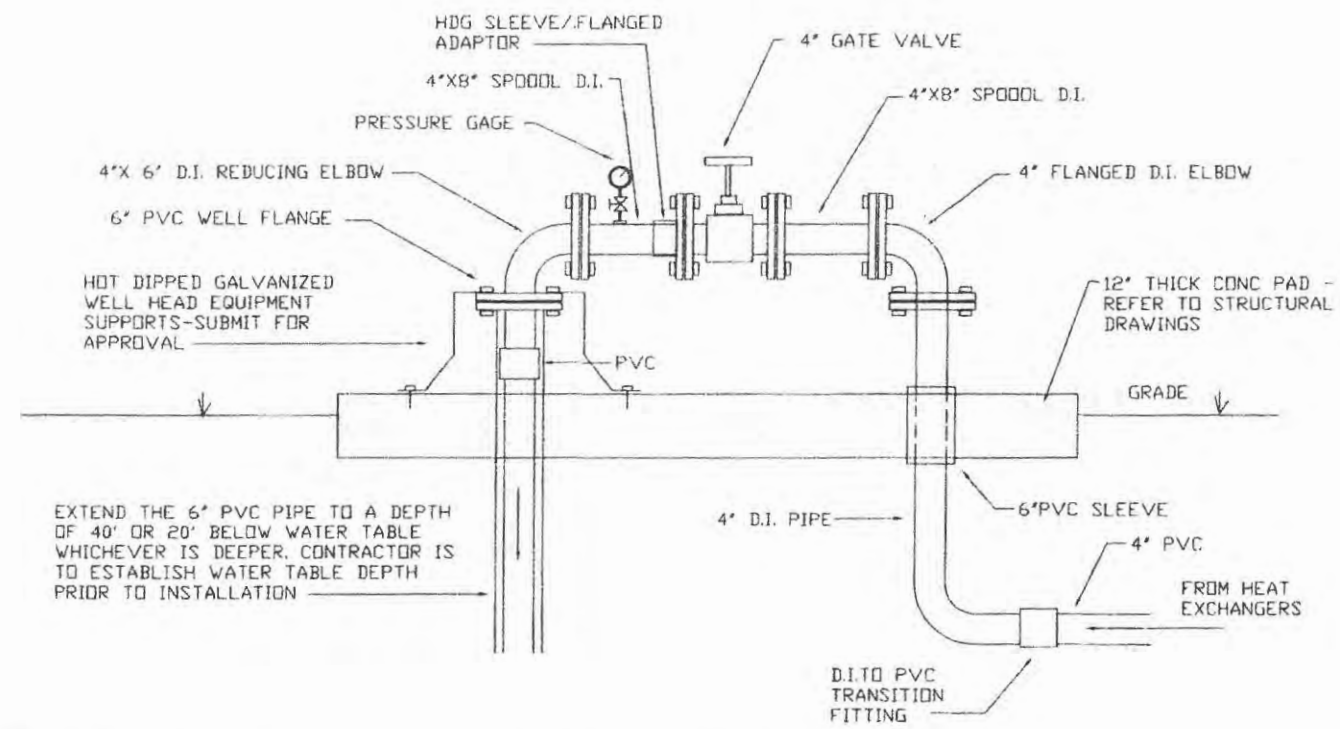
1. The work identified on drawings S1 and S2 are the responsibility of the General Contractor.
2. S1 Add note - "Contractor shall be required to provide the items, vendor, model number specified in the drawings. Should the Contractor wish to submit an alternate, this must be done 10 days prior to bid for owner review and approval."
3. S2 Add note - "The coating system is power coating with color to be selected by owner as specified."

#### **ABB Phase 2 paver design**

1. The work shown on drawing 1 is the responsibility of the General Contractor.
2. Drawing #1 - Add note - "Contractor shall be required to provide the items, vendor, model number specified in the drawings. Should the Contractor wish to submit an alternate, this must be done 10 days prior to bid for owner review and approval."
3. Drawing #1 - Add note - "The Contractor shall carefully uncover the installed pipe and continue with the supply and installation of additional geotextile fabric, the three grades of stone, concrete curbs, flume, site work, and installation of owner supplied pavers. The Phase 2 work can only start AFTER all on the HVAC System improvements work, exterior of the building, is completed."

#### **Lobby Furniture**

1. Should the City chose to include this option in the award of contract, than the General Contractor will be responsible to furnish and install.



REJECTION WELL HEAD CONNECTION ELEVATION

NOT TO SCALE



amec foster wheeler

5845 NW 158th Street
Miami Lakes, FL 33014 USA
P: +1(305) 826-5588
F: +1(305) 826-1799
www.amecfw.com

ARCHITECT OF RECORD

REVISION SCHEDULE

Table with 3 columns: No., DESCRIPTION, DATE

SCOPE OF WORK

THIS PROJECT INCLUDES THE DESIGN FOR A NEW EXTERIOR MECHANICAL ENCLOSURE ADJACENT TO THE EXISTING ELECTRICAL ROOM BUILDING...

PROJECT LOCATION



PROJECT LOCATION



Community Development Building
295 Riverside Circle Naples, FL 34102

APPLICABLE CODES

ZONING CODE: COLLIER COUNTY
BUILDING CODE: FLORIDA BUILDING CODE 5TH EDITION 2014
ACCESSIBILITY CODE: FLORIDA BUILDING CODE 5TH EDITION 2014 - ACCESSIBILITY
FIRE CODE: FLORIDA FIRE PREVENTION CODE 5TH EDITION
LIFE SAFETY: NFPA 101
MECHANICAL / PLUMBING CODE: FLORIDA BUILDING CODE 5TH EDITION 2014
ELECTRICAL CODE: N.E.C. 2014

SANTIAGO JIMENEZ R.A.
AR-94369

PROJECT TEAM

DESIGNER: AMEC FOSTER WHEELER - CR
BIM / DRAWINGS BY: CR/GT
CHECKED BY: CR/SJ

Naples Community Center

295 RIVERSIDE CIRCLE, NAPLES, FL 34102

6788-16-2867
100%CD 08/15/2017

PROJECT NUMBER | STATUS | ISSUE DATE

GENERAL NOTES

SCALE: As indicated

G-000
SHEET NUMBER

8/24/2017 2:41:39 PM

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PROJECT SCHEDULING / LOGISTICS

THIS FACILITY OPERATES DURING STANDARD BUSINESS HOURS SERVING THE PUBLIC. ALL WORK IN THE LOBBY AREA SHALL BE PERFORMED DURING NON-BUSINESS HOURS AFTER 4 PM AND BEFORE 7 AM...

GENERAL CONTRACTOR SHALL REMOVE TRASH AND DEBRIS FROM LOBBY AFTER WORKING ON A DAILY BASIS.

GENERAL CONTRACTOR SHALL PROTECT ALL COMPUTER EQUIPMENT, FURNITURE AND INTERIOR FINISHES DURING THE CONSTRUCTION OF ALL INTERIOR IMPROVEMENTS.

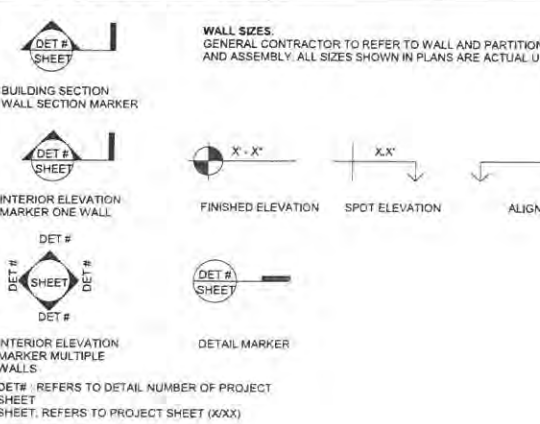
GENERAL NOTES

- 1. PRIOR TO PERFORMING ANY WORK, THE CONTRACTOR MUST OBTAIN AND SUBMIT COPIES OF THE REQUIRED PERMITS, FROM THE GOVERNING AGENCIES, TO THE CITY OF NAPLES PROJECT MANAGER.
2. DEFINITIONS:
A. APPROVED: AS APPROVED BY THE ARCHITECT OR ENGINEER.
B. APPROVED EQUAL: AS ACCEPTED BY THE ARCHITECT OR ENGINEER AS BEING OF EQUIVALENT, QUALITY, UTILITY, AND APPEARANCE.
C. AS APPLICABLE: AS APPROPRIATE FOR THE PARTICULAR CONDITION CIRCUMSTANCE, OR SITUATION.
D. AS REQUIRED: AS REQUIRED BY REGULATORY REQUIREMENTS, BY REFERENCED STANDARDS, BY EXISTING CONDITIONS, BY GENERALLY ACCEPTED CONSTRUCTION PRACTICE, OR BY THE CONTRACT DOCUMENTS.
E. DIRECTED: AS INSTRUCTED BY THE ARCHITECT IN WRITING.
F. SATISFACTORY: TO THE SATISFACTION OF THE ARCHITECT.
G. TYPICAL: IDENTICAL FOR ALL SUCH CONDITIONS, UNLESS OTHERWISE INDICATED.
H. SIMILAR: COMPARABLE CHARACTERISTICS FOR THE CONDITION NOTED. DIFFERENCES CAN BE INFERRED FROM OTHER INFORMATION INDICATED. VERIFY DIMENSIONS AND ORIENTATIONS.
I. FURNISH: SUPPLY ONLY; OTHERS WILL INSTALL.
J. INSTALL: INSTALL ITEMS FURNISHED BY OTHERS.
K. PROVIDE: FURNISH AND INSTALL.
3. ALL WORK TO BE PERFORMED SHALL COMPLY WITH THE REQUIREMENTS OF THE FLORIDA BUILDING CODE (F.B.C.) LATEST EDITION AND ANY AGENCY HAVING JURISDICTION ON THIS PROJECT.
4. WORK NOT INCLUDED IN CONTRACT: WORK NOTED "N.I.C." OR "BY OTHERS" ON THE DRAWINGS OR SPECIFICATIONS, IF ANY MATERIALS, EQUIPMENT OR BOTH, INDICATED "N.I.C." ARE TO BE INSTALLED BY THE CONTRACTOR, THEY WILL BE SO NOTED ON THE DRAWINGS OR SPECIFICATIONS.
5. ALL OMISSIONS OR CONFLICTS BETWEEN THE VARIOUS ELEMENTS OF THE WORKING DRAWINGS, SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ARCHITECT/ENGINEER, BEFORE PROCEEDING WITH ANY WORK SO INVOLVED. ANY WORK INSTALLED IN CONFLICT WITH THE ARCHITECTURAL DRAWINGS SHALL BE CORRECTED BY THE CONTRACTOR AT HIS/HER OWN EXPENSE, AND NOT AT EXPENSE OF THE OWNER OR ARCHITECT/ENGINEER.
6. CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS AND CONDITIONS OF THE JOB. THE ARCHITECT/ENGINEER SHOULD BE NOTIFIED BEFORE PROCEEDING WITH THE WORK OF ANY DISCREPANCIES IN THE CONTRACT DOCUMENTS AND/OR UNFORESEEN CONDITIONS ON THESE DRAWINGS AND/OR ALL OBVIOUS ERRORS AND/OR OMISSIONS.
7. CONTRACTOR SHALL PROMPTLY NOTIFY THE ARCHITECT/ENGINEER OF THE EXISTENCE OF ANY OBSERVED VARIATIONS BETWEEN THE CONTRACT DOCUMENTS AND ANY APPLICABLE CODE OR ORDINANCES.
8. FACILITIES SHALL COMPLY WITH THE FLORIDA ACCESSIBILITY CODE FOR BUILDING CONSTRUCTION AND THE AMERICAN WITH DISABILITIES ACT, PUBLIC LAW 101-335 (A.D.A.) WHICHEVER IS MOST STRINGENT.
9. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND TOPOGRAPHIC SPOT ELEVATIONS AND NOTIFY THE ARCHITECT OF ANY EXISTING DISCREPANCIES PRIOR TO PROCEEDING WITH THE WORK.
10. CONTRACTOR ACKNOWLEDGES THAT HE HAS FULLY INFORMED HIMSELF / HERSELF REGARDING REQUIREMENTS OF DRAWINGS, SPECIFICATIONS AND REGULATIONS PERTAINING TO THE PROJECT. SPECIFICATIONS AND DRAWINGS ARE COMPLEMENTARY, AND WHAT IS CALLED FOR BY ONE IS AS BINDING AS IF CALLED FOR BY ALL. VISIT SITE OF WORK, COMPARE REQUIREMENTS OF DRAWINGS AND SPECIFICATIONS AND BECOME FAMILIAR WITH EXISTING CONDITIONS UNDER WHICH WORK OF CONTRACT IS TO BE PERFORMED, APPROACHES AND IMPROVEMENTS ON OR ABOUT SITE, INCLUDING PROTECTION OF ADJACENT BUILDINGS AND PROPERTY.

- 11. EXERCISE ALL REQUIRED PRECAUTIONS NECESSARY TO PROTECT ALL BUILDINGS AND OTHER CONSTRUCTIONS ON PROPERTY ADJACENT TO THAT OF THE WORK OF THIS CONTRACT. THE WORK OF THIS CONTRACT OCCURS WITHIN EXISTING, FULLY FUNCTIONAL, FACILITIES THAT ARE FREQUENTED BY THE GENERAL PUBLIC. ALL WORK AND OPERATIONS SHALL BE CARRIED OUT AND SCHEDULED SO AS TO PREVENT ANY DAMAGE OR INJURY TO THE FINISHED AREAS WITHIN THE EXISTING FACILITIES (OTHER THAN THOSE REQUIRING MODIFICATION TO CONFORM TO THE NEW WORK), ITS PATRONS, STAFF, AND/OR THE OWNER'S DAILY BUSINESS OPERATIONS. THE CONTRACTOR SHALL TAKE ALL MEASURES AND PRECAUTIONS AND MAKE ALL PREPARATIONS AS REQUIRED TO PREVENT DAMAGES TO THE EXISTING FACILITIES (OTHER THAN THOSE REQUIRING MODIFICATION TO CONFORM TO THE NEW WORK) AS A RESULT OF CONTRACTOR'S WORK, INCLUDING, BUT NOT LIMITED TO, ANY DAMAGES OR INJURIES TO PERSONS OR PROPERTY. ALL COST OF REPAIRS FOR FAILURE ON THE PART OF THE CONTRACTOR TO TAKE NECESSARY PRECAUTIONS TO AVOID SUCH DAMAGES, INJURIES, AND/OR STOPPAGES SHALL BE BORNE ENTIRELY BY THE CONTRACTOR AND REPAIRS SHALL BE AFFECTED IMMEDIATELY TO AVOID ANY DISRUPTION TO THE OWNER'S DAILY BUSINESS OPERATIONS. ALL REPAIRS SHALL RESTORE DAMAGED ITEMS TO ORIGINAL CONDITION AND SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER.
12. THE ARCHITECT SHALL NOT HAVE CONTROL OR CHARGE OF, AND SHALL NOT BE RESPONSIBLE FOR THE MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES OF CONSTRUCTION, FABRICATION, PROCUREMENT, SHIPMENT, DELIVERY OR INSTALLATION OR FOR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION TO THE WORK FOR THE ACTS OR OMISSIONS OF THE CONTRACTOR, SUBCONTRACTORS, SUPPLIERS, OR ANY OTHER PERSONS PERFORMING ANY OF THE WORK OR FOR THE FAILURE OF ANY OF THEM TO CARRY OUT THE WORK OR TO MEET THEIR SCHEDULES FOR DELIVERY OR COMPLETION IN ACCORDANCE TO THE CONTRACT DOCUMENTS.
13. WRITTEN DIMENSIONS TAKE PRECEDENCE OVER SCALED DIMENSIONS IF ANY DISCREPANCIES ARISE. THE ARCHITECT/ENGINEER SHALL BE NOTIFIED PRIOR TO THE COMMENCEMENT OF WORK, FOR CLARIFICATION. ALL DIMENSIONS INDICATED ON ARCHITECTURAL PLANS ARE AS FOLLOWS:
A. HORIZONTAL DIMENSIONS ARE SHOWN FROM FACE OF ROUGH MASONRY/CONCRETE/STUD TO FACE OF ROUGH MASONRY/ CONCRETE/STUD, U.O.N.
B. DIMENSIONS NOTED "CLEAR" OR "CLR" MUST BE PRECISELY MAINTAINED. THOSE NOTED "HOLD" SHALL NOT VARY FROM STATED DIMENSION.
C. DIMENSIONS ARE NOT ADJUSTABLE WITHOUT ACCEPTANCE BY THE ARCHITECT/ENGINEER, UNLESS NOTED.
D. VERTICAL DIMENSIONS ARE FROM THE TOP OF THE FLOOR SLAB DATUM LINE, ESTABLISHED BY THE CONTRACTOR SUBJECT TO THE ACCEPTANCE OF THE OWNER OR ARCHITECT/ENGINEER, UNLESS OTHERWISE NOTED.
E. DO NOT SCALE DRAWINGS. IF ITEMS OF WORK CANNOT BE LOCATED, DO NOT PROCEED WITH THE WORK WITHOUT THE APPROVAL OF THE ARCHITECT/ENGINEER.
F. DIMENSIONS MARKED V.I.F. SHALL BE "VERIFIED" IN FIELD BY THE CONTRACTOR.
G. ROUNDING OF LENGTHS ONLY ALLOWED AS INDICATED IN THE PLANS.
14. CONTRACTOR SHALL VERIFY THAT NO CONFLICTS EXIST IN LOCATIONS OF ANY AND ALL MECHANICAL, TELEPHONE, ELECTRICAL, LIGHTING AND PLUMBING (TO INCLUDE ALL PIPING, DUCTWORK AND CONDUTS) AND THAT REQUIRED CLEARANCES FOR INSTALLATION AND MAINTENANCE OF ABOVE MENTIONED EQUIPMENT ARE PROVIDED.
15. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING ALL EXISTING UTILITIES AND / OR STRUCTURES SHOWN AND ANY OTHER UTILITIES OR STRUCTURES NOT OF RECORD OR NOT SHOWN ON THESE PLANS.
16. ALL LABOR INSTALLATION SHALL BE PERFORMED IN THE BEST POSSIBLE WORKMANLIKE MANNER BY SKILLED AND EXPERIENCE WORKMEN TRAINED IN THEIR RESPECTIVE TRADES.

- 17. THE ARCHITECT/ENGINEER RESERVES THE RIGHT TO REJECT MATERIALS AND WORK QUALITY WHICH ARE NOT CONSIDERED TO BE UP TO THE SPECIFIED STANDARDS OF THE VARIOUS TRADES INVOLVED, SUCH AS INFERIOR MATERIAL OR WORK QUALITY SHALL BE REPAIRED OR REPLACED, AS DIRECTED, AT NO ADDITIONAL COST TO THE OWNER.
18. ALL FINISH MATERIAL SHALL BE PROTECTED AT ALL TIMES AGAINST SUBSEQUENT DAMAGE UNTIL FINAL ACCEPTANCE BY THE OWNER.
19. THE ABSENCE OF A DETAIL DESCRIBING A PARTICULAR METHOD OF CONSTRUCTION SHALL IMPLY, THE CONTRACTOR SHALL CONSTRUCT SAID DETAILS IN COMPLIANCE WITH INDUSTRY STANDARDS FOR THE TYPE OF CONSTRUCTION OF THE BUILDING IN A WORKMANLIKE MANNER, AND PROVIDE SHOP DRAWINGS FOR ARCHITECTS APPROVAL.
20. DRAWINGS INDICATE GENERAL DETAILS OF CONSTRUCTION, WHERE FIELD CONDITIONS ARE NOT IDENTICAL TO THE CONTRACT DOCUMENTS, BUT ARE OF SIMILAR CHARACTER TO THE DETAILS SHOWN, SIMILAR DETAILS OF CONSTRUCTION SHALL BE USED, SUBJECT TO REVIEW AND APPROVAL BY ARCHITECT/ENGINEER PRIOR TO CONSTRUCTION, WHERE CONSTRUCTION DETAILS ARE SHOWN FOR SPECIFIC LOCATIONS, THEY SHALL ALSO APPLY TO SIMILAR CONDITIONS THROUGHOUT, WHETHER SPECIFICALLY MENTIONED IN THE DRAWINGS OR NOT.
21. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY BLOCKING, BACKING, FRAMING, HANGERS, OR OTHER SUPPORT, FOR ALL BUILDING EQUIPMENT AND ACCESSORIES SHOWN ON PLANS, REGARDLESS OF WHOM SUPPLIES SAID EQUIPMENT OR ACCESSORY, UNLESS NOTED OTHERWISE.
22. VEHICULAR ACCESS MUST BE PROVIDED AND MAINTAINED SERVICEABLE THROUGHOUT CONSTRUCTION. THE CONTRACTOR, PRIOR TO START UP, SHALL COORDINATE WITH THE OWNER LOCATION OF STAGING AREAS, DELIVERY AREA, EMPLOYEE ENTRANCES, ETC.
23. ALL TRADES SHALL, AT ALL TIMES, KEEP THE PREMISES FREE FROM ACCUMULATION OF WASTE MATERIAL OR RUBBISH CAUSED BY THEIR WORK. PROVIDE CLEAN-UP AND DISPOSE OF ALL DEBRIS, FOR A NEAT AND CLEAN JOB SITE CONDITION THROUGHOUT THE ENTIRE CONSTRUCTION PROCESS. AT THE COMPLETION OF THE WORK, LEAVE THE FLOOR AND PAVEMENT AREA IN A BROOM CLEAN CONDITION WITH NO STAINS. ROLL OFF CONTAINERS MUST BE USED.
24. NO PERSON SHALL PERFORM ANY WORK ON ANY BUILDING OR STRUCTURE ADJACENT TO A PUBLIC WAY IN GENERAL USE BY THE PUBLIC FOR PEDESTRIAN TRAVEL, UNLESS THE PEDESTRIANS ARE PROTECTED BY FENCES, CANOPIES OR OTHER DEVICES.
25. PREFABRICATED CONSTRUCTION ELEMENTS AND STRUCTURES SHALL BE MADE BY SHOPS WHICH HAVE CURRENT (CEO, UL, ETC.) CERTIFICATION AS APPROVED FABRICATORS FOR SUCH UNITS OR ELEMENTS. THE RESPONSIBLE DESIGN ARCHITECT/ENGINEER SHALL PROVIDE (A SHOP STAMP) AND APPROVE OF THE DESIGN PLANS, CONSTRUCTION DETAILS, AND SPECIFICATIONS FOR ALL PREFABRICATED FRAMING MEMBERS AND SHALL SUBMIT SAME TO THE CORRESPONDENT BUILDING AND PLANNING DEPARTMENT AND RECEIVE APPROVAL THEREFROM PRIOR TO THE ERECTION OF THE MEMBERS.
26. THE CONTRACTOR IS TO PROVIDE SECURITY BARRIERS AND OTHER APPLICABLE DEVICES AS REQUIRED TO CARRY OUT THE WORK AS REQUIRED BY LOCAL AND/OR STATE CODE AND REGULATIONS. PLACEMENT OF SAFETY DEVICES IS TO TAKE PLACE IN A MANNER SO AS NOT TO DISRUPT THE FACILITY OPERATIONS.
27. REMOVED EQUIPMENT AND MATERIALS NOT BEING REUSED OR RETURNED TO OWNER SHALL BE REMOVED FROM THE SITE AND LEGALLY DISPOSED OF BY THE CONTRACTOR.
28. ALL EXTERIOR PIPING SUPPORT BRACKETS AND EQUIPMENT CURBS SHALL HAVE RUST PROOFING COATING FROM MANUFACTURER AND TWO COATS OF PAINT (COLOR TO BE SELECTED BY OWNER)
29. ALL EXTERIOR PIPING TO RECEIVE TWO COATS OF PAINT TO MATCH EXISTING BUILDING.

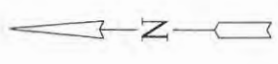
SYMBOL LEGEND



ABBREVIATIONS

Table listing abbreviations for materials, equipment, and construction terms.

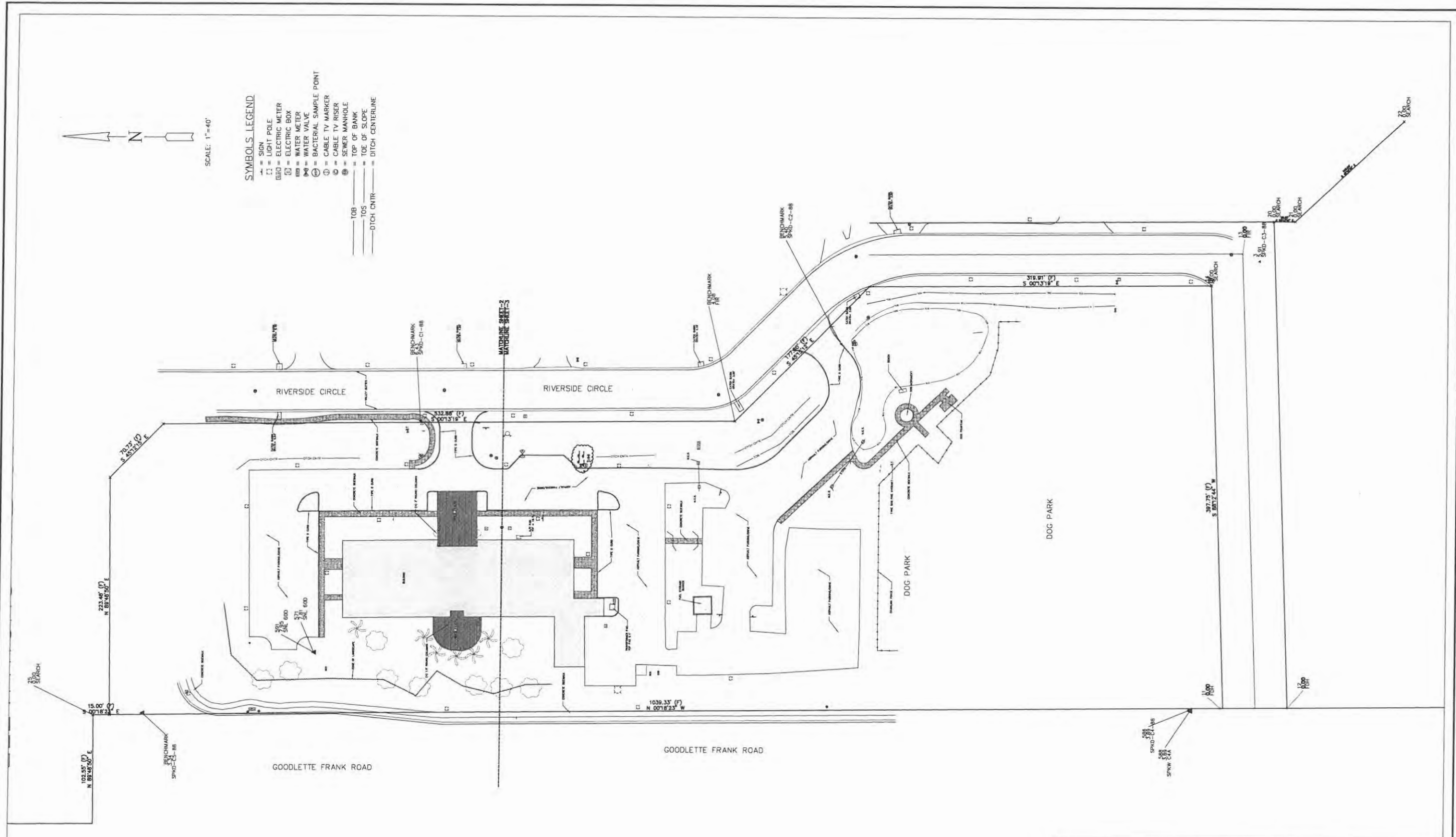
Table listing abbreviations for dimensions, materials, and construction terms.



SCALE: 1"=40'

**SYMBOLS LEGEND**

- = SIGN
- ⊥ = LIGHT POLE
- ⊞ = ELECTRIC METER
- ⊞ = ELECTRIC BOX
- ⊞ = WATER METER
- ⊞ = WATER VALVE
- ⊞ = BACTERIAL SAMPLE POINT
- ⊞ = CABLE TV MARKER
- ⊞ = CABLE TV RISER
- ⊞ = SEWER MANHOLE
- ⊞ = TOP OF BANK
- ⊞ = TOE OF SLOPE
- = DITCH CENTERLINE



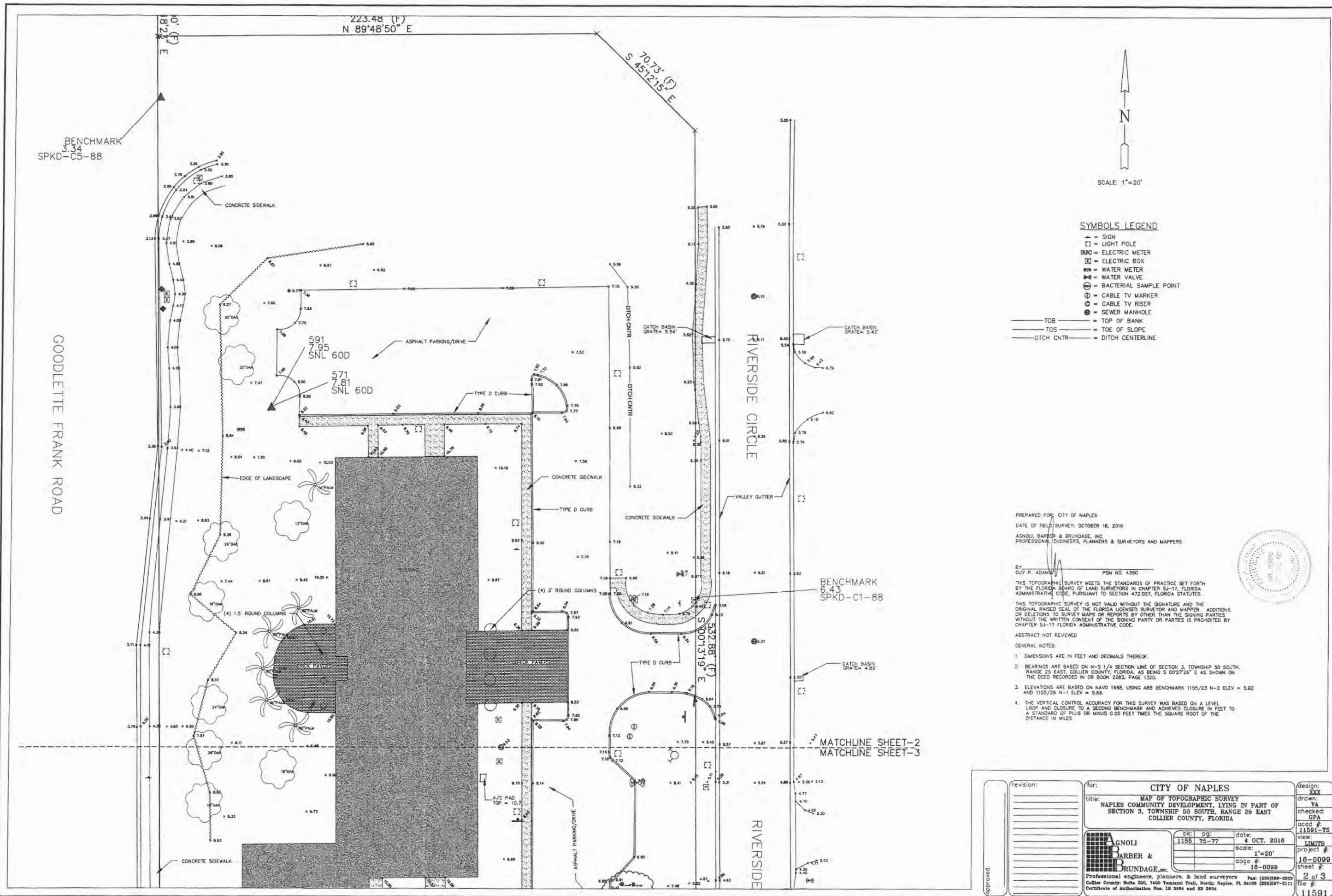
approved:	revision:	for:	<b>CITY OF NAPLES</b>	design:	XXX
		title:	MAP OF TOPOGRAPHIC SURVEY	drawn:	VA
			NAPLES COMMUNITY DEVELOPMENT, LYING IN PART OF	checked:	GEA
			SECTION 3, TOWNSHIP 50 SOUTH, RANGE 25 EAST	pcod #:	11591-TS
			COLLIER COUNTY, FLORIDA	view:	LIMITS
				project #:	16-0099
				sheet #:	1 of 3
				file #:	11591 36

bk:	pg:	date:
1155	75-77	4 OCT. 2016
scale:	1"=40'	
cogo #:	16-0099	

**AGNOLI**  
**BARBER &**  
**BRUNDAGE, INC.**  
 Professional engineers, planners, & land surveyors Fax: (239)566-2205  
 Collier County: Suite 200, 7400 Tamiami Trail, North, Naples, FL 34106 (239)597-3111  
 Certificate of Authorization Nos. LB 2864 and EB 2864

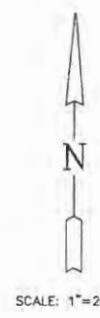


BENCHMARK  
3.34  
SPKD-C5-88

GOODLETTE FRANK ROAD

223.48 (F)  
N 89°48'50" E

70.73 (F)  
S 45°12'15" E



**SYMBOLS LEGEND**

- ▲ = SIGN
- = LIGHT POLE
- ⊞ = ELECTRIC METER
- ⊞ = ELECTRIC BOX
- ⊞ = WATER METER
- ⊞ = WATER VALVE
- ⊞ = BACTERIAL SAMPLE POINT
- ⊞ = CABLE TV MARKER
- ⊞ = CABLE TV RISER
- ⊞ = SEWER MANHOLE
- = TOB
- = TOS
- = DTCH CNTR

PREPARED FOR: CITY OF NAPLES  
DATE OF FIELD SURVEY: OCTOBER 18, 2016  
AGNOLI, BARBER & BRUNDAGE, INC.  
PROFESSIONAL ENGINEERS, PLANNERS & SURVEYORS AND MAPPERS

BY: GUY P. ADAMS, P.S.M. NO. 4390  
THIS TOPOGRAPHIC SURVEY MEETS THE STANDARDS OF PRACTICE SET FORTH BY THE FLORIDA BOARD OF LAND SURVEYORS IN CHAPTER 5J-17, FLORIDA ADMINISTRATIVE CODE, PURSUANT TO SECTION 472.027, FLORIDA STATUTES.

THIS TOPOGRAPHIC SURVEY IS NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL RAISED SEAL OF THE FLORIDA LICENSED SURVEYOR AND MAPPER. ADDITIONS OR DELETIONS TO SURVEY MAPS OR REPORTS BY OTHER THAN THE SIGNING PARTIES WITHOUT THE WRITTEN CONSENT OF THE SIGNING PARTY OR PARTIES IS PROHIBITED BY CHAPTER 5J-17 FLORIDA ADMINISTRATIVE CODE.

- ABSTRACT NOT REVIEWED
- GENERAL NOTES:
- DIMENSIONS ARE IN FEET AND DECIMALS THEREOF.
  - BEARINGS ARE BASED ON N-S 1/4 SECTION LINE OF SECTION 3, TOWNSHIP 50 SOUTH, RANGE 25 EAST, COLLIER COUNTY, FLORIDA, AS BEING S 0°27'26" E AS SHOWN ON THE DEED RECORDED IN OR BOOK 2283, PAGE 1320.
  - ELEVATIONS ARE BASED ON NAVD 1988, USING ABB BENCHMARK 1155/23 N-2 ELEV = 5.82 AND 1155/25 N-1 ELEV = 5.68.
  - THE VERTICAL CONTROL ACCURACY FOR THIS SURVEY WAS BASED ON A LEVEL LOOP AND CLOSURE TO A SECOND BENCHMARK AND ACHIEVED CLOSURE IN FEET TO A STANDARD OF PLUS OR MINUS 0.05 FEET TIMES THE SQUARE ROOT OF THE DISTANCE IN MILES.

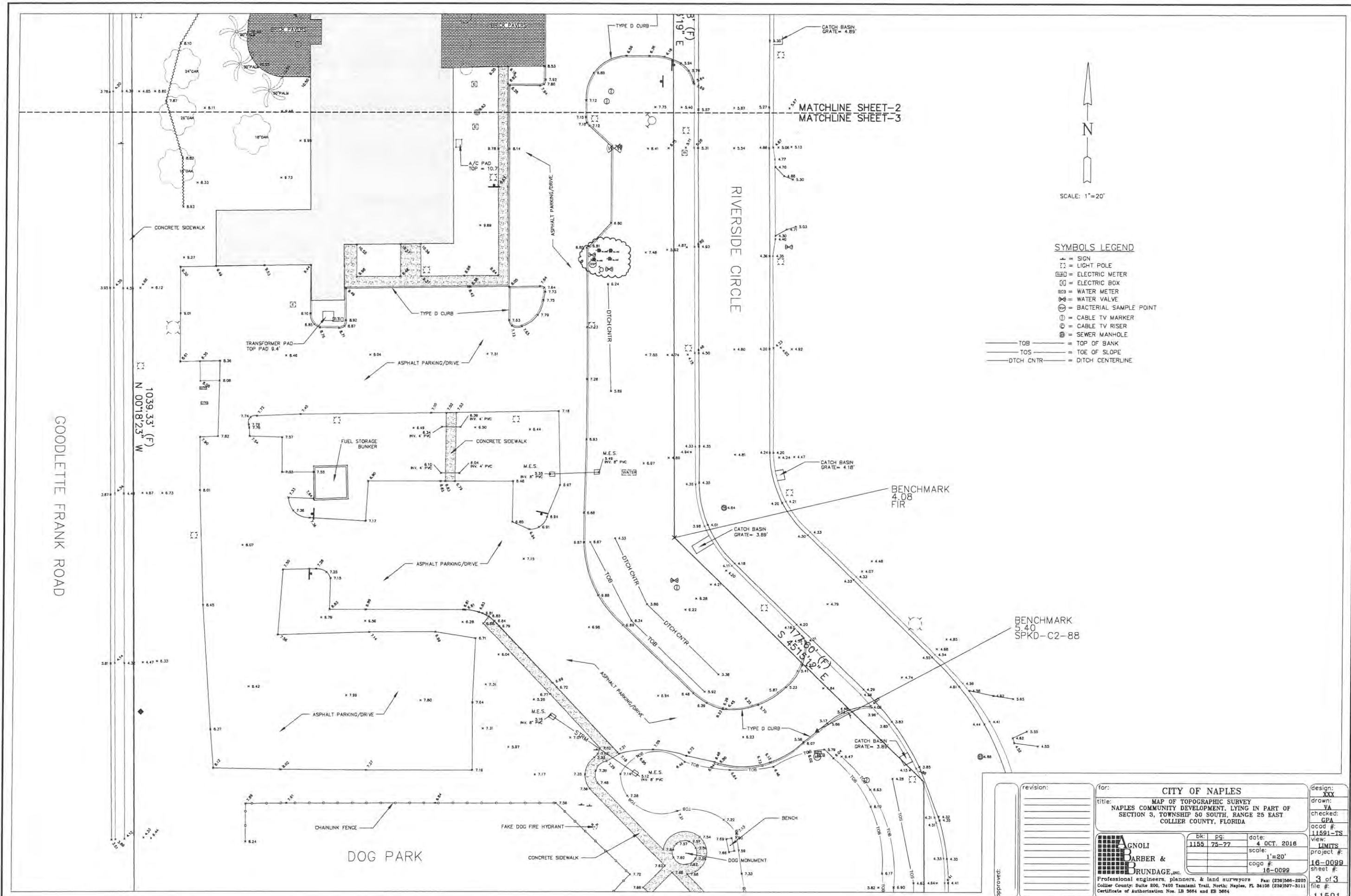
BENCHMARK  
6.43  
SPKD-C1-88

MATCHLINE SHEET-2  
MATCHLINE SHEET-3

approved:	revision:	for:	CITY OF NAPLES		design:	AKK
		title:	MAP OF TOPOGRAPHIC SURVEY		drawn:	VA
			NAPLES COMMUNITY DEVELOPMENT, LYING IN PART OF		checked:	GPA
			SECTION 3, TOWNSHIP 50 SOUTH, RANGE 25 EAST		ocod #:	11591-TS
			COLLIER COUNTY, FLORIDA		view:	LIMITS
					project #:	16-0099
					sheet #:	2 of 3
					file #:	11591


  

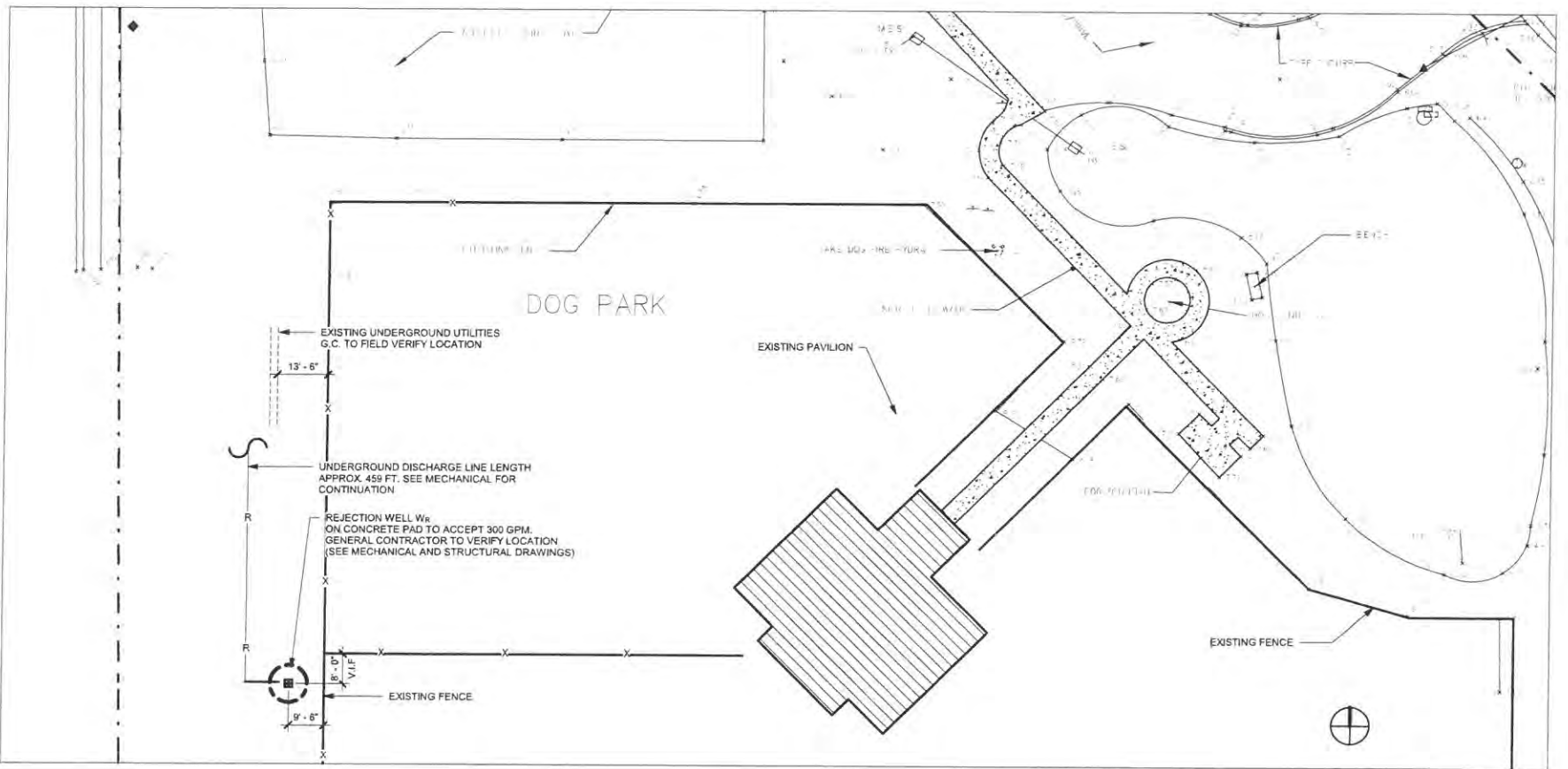
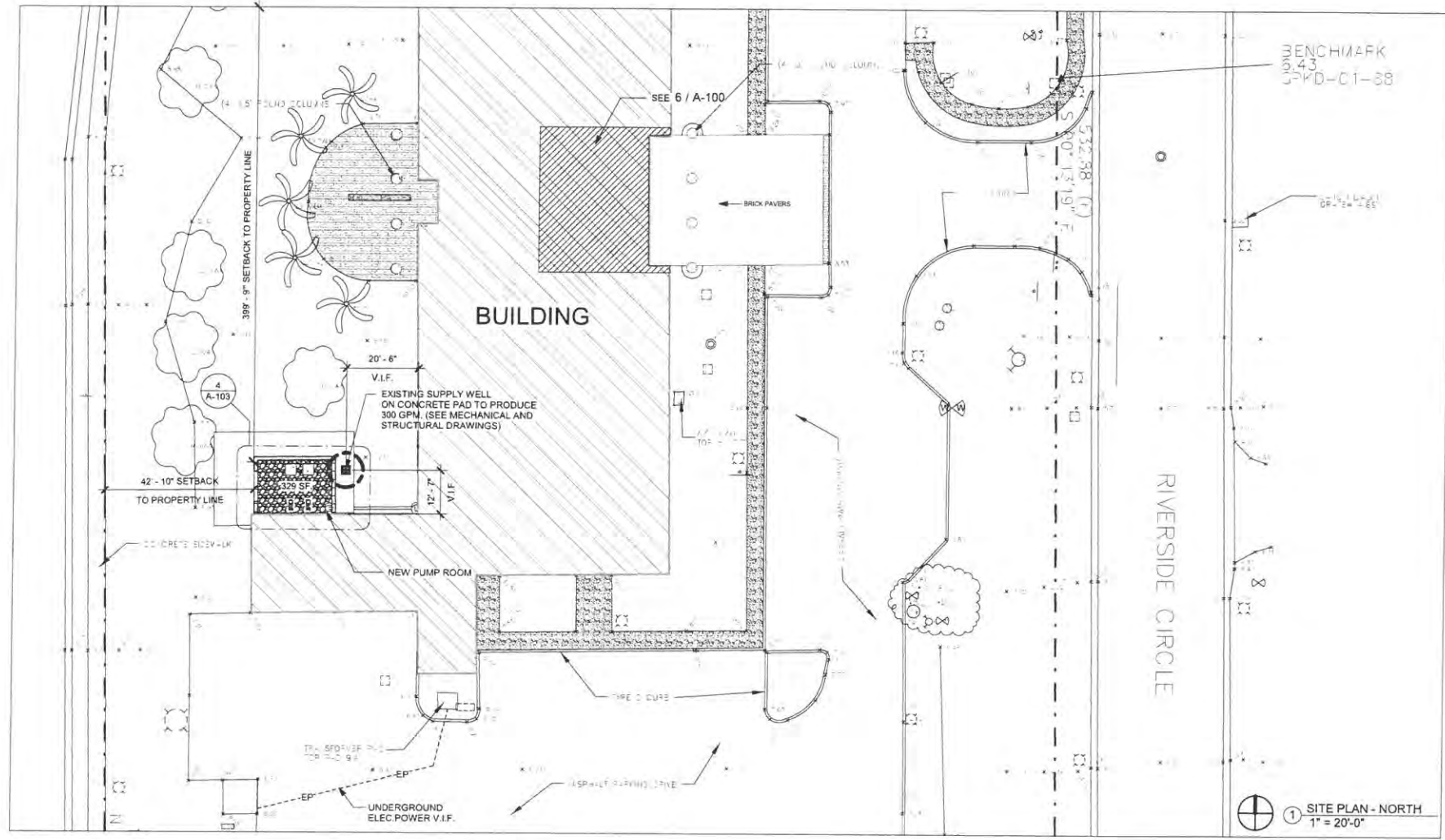
AGNOLI BARBER & BRUNDAGE, INC.	bk:	pg:	date:	4 OCT. 2016
	1155	75-77	scale:	1"=20'
			ocod #:	18-0099
	Professional engineers, planners & land surveyors Fax: (239)568-2200 Collier County: Suite 200, 7400 Tamiami Trail, North, Naples, FL 34108 (239)597-9111 Certificate of Authorization No. 12 3884 and EB 3554			



N  
SCALE: 1"=20'

- SYMBOLS LEGEND**
- ⊕ = SIGN
  - ⊠ = LIGHT POLE
  - ⊞ = ELECTRIC METER
  - ⊞ = ELECTRIC BOX
  - ⊞ = WATER METER
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  - ⊞ = SEWER MANHOLE
  - = TOB = TOP OF BANK
  - = TOS = TOE OF SLOPE
  - = DTCH CNTR = DITCH CENTERLINE

approved: _____ revision: _____ _____ _____ _____	for: <b>CITY OF NAPLES</b>	design: <b>XXX</b>
	title: <b>MAP OF TOPOGRAPHIC SURVEY NAPLES COMMUNITY DEVELOPMENT, LYING IN PART OF SECTION 3, TOWNSHIP 50 SOUTH, RANGE 25 EAST COLLIER COUNTY, FLORIDA</b>	drawn: <b>YA</b>
	 <b>BARBER &amp; BRUNDAGE, INC.</b> Professional engineers, planners, & land surveyors Collier County: Suite 200, 7400 Tamiami Trail, North, Naples, FL 34108 (239)597-3111 Certificate of Authorization Nos. 1B 3664 and EB 3664	checked: <b>GZA</b>
		bk: <b>1155</b> pg: <b>75-77</b> date: <b>4 OCT. 2016</b> scale: <b>1"=20'</b> cogo #: <b>16-0099</b> project #: <b>16-0099</b> sheet #: <b>3 of 3</b> file #: <b>11591</b>



**SURVEY & UTILITIES LOCATION:**

1. THE LOCATION AND SIZE OF ALL EXISTING UTILITIES AND TOPOGRAPHY HAVE BEEN PREPARED FROM THE MOST RELIABLE INFORMATION AVAILABLE TO THE ENGINEER. THIS INFORMATION IS NOT GUARANTEED. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ANY EXISTING UTILITIES PRIOR TO CONSTRUCTION.
2. THE CONTRACTOR SHALL VERIFY ALL UTILITIES, BY ELECTRONIC AND MAGNETIC METHODS AND, BY HAND EXCAVATION WHERE NECESSARY, IN COORDINATION WITH UTILITY COMPANIES, PRIOR TO BEGINNING ANY CONSTRUCTION OPERATIONS.
3. ALL UTILITIES ENCOUNTERED DURING CONSTRUCTION SHALL BE RECORDED AND SHOWN ON AS-BUILT PLANS WHICH INCLUDES TYPE OF UTILITY, DIRECTION, LOCATION, ELEVATIONS, ETC. THIS WORK BY THE CONTRACTOR SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.
4. CONTRACTOR SHALL CONTACT UTILITY COMPANIES TO IDENTIFY UNDERGROUND UTILITIES AND/OR CABLES WITHIN THE PROJECT LIMITS AND/OR STAGING.

**WELL / PUMP PERFORMANCE**

THE FOLLOWING WELL AND PUMP PERFORMANCE NOTES ARE PROVIDED BY THE HVAC TEST WELL COMPLETION & FINDINGS REPORT FOR THE COMMUNITY DEVELOPMENT CENTER, NAPLES, FL, PREPARED BY AMEC FOSTER WHEELER AND DATED 02-09-17. SEE REPORT FOR ADDITIONAL INFORMATION.

1. SUPPLY WELL SHALL BE CONSTRUCTED TO HOUSE SUBMERSIBLE WELL PUMP SHOWN ON MECHANICAL DRAWINGS. SEE M-001
2. SUPPLY WELL TO PROVIDE UP TO 300 G.P.M. TO NEW CLOSED LOOP SYSTEM.
3. WELL FLANGE ELEVATION TO BE THAT OF THE TOP OF NEW CONCRETE PAD.
4. PUMP DIAMETER SHALL BE NO MORE THAN 6" DIA. TO MATCH THE REPORTS TESTING CONTROL UNIT.
5. PUMP SHALL BE INSTALLED AT A DEPTH OF 60' BELOW GRADE TO MATCH REPORT TESTING RESULTS.
6. REJECTION WELL TO ACCEPT UP TO 300 G.P.M. FROM NEW CLOSED LOOP SYSTEM.

**SITE IMPROVEMENTS**

1. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING AND/OR REPAIRING ANY TURF, PAVERS, PLANTERS OR OTHER SITE ELEMENTS IMPACTED BY THE SCOPE OF WORK.
2. ALL ROAD WORK SHALL BE COMPLETED IN ACCORDANCE TO CITY OF NAPLES UTILITIES SPECIFICATIONS AND STANDARDS MANUAL. GENERAL CONTRACTOR IS RESPONSIBLE TO IDENTIFY, EVALUATE AND MEET THOSE REQUIREMENTS WHERE APPLICABLE.

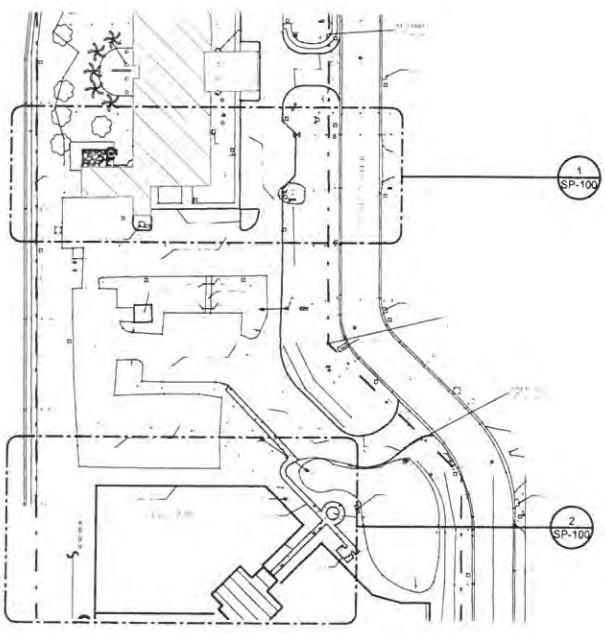


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**ARCHITECT OF RECORD**

**REVISION SCHEDULE**

No.	DESCRIPTION	DATE



3 SITE KEY PLAN  
1" = 80'-0"

SANTIAGO JIMENEZ R.A.  
AR-94369

**PROJECT TEAM**

DESIGNER  
AMEC FOSTER WHEELER - CR

BIM / DRAWINGS BY:  
CR/GT

CHECKED BY:  
CR/SJ

**Naples Community Center**  
295 RIVERSIDE CIRCLE,  
NAPLES, FL 34102

6788-16-2867  
100%CD 08/15/2017

PROJECT NUMBER | STATUS |  
ISSUE DATE

**SITE PLAN**

SCALE: As indicated

**SP-100**  
SHEET NUMBER



amec foster wheeler

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REVISION SCHEDULE

No.	DESCRIPTION	DATE

### SYMBOL LEGEND

- EXISTING WALL / PARTITION TO REMAIN
- - - EXISTING CERAMIC TILE CAP TO BE DEMOLISHED
- ▬ NEW WALL / PARTITION

### GENERAL DEMOLITION NOTES

- GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFICATION OF CONDITIONS AND QUANTITIES AND NOTIFY IN WRITING THE A/E TEAM AND THE CITY OF NAPLES PROJECT MANAGER OF ANY DISCREPANCIES FOUND.
- THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND NOTIFY THE ARCHITECT OF ANY EXISTING DISCREPANCIES PRIOR TO PROCEEDING WITH THE WORK.
- THE CONTRACTOR IS TO EXERCISE DUE CARE DURING THE DEMOLITION AND REMOVAL PHASE, TO ASSURE THAT ITEMS SCHEDULED FOR DEMOLITION AND REMOVAL ARE PROPERLY REMOVED WITHOUT DAMAGE TO THE SURROUNDING AREA(S).
- ITEMS SCHEDULED TO BE RELOCATED OR TO REMAIN ARE TO BE COORDINATED WITH THE OWNER AND ARE TO BE SUBSEQUENTLY PROTECTED FROM DAMAGE.
- ALL ITEMS THAT ARE CALLED TO BE DEMOLISHED ARE TO BE REMOVED FROM THE SITE BY THE CONTRACTOR AND DISPOSED OF AS REQUIRED BY LOCAL AND STATE CODES AND AS REQUIRED BY AUTHORITIES HAVING JURISDICTION UNLESS OTHERWISE INDICATED.
- THE CONTRACTOR'S SCOPE OF WORK FOR THIS PROJECT SHALL INCLUDE PATCHING AND RE-FINISHING ANY DAMAGED SURFACES AS A DIRECT OR INDIRECT RESULT OF THIS WORK. MATCH EXISTING FINISHES AND PAINT ALL SURFACES AFFECTED BY THE NEW CONSTRUCTION.
- THE CONTRACTOR SHALL PROTECT THE EXISTING INTERIOR FINISHES NOT SCHEDULED TO BE REMOVED OR DEMOLISHED.

### DEMOLITION KEY NOTES

- CERAMIC TILE CAP TO BE REMOVED TO EXPOSE TOP OF EXISTING WALL. PATCH, REPAIR AND LEVEL TO RECEIVE NEW WALL EXTENSION DURING NEW CONSTRUCTION.
- SAW CUT EXISTING CERAMIC TILE CAP AS SHOWN. REMOVE TOP AND INTERIOR SIDE. PRESERVE TILE FACING LOBBY SIDE.
- PROTECT AND REPAIR ADJACENT TILE CAP AND LOW WALL AS REQUIRED.
- SAW CUT NEW ROUND OPENING ON EXISTING MASONRY WALL. COORDINATE OPENING SIZE AND LOCATION WITH MECHANICAL DESIGN DOCUMENTS.

### NEW FINISH NOTES:

- GENERAL CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE NEW WALL FINISH LAYER AND CEILINGS.
- WALL FINISH LAYER EXTEND 6" MIN. ABOVE NEW ATC CEILING.
- GENERAL CONTRACTOR SHALL RESEARCH AND MATCH EXISTING FINISHES, AND PROVIDE CITY OF NAPLES WITH PAINT CHIP FOR APPROVAL.

### WALL OPENING NOTES

- HEIGHT, SIZE AND LOCATION OF NEW DUCTWORK OPENINGS ON MASONRY WALLS SHALL BE COORDINATED BY GENERAL CONTRACTOR.
- CONTRACTOR SHALL PROVIDE PROPER FLASHING AND SEAL AT OPENINGS.
- CONTRACTOR TO PATCH AND REPAIR SURROUNDING WALL AND PAINT AS APPLICABLE TO MATCH EXISTING CONDITIONS.

### FACILITY OPERATIONS

- GENERAL CONTRACTOR IS RESPONSIBLE FOR COORDINATING CONSTRUCTION AS TO MAINTAIN THE OVERALL OPERATION OF THE BUILDING DEPT. BUILDING NORMAL OPERATION NOT BE IMPACTED BY CONSTRUCTION. THIS FACILITY SHALL REMAIN OPERATIONAL.
- CONSTRUCTION IN THE LOBBY HALL TAKE PLACE DURING NON WORKING HOURS.

SANTIAGO JIMENEZ R.A.  
AR-94369

PROJECT TEAM

DESIGNER

AMEC FOSTER WHEELER - CR

BIM / DRAWINGS BY:

CR/GT

CHECKED BY:

CR/SJ

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NAPLES, FL 34102

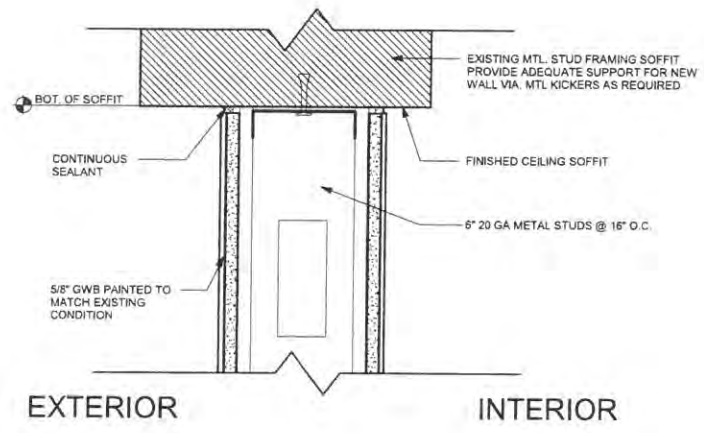
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100%CD 08/15/2017

PROJECT NUMBER | STATUS |  
ISSUE DATE

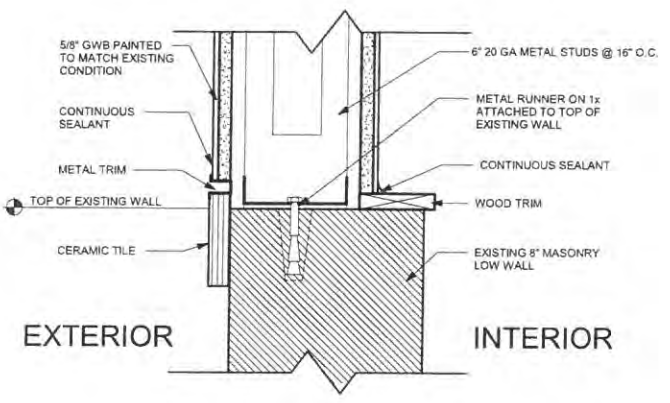
FLOOR PLANS

SCALE: As indicated

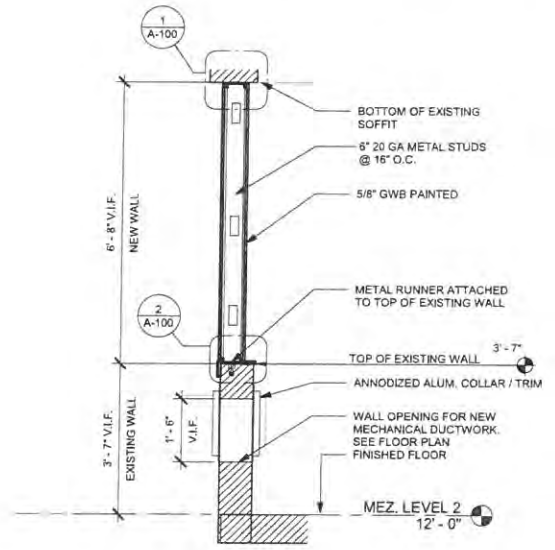
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SHEET NUMBER 40



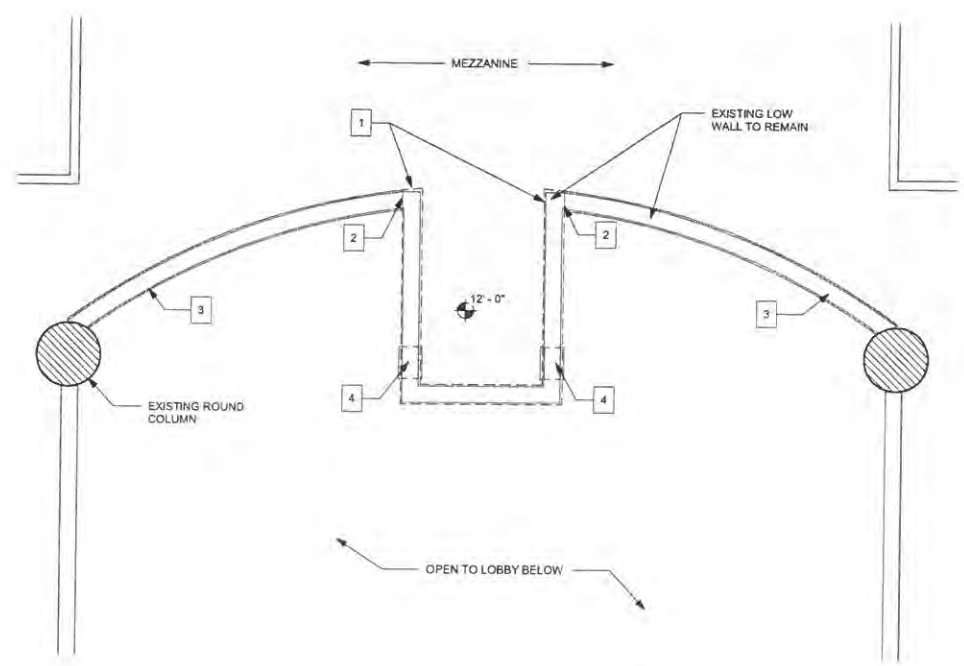
1 NEW INTERIOR WALL @ CEILING  
3/8" = 1'-0"



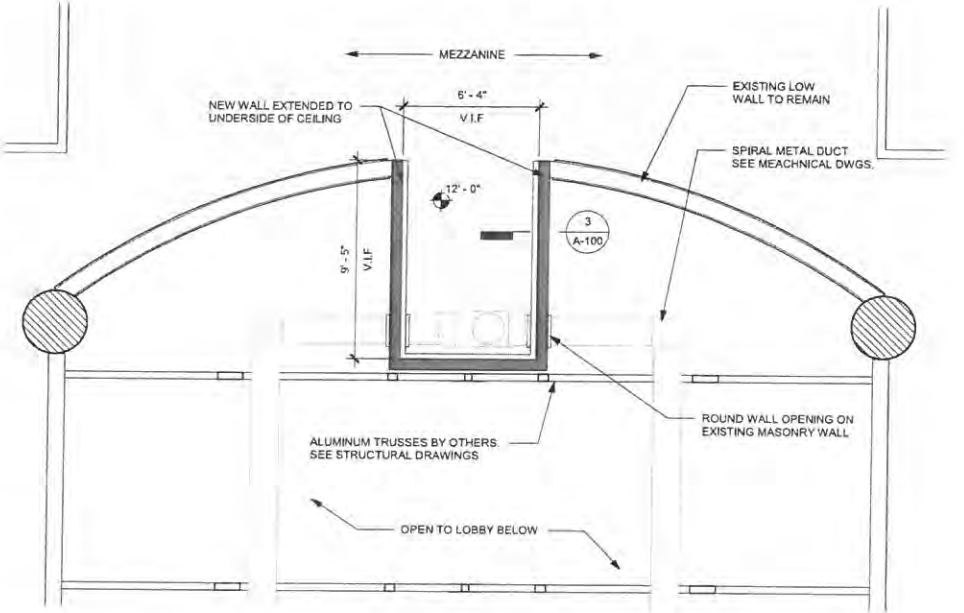
2 NEW INTERIOR WALL @ BOTTOM  
3/8" = 1'-0"



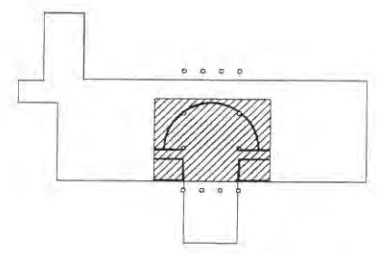
3 WALL SECTION  
1/2" = 1'-0"



4 MEZ. DEMOLITION PLAN  
1/4" = 1'-0"



5 MEZ. NEW WALL EXTENSION PLAN  
1/4" = 1'-0"



KEY PLAN





amec foster wheeler

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ARCHITECT OF RECORD

REVISION SCHEDULE

No.	DESCRIPTION	DATE

### SYMBOL LEGEND

- EXISTING WALL / PARTITION TO REMAIN
- EXISTING WALL / PARTITION TO BE DEMOLISHED
- EXISTING LIGHTING FIXTURE TO BE DEMOLISHED SEE ELECTRICAL DRAWINGS
- EXISTING DIFFUSER / REGISTER TO BE DEMOLISHED SEE MECHANICAL DRAWINGS
- 24" X 24" ACOUSTICAL CEILING TILE (ACT) AND GRID TO BE DEMOLISHED
- NEW 24" X 24" ACOUSTICAL CEILING TILE (ACT) ARMSTRONG 15'16" CLEAN ROOM OR APPROVED EQUAL

### GENERAL DEMOLITON NOTES

- GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFICATION OF CONDITIONS AND QUANTITIES AND NOTIFY IN WRITING THE A/E TEAM AND THE CITY OF NAPLES PROJECT MANAGER OF ANY DISCREPANCIES FOUND.
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- THE CONTRACTOR SHALL PROTECT THE EXISTING INTERIOR FINISHES NOT SCHEDULED TO BE REMOVED OR DEMOLISHED.

### DEMOLITION KEY NOTES

1. PROTECT EDGE OF THE EXISTING SOFFIT, PATCH AND REPAIR A NECESSARY.
2. DEMOLISH CEILING TILE AND GRID.
3. DEMOLISH RETURN AIR DIFFUSER AS SHOWN.
4. PROJECT EXISTING FIRE SPRINKLER TO REMAIN.
5. EXISTING ATC TO REMAIN.

SANTIAGO JIMENEZ R.A.  
AR-94369

PROJECT TEAM

DESIGNER  
AMEC FOSTER WHEELER - CR

BIM / DRAWINGS BY:  
CR/GT

CHECKED BY:  
CR/SJ

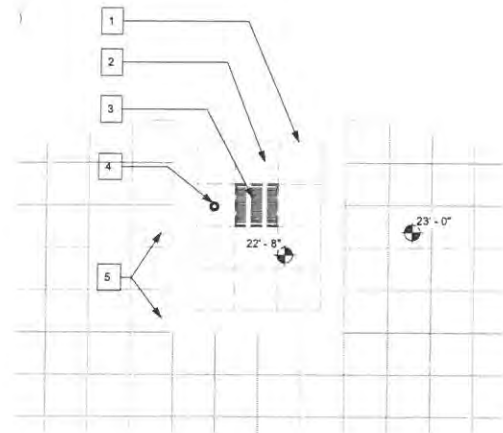
**Naples Community Center**  
295 RIVERSIDE CIRCLE,  
NAPLES, FL 34102

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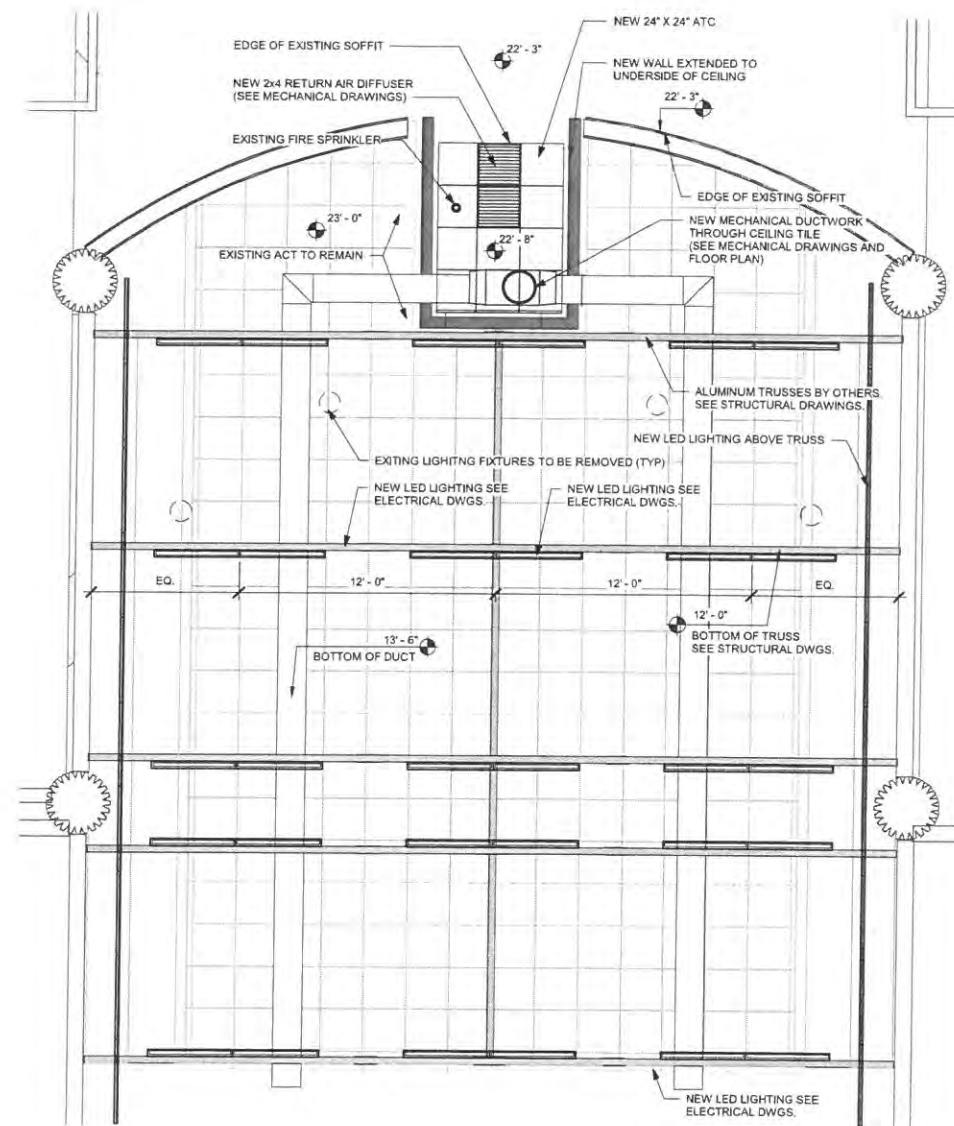
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**REFLECTED CEILING PLAN**

SCALE: 1/4" = 1'-0"

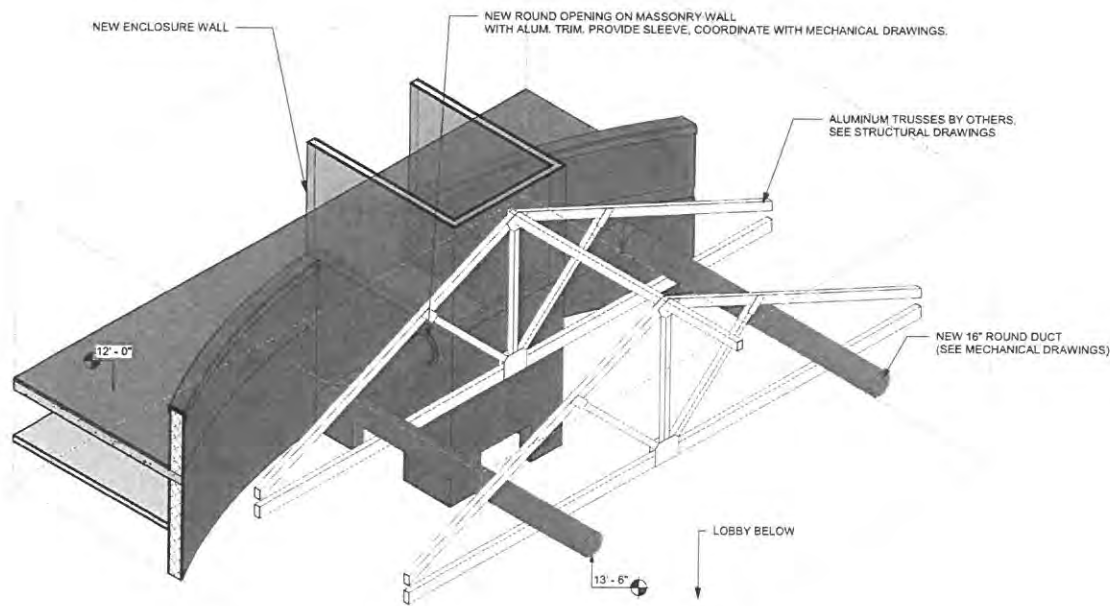
**A-101**  
SHEET NUMBER



2 DEMOLITION REFLECTED CEILING PLAN  
1/4" = 1'-0"



4 NEW REFLECTED CEILING PLAN  
1/4" = 1'-0"



3 PROJECT ISOMETRIC - 1



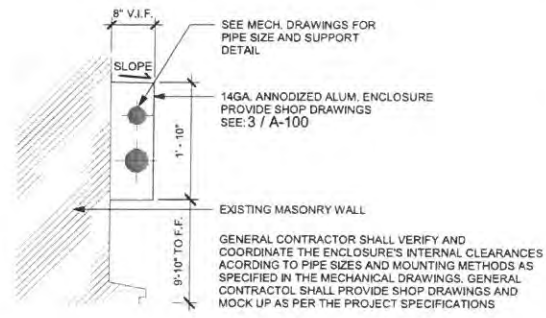
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foster  
wheeler

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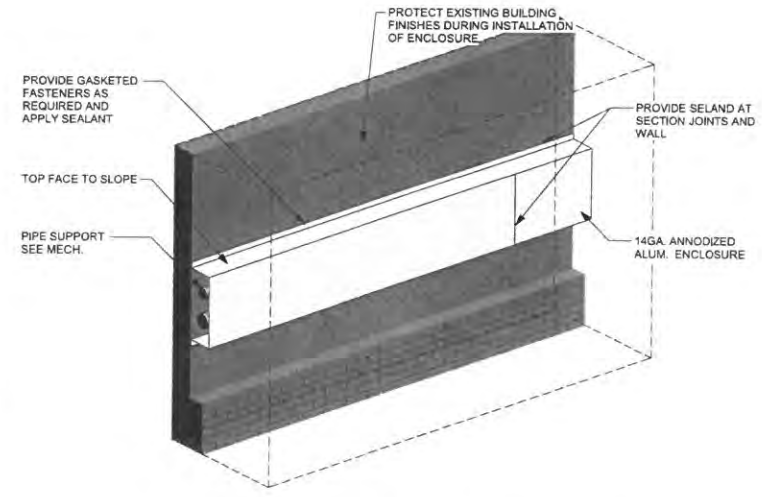
ARCHITECT OF RECORD

REVISION SCHEDULE

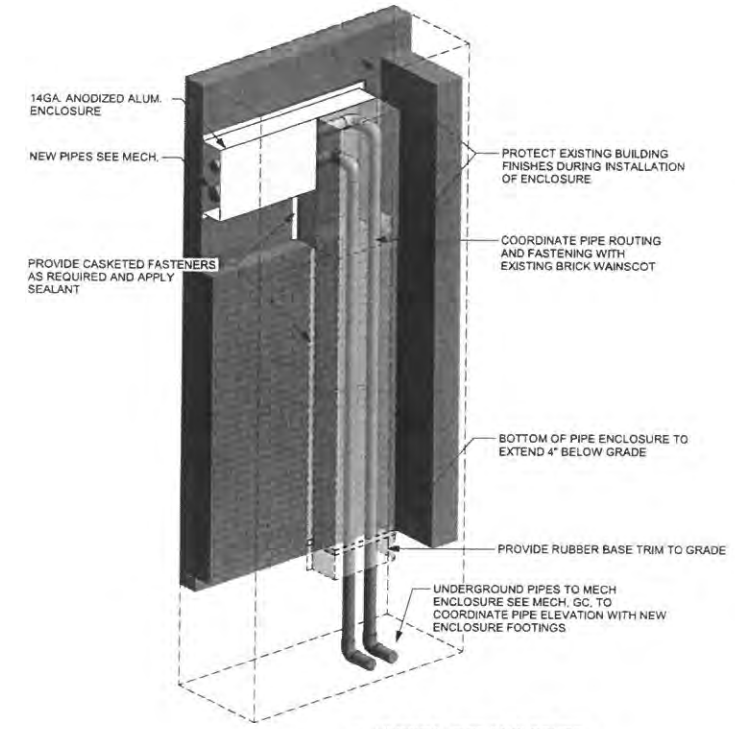
No.	DESCRIPTION	DATE



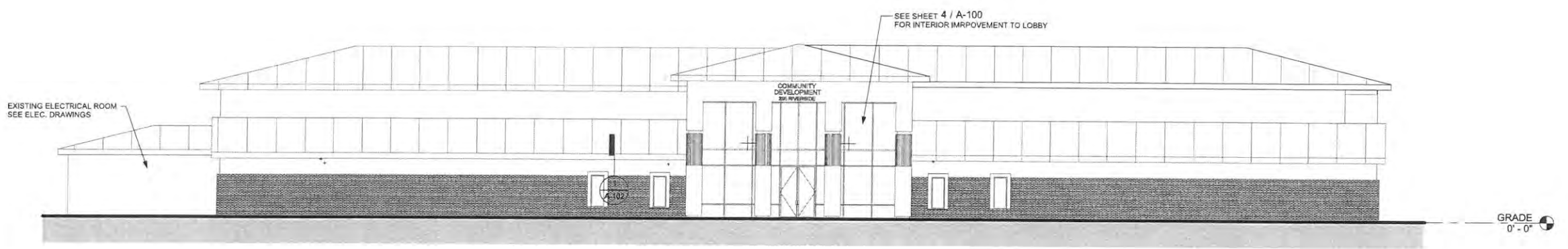
1 PIPE ENCLOSURE DETAIL  
3/4" = 1'-0"



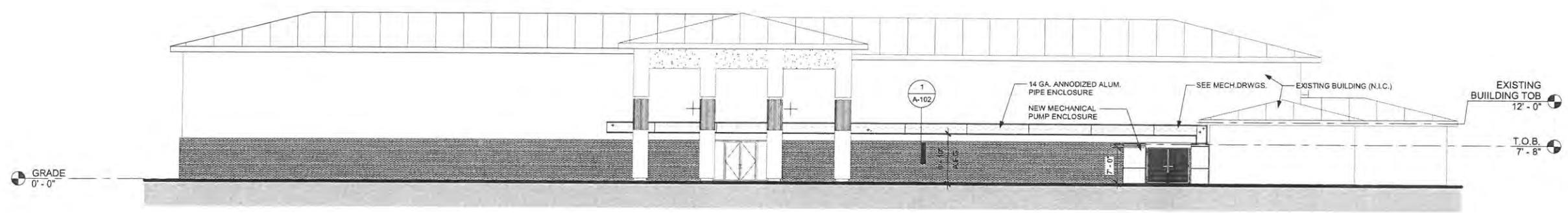
2 HORIZONTAL PIPE ENCLOSURE



3 VERTICAL PIPE ENCLOSURE



4 EAST BUILDING ELEVATION  
3/32" = 1'-0"



5 WEST BUILDING ELEVATION  
3/32" = 1'-0"

SANTIAGO JIMENEZ R.A.  
AR-94369

PROJECT TEAM  
DESIGNER  
AMEC FOSTER WHEELER - CR  
BIM / DRAWINGS BY:  
CR/GT  
CHECKED BY:  
CR/SJ

Naples  
Community Center  
295 RIVERSIDE CIRCLE,  
NAPLES, FL 34102

6788-16-2867  
100%CD 08/15/2017

PROJECT NUMBER | STATUS |  
EXTERIOR  
ELEVATIONS

SCALE: As indicated

**A-102**  
SHEET NUMBER



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foster  
wheeler

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ARCHITECT OF RECORD

REVISION SCHEDULE

No.	DESCRIPTION	DATE

SANTIAGO JIMENEZ R.A.  
AR-94369

PROJECT TEAM

DESIGNER  
AMEC FOSTER WHEELER - CR  
BIM / DRAWINGS BY:  
CR

CHECKED BY:  
CR/SJ

Naples  
Community Center  
295 RIVERSIDE CIRCLE,  
NAPLES, FL 34102

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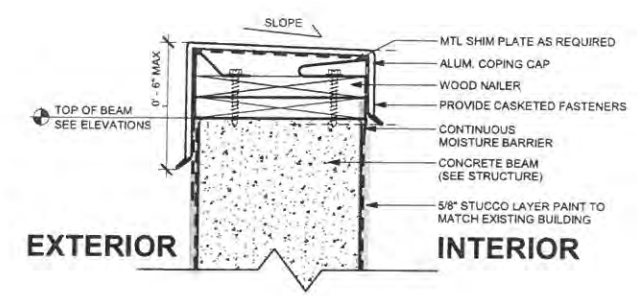
PROJECT NUMBER | STATUS |  
NEW PUMP  
ENCLOSURE

SCALE: As indicated

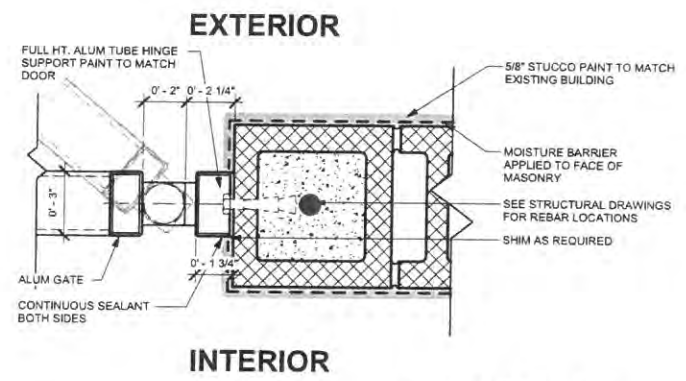
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43  
SHEET NUMBER

**SYMBOL LEGEND**

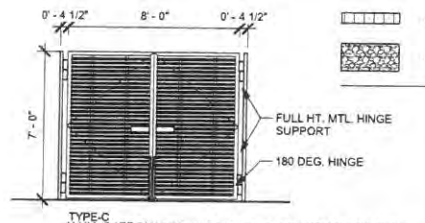
- EXISTING WALL
- NEW WALL
- GRAVEL



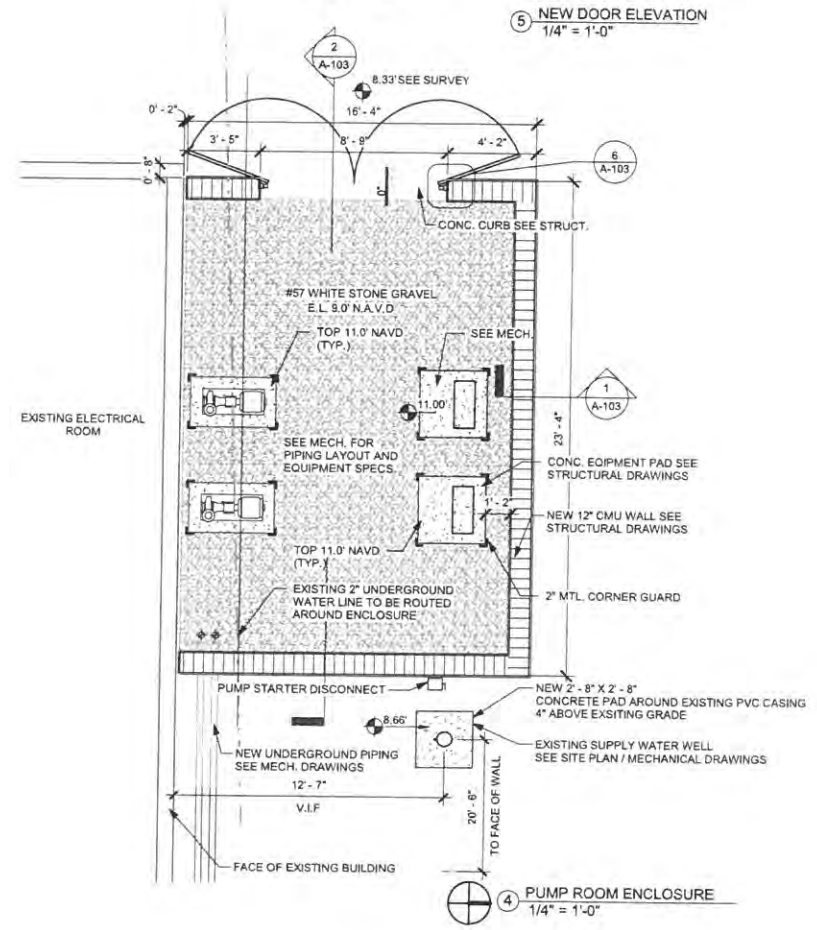
7 PARAPET DETAIL  
3" = 1'-0"



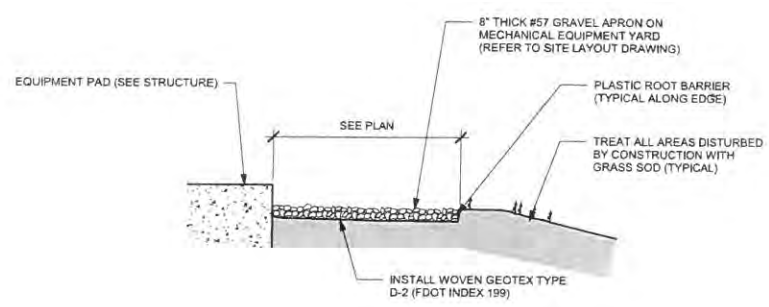
6 ALUM. GATE JAMB (TYP.)  
3" = 1'-0"



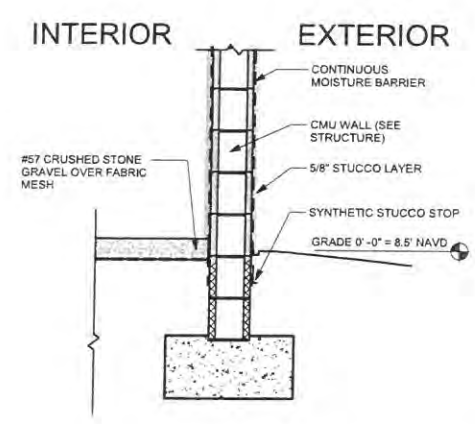
5 NEW DOOR ELEVATION  
1/4" = 1'-0"



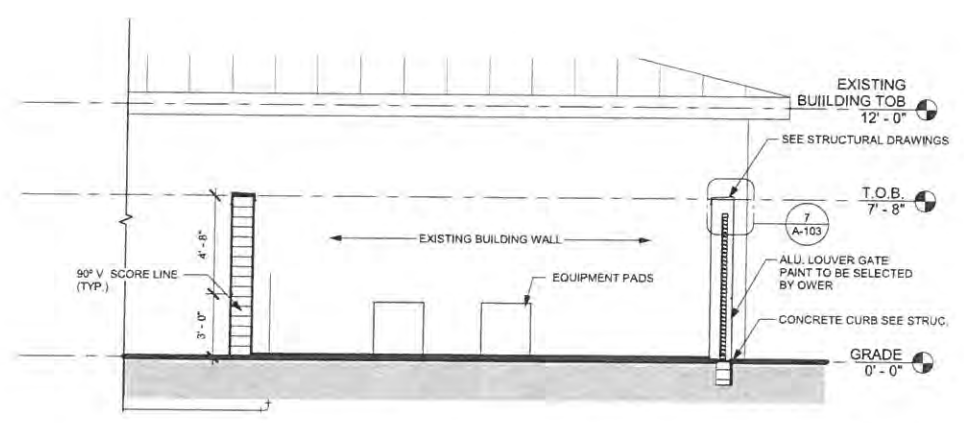
4 PUMP ROOM ENCLOSURE  
1/4" = 1'-0"



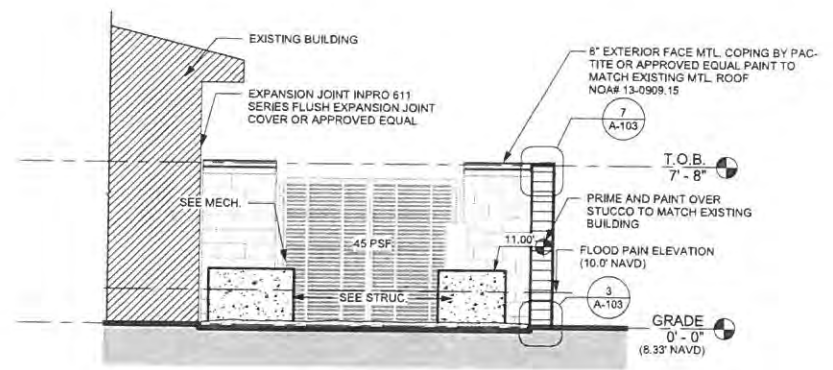
8 GRAVEL DETAIL  
1/2" = 1'-0"



3 FOOTING DETAIL  
3/4" = 1'-0"



2 SECTION B  
1/4" = 1'-0"



1 SECTION A  
1/4" = 1'-0"



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**ARCHITECT OF RECORD**

**REVISION SCHEDULE**

No.	DESCRIPTION	DATE

SANTIAGO JIMENEZ, R.A.  
AR-94369

**PROJECT TEAM**

**DESIGNER**  
AMEC FOSTER WHEELER / CR  
**BIM / DRAWINGS BY:**  
CR

**CHECKED BY:**  
CR/SJ

**Naples  
Community Center**

672867-16-2867  
100% CD 06-15-17

PROJECT NUMBER | STATUS |  
ISSUE DATE

**SPECIFICATIONS**

SCALE:

**A-400**  
44  
**SHEET NUMBER**

**SECTION 024119 - SELECTIVE DEMOLITION**

**PART 1 - GENERAL**

**1.1 DEFINITIONS**

- A. Remove and Reinstall: Detach items from existing construction, prepare for reuse, and reinstall where indicated.
- B. Existing to Remain: Existing items of construction that are not to be permanently removed and that are not otherwise indicated to be removed, removed and salvaged, or removed and reinstated.

**1.2 FIELD CONDITIONS**

- A. Owner will occupy portions of building immediately adjacent to selective demolition area. Conduct selective demolition so Owner's operations will not be disrupted.
- B. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.
  - 1. Before selective demolition, Owner will remove the following items:
    - a. Personal Items and Belongings.
- C. Notify Architect of discrepancies between existing conditions and Drawings before proceeding with selective demolition.
- D. Hazardous Materials: It is not expected that hazardous materials will be encountered in the Work.
  - 1. If suspected hazardous materials are encountered, do not disturb; immediately notify Architect and Owner. Hazardous materials shall be removed under a separate contract.
- E. Sale of removed items or materials on-site is not permitted. Items shall be returned to Owner.
- F. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.
  - 1. Maintain fire-protection facilities in service during selective demolition operations.

**PART 2 - PRODUCTS**

**PART 3 - EXECUTION**

**3.1 EXAMINATION**

- A. Verify that utilities have been disconnected and capped before starting selective demolition operations.
- B. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.
- C. When unanticipated mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate and measure the nature and extent of conflict. Promptly submit a written report to Architect.

**3.2 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS**

- A. Existing Services/Systems to Remain: Maintain services/systems indicated to remain and protect them against damage.
- B. Existing Services/Systems to Be Removed, Relocated, or Abandoned: Locate, identify, disconnect, and seal or cap off indicated utility services and mechanical/electrical systems serving areas to be selectively demolished.
  - 1. If services/systems are required to be removed, relocated, or abandoned, provide temporary services/systems that bypass area of selective demolition and that maintain continuity of services/systems to other parts of building.
  - 2. Disconnect, demolish, and remove fire-suppression systems, plumbing, and HVAC systems, equipment, and components indicated to be removed.
    - a. Equipment to Be Removed: Disconnect and cap services and remove equipment.
    - b. Equipment to Be Removed and Reinstalled: Disconnect and cap services and remove, clean, and store equipment, when appropriate, reinstall, reconnect, and make equipment operational.
    - c. Ducts to Be Removed: Remove portion of ducts indicated to be removed and plug remaining ducts with same or compatible ductwork material.
- C. Refrigerant: Remove refrigerant from mechanical equipment to be selectively demolished according to 40 CFR 82 and regulations of authorities having jurisdiction.

**3.3 PREPARATION**

- A. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities as well as access and operation of the apparatus bay.

**3.4 SELECTIVE DEMOLITION, GENERAL**

- A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:
  - 1. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping, to minimize disturbance of adjacent surfaces. Temporarily cover openings to remain.
  - 2. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
  - 3. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain portable fire-suppression devices during flame-cutting operations.
  - 4. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
  - 5. Dispose of demolished items and materials promptly.
- B. Removed and Reinstalled Items:
  - 1. Clean and repair items to functional condition adequate for intended reuse.
  - 2. Pack or crate items after cleaning and repairing. Identify contents of containers.
  - 3. Protect items from damage during transport and storage.
  - 4. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.
- C. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When indicated in the plans, items shall be removed to a suitable, protected storage location during selective demolition and reinstalled in their original locations after selective demolition operations are complete.

**3.5 DISPOSAL OF DEMOLISHED MATERIALS**

- A. General: Except for items or materials indicated to be reused, salvaged, reinstalled, or otherwise indicated to remain Owner's property, remove demolished materials from Project site and legally dispose of them in an EPA-approved landfill:
  - 1. Do not allow demolished materials to accumulate on-site.
  - 2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
- B. Disposal: Transport demolished materials off Owner's property and legally dispose of them.

**3.6 CLEANING**

- A. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

END OF SECTION 024119

**SECTION 054000 - COLD-FORMED METAL FRAMING**

**PART 1 - GENERAL**

**1.1 SUMMARY**

- A. Section Includes:
  - 1. Interior non-load-bearing wall framing exceeding height limitations of standard, nonstructural metal framing

**1.2 ACTION SUBMITTALS**

- A. Product Data: For each type of product.

**1.3 INFORMATIONAL SUBMITTALS**

- A. Welding certificates.
- B. Product certificates.
- C. Product test reports.

**PART 2 - PRODUCTS**

**2.1 PERFORMANCE REQUIREMENTS**

- A. Cold-Formed Steel Framing Standards: Unless more stringent requirements are indicated, framing shall comply with AISI S100, AISI S200, and the following:
  - 1. Wall Studs: AISI S211.
  - 2. Headers: AISI S212.
  - 3. Lateral Design: AISI S213.
- B. Fire-Resistance Ratings: Comply with ASTM E 119; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

**2.2 INTERIOR NON-LOAD-BEARING WALL FRAMING**

- A. Steel Studs: Manufacturer's standard C-shaped steel studs, of web depths indicated, punched, with stiffened flanges, and as follows:
  - 1. Minimum Base-Metal Thickness: 0.0428 inch (1.09 mm).
  - 2. Flange Width: 2 inches (51 mm).
- B. Steel Track: Manufacturer's standard U-shaped steel track, of web depths indicated, unpunched, with unstiffened flanges, and matching minimum base-metal thickness of steel studs.

**2.3 FRAMING ACCESSORIES**

- A. Fabricate steel-framing accessories from ASTM A 1003/A 1003M, Structural Grade, Type H, metallic coated steel sheet, of same grade and coating designation used for framing members.
- B. Provide accessories of manufacturer's standard thickness and configuration, unless otherwise indicated.

**2.4 ANCHORS, CLIPS, AND FASTENERS**

- A. Anchor Bolts: ASTM F 1554, Grade 55, threaded carbon-steel carbon-steel nuts, and flat, hardened-steel washers; zinc coated by.
- B. Mechanical Fasteners: ASTM C 1513, corrosion-resistant-coated, self-drilling, self-tapping, steel drill screws.
  - 1. Head Type: Low-profile head beneath sheathing; manufacturer's standard elsewhere.

**2.5 MISCELLANEOUS MATERIALS**

- A. Galvanizing Repair Paint:

**PART 3 - EXECUTION**

**3.1 PREPARATION**

- A. Before sprayed fire-resistive materials are applied, attach continuous angles, supplementary framing, or tracks to structural members indicated to receive sprayed fire-resistive materials.
  - B. After applying sprayed fire-resistive materials, remove only as much of these materials as needed to complete installation of cold-formed framing without reducing thickness of fire-resistive materials below that required to obtain fire-resistance ratings indicated. Protect remaining fire-resistive materials from damage.
  - C. Install load-bearing shims or grout between the underside of load-bearing wall bottom track and the top of foundation wall or slab at locations with a gap larger than 1/4 inch (6 mm) to ensure a uniform bearing surface on supporting concrete or masonry construction.
  - D. Install sealer gaskets at the underside of wall bottom track or rim track and at the top of foundation wall or slab at stud or joist locations.
- 3.2 INSTALLATION, GENERAL**
- A. Cold-formed steel framing may be shop or field fabricated for installation, or it may be field assembled.
  - B. Install cold-formed steel framing according to AISI S200, AISI S202, and manufacturer's written instructions unless more stringent requirements are indicated.
  - C. Install cold-formed steel framing and accessories plumb, square, and true to line, and with connections securely fastened.
  - D. Install framing members in one-piece lengths unless splice connections are indicated for track or tension members.
  - E. Install temporary bracing and supports to secure framing and support loads equal to those for which structure was designed. Maintain braces and supports in place, undisturbed, until entire integrated supporting structure has been completed and permanent connections to framing are secured.
  - F. Do not bridge building expansion joints with cold-formed steel framing. Independently frame both sides of joints.
  - G. Install insulation, specified in Section 072100 "Thermal Insulation," in framing-assembly members, such as headers, sills, boxed joists, and multiple studs at openings, that are inaccessible on completion of framing work.
  - H. Fasten noise-reinforcing plate over web penetrations that exceed size of manufacturer's approved or standard punched openings.

**3.3 INTERIOR NON-LOAD-BEARING WALL INSTALLATION**

- A. Install continuous tracks sized to match studs. Align tracks accurately and securely anchor to supporting structure.
- B. Fasten both flanges of studs to top and bottom track unless otherwise indicated. Space studs as follows:
  - 1. Stud Spacing: 12 inches (305 mm).
- C. Set studs plumb, except as needed for diagonal bracing or required for non-plumb walls or warped surfaces and similar requirements.
- D. Install horizontal bridging in wall studs, spaced vertically in rows more than 48 inches (1220 mm) apart. Fasten at each stud intersection.
  - 1. Channel Bridging: Cold-rolled steel channel, welded or mechanically fastened to webs of punched studs.
  - 2. Strap Bridging: Combination of flat, laut, steel sheet straps of width and thickness indicated and stud-track solid blocking of width and thickness to match studs. Fasten flat straps to stud flanges and secure solid blocking to stud webs or flanges.
  - 3. Bar Bridging: Proprietary bridging bars installed according to manufacturer's written instructions.
- F. Top Bridging for Single Deflection Track: Install row of horizontal bridging within 18 inches (450 mm) of single deflection track. Install a combination of bridging and stud or stud-track solid blocking of width and thickness matching studs, secured to stud webs or flanges.
- G. Install miscellaneous framing and connections, including stud kickers, web stiffeners, clip angles, continuous angles, anchors, and fasteners, to provide a complete and stable wall-framing system.

**3.4 ERECTION TOLERANCES**

- A. Install cold-formed steel framing level, plumb, and true to line to a maximum allowable tolerance variation of 1/8 inch in 10 feet (1,960) and as follows:
  - 1. Space individual framing members no more than plus or minus 1/8 inch (3 mm) from plain location. Cumulative error shall not exceed minimum fastening requirements of sheathing or other finishing materials.

**3.6 REPAIRS AND PROTECTION**

- A. Galvanizing Repairs: Prepare and repair damaged galvanized coatings on fabricated and installed cold-formed steel framing with galvanized repair paint according to ASTM A 780/A 780M and manufacturer's written instructions.

END OF SECTION 054000



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ARCHITECT OF RECORD

REVISION SCHEDULE

No.	DESCRIPTION	DATE

SANTIAGO JIMENEZ, R.A.  
AR-94369

PROJECT TEAM

DESIGNER  
AMEC FOSTER WHEELER / CR  
BIM / DRAWINGS BY:  
CR

CHECKED BY:  
CR/SJ

Naples  
Community Center

6877-6788-16-2806  
100% CD 06-15-17

PROJECT NUMBER | STATUS |  
ISSUE DATE

SPECIFICATIONS

SCALE:

A-401  
SHEET NUMBER

SECTION 095123 - ACOUSTICAL TILE CEILINGS

PART 1- GENERAL

1.1 SUMMARY

- A. Section Includes:
  1. Acoustical tiles for interior ceilings.
  2. Fully concealed, direct-hung, suspension systems.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Samples: For each exposed product and for each color and texture specified.

PART 2- PRODUCTS

2.1 ACOUSTICAL TILES

- A. Basis-of-Design Product: Subject to compliance with requirements, provided on A-200 or comparable product by one of the following:
  1. Armstrong World Industries, Inc. or approved equal.
- B. Acoustical Tile Standard: Manufacturer's standard tiles of configuration indicated that comply with ASTM E 1264.
- C. Color: White.
- D. Light Reflectance (LR):
- E. Thickness: 5/8 inch (15 mm).
- F. Modular Size: As indicated on Drawings.

2.2 METAL SUSPENSION SYSTEM

- A. Basis-of-Design Product: Subject to compliance with requirements of 15/16" co-extruded ceiling.
  1. Armstrong World Industries, Inc. or approved equal.
- B. Direct-Hung, Double-Web Suspension System: Main and cross runners roll formed from and capped with cold-rolled steel sheet, pre-painted, electrolytically zinc coated, or hot-dip galvanized, G30 (Z90) coating designation.

2.3 METAL EDGE MOLDINGS AND TRIM

- A. Basis-of-Design Product: Subject to compliance with requirements.
  1. Armstrong World Industries, Inc. or approved equal.

PART 3- EXECUTION

3.1 PREPARATION

- A. Measure each ceiling area and establish layout of acoustical tiles to balance border widths at opposite edges of each ceiling. Avoid using less-than-half-width tiles at borders unless otherwise indicated.
- B. Layout openings for penetrations centered on the penetrating items.

3.2 INSTALLATION OF SUSPENDED ACOUSTICAL TILE CEILINGS

- A. Install suspended acoustical tile ceilings according manufacturer's written instructions.
- B. Install edge moldings and trim of type indicated at perimeter of acoustical ceiling area and where necessary to conceal edges of acoustical tiles.
  1. Apply acoustical sealant in a continuous ribbon concealed on back of vertical legs of moldings before they are installed.
  2. Do not use exposed fasteners, including pop rivets, on moldings and trim.
- C. Arrange directionally patterned acoustical tiles as indicated on reflected ceiling plans.

3.3 FIELD QUALITY CONTROL

- A. Special Inspections: Owner will engage a qualified special inspector to perform inspections:
  1. Periodic inspection during the installation of suspended ceiling grids according to ASCE/SEI 7.

END OF SECTION 095123

SECTION 092900 - GYPSUM BOARD

PART 1- GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:

1.3 DELIVERY, STORAGE AND HANDLING

- A. Store materials inside under cover and keep them dry and protected against weather, condensation, direct sunlight, construction traffic, and other potential causes of damage. Stack panels flat and supported on risers on a flat platform to prevent sagging.

1.4 FIELD CONDITIONS

- A. Environmental Limitations: Comply with ASTM C 840 requirements or gypsum board manufacturer's written instructions, whichever are more stringent.
- B. Do not install paper-faced gypsum panels until installation areas are enclosed and conditioned.
- C. Do not install panels that are wet, moisture damaged, and mold damaged.
  1. Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
  2. Indications that panels are mold damaged include, but are not limited to, fuzzy or spotty surface contamination and discoloration.

PART 2- PRODUCTS

2.1 GYPSUM BOARD, GENERAL

- A. Size: Provide maximum lengths and widths available that will minimize joints in each area and that correspond with support system indicated.

PART 3- EXECUTION

3.1 EXAMINATION

- A. Examine areas and substrates including welded hollow-metal frames and support framing, with installer present, for compliance with requirements and other conditions affecting performance of the Work.
- B. Examine panels before installation. Reject panels that are wet, moisture damaged, and mold damaged.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 APPLYING AND FINISHING PANELS, GENERAL

- A. Comply with ASTM C 840.
- B. Install ceiling panels across framing to minimize the number of abutting end joints and to avoid abutting end joints in central area of each ceiling. Stagger abutting end joints of adjacent panels not less than one framing member.
- C. Install panels with face side out. Butt panels together for a tight contact at edges and ends with not more than 1/16 inch (1.5 mm) of open space between panels. Do not force into place.
- D. Locate edge and end joints over supports, except in ceiling applications where intermediate supports or gypsum board back-blocking is provided behind end joints. Do not place tapered edges against cut edges or ends. Stagger vertical joints on opposite sides of partitions. Do not make joints other than control joints at corners of framed openings.
- E. Form control and expansion joints with space between edges of adjoining gypsum panels.
- F. Cover both faces of support framing with gypsum panels in concealed spaces (above ceilings, etc.), except in chases braided internally.
  1. Unless concealed application is indicated or required for sound, fire, air, or smoke ratings, coverage may be accomplished with scraps of not less than 8 sq. ft. (0.7 sq. m) in area.
  2. Fit gypsum panels around ducts, pipes, and conduits.
  3. Where partitions intersect structural members projecting below underside of floor/roof slabs and decks, cut gypsum panels to fit profile formed by structural members; allow 1/4- to 3/8-inch- (6.4- to 9.5-mm-) wide joints to install sealant.
- G. Isolate perimeter of gypsum board applied to non-load-bearing partitions at structural abutments. Provide 1/4- to 1/2-inch- (6.4- to 12.7-mm-) wide spaces at these locations and trim edges with edge trim where edges of panels are exposed. Seal joints between edges and abutting structural surfaces with acoustical sealant.
- H. Attachment to Steel Framing: Attach panels so leading edge or end of each panel is attached to open (unsupported) edges of stud flanges first.
- I. Wood Framing: Install gypsum panels over wood framing, with floating internal corner construction. Do not attach gypsum panels across the flat grain of wide-dimension lumber, including floor joists and headers. Float gypsum panels over these members or provide control joints to counteract wood shrinkage.
- J. Install sound attenuation blankets before installing gypsum panels unless blankets are readily installed after panels have been installed on one side.

3.3 APPLYING INTERIOR GYPSUM BOARD

A. Single-Layer Application:

- 1. On partitions/walls, apply gypsum panels vertically (parallel to framing) unless otherwise indicated or required by fire-resistance-rated assembly, and minimize end joints.
  - a. Stagger abutting end joints not less than one framing member in alternate courses of panels.
  - b. At stairwells and other high walls, install panels horizontally unless otherwise indicated or required by fire-resistance-rated assembly.
- 2. On Z-shaped furring members, apply gypsum panels vertically (parallel to framing) with no end joints. Locate edge joints over furring members.
- 3. Fastening Methods: Apply gypsum panels to supports with steel drill screws.

B. Multilayer Application:

- 1. On partitions/walls, apply gypsum board indicated for base layers and face layers vertically (parallel to framing) with joints of base layers located over stud or furring member and face-layer joints offset at least one stud or furring member with base-layer joints unless otherwise indicated or required by fire-resistance-rated assembly. Stagger joints on opposite sides of partitions.
- 2. On Z-shaped furring members, apply base layer vertically (parallel to framing) and face layer either vertically (parallel to framing) or horizontally (perpendicular to framing) with vertical joints offset at least one furring member. Locate edge joints of base layer over furring members.
- C. Laminating to Substrate: Where gypsum panels are indicated as directly adhered to a substrate (other than studs, joists, furring members, or base layer of gypsum board), comply with gypsum board manufacturer's written instructions and temporarily brace or fasten gypsum panels until fastening adhesive has set.

D. Curved Surfaces:

- 1. Install panels horizontally (perpendicular to supports) and unbroken, to extent possible, across curved surface plus 12-inch- (300-mm-) long straight sections at ends of curves and tangent to them.
- 2. For double-layer construction, fasten base layer to studs with screws 16 inches (400 mm) o.c. Center gypsum board face layer over joints in base layer, and fasten to studs with screws spaced 12 inches (300 mm) o.c.

3.4 FINISHING GYPSUM BOARD

- A. General: Treat gypsum board joints, interior angles, edge trim, control joints, penetrations, fastener heads, surface defects, and elsewhere as required to prepare gypsum board surfaces for decoration. Promptly remove residual joint compound from adjacent surfaces.
- B. Prefill open joints rounded and damaged surface areas.
- C. Apply joint tape over gypsum board joints, except for trim products specifically indicated as not intended to receive tape.
- D. Glass-Mat Faced Panels: Finish according to manufacturer's written instructions.

3.5 PROTECTION

- A. Protect adjacent surfaces from drywall compound and promptly remove from floors and other non-drywall surfaces. Repair surfaces stained, marred, or otherwise damaged during drywall application.
- B. Protect installed products from damage from weather, condensation, direct sunlight, construction, and other causes during remainder of the construction period.
- C. Remove and replace panels that are wet, moisture damaged, and mold damaged.
  1. Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
  2. Indications that panels are mold damaged include, but are not limited to, fuzzy or spotty surface contamination and discoloration.

END OF SECTION 092900

SECTION 099123 - INTERIOR PAINTING

CONT.

E. Painting Fire Suppression, Plumbing, HVAC, Electrical, Communication, and Electronic Safety and Security Work:

1. Paint the following work where exposed in equipment rooms:
  - a. Uninsulated metal piping.
  - b. Uninsulated plastic piping.
  - c. Metal conduit.
  - d. Duct, equipment, and pipe insulation having cotton or canvas insulation covering or other paintable jacket material.
  - e. -
2. Paint the following work where exposed in occupied spaces:
  - a. Equipment, including panelboards.
  - b. Uninsulated metal piping.
  - c. Uninsulated plastic piping.
  - d. Pipe hangers and supports.
  - e. Metal conduit.
  - f. Duct, equipment, and pipe insulation having cotton or canvas insulation covering or other paintable jacket material.
  - g. Other items as directed by Architect.
  - h. Insert mechanical items to be painted.
3. Paint portions of internal surfaces of metal ducts, without liner, behind air inlets and outlets that are visible from occupied spaces.

3.4 FIELD QUALITY CONTROL

- A. Dry Film Thickness Testing: Owner may engage the services of a qualified testing and inspecting agency to inspect and test paint for dry film thickness.
  1. Contractor shall touch up and restore painted surfaces damaged by testing.
  2. If test results show that dry film thickness of applied paint does not comply with paint manufacturer's written recommendations, Contractor shall pay for testing and apply additional coats as needed to provide dry film thickness that complies with paint manufacturer's written recommendations.

3.5 CLEANING AND PROTECTION

- A. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.
- B. After completing paint application, clean spattered surfaces. Remove spattered paints by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.
- C. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.
- D. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

3.6 INTERIOR PAINTING SCHEDULE

- A. Insulation-Covering Substrates: Including (pipe and duct coverings) (insert description).

END OF SECTION 099123

METAL BUILDING SYSTEMS 133419 - 4

SECTION 133419 - METAL BUILDING SYSTEMS

PART 1- GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 DEFINITIONS

- A. Terminology Standard: See MBMA's "Metal Building Systems Manual" for definitions of terms for metal building system construction not otherwise defined in this Section or in standards referenced by this Section.

1.3 COORDINATION

- A. Coordinate sizes and locations of concrete foundations and casting of anchor-rod inserts into foundation walls and footings. Anchor rod installation, concrete, reinforcement, and formwork requirements are specified in Section 033000 "Cast-in-Place Concrete."
- B. Coordinate metal panel assemblies with rain drainage work, flashing, trim, and construction of supports and other adjoining work to provide a leakproof, secure, and noncorrosive installation.

1.4 ACTION SUBMITTALS

- A. Shop Drawings: Indicate components by others, include full building plan, elevations, sections, details and the following:
  1. Anchor-Rod Plans: Submit anchor-rod plans and templates before foundation work begins. Include location, diameter, and minimum required projection of anchor rods required to attach metal building to foundation. Indicate column reactions at each location.
  2. Structural-Framing Drawings: Show complete fabrication of primary and secondary framing; include provisions for openings. Indicate welds and bolted connections, distinguishing between shop and field applications. Include transverse cross-sections.
    - a. Show provisions for attaching.
  3. Metal Panel Layout Drawings: Show layouts of panels including methods of support. Include details of edge conditions, joints, panel profiles, corners, anchorages, clip spacing, trim, flashings, closures, and special details. Distinguish between factory- and field-assembled work; show locations of exposed fasteners.
    - a. Show roof-mounted items including roof hatches, equipment supports, pipe supports and penetrations, lighting fixtures, and items mounted on roof curbs.
    - b. Show wall-mounted items including personnel doors, vehicular doors, windows, louvers, and lighting fixtures.
    - c. Show translucent panels.

1.5 QUALITY ASSURANCE

- A. Mockups: Build mockups to verify selections made under Sample submittals, to demonstrate aesthetic effects, and to set quality standards for materials and execution.
  1. Build mockups for typical wall metal panel including accessories.
    - a. Size: 24" Long.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver components, sheets, panels, and other manufactured items so as not to be damaged or deformed. Package metal panels for protection during transportation and handling.
- B. Unload, store, and erect metal panels in a manner to prevent bending, warping, twisting, and surface damage.
- C. Stack metal panels horizontally on platforms or pallets, covered with suitable weathertight and ventilated covering. Store metal panels to ensure corners, with positive slope for drainage of water. Do not store metal panels in contact with other materials that might cause staining, denting, or other surface damage.
- D. Protect foam-plastic insulation as follows:
  1. Do not expose to sunlight, except to extent necessary for period of installation and concealment.
  2. Protect against ignition at all times. Do not deliver foam-plastic insulation materials to Project site before installation time.
  3. Complete installation and concealment of foam-plastic materials as rapidly as possible in each area of construction.

1.7 FIELD CONDITIONS

- A. Weather Limitations: Proceed with panel installation only when weather conditions permit metal panels to be installed according to manufacturers' written instructions and warranty requirements.

PART 2- PRODUCTS

2.1 FABRICATION

- A. General: Design components and field connections required for erection to permit easy assembly.
  1. Mark each piece and part of the assembly to correspond with previously prepared erection drawings, diagrams, and instruction manuals.
  2. Fabricate structural framing to produce clean, smooth cuts and bends. Punch holes of proper size, shape, and location. Members shall be free of cracks, tears, and ruptures.
- B. Tolerances: Comply with MBMA's "Metal Building Systems Manual" for fabrication and erection tolerances.
- C. Primary Framing: Shop fabricate framing components to indicated size and section, with baseplates, bearing plates, stiffeners, and other items required for erection welded into place. Cut, form, punch, drill, and weld framing for bolted field assembly.
  1. Make shop connections by welding or by using high-strength bolts.
  2. Join flanges to webs of built-up members by a continuous, submerged arc-welding process.
  3. Brace compression flange of primary framing with steel angles or cold-formed structural tubing between frame web and purlin web or girt web, so flange compressive strength is within allowable limits for any combination of loadings.
  4. Weld clips to frames for attaching secondary framing if applicable, or punch for bolts.
  5. Shop Priming: Prepare surfaces for shop priming according to SSPC-SP 2. Shop prime primary framing with specified primer after fabrication.
- D. Secondary Framing: Shop fabricate framing components to indicated size and section by roll forming or break forming, with baseplates, bearing plates, stiffeners, and other plates required for erection welded into place. Cut, form, punch, drill, and weld secondary framing for bolted field connections to primary framing.
  1. Make shop connections by welding or by using non-high-strength bolts.
  2. Shop Priming: Prepare uncoated surfaces for shop priming according to SSPC-SP 2. Shop prime uncoated secondary framing with specified primer after fabrication.
- E. Metal Panels: Fabricate and finish metal panels at the factory to greatest extent possible, by manufacturer's standard procedures and processes, as necessary to fulfill indicated performance requirements. Comply with indicated profiles and with dimensional and structural requirements.
  1. Provide panel profile, including major ribs and intermediate stiffening ribs, if any, for full length of metal panel.

PART 3- EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with erector present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
- B. Proceed with erection only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Clean and prepare surfaces to be painted according to manufacturer's written instructions for each particular substrate condition.

3.3 CLEANING AND PROTECTION

- A. Repair damaged galvanized coatings on galvanized items with galvanized repair paint according to ASTM A 780/A 780M and manufacturer's written instructions.

END OF SECTION 133419



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**ARCHITECT OF RECORD**

**REVISION SCHEDULE**

No.	DESCRIPTION	DATE

SANTIAGO JIMENEZ, R.A.  
AR-94369

**PROJECT TEAM**

**DESIGNER**  
AMEC FOSTER WHEELER / CR

**BIM / DRAWINGS BY:**

CR

**CHECKED BY:**

CR/SJ

**Naples  
Community Center**

**6877-6788-16-2806  
100% CD 06-15-17**

PROJECT NUMBER | STATUS |  
ISSUE DATE

**SPECIFICATIONS**

SCALE:

**A-402**  
46  
**SHEET NUMBER**



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**ARCHITECT OF RECORD**

**REVISION SCHEDULE**

No.	DESCRIPTION	DATE

**F.D. SHIVER**

---

**PROJECT TEAM**

**DESIGNER**  
AMEC FOSTER WHEELER - CR

**BIM / DRAWINGS BY:**  
MD

**CHECKED BY:**  
AGS



**Community  
Development  
Bldg. Renovations**

**6788-16-2867  
100%CD 06/09/2017**

PROJECT NUMBER | STATUS |  
ISSUE DATE

**GENERAL NOTES**

SCALE: 1/4" = 1'-0"

**S-001**  
**SHEET NUMBER 47**

**A. DESIGN CRITERIA:**

- FLORIDA BUILDING CODE 5TH EDITION (2014) AND ALL LOCAL GOVERNING CODES.
- ASCE 7-10 MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES.
- ACI 318-11 BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE AND COMMENTARY.
- ACI 301 SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS.
- DESIGN DEAD LOADS:  
CONCRETE \_\_\_\_\_ 150 PCF
- WIND LOADS:  
ENCLOSURE CLASSIFICATION \_\_\_\_\_ SOLID FREE STANDING WALL  
BASIC WIND SPEED \_\_\_\_\_ V = 165 MPH  
EXPOSURE \_\_\_\_\_ C  
RISK CATEGORY \_\_\_\_\_ II  
GUST EFFECT FACTOR \_\_\_\_\_ G = 0.85  
TOPOGRAPHIC FACTOR \_\_\_\_\_ Kzt = 1.0
- SEISMIC LOADS  
0.2 SEC SPECTRAL RESPONSE ACCELERATION \_\_\_\_\_ Ss = 0.048g  
1 SEC SPECTRAL RESPONSE ACCELERATION \_\_\_\_\_ S1 = 0.023g  
SHORT PERIOD DESIGN SPECTRAL ACCELERATION \_\_\_\_\_ Sds = 0.051g  
1 SEC PERIOD DESIGN SPECTRAL ACCELERATION \_\_\_\_\_ Sd1 = 0.036g  
RISK CATEGORY \_\_\_\_\_ II  
SITE CLASS \_\_\_\_\_ D  
DESIGN CATEGORY \_\_\_\_\_ B  
IMPORTANCE FACTOR \_\_\_\_\_ I = 1.0  
STRUCTURAL TYPE : ORDINARY REINFORCED MASONRY  
RESPONSE MOD. FACTOR \_\_\_\_\_ R = 2  
SYSTEM OVER-STRENGTH \_\_\_\_\_ Do = 2.5  
DEFLECTION AMPLIFICATION FACTOR \_\_\_\_\_ Cd = 1.75  
RESPONSE COEFFICIENT \_\_\_\_\_ Ca = 0.026  
DESIGN BASE SHEAR \_\_\_\_\_ NA  
ANALYSIS PROCEDURE: EQUIVALENT LATERAL FORCE

**B. GENERAL:**

- VERIFY ALL EXISTING CONDITIONS, DIMENSIONS AND ELEVATIONS BEFORE STARTING WORK. NOTIFY THE STRUCTURAL ENGINEER IN WRITING OF CONDITIONS ENCOUNTERED IN THE FIELD CONTRADICTORY TO THOSE SHOWN ON THE STRUCTURAL CONTRACT DOCUMENTS.
- PROVIDE ADEQUATE BRACING FOR STRUCTURES SO THAT THEY WILL BE STABLE DURING ALL STAGES OF CONSTRUCTION. THE STRUCTURES AND FOUNDATIONS ARE DESIGNED FOR A COMPLETED CONDITION ONLY AND THEREFORE REQUIRE ADDITIONAL SUPPORT TO MAINTAIN STABILITY BEFORE COMPLETION. STRUCTURES SHALL BE CONSIDERED COMPLETE WHEN ALL STRUCTURAL MEMBERS ARE COMPLETED AND HAVE ATTAINED THEIR SPECIFIED DESIGN STRENGTH AS SHOWN ON THE DRAWINGS.
- THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE DESIGN, ADEQUACY, AND SAFETY OF ERECTION BRACING, SHORING, TEMPORARY SUPPORTS, ETC.
- COORDINATE STRUCTURAL CONTRACT DOCUMENTS WITH ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING AND CIVIL. NOTIFY STRUCTURAL ENGINEER OF ANY CONFLICT AND/OR OMISSION.
- COORDINATE AND VERIFY ALL OPENING SIZES AND LOCATIONS WITH ARCHITECTURAL, MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS.
- REVIEW OF SUBMITTALS AND/OR SHOP DRAWINGS BY THE STRUCTURAL ENGINEER DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY TO REVIEW AND CHECK SHOP DRAWINGS BEFORE SUBMITTAL TO THE STRUCTURAL ENGINEER. THE CONTRACTOR REMAINS SOLELY RESPONSIBLE FOR ERRORS AND OMISSIONS ASSOCIATED WITH THE PREPARATION OF SHOP DRAWINGS AS THEY PERTAIN TO MEMBER SIZES, DETAILS, AND DIMENSIONS SPECIFIED IN THE CONTRACT DOCUMENTS. CONTRACTOR IS ALSO RESPONSIBLE FOR MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES OF CONSTRUCTION.

**C. FOUNDATIONS:**

- A GEOTECHNICAL ENGINEER REGISTERED IN THE STATE OF FLORIDA SHALL INSPECT THE CONDITION AND ASSURE THE ADEQUACY OF ALL SUB GRADES, FILLS AND BACK FILLS BEFORE PLACEMENT OF FOUNDATIONS, FOOTINGS, SLABS, AND WALLS. HE SHALL SUBMIT REPORTS TO THE OWNER'S REPRESENTATIVE DESCRIBING HIS FINDINGS, INCLUDING ANY NON-CONFORMING WORK.
- FOUNDATIONS ARE DESIGNED FOR AN ALLOWABLE BEARING PRESSURE OF 1500 PSF.
- GROUND WATER SHALL BE KEPT AT LEAST 3 FEET BELOW THE DEEPEST FOUNDATION BEARING ELEVATION DURING CONSTRUCTION.
- FOOTINGS MAY BE CAST INTO AN EARTH-FORMED TRENCH IF SOIL CONDITIONS PERMIT.
- EXCAVATION FOR FOOTING SHALL BE CUT TO ACCURATE SIZE AND DIMENSIONS AS SHOWN ON PLANS. ALL SOIL BELOW SLAB, AND FOOTINGS SHALL BE PROPERLY COMPACTED AND SUB-GRADE BROUGHT TO A REASONABLE TRUE AND LEVEL PLANE BEFORE PLACING CONCRETE.
- FOOTING CONCRETE SHALL BE CAST ON THE SAME DAY THE EXCAVATION IS APPROVED. IF THE BEARING SURFACE IS ALLOWED TO BECOME DISTURBED IN ANY WAY, IT SHALL BE REWORKED TO THE SATISFACTION OF THE TESTING ENGINEER PRIOR TO CASTING OF THE CONCRETE.
- NO EXCAVATION SHALL BE CLOSER THAN A SLOPE OF 3:1 (3 HORIZONTAL TO 1 VERTICAL) TO A FOOTING. PROVIDE SHORING AND PROTECTION FOR EXCAVATION BANKS AS NECESSARY TO PRESERVE SAFETY AND PREVENT CAVING.
- ALL BEARING STRATA SHALL BE ADEQUATELY DRAINED BEFORE FOUNDATION CONCRETE IS PLACED.
- THERE SHALL BE NO HORIZONTAL OR VERTICAL CONSTRUCTION JOINTS IN ANY FOUNDATION WITHOUT PRIOR WRITTEN APPROVAL FROM ENGINEER.
- CONCRETE CAST ON SLOPING SURFACES SHALL BEGIN AT THE LOWEST ELEVATION AND CONTINUE MONOLITHICALLY TOWARD THE HIGHER ELEVATION UNTIL THE INTENDED POUR IS COMPLETED.

**D. CONCRETE:**

- ALL CONCRETE WORK SHALL CONFORM TO ACI 301 SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS DESIGN IS BASED ON ACI 318 BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE.
- CONCRETE SHALL HAVE A 28 DAY COMPRESSIVE STRENGTH IN ACCORDANCE WITH THE FOLLOWING:  

LOCATION	STRENGTH
FOUNDATIONS	4000 PSI
ALL OTHER CONCRETE	4000 PSI
- THE PROPOSED MATERIALS AND MIX DESIGN SHALL BE FULLY DOCUMENTED AND REVIEWED BY AN INDEPENDENT TESTING LABORATORY, AND SUBMITTED TO THE ENGINEER OF RECORD FOR REVIEW A MINIMUM OF 15 DAYS PRIOR TO USE. RESPONSIBILITY FOR OBTAINING THE REQUIRED DESIGN STRENGTH IS THE CONTRACTOR'S.
- ALL MIXING, TRANSPORTING, PLACING AND CURING OF CONCRETE SHALL BE DONE IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE AMERICAN CONCRETE INSTITUTE.
- USE OF CALCIUM CHLORIDE, CHLORIDE IONS, OR OTHER SALTS IN CONCRETE IS NOT PERMITTED.
- REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60 UNLESS NOTED OTHERWISE.
- WELDED WIRE REINFORCEMENT (W.W.R.) SHALL CONFORM TO ASTM A185 AND SHALL BE PROVIDED IN FLAT SHEETS (ROLLS NOT PERMITTED); LAP TWO SQUARES AT SPLICES.
- UNLESS NOTED OTHERWISE, SAMPLES FOR STRENGTH TESTS OF EACH CLASS OF CONCRETE PLACED EACH DAY SHALL BE TAKEN BY THE TESTING AGENCY NOT LESS THAN ONCE A DAY, NOR LESS THAN ONCE FOR EACH 100 CUBIC YARDS OF CONCRETE, NOR LESS THAN ONCE FOR EACH 5000 SQUARE FEET OF SURFACE AREA FOR SLABS AND WALLS. SAMPLE CONCRETE IN ACCORDANCE WITH ASTM C172. PERFORM THE FOLLOWING TESTS IN ACCORDANCE WITH THE INDICATED STANDARD.
  - S LUMP: ASTM C143
  - AIR CONTENT: ASTM C231 OR C173
  - COMPRESSIVE STRENGTH: ASTM C39, WITH ONE CYLINDER AT 7 DAYS, 2 CYLINDERS AT 28 DAYS AND ONE SPECIMEN HELD IN RESERVE.
- HORIZONTAL CONSTRUCTION JOINTS ARE PERMITTED ONLY WHERE INDICATED. THE LOCATION OF VERTICAL CONSTRUCTION JOINTS SHALL BE APPROVED BY THE STRUCTURAL ENGINEER. CONSTRUCTION JOINTS SHALL BE THOROUGHLY ROUGHENED BY MECHANICAL MEANS, AND CLEANED.
- PROVIDE CONTINUOUS REINFORCEMENT WHEREVER POSSIBLE; SPLICE ONLY AS SHOWN OR APPROVED; STAGGER SPLICES WHERE POSSIBLE; USE CLASS "B" TENSION SPLICE UNLESS NOTED

OTHERWISE, DOWELS SHALL MATCH THE SIZE AND SPACING OF THE SPECIFIED REINFORCEMENT AND SHALL BE LAPPED WITH CLASS "B" TENSION SPLICES. UNLESS NOTED OTHERWISE LAP LENGTHS EXPRESSED IN NUMBER OF BAR DIAMETERS SHALL BE AS FOLLOWS. APPROVED MECHANICAL COUPLERS MAY BE USED IN LIEU OF PHYSICAL SPLICING.

BAR SIZE	CLASS	TOP BARS	OTHER BARS
		4000	4000
#6 OR SMALLER	B	64 DIA	49 DIA
LARGER THAN #6	B	80 DIA	62 DIA

NOTE:  
TOP BARS ARE HORIZONTAL BARS WHERE THE DEPTH OF CONCRETE CAST IN ONE LIFT BENEATH THE BAR EXCEEDS 12". PROVIDE TOP BAR LAP SPLICE LENGTH FOR ALL CONCRETE WALL HORIZONTAL BARS.

**10. MINIMUM CONCRETE COVER (UNLESS NOTED OTHERWISE) SHALL BE:**

CONCRETE COVER		
A	#11 BARS AND SMALLER	3/4 INCHES
B	UNFORMED SURFACE IN CONTACT WITH THE GROUND	3 INCHES
*	EXTERIOR BASEMENT WALLS	3 INCHES
*	INTERIOR BASEMENT WALLS	3 INCHES
C	FORMED SURFACES EXPOSED TO EARTH OR WATER	2 INCHES
*	#8 BARS AND LARGER	2 INCHES
*	#5 BARS AND SMALLER	1 1/2 INCHES
D	FORMED SURFACES NOT EXPOSED TO EARTH/WATER	1 1/2 INCHES
*	BEAMS, GIRDERS AND COLUMNS	1 1/2 INCHES
*	SLABS, WALLS, JOISTS	3/4 INCHES

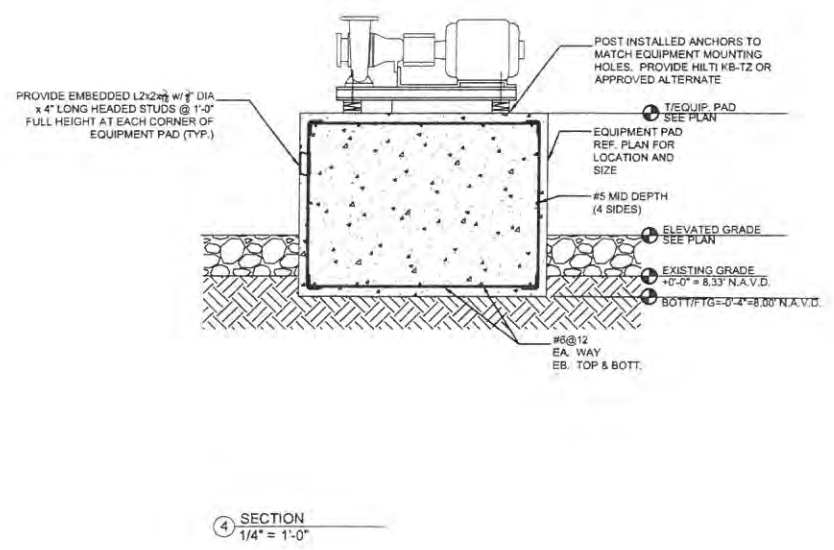
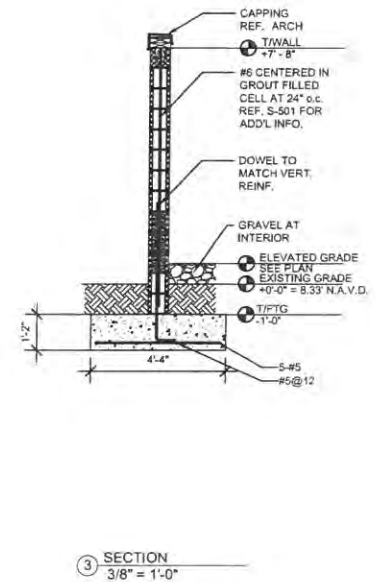
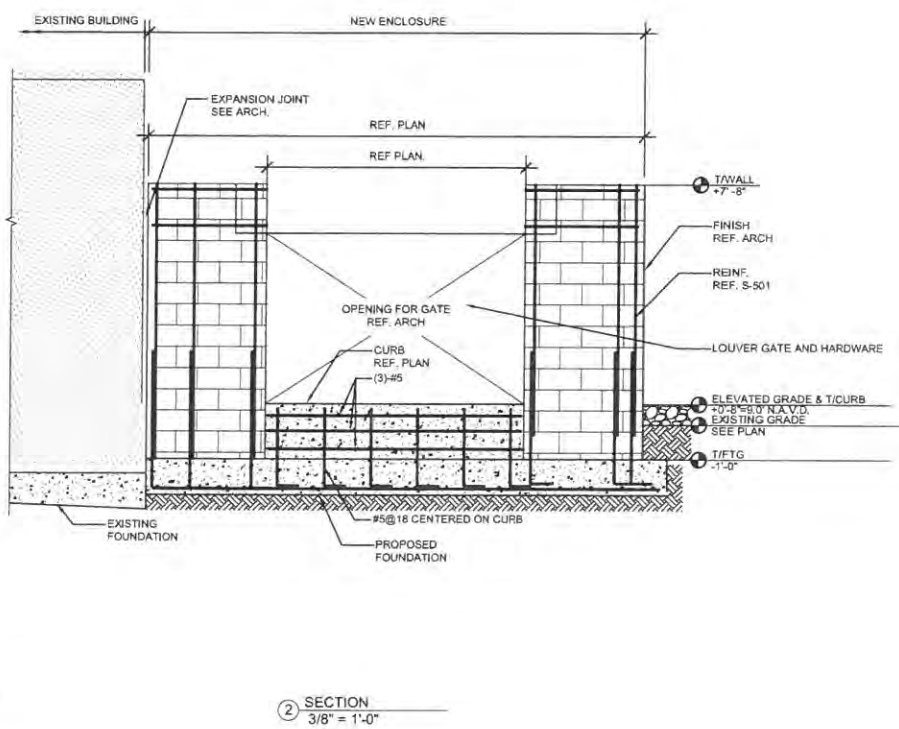
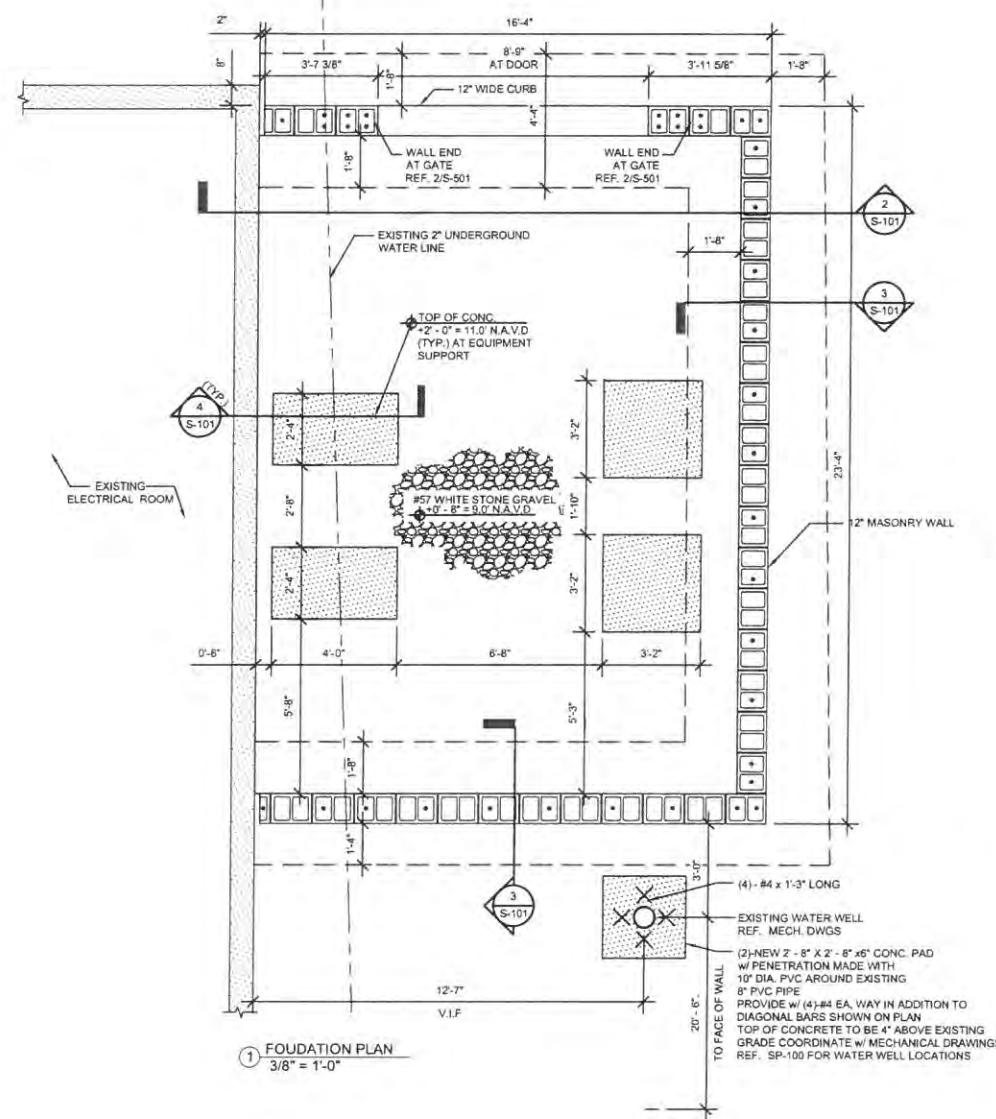
- SCHEDULED OR DETAILED REINFORCING STEEL SHALL NOT BE TACK WELDED FOR ANY REASON. WELDED REINFORCING STEEL SPLICES ARE NOT PERMITTED WITHOUT ENGINEER APPROVAL. WHERE WELDING IS APPROVED IT SHALL CONFORM TO AWS D14 STRUCTURAL WELDING CODE - REINFORCING STEEL.
- CORNER BARS SHALL BE OF EQUAL SIZE AND SPACING AS THE MAIN REINFORCING AND SHALL BE LAPPED PER REINFORCING BAR LAP SPLICE SCHEDULE.
- WHERE FOOTINGS, WALLS, OR OTHER STRUCTURAL ELEMENTS INTERSECT, CORNERS OR TEES, PROVIDE CORNER BARS WITH LAP LENGTHS AS SHOWN IN NOTE 12 ABOVE TO PROVIDE CONTINUITY OF HORIZONTAL STEEL REINFORCING U.N.O.
- PROVIDE A MINIMUM OF 5 BOLT DIAMETERS COVER FOR ANCHOR BOLTS AND LOCATE HORIZONTAL REINFORCEMENT TO THE OUTSIDE FOR ANCHOR BOLT CONTAINMENT, U.N.O.
- PROVIDE TEMPORARY SHORING AND BRACING OF ALL STRUCTURAL AND MISCELLANEOUS ELEMENTS UNTIL CONCRETE HAS OBTAINED DESIGN STRENGTH AND ALL PERMANENT BRACING ELEMENTS ARE INSTALLED.
- WHEN PLACING CONCRETE UNDER HOT OR COLD WEATHER CONDITIONS COMPLY WITH THE LATEST EDITIONS OF ACI 308R "HOT WEATHER CONCRETING" OR ACI 309R "COLD WEATHER CONCRETING".
- TIE ALL REINFORCING STEEL AND EMBEDMENTS SECURELY IN PLACE PRIOR TO PLACING CONCRETE. PROVIDE SUFFICIENT SUPPORTS TO MAINTAIN THE POSITION OF REINFORCEMENT WITHIN SPECIFIED TOLERANCES DURING ALL CONSTRUCTION ACTIVITIES. "STICKING" DOWELS INTO WET CONCRETE IS NOT PERMITTED.
- JOINT BACK-UP MATERIAL: POLYETHYLENE FOAM, CLOSED CELL. USE WITH ELASTOMERIC JOINT SEALANT ONLY.
- SUBMIT REINFORCING BAR SHOP DRAWINGS INCLUDING PLACEMENT PLANS, BAR BENDING DIAGRAMS, SPLICE LENGTHS AND LOCATIONS, BAR SPACING, CONCRETE COVER, SUPPORT DEVICES AND ACCESSORIES CONFORM TO ACI 318 AND ACI SP-46.
- SUBMIT PROPOSED CURING METHODS AND MATERIALS A MINIMUM OF 15 DAYS PRIOR TO USE.
- TIE ALL REINFORCING STEEL AND EMBEDMENTS SECURELY IN PLACE PRIOR TO PLACING CONCRETE. PROVIDE SUFFICIENT SUPPORTS TO MAINTAIN THE POSITION OF REINFORCEMENT WITHIN SPECIFIED TOLERANCES DURING ALL CONSTRUCTION ACTIVITIES. "STICKING" DOWELS INTO WET CONCRETE IS NOT PERMITTED.
- TOLERANCES SHALL CONFORM TO ACI 117 AND ACI 347.

**E. MASONRY:**

- CONCRETE MASONRY DESIGN AND CONSTRUCTION SHALL CONFORM TO: ACI 530-11/ASCE 5-11, BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES. ACI 530.1-11/ASCE 5-11, SPECIFICATIONS FOR MASONRY STRUCTURES.
- PROVIDE NORMAL WEIGHT, HOLLOW, LOAD-BEARING CONCRETE MASONRY UNITS (CMU) CONFORMING TO ASTM C90.
- PROVIDE CONCRETE MASONRY WITH MINIMUM AVERAGE COMPRESSIVE STRENGTH.  
fm = 1,500 PSI.
- PROVIDE TYPE "S" MORTAR IN ACCORDANCE WITH ASTM C270. U.N.O. MORTAR BED JOINTS SHALL NOT EXCEED 3/8" THICKNESS.
- PROVIDE GROUT FOR REINFORCED MASONRY IN ACCORDANCE WITH ASTM C476 WITH MINIMUM COMPRESSIVE STRENGTH OF 2,000 PSI UNLESS NOTED OTHERWISE.
- PROVIDE HORIZONTAL JOINT REINFORCEMENT LADDER TYPE COMPLYING WITH ASTM A82, NO. 9 GAUGE OR HEAVIER, ZINC COATED, PLACED 18 INCHES ON CENTER UNLESS NOTED OTHERWISE.
- PROVIDE MINIMUM #6 VERTICAL IN TWO ADJACENT CELLS GROUTED FULL HEIGHT, AT EACH SIDE OF OPENINGS AND WALL ENDS, AND EACH SIDE OF MASONRY CONTROL JOINTS.
- LAY MASONRY UNITS IN RUNNING BOND UNLESS NOTED OTHERWISE.
- SIDES AND TOPS OF MASONRY WALL PANELS SHALL BE ANCHORED TO STRUCTURE BY DOVETAIL ANCHORS, METAL STRAPS, OR EQUIVALENT UNLESS NOTED OTHERWISE.
- MASONRY TO BE INSPECTED PER INTERNATIONAL BUILDING CODE SECTION 1705.4. REQUIRED VERIFICATION AND INSPECTION OF MASONRY CONSTRUCTION.
- ALL CONCRETE MASONRY UNITS REINFORCING (VERT. & HORIZ.) SHALL BE LAPPED THUS:  

BAR	LAP LENGTH	DOWEL HOOK LENGTH
#4	1'-0"	8"
#5	2'-0"	10"
#6	3'-0"	12"

No.	DESCRIPTION	DATE
0	FOR CONSTRUCTION	6/9/17
1	WATER WELL ADDED	8/4/17



F.D. SHIVER

**PROJECT TEAM**  
DESIGNER  
AMEC FOSTER WHEELER - CR  
BIM / DRAWINGS BY:  
MD  
CHECKED BY:  
AGS/JLS



**Community  
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6788-16-2867  
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PROJECT NUMBER | STATUS |  
FOUN'D PLAN  
SECTIONS & DETAILS  
SCALE: 1/4" = 1'-0"

**S-101**  
SHEET NUMBER





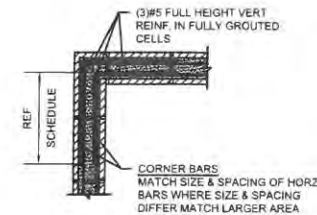
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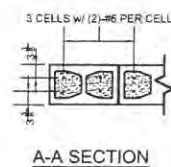
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REVISION SCHEDULE

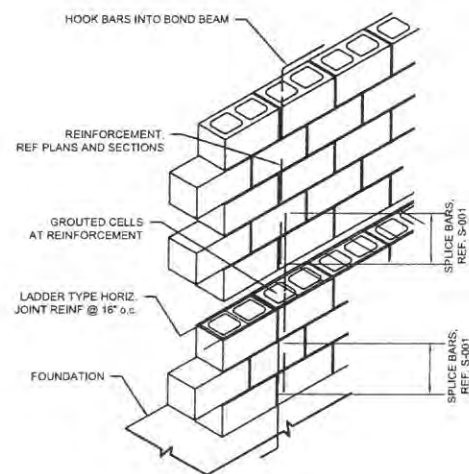
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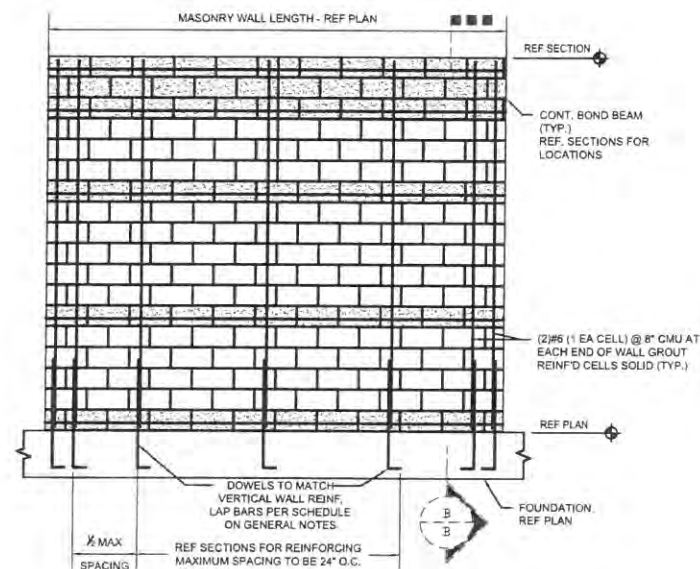
1 TYP. PLAN OF REINFORCEMENT AT CORNER OF MASONRY BOND BEAMS



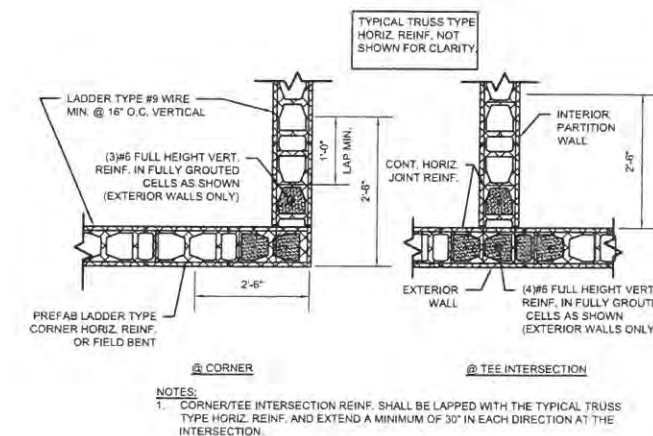
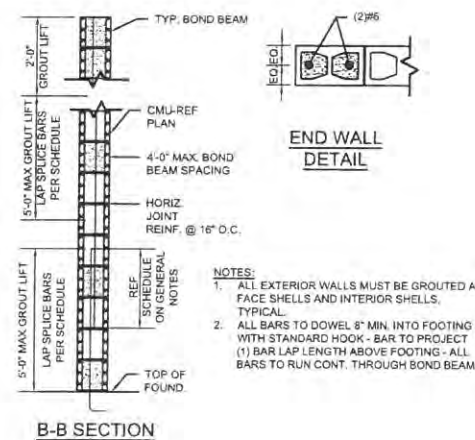
2 CMU DETAIL AT GATE CONNECTION



3 TYP. REINFORCED MASONRY CONSTRUCTION



4 TYP. MASONRY WALL ELEVATION



5 TYP. NON-COLUMN CMU WALL CORNER AND TEE INTERSECTION w/ PREFABRICATED CORNERS & TEES

F. D. SHIVER

PROJECT TEAM

DESIGNER

AMEC FOSTER WHEELER - CR

BIM / DRAWINGS BY:

MD

CHECKED BY:

AGS



Community Development Bldg. Renovations

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PROJECT NUMBER | STATUS | ISSUE DATE

MASONRY DETAILS

SCALE: 1/4" = 1'-0"

S-501 SHEET NUMBER 49

STANDARD ABBREVIATIONS		
AFT	ABOVE FINISHED FLOOR	
AP	ACCESS PANEL	
A/C	AIR CONDITIONING UNIT	
ACCU	AIR COOLED CONDENSING UNIT	LVG LEAVING
ACC	AIR COOLED CONDENSER	LAT LEAVING AIR TEMPERATURE
AHU	AIR HANDLING UNIT	LWT LEAVING WATER TEMPERATURE
ARCH	ARCHITECTURAL	LF LINEAR FEET
AH	AIR INTAKE HOOD	LG LONG
BD	BACKDRAFT DAMPER	M/A MAKE-UP AIR
BOD	BOTTOM OF DUCT	MVD MANUAL VOLUME DAMPER
BOP	BOTTOM OF PIPE	MAX. MAXIMUM
B	BOILER	MECH MECHANICAL
B/A	BY-PASS AIR	MER MECHANICAL EQUIPMENT ROOM
BTU	BRITISH THERMAL UNIT	MEZZ MEZZANINE
CLG	CEILING	MOD MOTOR OPERATED DAMPER
CD	CEILING DIFFUSER	MOV MOTOR OPERATED VALVE
CG	CEILING GRILLE	MBH THOUSAND BRITISH THERMAL UNITS PER HOUR
CR	CEILING REGISTER	
CHWP	CHILLED WATER PUMP	NPSH NET POSITIVE SUCTION HEAD
CWP	CONDENSER WATER PUMP	NC NOISE CRITERIA
CU	CONDENSING UNIT	NIC NOT IN CONTRACT
CT	COOLING TOWER	
CFM	CUBIC FEET PER MINUTE	DPNG OPENING
CH	CABINET HEATER	OPD OPPOSED BLADE DAMPER
CCP	CHILLER CONTROL PANEL	O/A OUTSIDE AIR
DA	DIRECT ACTING	OSA OUTSIDE SUPPLY AIR
DB	DRY BULB	OIP OPENING IN PARTITION ABOVE CEILING
DCP	DISTRIBUTED CONTROL PROCESSOR	
DG	DOOR GRILLE	PE PNEUMATIC-ELECTRIC SWITCH
DGP	DATA GATHERING PANEL	PSI POUNDS PER SQUARE INCH
DI	DUCTILE IRON	
DIFF	DIFFUSER	QTY. QUANTITY
DN	DOWN	QF QUICK FILL
DPT	DIFFERENTIAL PRESSURE TRANSMITTER	
DWG	DRAWING	R/A RETURN AIR
EA	EACH	RG RETURN GRILLE
EAT	ENTERING AIR TEMPERATURE	RR RETURN REGISTER
ECH	ELECTRIC CHILLER	RA REVERSE ACTING
EF	EXHAUST FAN	RPM REVOLUTIONS PER MINUTE
EL	ELEVATION	RM ROOM
ELEC	ELECTRICAL	S/D SMOKE DAMPER
EP	ELECTRIC-PNEUMATIC SWITCH	SE SMOKE EVACUATION FAN
EQ	EQUAL	SA SOUND ATTENUATOR
ESP	EXTERNAL STATIC PRESSURE	SD SPLITTER DAMPER
ETR	EXISTING TO REMAIN	SP STATIC PRESSURE
EWT	ENTERING WATER TEMPERATURE	S/A SUPPLY AIR
EXH	EXHAUST	SF SUPPLY FAN
E/A	EXHAUST AIR	SG SUPPLY GRILLE
FCU	FAN COIL UNIT	SR SUPPLY REGISTER
FPM	FEET PER MINUTE	TR TOP REGISTER
FD	FIRE DAMPER	TP TOTAL PRESSURE
FC	FLEXIBLE CONNECTION	TG TRANSFER GRILLE
FM	FLOWMETER	TP TYPICAL
GPM	GALLONS PER MINUTE	UG UNDERGROUND
GCH	GLYCOL CHILLER	UH UNIT HEATER
HD	HALON DAMPER	UV UNIT VENTILATOR
HDPE	HIGH DENSITY POLYETHYLENE	VAV VARIABLE AIR VOLUME\
HV	HEATING VENTILATING UNIT	VERIF IN FIELD
HWP	HOT WATER PUMP	WB WET BULB TEMPERATURE, °F
IR	INFRARED HEATER	WP WORKING PRESSURE
		WCC WATER COOLED CONDENSER
		WCCU WATER COOLED CONDENSING UNIT

MECHANICAL SYMBOL SCHEDULE			
SYMBOL	DESCRIPTION		
MVD	MANUAL VOLUME DAMPER		SOUND ATTENUATORS
FD	FIRE DAMPER		CEILING DIFFUSER - 4-WAY UNLESS SHOWN OTHERWISE
SD	SMOKE DAMPER		CEILING OR SIDEWALL LINEAR DIFFUSER
BD	BACKDRAFT DAMPER		NEW DUCTWORK
MOD	MOTOR OPERATED DAMPER		RISE IN DUCT IN THE DIRECTION OF AIRFLOW
FD/SD	COMBINATION FIRE/SMOKE DAMPER		DROP IN DUCT IN THE DIRECTION OF AIRFLOW
P S	SMOKE DETECTOR		FLEXIBLE CONNECTION
T	THERMOSTAT		HOT WATER COIL
TS	TEMPERATURE SENSOR		ELECTRIC DUCT HEATER
TN	NIGHT SETBACK THERMOSTAT		90 BRANCH TAKE-OFF W/MVD
H	HUMIDISTAT		FLEXIBLE DUCTWORK
CFM	CUBIC FEET PER MINUTE		REDUCER
OR CFM	CUBIC FEET PER MINUTE		DIRECTION OF FLOW IN DUCT OR PIPE
	CAPPED END		SQUARE TO ROUND TRANSITION
	ROUND DUCT		SANITARY SEWER
	FLAT OVAL DUCT		RECLAIM WATER
UD	UNDERCUT DOOR		CLOSED LOOP SUPPLY
VAV-1	VARIABLE AIR VOLUME TERMINAL UNIT (VAV-) SYMBOL VAV No.		CLOSED LOOP RETURN
VAV-1	VARIABLE AIR VOLUME TERMINAL UNIT WITH ELECTRICAL HEATER		REJECTION WATER
VAV-1	VARIABLE AIR VOLUME TERMINAL UNIT WITHOUT ELECTRICAL HEATER		ABSORPTION WATER
	SECTION SYMBOL SECTION No.		POTABLE MAKE UP WATER
	SHEET WHERE SHOWN		
	SUPPLY OR PRECONDITIONED OUTSIDE AIR DUCT		
	RETURN OR EXHAUST AIR DUCT		
	VANED ELBOW		
	RADIUS ELBOW		

- NOTES:**
- THIS IS A MASTER SHEET. FOR SYMBOLS APPLICABLE TO THIS PROJECT REFER TO THE DRAWINGS.
  - REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR ACTUAL LOCATION OF ALL AIR DISTRIBUTION DEVICES AND ACCESS PANELS.
  - ALL DUCT DIMENSIONS ARE CLEAR INSIDE DIMENSIONS.

GENERAL NOTES	
1. CONNECTION TO EQUIPMENT SHALL BE VERIFIED WITH MANUFACTURER'S CERTIFIED DRAWINGS.	14. ALL DUCTWORK AND PIPING IS SHOWN SCHEMATICALLY. PROVIDE ALL TRANSITIONS, VANES, ELBOWS FITTINGS, ETC. TO ALLOW SMOOTH FLOWS. ALL SPLIT DUCT FITTINGS SHALL TRANSITION TO FULL SIZE OF THE SUM OF BOTH BRANCHES, UPSTREAM OF SPLIT.
2. DIMENSIONS SHALL BE FIELD VERIFIED AND COORDINATED PRIOR TO PROCUREMENT OR FABRICATION. COORDINATE THE WORK WITH OTHER TRADES INVOLVED. FIELD MODIFICATIONS SUCH AS OFFSETS IN PIPING AND DUCTWORK (INCLUDING DIVIDED DUCTWORK) NEEDED DUE TO OBSTRUCTIONS OR INTERFERENCES SHALL BE PROVIDED AT NO ADDITIONAL COST. FOR PRODUCTS INVOLVING RENOVATION, COORDINATE NEW WORK WITH EXISTING ELEMENTS SUCH AS THE BUILDING STRUCTURE AND ARCHITECTURAL FEATURES, SPRINKLER PIPING, LIGHTS, PLUMBING AND ELECTRICAL CONDUIT.	15. VERIFY FINISH WITH OWNER PRIOR TO PURCHASING GRILLES, REGISTERS, DIFFUSERS, LOUVERS AND OTHER AIR DISTRIBUTION DEVICES.
3. DUCT CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE SMACNA HVAC DUCT CONSTRUCTION STANDARD.	16. THE CONTRACTOR SHALL BE RESPONSIBLE TO PREPARE AND SUBMIT FOR ALL REQUIRED PERMITS. THE CONTRACTOR MAY SEEK REIMBURSEMENT FOR PERMIT FEES FROM THE CITY.
4. PROVIDE AIR TURNING VANES IN ALL 90 DEGREE RECTANGULAR DUCT ELBOWS.	17. NOT USED.
5. DUCT SIZES AND ALL OPENINGS THROUGH BUILDING CONSTRUCTION SHALL BE COORDINATED TO SUIT EQUIPMENT FURNISHED.	18. INTERRUPTIONS TO EXISTING SERVICES SHALL BE SCHEDULED WITH THE BUILDING OFFICIAL AT ALL TIMES. SUCH INTERRUPTIONS TO SERVICES SHALL NOT BE MADE WITHOUT THE PRIOR WRITTEN CONSENT OF THE OWNER'S REPRESENTATIVE AND PROPER COORDINATION WITH OTHER TRADES. PRE-WORK SHALL BE PERFORMED TO MAKE THE SHUTDOWN PERIOD AS BRIEF AS POSSIBLE.
6. COORDINATE DIFFUSER, GRILLE AND REGISTER LOCATIONS WITH ARCHITECTURAL REFLECTED CEILING PLANS AND EQUIPMENT OF ALL TRADES.	19. ALL EQUIPMENT, DUCTWORK, ETC. TO BE REMOVED SHALL BE DISPOSED OF BY CONTRACTOR.
7. LOCATE THERMOSTATS, TEMPERATURE SENSORS, HUMIDISTATS, AND HUMIDITY SENSORS AT 48" AFF UNLESS NOTED OTHERWISE. COORDINATE LOCATIONS WITH OTHER EQUIPMENT, FURNITURE AND DOOR SWINGS.	20. MAINTAIN CLEARANCE OF A MINIMUM OF 6" BETWEEN DUCTWORK, PIPING, EQUIPMENT, ETC. AND ALL FIRE RATED AND FIRE /SMOKE RATED PARTITIONS. TO ALLOW FOR INSPECTIONS OF RATED WALLS.
8. ALL EQUIPMENT DUCTWORK, ETC. SHALL BE SUPPORTED AS DETAILED AND/OR SPECIFIED. PROVIDE ADDITIONAL SUPPORTS AS REQUIRED TO PROVIDE A VIBRATION FREE, RIGID INSTALLATION.	21. DUCT RUNOUTS TO DIFFUSERS SHALL MATCH THE SIZE OF THE DIFFUSER NECK.
9. ALL DUCT SIZES SHOWN ARE INSIDE CLEAR DIMENSIONS.	22. UNLESS OTHERWISE NOTED, ALL EQUIPMENT AND VALVE DRAINS SHALL BE INDEPENDENTLY PIPED FULL SIZE TO THE NEAREST PLUMBING DRAIN.
10. DAMPERS AND INSIDES OF DUCTS VISIBLE THROUGH GRILLES, REGISTERS AND DIFFUSERS SHALL BE PAINTED FLAT BLACK	23. SLEEVE AND SEAL ALL PIPING PENETRATIONS THROUGH BUILDING PARTITIONS.
11. REFER TO TYPICAL DETAILS FOR PIPING AND INSTALLATION OF EQUIPMENT.	24. ALL NEW DUCTWORK SHALL BE INTERNALLY INSULATED.
12. TRAPPED CONDENSATE DRAINS FROM ALL MECHANICAL EQUIPMENT SHALL BE PROVIDED FOR PROPER DRAINAGE TO SUIT EQUIPMENT FURNISHED.	25. ALL MATERIALS AND EQUIPMENT SHALL BE PROPERLY AND EFFECTIVELY PROTECTED BY THE CONTRACTOR DURING THE EXECUTION OF THE WORK.
13. ACCESS PANELS IN DUCTWORK AND CEILINGS SHALL BE PROVIDED WHERE REQUIRED FOR OPERATION, BALANCING OR MAINTENANCE OF ALL MECHANICAL EQUIPMENT.	26. ALL EQUIPMENT AND MATERIAL SUBSTITUTIONS MUST BE APPROVED A MINIMUM OF 8 BUSINESS DAYS PRIOR TO BID DATE.

HEAT EXCHANGER SCHEDULE											
UNIT NO. (MARK)	HOT SIDE				COLD SIDE				DESIGN MANUFACTURER	MODEL	REMARKS
	FLOW RATE (GPM)	INLET TEMPERATURE (°F)	OUTLET TEMPERATURE (°F)	MAX. PRESS. DROP (FT. OF H2O)	FLOW RATE (GPM)	INLET TEMPERATURE (°F)	OUTLET TEMPERATURE (°F)	MAX. PRESS. DROP (FT. OF H2O)			
HEX-1	267	96	86	23	267	70	80	23	BELL & GOSSETT	GPX	
HEX-2	267	96	86	23	267	70	80	23	BELL & GOSSETT	GPX	

- NOTES:**
- BASIS OF DESIGN IS BELL & GOSSETT GASKETED PLATE AND FRAME HEAT EXCHANGER
  - REFER TO SPECIFICATIONS FOR EQUIPMENT SPECIALTIES.
  - SUBSTITUTIONS MUST BE APPROVED A MINIMUM OF 8 BUSINESS DAYS PRIOR TO BID DATE.

PUMP SCHEDULE											
MARK NO. (UNIT)	GPM	HEAD FT.	RPM	HP/BHP	MIN. % EFF.	ELECTRICAL DATA (V/PH/Hz)	MIN. NPSH	TYPE	DESIGN MANUFACTURER	SERIES/SIZE	REMARKS
P-1	267	120	1750	10.0/9.2	74	208/3/60	N/A	END SUCTION	BELL & GOSSETT	E-1510/2.5EB	PROVIDE WITH VARIABLE FREQUENCY DRIVE BY AQUAVAR MODEL # AVB200100B00X1 OR APPROVED EQUAL. SEE NOTES 1,2,3.
P-2	267	120	1750	10.0/9.2	74	208/3/60	N/A	END SUCTION	BELL & GOSSETT	E-1510/2.5EB	PROVIDE WITH VARIABLE FREQUENCY DRIVE BY AQUAVAR MODEL # AVB200100B00X1 OR APPROVED EQUAL. SEE NOTES 1,2,3.
SUPPLY WELL PUMP	320	200	-	15	74	208/3/60	N/A	VERTICAL SUBMERSIBLE	GOULDS	320L15	PROVIDE WITH VARIABLE FREQUENCY DRIVE BY AQUAVAR MODEL # AVB200150B00X1 OR APPROVED EQUAL. SEE NOTES 1,2,3,4 & 5.

- NOTES:**
- PUMPS SHALL BE CAPABLE OF BEING SERVICED WITHOUT DISTURBING PIPING CONNECTION OR MOTORS.
  - PROVIDE VIBRATION ISOLATION.
  - FLOW (GPM) SHALL BE CONTROLLED BY THE HEAT PUMP CONTROLLER LOCATED IN THE RECLAIM WATER ROOM.
  - PROVIDE 6 INCH STAINLESS STEEL (304) PUMP END WITH 4 INCH DISCHARGE.
  - WELL PUMP VFD TO SET 100% CAPACITY AT 275 GPM.

SHEET INDEX	
SHEET	DESCRIPTION
M-000	SYMBOL LEGEND, SCHEDULES & GENERAL NOTES
M-001	CONTROLS - HEAT PUMPS - NEW WORK
M-002	CONTROLS - HEAT PUMPS - NEW WORK
M-003	CONTROL DIAGRAMS - CONDENSER WATER SYSTEMS
M-100	SITE PLAN
M-101	1ST FLOOR PLAN - NEW WORK
M-201	2ND FLOOR PLAN - NEW WORK
M-301	ENLARGED PLANS - NEW WORK
M-302	MECHANICAL YARD - ENLARGED PLANS - NEW WORK
M-303	ELEVATION VIEWS & ENLARGED PLANS
M-304	ELEVATION VIEWS
M-401	DETAILS
M-601	SPECIFICATIONS

**BID NOTE**

PRIOR TO SUBMITTING A BID FOR THIS WORK THE CONTRACTOR SHALL VISIT THE SITE TO DETERMINE THE COST IMPACT OF EXISTING CONDITIONS ON THE SCOPE OF WORK HEREIN. THE BID SHALL INCLUDE ANY COST ASSOCIATED WITH AN EXISTING CONDITION THAT IS MODIFIED, OR AFFECTED BY THE WORK IN THESE DOCUMENTS. FAILURE TO VISIT THE SITE OR DETERMINE THESE COSTS PRIOR TO BID SHALL NOT ABSOLVE THE CONTRACTOR OF THIS RESPONSIBILITY.

**SUBMITTALS**

CONTRACTOR SUBMITTALS SHALL BE MADE IN COMPLIANCE WITH THE FOLLOWING STATEMENT:

IT IS HEREBY CERTIFIED THAT THE MATERIAL/EQUIPMENT PRESENTED IN THIS SUBMITTAL/SHOP DRAWING/CATALOG CUT SHEET, ETC. HAS BEEN REVIEWED AND IS APPROVED FOR USE ON THIS PROJECT BY THIS CONTRACTOR AS BEING IN CONFORMANCE TO THE DESIGN AS SHOWN ON THE CONTRACT DOCUMENTS AND CAN BE INSTALLED IN THE ALLOCATED SPACES, IS OF THE CORRECT ELECTRICAL CHARACTERISTICS AND IS SUBMITTED FOR REVIEW AND APPROVAL BY THE ARCHITECT/ENGINEER.

THE SUBMITTAL WILL BE SIGNED AND DATED BY AN AUTHORIZED AGENT OF THIS CONTRACTOR.

5845 NW 158th Street  
Miami Lakes, FL 33014 USA  
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F:+1(305) 826-1799  
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**ARCHITECT OF RECORD**

REVISION SCHEDULE		
No.	DESCRIPTION	DATE
A	50% SUBMITTAL	4/18/17
B	90% Review Set	5/24/17
0	Permit Set	8/17/17

300 CROWN OAK CENTRE DRIVE,  
LONGWOOD, FL 32750  
TEL: 407.260.0231  
FAX: 407.260.0749



GREGORY A. JOHNSON  
PE-57783

**PROJECT TEAM**

**DESIGNER**  
GJ

**BIM / DRAWINGS BY:**  
GP

**CHECKED BY:**  
GJ

**Community Development Bldg. Renovations**

295 Riverside Circle  
Naples, FL 34102

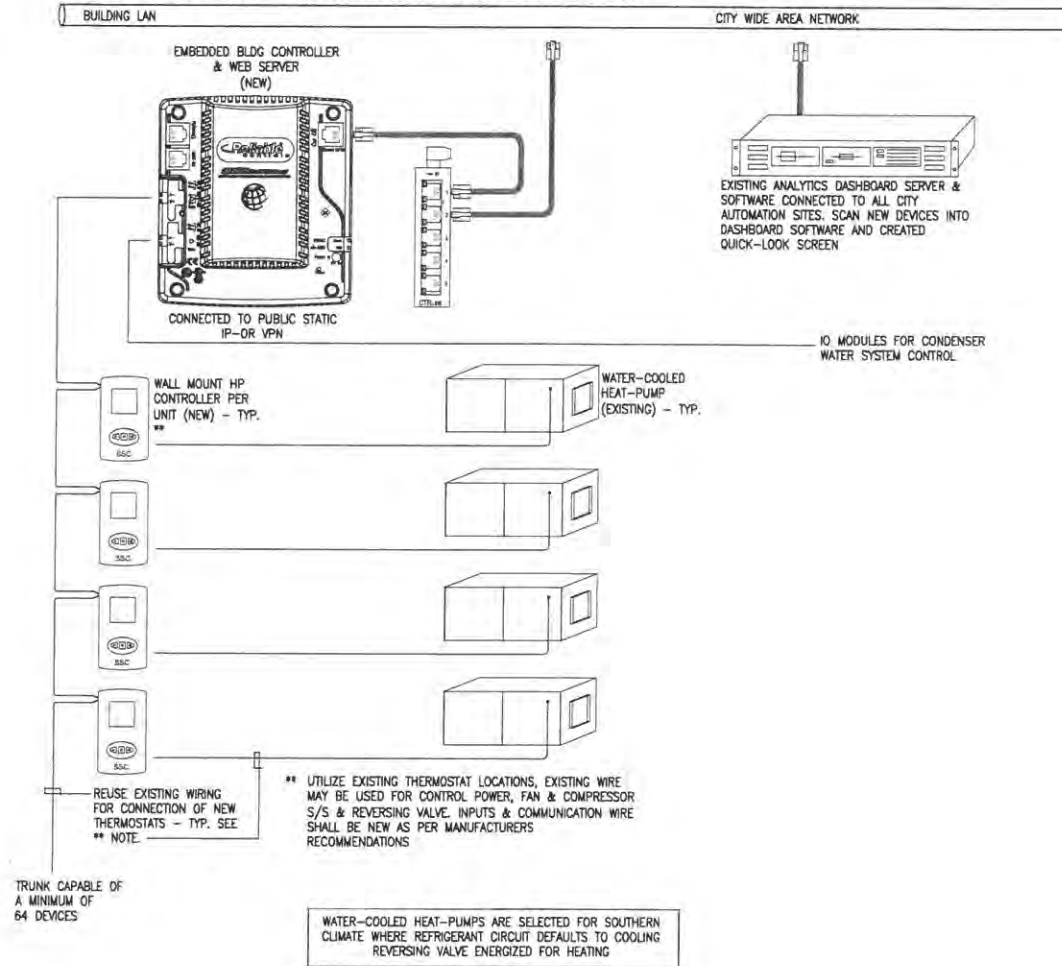
6788-16-2867  
100% CD - 08-17-17

PROJECT NUMBER | STATUS | ISSUE DATE  
SYMBOL LEGEND, SCHEDULES & GENERAL NOTES

SCALE: -

**M-000**  
SHEET NUMBER

PARTIAL BUILDING AUTOMATION NETWORK ARCHITECTURE



SEQUENCE OF OPERATION HEAT PUMPS

BASED ON A USER-DEFINED SCHEDULE IN THE EMBEDDED OPERATORS WORKSTATION, IF WATER FLOW HAS BEEN PROVEN IN THE CONDENSER WATER PLANT, THE SYSTEM WILL RUN AS SCHEDULED. ONCE A WATER FLOW STATUS IS RECEIVED PROVING WATER FLOW, ANY HEAT-PUMP SCHEDULED TO BE ON WILL OPERATE AS LOCALLY ADJUSTED.

EACH HEAT PUMP SHALL BE CONTROLLED AND CONNECTED TO A WALL MOUNTED SPACE CONTROLLER, WITH LCD DISPLAY EQUIPPED WITH AN ADJUSTMENT KEYPAD. THE LCD SCREEN WILL DISPLAY SPACE TEMPERATURE & HUMIDITY, AS WELL AS THE ACTIVE SET POINT, AND INDICATE THROUGH SCREEN ICONS, IT'S MODE OF OPERATION, COOLING OR HEATING.

IN COOLING AS THE SPACE TEMPERATURE RISES TO X° OVER THE COOLING SET POINT, THE CONTROLLER WILL ACTIVATE THE FAN, AND ENERGIZE THE COMPRESSOR, IF THE REVERSING VALVE IS NORMALLY PIPE FOR COOLING. IF NORMALLY CLOSED TO COOLING THE REVERSING VALVE SHALL BE ACTIVATE SIMULTANEOUS TO COMPRESSOR OPERATION.

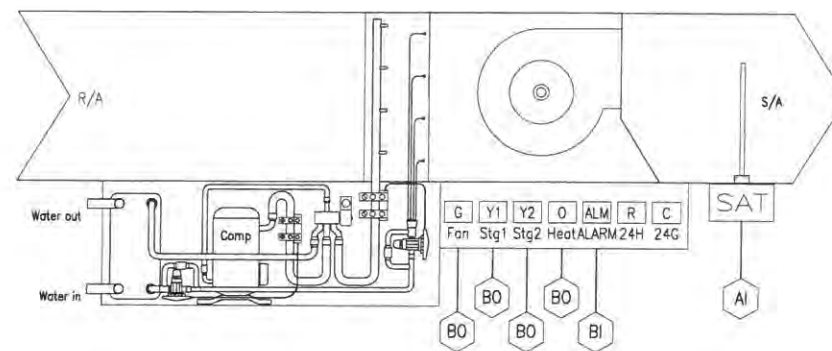
AS THE SPACE TEMPERATURE DROPS TO X° BELOW THE ROOM SET POINT COOLING WILL BE STAGED OFF, DEPENDING UPON THE VENTILATION REQUIREMENTS THE UNIT MAY OPERATE THE FAN IN CONTINUOUS OPERATION WHILE SCHEDULED IN THE OCCUPIED MODE.

SHOULD THE ROOM TEMPERATURE DROP 1° BELOW SET POINT, THE REVERSING VALVE WILL BE ACTIVATED AND THE COMPRESSOR WILL BE STAGED ON. SHOULD THE UNIT BE EQUIPPED WITH AUXILIARY ELECTRIC HEAT, IT WILL BE LOCKED OUT BY THE BUILDING OPERATOR, BUT MAY BE SELECTED TO RUN IF THE SPACE TEMPERATURE DROPS TO A MINIMUM OF 2° BELOW THE HEATING SET POINT.

COOLING AND HEATING SHALL BE SEPARATED BY MINIMUM AND MAXIMUM SET POINTS, SET BY THE BUILDING OPERATOR FROM A SCREEN THROUGH THE BACNET EMBEDDED OPERATOR WORKSTATION

THERMOSTATS NOTE

EACH HEAT PUMP IS EQUIPPED WITH ONE THERMOSTAT. THESE THERMOSTATS ARE TO BE REPLACED WITH NEW, AS SHOWN ON THIS SHEET. REUSE EXISTING WIRING FOR CONNECTION OF NEW THERMOSTATS.



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BIM / DRAWINGS BY:

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CHECKED BY:

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Community Development Bldg. Renovations

295 Riverside Circle  
Naples, FL 34102

6788-16-2867  
100% CD - 08-17-17

PROJECT NUMBER | STATUS | ISSUE DATE

CONTROLS - HEAT PUMPS - NEW WORK

SCALE: NOT TO SCALE

M-001  
SHEET NUMBER

**DIRECT DIGITAL CONTROL SYSTEM FOR HVAC**

**1.01 DIRECT DIGITAL CONTROL (DDC) SYSTEM DESCRIPTION**

A. INTENT. DDC CONTRACTOR IS FAMILIAR WITH THE SYSTEMS IN ALL CITY OF NAPLES BUILDINGS, REGULARLY ENGAGED BY THE CITY AND SHALL SUPPLY AND INSTALL A COMPLETE DIRECT DIGITAL CONTROL (DDC) SYSTEM AS REQUIRED TO ACCOMPLISH THE SPECIFIED SEQUENCES OF OPERATION FOR CONTROL AS INDICATED ON THE PLANS, AS WELL AS THE INTO THE CITIES ENERGY DASHBOARD

**DDC SYSTEM REQUIREMENTS**

- A. BACNET. THE CONTROL SYSTEM SHALL CONSIST OF A HIGH-SPEED, PEER-TO-PEER INTERNETWORK OF ANS/ASHRAE 135 NATIVE BACNET\* DDC DEVICES. THE CONTROL SYSTEM SHALL ALSO INCORPORATE INPUT/OUTPUT DEVICES, MECHANICAL/ELECTRICAL AUTOMATIC TEMPERATURE CONTROL DEVICES, ENCLOSURES, INTERCONNECTING CONDUIT AND CABLING.
  - 1. THE BACNET\* OPERATING STACK MUST BE EMBEDDED DIRECTLY IN EACH INDIVIDUAL DDC DEVICE AT THE MEDIA ACCESS CONTROLLER LEVEL AND IN ALL OPERATOR INTERFACE AND CONFIGURATION APPLICATIONS.
- B. BTL. ALL DDC DEVICES SHALL BE TESTED, CERTIFIED, CLEARLY STAMPED AND LISTED BY THE BACNET\* TESTING LABORATORIES (BTL). ALL DDC PRODUCTS SHALL BE BY RELIABLE CONTROLS, AND COME WITH A 5 YEAR PARTS WARRANTY FROM DATE OF PURCHASE
- C. MODULARITY. THE DDC SYSTEM SHALL BE MODULAR IN NATURE AND IMPLEMENTED IN SUCH A MANNER THAT IT CAN BE EXPANDED IN BOTH CAPACITY AND FUNCTIONALITY THROUGH THE ADDITION OF DDC CONTROLLERS, DEVICES AND WIRING.
- D. LOCAL DATABASE. ALL LOGIC REQUIRED TO PERFORM THE SPECIFIED SEQUENCES OF OPERATION, TRENCHING AND ALARMING AS OUTLINED IN THIS SPECIFICATION SHALL RESIDE IN EACH INDIVIDUAL DDC DEVICE.

**DDC SYSTEM ARCHITECTURE**

- A. THE SYSTEM WILL USE A COMBINATION BACNET BUILDING CONTROLLER & EMBEDDED BACNET OPERATOR WORKSTATION, WHICH IS MOUNTED NEAR AN IP NETWORK CONNECTION, CAPABLE OF HOLDING ALL GRAPHIC SCREENS, EXECUTING ALL PLANT CONTROL, AND COMMUNICATE WITH AS MANY BACNET DEVICES ON A MSTP COMMUNICATIONS TRUNK, THAT IS STANDARD WITH THE CONTROLLER.
- B. THE SUCCESSFUL DEALER MUST BE ABLE TO CONNECT THE NEW SYSTEM TO THE CITY OF NAPLES EXISTING ENERGY DASHBOARD LEVEL, TO ALLOW FOR REMOTE ACCESS OF THE SERVICING CONTRACTOR, AND CITY OF NAPLES EMPLOYEES
- C. FIELD LEVEL COMMUNICATION NETWORKS SHALL BE COMPRISED OF BACNET NETWORKS OF UNITARY BACNET\* CONTROLLERS AND DEVICES USING THE BACNET DATA LINK MASTER SLAVE/TOKEN PASSING (MS/TP).
- D. THE BACNET EMBEDDED OPERATOR WORKSTATION, OPERATOR INTERFACES USING THE BACNET DATA LINKS BACNET\*/IP (B/IP) OR BACNET\*/ETHERNET (ISO 8802.3). EMBEDDED OPERATOR WORKSTATION SHALL HAVE AN MS/TP COMMUNICATIONS PORT CAPABLE OF 127 DEVICES.

**PRODUCTS FURNISHED BUT NOT INSTALLED UNDER THIS SECTION**

- A. PROVIDE AND COORDINATE THE INSTALLATION OF COMPONENTS SUPPLIED UNDER THIS SECTION BUT INSTALLED UNDER OTHER DIVISIONS OF THE SPECIFICATION.
  - B. AUTOMATIC CONTROL VALVES, THERMOWELLS, LIQUID FLOW SWITCHES, LIQUID FLOW METERS ARE TO BE INSTALLED BY THE MECHANICAL OR PIPING CONTRACTOR RESPONSIBLE FOR THE INSTALLATION OF THE APPLICABLE PIPING SYSTEM.
  - C. WATER COOLED HEAT PUMP EQUIPMENT BEING USED TO REPLACE THE EXISTING SYSTEM SUITABLE FOR TYING INTO WITH STANDARD THERMOSTAT TERMINAL STRIPS.
- QUALITY ASSURANCE**
- A. DDC SYSTEM MANUFACTURER SHALL BE ENGAGED FULL-TIME IN THE MANUFACTURE OF EQUIPMENT AND DEVICES OF THE SCOPE, SIZE AND SERVICE REQUIRED.
  - B. THE DDC SYSTEM MANUFACTURER SHALL OPERATE A QUALITY MANAGEMENT SYSTEM FORMALLY CERTIFIED TO BE IN COMPLIANCE WITH ISO 9001:2008. PROVIDE ALL HARDWARE FROM RELIABLE CONTROLS
  - C. THE DDC SYSTEM CONTRACTOR SHALL SPECIALIZE AND HAVE A MINIMUM OF FIVE (10) YEARS OF EXPERIENCE IN THE DESIGN, INSTALLATION, PROGRAMMING AND OPERATION OF DDC SYSTEMS OF THE SCOPE, SIZE AND SERVICE SPECIFIED; AND SHALL:
    - 1. BE AN OFFICIALLY AUTHORIZED REPRESENTATIVE OF THE DDC, WITH A BASE OF OPERATIONS EMPLOYING NO LESS THAN 10 ENGINEERING, PROJECT MANAGEMENT, PROGRAMMERS AND AS WELL AS A MINIMUM OF 10 FIELD EMPLOYEES
    - 2. USE AND ASSIGN TO THE PROJECT TECHNICIANS AND ENGINEERS WHO ARE OFFICIALLY TRAINED AND CERTIFIED BY MANUFACTURER IN THE DESIGN, INSTALLATION, PROGRAMMING AND OPERATION OF THE DDC SYSTEM COMPONENTS.
    - 3. MECHANICAL CONTRACTOR SHALL SECURE PRICING FROM THE LISTED VENDORS IN SECTION 1.08, ACCEPTABLE MANUFACTURER-BIDDERS, SUBSECTION C, AUTHORIZED DEALERS IN SOUTH FLORIDA.

**1.02 CODES AND STANDARDS**

- A. ALL WORKMANSHIP, MATERIALS AND EQUIPMENT WILL BE OF COMMERCIAL GRADE, AND CONFORM TO APPLICABLE CODES, THE PREVAILING APPLICABLE LOCAL, STATE BUILDING CODES AS WELL AS THE PLANS & SPECIFICATIONS, INCLUDING:
  - 1. ANS/ASHRAE STANDARD 135: BACNET
  - 2. NATIONAL ELECTRIC CODE (NEC).
  - 3. FLORIDA BUILDING CODE (FBC).
  - 4. SOUTHERN STANDARD BUILDING CODE
  - 5. UNDERWRITERS LABORATORIES (UL), (UL-916 ENERGY MANAGEMENT).

**1.03 SYSTEM PERFORMANCE**

- A. GRAPHIC DISPLAY. PROVIDE GRAPHIC SCREENS THAT ARE ACCESSED FROM AN INTERNET BROWSER
  - 1. FLOORPLAN GRAPHICS DELINEATING THE SPECIFIC AREAS CONDITIONED BY EACH SYSTEM
  - 2. MECHANICAL GRAPHICS FOR EACH HEAT PUMP SHOWING SYSTEM OPERATION, MIN/MAX SET POINTS ALLOWED, SPACE TEMPERATURE & HUMIDITY, AND ANIMATED GRAPHICS FOR FAN AND COMPRESSOR STATUS.
  - 3. CONDENSER WATER PLANT SHOWING ENTIRE PLANT ON ONE SCREEN WITH SUB SCREENS FOR INDIVIDUAL EQUIPMENT FEATURES SUCH AS OVERRIDE TO BACK-UP, LEVEL-1 & LEVEL-2
- B. OPERATOR COMMAND. PROVIDE THE OPERATOR WITH THE CAPACITY TO MAKE COMMANDS OR ADJUSTMENTS & CHANGES TO THE SET POINTS & SCHEDULES, ALARM RESPONSE. PROVIDE ALARMS ON ALL MOTORS AND LOOP TEMPERATURE, WHEN SYSTEM IS OVERRIDDEN INTO LEVEL-1 BACK-UP AS WELL AS LEVEL-2 BACK-UP, PROGRAM EXECUTION. ALL PROGRAMS IN ALL DDC DEVICES SHALL BE ABLE TO EXECUTE AT A MINIMUM OF AT LEAST ONE TIME EVERY SECOND. PROGRAM EXECUTION TIME SHALL BE CONFIGURABLE TO BE CONSISTENT WITH THE PROCESS UNDER CONTROL.
- C. ALL SUBMITTALS AND DOCUMENTATION INCLUDING COMPLETE DDC SYSTEM ENGINEERING DESIGN SHALL BE SUBMITTED IN ELECTRONIC FORM
- D. DDC SYSTEM HARDWARE SUBMITTALS.
  - 1. CONTROL DRAWINGS: 11" X 17 WITH A TABLE OF CONTENTS, NETWORK TOPOLOGY, FLOOR PLAN DELINEATING MSTP TRUNK ROUTING THROUGH THE BUILDING, SYSTEM FLOW DIAGRAMS DETAILING ALL CONTROL COMPONENTS IN EACH SYSTEM, A WIRING DIAGRAM SHOWING THE CONNECTION OF COMMUNICATION, ALL INPUTS AND OUTPUTS, INCLUDING ANY POWER SUPPLIES - CONTROL PANEL LAYOUTS CONSISTENT WITH HOW THEY ARE TO BE CONSTRUCTED. PROVIDE A COMPLETE "BILL OF MATERIALS" AND FINALLY A CONTROL POINT LIST.
  - 2. QUT SHEETS: PROVIDE FOR EVERY DEVICE IN THE CONTROL SYSTEM A SPECIFICATION SHEET

INDICATING ALL PHYSICAL DIMENSIONS, AND PERFORMANCE DATA. THIS INCLUDES ALL DDC HARDWARE, ALL SENSORS, CONTROL VALVES, FLOW METERS, POWER SUPPLIES, CONTROL TRANSFORMERS, CONTROL RELAYS, ENERGY METERING, AND SO ON.

- 3. FDR VALVES AND DAMPERS: PROVIDE SCHEDULES INDICATING VALVE SIZE FOR EACH UNIT, PRESSURE DROP, LINE SIZE, ON PAGE WITH PROJECT NAME INCLUDED IN SUBMITTAL PACKAGE
  - 4. ALL PROGRAMMING SHALL ADHERE TO THE SEQUENCE OF OPERATION OF THE PLANS AS INDICATED BY EACH SYSTEM.
  - 5. A SCHEDULE OF ALL CONTROL VALVES INCLUDING THE UNIQUE EQUIPMENT IDENTIFIER, VALVE SIZE, DIMENSIONS AND INSTALLATION/MAINTENANCE CLEARANCE, MODEL NUMBER (INCLUDING PATTERN AND CONNECTIONS), CLOSE-OFF RATING, FLOW, CV, PRESSURE DROP, PRESSURE RATING AND LOCATION. THE VALVE SCHEDULE SHALL ALSO CONTAIN ACTUATOR SELECTION DATA
- E. PROJECT RECORD DOCUMENTATION.**
- 1. UPON COMPLETION OF INSTALLATION AND SYSTEMS COMMISSIONING SUBMIT RECORD (AS-BUILT) DOCUMENTS FOR REVIEW TO INCLUDE:
    - A. OPERATION AND MAINTENANCE (O&M) MANUAL AS-BUILT REVISIONS OF ALL SUBMITTAL DATA UPDATED TO REFLECT ACTUAL FIELD CONDITIONS, ARCHITECTURE AND EXECUTION, NAMES AND 24-HOUR CONTACT INFORMATION FOR INSTALLING CONTRACTORS AND SERVICE REPRESENTATIVES. OPERATOR'S MANUAL WITH ADMINISTRATOR AND OPERATOR LEVEL CREDENTIALS AND PROCEDURES

**1.04 ACCEPTABLE MANUFACTURER-BIDDERS**

- A. THE SYSTEM HAS BEEN DESIGNED AND PREPARED USING THE BACNET PROTOCOL AND COMMUNICATION, WITH RELIABLE CONTROLS. ALL PRODUCTS ARE REQUIRED TO BE STAMPED AND LISTED BY THE BACNET\* TESTING LABORATORIES (BTL) PRIOR TO THE BID DATE FOR THIS PROJECT.
- B. THE SYSTEM SHALL BE RELIABLE CONTROLS, BACNET PRODUCTS MACH-SYSTEM.
  - 1. PLANT AND FRONT-END USING THE MACH-PROWBECOM COMBINATION BUILDING CONTROLLER AND BACNET OPERATOR WORKSTATION, PROVIDE BUILDING CONTROLLER WITH ADEQUATE INPUT/OUTPUT MODULES FOR THE PLANT OPERATION. PROVIDE 10% SPARE POINT CAPACITY.
  - 2. HEAT PUMPS SHALL BE CONTROLLED BY THE RELIABLE SMART SPACE CONTROLLER SSCE EQUIPPED WITH TEMPERATURE AND HUMIDITY, A MINIMUM OF 3 UNIVERSAL INPUTS AND 4 UNIVERSAL OUTPUTS
- C. MECHANICAL CONTRACTOR SHALL SECURE PRICING FROM AT LEAST 2 OR MORE OF THE FOLLOWING SOUTH FLORIDA DEALERS:
  - 1. ELECTRONIC SYSTEM SERVICES, INC. - ATTN: MIKE MONTERO 238-561-3774
  - 2. INTEGRITY CONTROLS - ATTN: LUIS PRATS 786-615-4146
  - 3. MECHANICAL AIR CONCEPTS ATTN: VICTOR GOMEZ 786-380-7654

**1.05 COMMUNICATION**

- A. BACNET ANS/ASHRAE STANDARD 135, BACNET\*.
- B. BACNET OVER IP & BACNET OVER MSTP

**1.06 EMBEDDED BACNET\* OPERATOR WORKSTATION (B-OWS)**

- A. THE EMBEDDED BACNET\* OPERATOR WORKSTATION (B-OWS) PROVIDES DAY-TO-DAY MONITORING AND BASIC OPERATION OF THE DDC SYSTEM. THE EMBEDDED BACNET\* OPERATOR WORKSTATIONS SHALL COMPLY WITH THE MINIMUM REQUIREMENTS OF ANS/ASHRAE STANDARD 135 ANNEX L FOR BOTH A BACNET STATIONS & BUILDING CONTROLLERS, PIC STATEMENT SHALL SHOW LEVEL 6 COMPLIANCE.
- B. EMBEDDED BACNET\* OPERATOR WORKSTATIONS SHALL RESIDE ON THE WIDE AREA NETWORK OF THE CITY USING THE BACNET\*/IP DATA LINK AS SPECIFIED IN ANS/ASHRAE STANDARD 135 ANNEX J. CONTACT MARK JACKSON, IT DIRECTOR FOR CONNECTION & STATIC IP.
- C. THE EMBEDDED BACNET\* OPERATOR WORKSTATION SHALL STORE THE ENTIRE DEVICE DATABASE AND ALL NECESSARY GRAPHICAL USER INTERFACE (GUI) RESOURCES INCLUDING ANIMATIONS LOCALLY ON THE DEVICE.
- D. SECURITY. EACH OPERATOR SHALL BE REQUIRED TO LOG ON TO THE SYSTEM WITH A UNIQUE USER NAME AND PASSWORD IN ORDER TO VIEW, EDIT, ADD OR DELETE DATA.
  - 1. SYSTEM SECURITY PERMISSIONS SHALL BE MULTILAYERED AND DEFINED FOR EACH INDIVIDUAL OPERATOR TO RESTRICT/PERMIT DAY-TO-DAY OPERATIONS AND SYSTEM CONFIGURATION.
  - 2. SECURITY DATA SHALL BE STORED AND TRANSMITTED IN AN ENCRYPTED FORMAT.
- E. GRAPHICAL USER INTERFACE (GUI). THE OPERATOR INTERFACE SHALL BE GRAPHICALLY ORIENTED.
  - 1. ALL COLOR GRAPHIC DISPLAYS SHALL BE DYNAMIC WITH CURRENT POINT DATA AUTOMATICALLY UPDATED FROM THE BACNET\* NETWORK TO THE EMBEDDED WORKSTATION WITHOUT OPERATOR INTERVENTION. THE OPERATOR WITH THE PROPER CREDENTIALS SHALL BE ABLE TO MANUALLY ADJUST ALL DATA POINT VALUES (HARDWARE OR SOFTWARE) IN THE SYSTEM, ADJUST VALUES OF CONTROL LOOPS, AND COMMAND POINTS TO MANUAL, OVERRIDE, TIMED OVERRIDE AND AUTOMATIC MODE. OPERATORS SHALL HAVE THE ABILITY TO DYNAMICALLY CREATE MESSAGES SAVED A TEXT FILES ON THE EMBEDDED B-OWS ASSOCIATED WITH INDIVIDUAL OBJECTS ON A DISPLAY OR THE DISPLAY ITSELF. THESE TEXT FILES MAY BE VIEWED AND MODIFIED BY OTHER OPERATORS DURING OTHER SESSIONS.
- F. ALARM PROCESSING. THE EMBEDDED WORKSTATION SHALL DISPLAY AND LOG ALARMS AND EVENTS FROM ANY BACNET\* OBJECT IN THE SYSTEM AND SHALL SUPPORT OPERATOR CONFIGURATION OF THE ALARM LIMITS, DIFFERENTIALS, STATES AND REACTIONS FOR EACH OBJECT IN THE SYSTEM.
  - 1. ALARM CLASSIFICATION. SYSTEM SHALL PROVIDE A MINIMUM OF 50 CONFIGURABLE NOTIFICATION CLASSES AND 100 CONFIGURABLE ALARM PRIORITIES.
  - 2. ALARM AND EVENT LOG. THE OPERATOR SHALL BE ABLE TO VIEW ALL SYSTEM ALARMS FROM ANY LOCATION IN THE INTERNETWORK, WITH THE PROPER CREDENTIALS, AN OPERATOR SHALL BE ABLE TO ACKNOWLEDGE AND CLEAR ALARMS. ALARM AND EVENT LOG SHALL DISPLAY AT A MINIMUM ALARM TIME, RECEIVED TIME, STATE, NOTIFICATION CLASS, PRIORITY, MESSAGE, SOURCE, TIME ACKNOWLEDGED, ACKNOWLEDGED BY USER AND ACTION.
  - 3. ALARM MESSAGES. ALARM MESSAGES SHALL USE THE ENGLISH LANGUAGE NAME FOR THE OBJECT IN ALARM IN SUCH A WAY THAT THE SOURCE, LOCATION AND NATURE OF THE ALARM IS EASILY UNDERSTOOD WITHOUT RELYING UPON MNEMONICS OR OBJECT INSTANCES.
    - A. ALARM MESSAGES SHALL BE FULLY CUSTOMIZABLE IN SIZE, CONTENT AND BEHAVIOR.
  - 4. ALARM ACTIONS. THE OPERATOR SHALL BE ABLE TO CONFIGURE ANY OF THE FOLLOWING AUTOMATIC ALARM ACTIONS: PER WORKSTATION, LOGGING, PRINTING, STARTING PROGRAMS OR ROUTINES, DISPLAYING MESSAGES, PAGING, AUDIBLE ANNUNCIATION, DISPLAYING SPECIFIC GRAPHICAL DISPLAYS OR FILES.

**1.07 SPACE MOUNTED HEAT PUMP CONTROLLERS**

- A. SPACE MOUNTED TERMINAL UNIT CONTROLLERS. AS REQUIRED, ONE (1) DEDICATED SPACE MOUNTED TERMINAL CONTROLLER SHALL BE PROVIDED FOR EACH HEAT PUMP. UTILIZE THE RELIABLE CONTROLS, SSCE SMART SPACE CONTROLLER WITH LCD DISPLAY.
  - 1. PROVIDE EACH HEAT-PUMP AS ZONED A WALL MOUNTED SMART SPACE CONTROLLER THAT EMULATES THERMOSTAT FEATURES, WHILE COMMUNICATING WITH THE OVERALL SYSTEM. EACH WILL HAVE THE HUMIDITY FEATURE, A MINIMUM OF 3 INPUTS AND 4 UNIVERSAL OUTPUTS
  - 2. THE SSCE SHALL COMMUNICATE EFFECTIVELY AT A BAUD OF 76.8 KBPS UNDER NORMAL NETWORK OPERATIONAL CONDITIONS WITH ALL DEVICES EXECUTING THE SPECIFIED SEQUENCES OF OPERATION AT THE SPECIFIED PERFORMANCE CRITERIA.

**1.08 AUTOMATIC CONTROL VALVES**

- A. AUTOMATIC CONTROL VALVES. PROVIDE CONTROL VALVES FROM :
  - 1. BELIMO AIR CONTROLS
  - 2. BRAY CONTROLS

**3. HONEYWELL INTERNATIONAL**

- B. ALL BUTTERFLY VALVES SHALL COME WITH EPDM WAFER SEALS AND CLOSE OFF WITHOUT LEAKS
  - 1. TWO-WAY WATER VALVES: 150% OF TOTAL SYSTEM (PUMP) HEAD.
  - 2. THREE-WAY WATER VALVES: 100% OF PRESSURE DIFFERENTIAL BETWEEN PORTS A AND B AT DESIGN FLOW OR 100% OF TOTAL SYSTEM (PUMP) HEAD (WHICHEVER IS GREATER).

**1.09 AUTOMATIC VALVE ACTUATORS**

- A. ELECTRIC ACTUATION. ELECTRIC, ALL BUTTERFLY VALVES SHALL BE CAPABLE OF 110 OR 24 VAC POWER.
  - 1. THE ACTUATOR SHALL HAVE ELECTRONIC OVERLOAD OR STALL PROTECTION TO PREVENT DAMAGE TO THE ACTUATOR THROUGHOUT ROTATION. MAINTAIN THEIR LAST COMMANDED POSITION WHEN POWER IS LOST TO THE ACTUATOR.
- B. CLUTCH/GEAR RELEASE. ALL VALVE ACTUATORS SHALL HAVE AN EXTERNAL MANUAL CLUTCH/GEAR RELEASE TO ALLOW MANUAL POSITIONING OF THE DAMPER WHEN THE ACTUATOR IS NOT POWERED.
- C. END SWITCH: VALVE ACTUATORS SHALL HAVE EITHER AN ADJUSTABLE END SWITCH TO VERIFY PORT POSITION REVERSAL OR AN ANALOG POSITION FEEDBACK, USING 4-20MA OF 0-10VDC.
- D. ENCLOSURE. ACTUATOR CASING AND/OR ENCLOSURES SHALL BE APPROPRIATE TO THE APPLICATION, IF INSIDE THE CASE SHALL BE A MINIMUM RATING OF NEMA-1, FOR OUTSIDE APPLICATION USE NEMA-4 RATED ENCLOSURES.

**1.10 FLOW CONTROL VALVES-ENERGY VALVE**

- A. FLOW CONTROL VALVES AS SHOWN ON THE PLANS SHALL BE EQUAL TO THE BELIMO INTELLIGENT ENERGY VALVE WITH BACNET MSTP COMMUNICATIONS. PROVIDE & CONTROL FLOW RATE, MEASURE WATER TEMPERATURE, AND ACTUATOR COMMANDS AND PERFORMANCE DATA.

**1.11 CURRENT SWITCHES**

- A. CURRENT SWITCHES. CURRENT-OPERATED SWITCHES SHALL BE SELF-POWERED, SOLID-STATE, SPLIT OR SOLID CORE TYPE WITH ADJUSTABLE TRIP CURRENT, STATUS LED AND DRY-CONTACT OUTPUT.

**1.12 FLOW METERS WATER**

- A. PROVIDE AN INLINE FLOW METER USING EITHER TURBINE PULSE TO ANALOG, OR MAGNETIC ANALOG. FLOW METER GENERATES A SIGNAL FOR THE DDC SYSTEM TO SCALE AS WATER FLOW IN GALLONS PER MINUTE. SHALL BE WEATHER PROOF, OR HAVE A WEATHER ENCLOSURE IS MOUNTED OUTDOORS. PROVIDE FLOW METERS FROM FLOMEC (GPI TM SERIES), OR THE ONICON INSERTION TYPE WITH TURBINE ANALOG OUTPUT

**1.13 POWER SUPPLIES AND LINE FILTERING**

- A. POWER SUPPLIES & CONTROL TRANSFORMERS. CONTROL TRANSFORMERS AND POWER SUPPLIES SHALL BE UL-LISTED. PROVIDE CLASS 2 CURRENT-LIMITING TYPE OR OVER-CURRENT PROTECTION IN BOTH PRIMARY AND SECONDARY CIRCUITS FOR CLASS 2 SERVICE. SHALL HAVE BUILT IN SERVICE RECEPTACLE, SWITCHES FOR BOTH 110VAC AND 24VAC.

**1.14 INTERCONNECTING WIRING & RACEWAYS**

- A. WIRING & CABLE. ALL WIRING REGARDLESS OF SERVICE AND/OR VOLTAGE SHALL COMPLY WITH THE CONTRACT DOCUMENT ELECTRICAL SYSTEM SPECIFICATIONS, THE NATIONAL ELECTRIC CODE (NEC), CSA C22.1-12 AND ANY/APPLICABLE LOCAL CODES AND/OR AUTHORITIES HAVING JURISDICTION (AHJ).

**1.15 WARRANTY**

- A. THE DDC SYSTEM MANUFACTURER SHALL PROVIDE A WARRANTY CERTIFICATE COVERING ALL RELIABLE DDC HARDWARE FOR A PERIOD OF 5 YEARS FROM DATE OF OWNER'S ACCEPTANCE.

**1.16 EMBEDDED BACNET OPERATOR WORKSTATION (B-OWS)**

- A. THE MAIN CONTROLLER PROVIDED SHALL BE A MACH-PROWBECOM EMBEDDED BACNET OPERATOR WORKSTATION & BUILDING CONTROLLER AND WILL USE NATIVE BACNET COMMUNICATIONS DIRECTLY WITH ALL DEVICES ON THE BMS NETWORK.
- B. EMBEDDED BACNET OPERATOR WORKSTATION SHALL NOT REQUIRE ANY HARDWARE, SOFTWARE OR FIRMWARE LICENSING AGREEMENTS;
- C. FUNCTIONALITY OF THE EMBEDDED BACNET OPERATOR WORKSTATIONS SHALL NEITHER BE DEFINED NOR LIMITED BY FEATURE LICENSING.
- D. ALL EMBEDDED BACNET OPERATOR WORKSTATIONS PROVIDED UNDER THIS SPECIFICATION SHALL BE REQUIRED TO PROVIDE THE FOLLOWING SIMULTANEOUS INTRINSIC AND ENABLED PHYSICAL COMMUNICATION NETWORKS AT A MINIMUM:
  - 1. ONE (1) ISO 8802-3 ETHERNET PORT @ 100 MBPS.
  - 2. ONE (1) EA-232 PORT @ 115.2 KBPS.
  - 3. TWO (2) EA-485 PORTS @ 76.8 KBPS.
- E. ALL EMBEDDED CONTROLLERS, AND FIELD LEVEL CONTROLLERS SHALL BE NATIVE BACNET.
  - 1. ANS/ASHRAE STANDARD 135: BACNET.
    - A. ONE (1) POINT-TO-POINT (PTP): ANS/ASHRAE STANDARD 135.10.
    - B. ONE (1) MASTER SLAVE TOKEN PASSING (MS/TP): ANS/ASHRAE STANDARD 135.9.
    - C. ONE (1) ISO 8802-3 (ETHERNET): ANS/ASHRAE STANDARD 135.7.
    - D. TWO (2) BACNET/IP: ANS/ASHRAE STANDARD 135 ANNEX J.
  - 2. MODBUS.
  - A. REMOTE TERMINAL UNIT (RTU) MASTER OR SLAVE.
  - B. TCP MASTER OR SLAVE.
  - 3. SIMPLE MAIL TRANSFER PROTOCOL (SMTP).
    - A. TRANSPORT LAYER SECURITY (TLS) FOR SMTP MUST BE SUPPORTED INCLUDING COMPATIBILITY WITH STANDARD FREE EMAIL SERVICES.
    - B. THE ABILITY TO MANAGE CUSTOM TLS CERTIFICATES FROM SMTP MUST BE SUPPORTED.
    - C. THE ABILITY TO TRANSMIT A SIMPLE TEST EMAIL TO VERIFY SMTP CONFIGURATION WITH A SINGLE OPERATOR ACTION (E.G., PRESSING A TEST EMAIL BUTTON) MUST BE PROVIDED.
  - 4. SIMPLE NETWORK MANAGEMENT PROTOCOL (SNMP).
  - 5. HYPERTEXT TRANSFER PROTOCOL (HTTP).
- F. EMBEDDED BACNET\* OPERATOR WORKSTATIONS SHALL PROVIDE GRAPHICALLY-ORIENTED THIN-CLIENT OPERATOR INTERFACE.
  - 1. THE CURRENT VERSIONS OF THE FOLLOWING STANDARD WEB BROWSERS SHALL BE SUPPORTED AT A MINIMUM: MICROSOFT INTERNET EXPLORER, GOOGLE CHROME, MOZILLA FIREFOX, AND APPLE SAFARI.
  - 2. A CUSTOMIZABLE NAVIGATION/FILE TREE SHALL BE PROVIDED.
  - 3. INDIVIDUAL USER HOME PAGES AS DETERMINED BY THE USER CREDENTIALS SHALL BE SUPPORTED. EACH USER'S ABILITY TO NAVIGATE THE B-OWS SHALL BE DETERMINED BY THEIR LOG-IN CREDENTIALS.
  - G. EACH EMBEDDED BACNET\* OPERATOR WORKSTATION SHALL SUPPORT UNLIMITED ACCESS FOR A MINIMUM OF FIVE (5) SIMULTANEOUS USERS.
  - H. EMBEDDED BACNET\* WORKSTATIONS SHALL PROVIDE AN AUDIT TRAIL FEATURE THAT AUTOMATICALLY RECORDS THE DATE, TIME, USER, AND ACTION ASSOCIATED WITH ALL USER ACCESS AND CHANGES MADE VIA WEB BROWSER CLIENTS.

**1.17 SPACE MOUNTED TERMINAL UNIT CONTROLLERS**

A. THE SPACE MOUNTED TERMINAL CONTROLLERS PROVIDED SHALL COMPLY WITH ALL RELEVANT SECTIONS OF THIS SPECIFICATION.

- B. ALL SPACE MOUNTED TERMINAL CONTROLLERS SERIES UNDER THIS SPECIFICATION SHALL BE AVAILABLE WITH THE FOLLOWING THE INTEGRAL HARDWARE SENSORS AT A MINIMUM: TEMPERATURE, SETPOINT AND ADJUSTMENT, RELATIVE HUMIDITY.
- C. EACH SPACE MOUNTED TERMINAL CONTROLLER SHALL BE PROVIDED WITH A KEYPAD AND DISPLAY TO PERMIT LOW-LEVEL OPERATOR INTERFACE WITH FOLLOWING FEATURES AT A MINIMUM:
  - 1. CONFIGURABLE BACK-LIGHTING. CONFIGURABLE TO DISPLAY ICONS, TIME, POINT NAMES AND ENGINEERING UNITS. CONFIGURABLE TO DISPLAY AND MODIFY OBJECT VALUES FROM ANY DEVICE ON THE INTERNETWORK. PROVIDE ACCESS TO A MINIMUM OF TEN (10) TOTAL OBJECT VALUES.

**1.18 TEMPERATURE SENSORS**

- A. ALL SENSORS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS CONSISTENT WITH ACCEPTABLE INDUSTRY STANDARDS FOR PERFORMANCE COMPLIANT WITH THE REQUIREMENTS OF THIS SPECIFICATION. ALL DUCT SENSORS SHALL BE 12" RIGID AVERAGING
- B. ALL PIPE-MOUNTED SENSORS SHALL BE INSTALLED IN WELLS. INSTALL ALL LIQUID TEMPERATURE SENSORS WITH HEAT-CONDUCTING FLUID IN THERMAL WELLS.
- C. OUTDOOR AIR SENSORS SHALL BE MOUNTED OUTSIDE ON A NORTHERN EXPOSURE AS HIGH AS SERVICEABLE ON THE BUILDING. THE SENSOR SHALL BE MOUNTED WITHIN A VENTILATED ENCLOSURE TO SHIELD THE SENSOR FROM THE EFFECTS OF THE SUN. THE SENSOR LOCATION SHALL BE SELECTED SUCH THAT IT MAY NOT BE AFFECTED BY ARTIFICIAL AND/OR MECHANICAL AIRSTREAMS (I.E., BUILDING EXHAUST, BUILDING RELIEF, &C.).

**1.19 TEMPERATURE CONTROL PANELS**

- A. UNLESS OTHERWISE DIRECTED BY THE AHJ, ALL TEMPERATURE CONTROL PANELS AND ENCLOSURES SHALL BE LOCATED AS INDICATED SUCH THAT VISUAL OBSERVATION AND ADJUSTMENT CAN BE ACCOMPLISHED WHILE STANDING PLATFORMED ON THE FLOOR IN A CONVENIENT LOCATION ADJACENT TO THE EQUIPMENT SERVED.
- B. ALL TEMPERATURE CONTROL PANELS SHALL HAVE KEYS, LOCKING LATCHES AND SHALL BE KEYS COMMONLY SUCH THAT ONE KEY SHALL OPEN ALL ENCLOSURES.
- C. PROVIDE EACH DDC PANEL WITH A POWER SUPPLY THAT IS NEMA-2 RATED, DISCONNECT SWITCHES FOR 110VAC & 24VAC, BOTH SIDES FUSED, AND A SERVICE RECEPTACLE IN THE POWER SUPPLY.

**1.20 WIRING**

- A. DDC SYSTEM CONTROL WIRING SHALL BE PERFORMED BY PROFESSIONALS IN A WORKMANLIKE MANNER CONSISTENT WITH ACCEPTABLE INDUSTRY STANDARDS FOR PERFORMANCE AND IN COMPLIANCE WITH THE CONTRACT DOCUMENTS, PROJECT ELECTRICAL SYSTEM SPECIFICATIONS, THE NATIONAL ELECTRIC CODE (NEC), CSA C22.1-12 AND ANY/APPLICABLE LOCAL CODES AND/OR AUTHORITIES HAVING JURISDICTION (AHJ).
- B. UNLESS OTHERWISE SPECIFIED IT SHALL BE THE RESPONSIBILITY OF THE DDC SYSTEM CONTRACTOR TO PROVIDE ALL OF THE WIRING NECESSARY TO PROVIDE A COMPLETE DDC SYSTEM IN COMPLIANCE WITH THE REQUIREMENTS OF THIS SPECIFICATION.
- C. ANY EXPOSED WIRING IN THE MECHANICAL SPACE SHALL BE IN BLUE CONDUIT, AND ANY EXPOSED WIRING IN CONCEALED LOCATIONS SHALL BE PLEXUM RATED, BUNDLED NEATLY AND THE-WRAPPED EVERY 3'.

**1.21 PROGRAMMING**

- A. PROVIDE SUFFICIENT INTERNAL MEMORY FOR THE SPECIFIED SEQUENCES OF OPERATION AND DATA LOGGING WITH A MINIMUM OF 25% OF AVAILABLE MEMORY REMAINING FREE FOR FUTURE USE.
- B. PROVIDE A PRINTED COPY IN THE O&M MANUAL, OF THE PROGRAMMING IN EACH CONTROLLER.

**1.22 DDC SYSTEM CHECK-OUT AND TESTING**

- A. ALL TESTING LISTED IN THIS ARTICLE SHALL BE PERFORMED BY THE DDC SYSTEM CONTRACTOR. THIS TESTING SHALL BE COMPLETED BEFORE SYSTEM DEMONSTRATION IS INITIATED.
  - 1. THE DDC SYSTEM CONTRACTOR SHALL FURNISH ALL OF THE NECESSARY LABOR AND TEST AND CALIBRATION APPARATUS REQUIRED TO CALIBRATE AND PREPARE FOR SERVICE ALL INSTRUMENTS, CONTROLS, AND ACCESSORY EQUIPMENT PROVIDED UNDER THIS SPECIFICATION.
  - 2. VERIFY THAT ALL CONTROL TERMINATIONS ARE TIGHT AND ALL CONTROL WIRING IS PROPER AND FREE FROM SHORTS AND FAULTS.
  - 3. SEMBLE NORMAL OPERATIONAL CONTROL AND VERIFY CALIBRATION OF ALL INPUT DEVICES INDIVIDUALLY ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.

**1.23 START-UP & CHECK OUT DOCUMENTATION**

- A. DURING START-UP, THE DDC TECHNICIANS SHALL USE A START-UP SHEET LISTING THE INPUTS AND OUTPUTS OF EACH CONTROLLER. A LINE NEXT TO EACH CONTROL POINT SHALL BE INITIALED AND DATED BY THE TECHNICIAN AFTER POINTS ARE SHOWN OPERATIONAL.
- B. AS EACH DEVICE IS TESTED A LOG SHALL BE COMPLETED SHOWING THE DATE, TECHNICIAN'S INITIALS AND ANY CORRECTIVE ACTION TAKEN AS A RESULT OF OPERATIONAL FAILURES.
  - 1. MANY TESTS THAT CANNOT BE PERFORMED DUE TO CIRCUMSTANCES BEYOND THE CONTROL OF THE DDC SYSTEM CONTRACTOR MAY BE PERFORMED AT THE DISCRETION OF THE OWNER AFTER ACCEPTANCE AND AS A PART OF THE WARRANTY PERIOD.

**1.24 CLEANING**

- A. THE DDC SYSTEM CONTRACTOR SHALL CLEAN UP ALL DEBRIS RESULTING FROM HIS/HER ACTIVITIES DAILY. THE CONTRACTOR SHALL REMOVE ALL CARTONS, CONTAINERS, CRATES, ETC. UNDER HIS/HER CONTROL AS SOON AS THEIR CONTENTS HAVE BEEN REMOVED. AT THE COMPLETION OF WORK IN ANY AREA THE DDC SYSTEM CONTRACTOR SHALL CLEAN ALL WORK, EQUIPMENT, ETC. KEEPING IT FREE FROM DUST, DIRT, DEBRIS, ETC.

**1.25 TRAINING**

- A. THE DDC SYSTEM CONTRACTOR SHALL PROVIDE INSTRUCTION ON THE ADJUSTMENT, OPERATION AND MAINTENANCE OF THE DDC SYSTEM INCLUDING ALL HARDWARE AND SOFTWARE PROVIDED AND INSTALLED IN COMPLIANCE WITH THE REQUIREMENTS OF THIS SPECIFICATION.
  - 1. PROVIDE A MINIMUM OF 4 HOURS OF INSTRUCTION TO AT LEAST 3 CITY EMPLOYEES POST EQUIPMENT START-UP. PROVIDE AN ADDITIONAL 4 HOURS PRIOR TO THE ONE YEAR INSTALLATION WARRANTY.
  - 2. PROVIDE THE OWNER A WARRANTY CERTIFICATE AND TRAINING AT THE INITIAL 4 HOUR ORIENTATION & TRAINING.
  - 3. TURN OVER TO THE OWNER TWO DATABASE BACK-UPS ON IDENTICAL FLASH DRIVES. ONE SHALL BE PLACED IN THE CONTROL PANEL WHERE THE BACNET EMBEDDED BUILDING CONTROLLER IS MOUNTED, AND THE OTHER TO THE OWNERS REPRESENTATIVE ALONG WITH A COPY OF THE OPERATIONS AND MAINTENANCE MANUAL.



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**ARCHITECT OF RECORD**

**REVISION SCHEDULE**

No.	DESCRIPTION	DATE
A	50% SUBMITTAL	4/18/17
B	90% Review Set	5/24/17
D	Permit Set	8/17/17



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6788-16-2867  
100% CD - 08-17-17

PROJECT NUMBER | STATUS | ISSUE DATE

CONTROLS - HEAT PUMPS - NEW WORK

SCALE: NOT TO SCALE

**M-002**  
**SHEET NUMBER**

MINIMUM CONTROL POINTS DISPLAYED ON GRAPHICS FOR HEAT PUMPS AND PLANT



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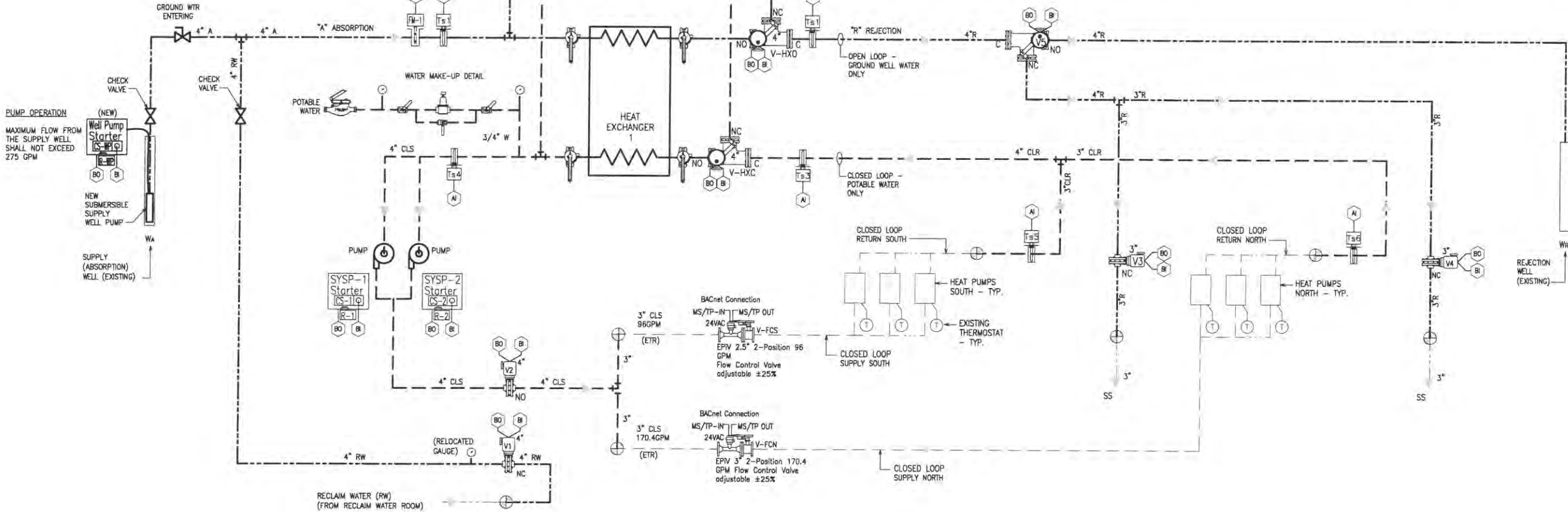
PROJECT NUMBER | STATUS | ISSUE DATE  
CONTROL DIAGRAMS - CONDENSER WATER SYSTEMS

SCALE: NOT TO SCALE

M-003  
SHEET NUMBER

PIPING LEGEND	
*A*	ABSORPTION WATER LINE
RW	RECLAIM WATER LINE
*R*	REJECTION WATER LINE
CLR	CLOSED LOOP RETURN LINE
CLS	CLOSED LOOP SUPPLY LINE
SS	SANITARY SEWER LINE
*W*	POTABLE WATER MAKE-UP LINE
---	EXISTING
---	NEW
---	OPEN LOOP PIPING
---	CLOSED LOOP PIPING

HEAT PUMP STATUS	PLANT MODE OF OPERATION	V-FCN COMMUNICATION STATUS
COMMUNICATION STATUS	NORMAL/LEVEL-1 BACK-UP/LEVEL-2 BACK-UP	V-FCS COMMUNICATION STATUS
DISPLAY COOLING OR HEATING MODE	ENTERING HX TEMPERATURE	V1 COMMAND
COMPRESSOR COMMAND	LEAVING HX TEMPERATURE	V2 COMMAND
ZONE-SPACE TEMPERATURE	OPEN LOOP WATER FLOW	V2 STATUS
ZONE SPACE HUMIDITY	CLOSED LOOP ENTERING TEMPERATURE SOUTH	V3 COMMAND
INDOOR COIL LEAVING AIR TEMPERATURE	CLOSED LOOP LEAVING TEMPERATURE SOUTH	V3 STATUS
CURRENT SET POINT	CLOSED LOOP ENTERING TEMPERATURE NORTH	V4 COMMAND
MAX COOLING SET POINT	CLOSED LOOP LEAVING TEMPERATURE NORTH	V4 STATUS
MIN COOLING SET POINT	CLOSED LOOP WATER FLOW SOUTH	V5 COMMAND
MAX HEATING SET POINT	WELL PUMP MOTOR COMMAND	V5 STATUS
MIN HEATING SET POINT	WELL PUMP MOTOR STATUS	V6 COMMAND
CONTROLLER COMMUNICATION STATUS	SYSP-1 PUMP MOTOR COMMAND	V6 STATUS
HEAT PUMP ALARM (IF PROVIDED)	SYSP-1 PUMP MOTOR STATUS	V7 COMMAND
UNIT ROOM NUMBER OR AREA	SYSP-2 PUMP MOTOR COMMAND	V7 STATUS
BLOWER COMMAND	SYSP-2 PUMP MOTOR STATUS	V8 COMMAND
BLOWER STATUS		V8 STATUS



SEQUENCE OF OPERATION CONDENSER WATER SYSTEM

THE NORMAL SEQUENCE OF THE SYSTEM IS TO ALLOW WELL WATER TO ABSORB & REJECT HEAT FROM THE CLOSED LOOP SIDE GENERATED BY THE HEAT PUMPS. IN THE EVENT OF A PUMP FAILURE, THE SYSTEM WILL BE ABLE TO USE RECYCLED SECONDARY EFFLUENT TO BACK UP THE OPEN SIDE OF THE SYSTEM.

THE SYSTEM WILL USE A COMBINATION BTL LEVEL 6 RATED BACNET BUILDING CONTROLLER & AN EMBEDDED BACNET OPERATOR WORKSTATION (BOWS) WITH ONE MSTP TRUNK CONNECTION, AND ONE AUXILIARY I/O EXPANSION THAT ALLOWS THE ENTIRE PLANT TO RUN INSIDE ONE CONTROLLER WITH ONE PROGRAM FILE. THE BUILDING CONTROLLER WILL BE CONNECTED TO THE OWNERS BUILDING NETWORK, AND WILL BE CONNECTED TO THE EXISTING CITY ANALYTICS DASHBOARD FOR REMOTE ACCESS.

THE PLANT SHALL RUN ON A USER-DEFINED SCHEDULE, SET ON THE GRAPHIC SCREEN IN THE BACNET EMBEDDED BUILDING CONTROLLER. AS THE SYSTEM STARTS OR UPON START-UP FROM A POWER INTERRUPTION, THE SUBMERGED WELL PUMP WILL START, AND PROVIDE RUN STATUS BY A CURRENT SWITCH AT THE PUMP STARTER. WATER FLOW PROOF FOR THE OPEN LOOP SHALL BE MADE WHEN THE CURRENT SWITCH IS MADE AND THE FLOW METER FM-1 IS WITHIN 80% (ADJUSTABLE) OF THE MAXIMUM WELL PUMP GPM OF 275 GPM AS SET BY WELL PUMP VFD.

AFTER OPEN LOOP FLOW PROOF, THE LEAD PUMP FOR THE CLOSED LOOP WILL BE ACTIVATED AND A CURRENT SWITCH WILL VERIFY OPERATION, IF THE CURRENT SWITCH IS MADE AND THE TOTAL FLOW RATE BETWEEN FLOW CONTROL VALVES V-FCN & V-FCS ARE WITHIN 80% (ADJUSTABLE) OF THE SPECIFIED FLOW RATE, THE SYSTEM WILL EXECUTE ALL PROGRAMMING FOR CONTROL AND SEND A FLOW SIGNAL TO THE BUILDING HEAT PUMPS ALLOWING THEM TO RUN.

DURING NORMAL OPERATION, THE BUILDING OPERATOR SHALL BE ABLE TO SELECT WHICH PLATE & FRAME HEAT EXCHANGER IS IN USE THROUGH THE MECHANICAL SYSTEM GRAPHIC SCREEN. IT IS RECOMMENDED THAT THIS SELECTION BE MADE PRIOR TO SYSTEM START-UP.

CLOSED LOOP PUMPS

THE SYSTEM LOOP PUMPS WILL ALTERNATE EACH TIME THE SYSTEM IS ACTIVATED OR SCHEDULED ON, BUT NO LESS THAN WEEKLY TO EVEN THE RUNTIME. SHOULD THE SYSTEM LOSE DETECTION OF FLOW FOR THE LEAD PUMP IN OPERATION, THE PROGRAMMING WILL SHIFT THE SYSTEM TO THE LAG PUMP AUTOMATICALLY, AND SEND A TEXT OR EMAIL ALARM TO THE BUILDING OPERATOR.

ALL VALVES ARE SELECTED TO OPERATE IN THE DEFAULT POSITION OF PRIMARY OPERATION FOR WELL WATER USE, THROUGH THE PLATE & FRAME HEAT EXCHANGER INTO THE INJECTION WELL. ALL BUTTERFLY VALVES SHALL COME WITH A MANUAL WHEEL THAT MAY BE ENGAGED TO CONNECT DIRECTLY TO THE MOTOR SHAFT

AND REPOSITION THE VALVE IN THE EVENT OF A FAILURE.

DURING NORMAL OPERATION WATER FLOW VOLUME SHALL BE METERED AND DISPLAYED FOR THE OPEN SIDE AS WELL AS THE CLOSED LOOP SIDE. THE CLOSED BUILDING LOOP WILL SHOW FLOW TO EACH BUILDING, NORTH & SOUTH THROUGH A BACNET CONNECTION FROM EACH FLOW CONTROL VALVE.

BACK-UP

SHOULD THE WELL PUMP REQUIRE SERVICING, TO CONTINUE SYSTEM OPERATION, THE SYSTEM VALVES CAN AUTOMATICALLY CHANGE POSITION FOR BACK-UP. THIS MAY BE SET TO WORK AUTOMATICALLY OR MANUALLY IN THE EVENT OF PUMP FAILURE, OR AS NEEDED. WHEN BACK-UP IS SELECTED, THE WELL PUMP STARTER IS DEACTIVATED, VALVE V5 WILL BE ACTIVATED TO CLOSE OFF THE INJECTION WELL, AND DIVERT WATER TOWARDS THE SANITARY SEWERS, AND VALVES V1, V3, & V4 SHALL BE ACTIVATED TO OPEN.

ONCE VALVE V1 IS OPEN, RECYCLED WASTE WATER WILL FLOW FROM ITS SOURCE OF ORIGIN, INTO, AND THROUGH THE SELECTED HEAT EXCHANGER, THEN BE DIRECTED TO DRAIN OUT OF THE SYSTEM TO EACH RESPECTIVE SANITARY SEWER. THE CLOSED LOOP WILL FUNCTION NORMALLY WITH EITHER THE LEAD OR LAG PUMP BEING ACTIVATED. AN HISTORICAL TREND ON FM-1 WILL SHOW THE OPEN LOOP FLOW RATE DURING BACK-UP.

THE MACHPROWEBCOM BACNET BUILDING CONTROLLER, WILL PROVIDE ALL THE CONTROL LOGIC FOR THE MACH PROPOINT I/O MODULES, SO ALL PROGRAMMING FOR THE PLANT IS CARRIED OUT IN ONE LARGER CONTROLLER. PROVIDE SUFFICIENT MODULES TO ALLOW FOR A MINIMUM OF 10X SPARE POINTS.

SET UP ALARMS TO SEND TEXT MESSAGES OR EMAILS FOR THE FOLLOWING CONDITIONS:

- WELL PUMP FAILS TO MAKE STATUS
- SYSTEM PUMPS FAIL TO MAKE STATUS
- FLOW METER 1 DROPS BELOW 80% FLOW
- VALVE V-FCS DROPS BELOW 80% FLOW
- VALVE V-FCN DROPS BELOW 80% FLOW
- ANY VALVE FAILS TO SHOW ACTIVATED POSITION
- ENTERING CLOSED LOOP WATER TEMP RISES TO 90°
- LEAVING CLOSED LOOP WATER TEMP RISES TO 110°
- HEAT PUMP LOCK OUT DUE TO NO FLOW
- COMMUNICATION LOSS OR ANY NETWORK DEVICE

CONTROL DIAGRAM LEGEND	
CS	CURRENT SWITCH (ADJUSTABLE THRESHOLD)
C	COMMON PORT
FM	FLOW METER-INLINE TURBINE PULSE
NC	NORMALLY CLOSED VALVE PORT
NO	NORMALLY OPEN VALVE PORT
R-x	RELAY 24VAC CONTROL
SYSP-1	CLOSED LOOP SYSTEM PUMP 1
SYSP-2	CLOSED LOOP SYSTEM PUMP 2
SS	SANITARY SEWER
Ts-x	IMMERSION WELL MOUNTED WATER TEMPERATURE SENSOR
V-FCN	FLOW CONTROL VALVE NORTH CLOSED LOOP (BACNET MSTP CONNECTED)
V-FCS	FLOW CONTROL VALVE SOUTH CLOSED LOOP (BACNET MSTP CONNECTED)
V-HXO	SANITARY SEWER
V-HXC	IMMERSION WELL MOUNTED WATER TEMPERATURE SENSOR
Wa	PRIMARY WATER WELL
Wb	PRIMARY WATER REJECTION WELL

ARCHITECT OF RECORD

REVISION SCHEDULE

No.	DESCRIPTION	DATE
A	50% SUBMITTAL	4/18/17
B	90% Review Set	5/24/17
0	Permit Set	8/17/17



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6788-16-2867  
100% CD - 08-17-17

PROJECT NUMBER | STATUS | ISSUE DATE

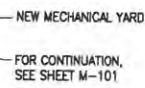
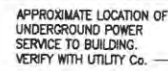
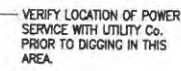
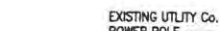
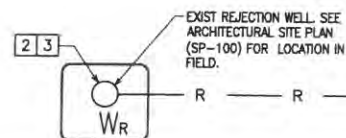
SITE PLAN

SCALE: 1"=20'-0"

**M-100**  
54  
SHEET NUMBER

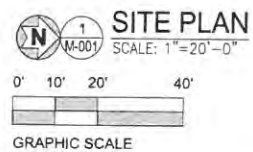
GOODLETTE-FRANK RD

RIVERSIDE CTR



KEYED PLAN NOTES

- CONTRACTOR TO INSTALL ALL U.G. LINES WITH A MINIMUM COVER OF 36" TO TOP OF PIPE. SLOPE LINE AT 0.1% TOWARD WELLS (FIELD COORDINATE).
- PROVIDE A LOW POINT DRAIN ON 4" U.G. LINE AT REJECTION AND SUPPLY WELLS. TERMINATE LOW POINT DRAIN WITH VALVE AND CAP AT GRADE WITHIN A LOCKABLE/VANDAL RESISTANT BOX. SUBMIT BOX FOR APPROVAL.
- PROVIDE D.I. TO UG HOPE TRANSITION FITTING AT WELLS. REFER TO SUPPLY AND REJECTION WELLS DETAILS 7 & 8/M-401. SUBMIT TRANSITION FITTING FOR APPROVAL.





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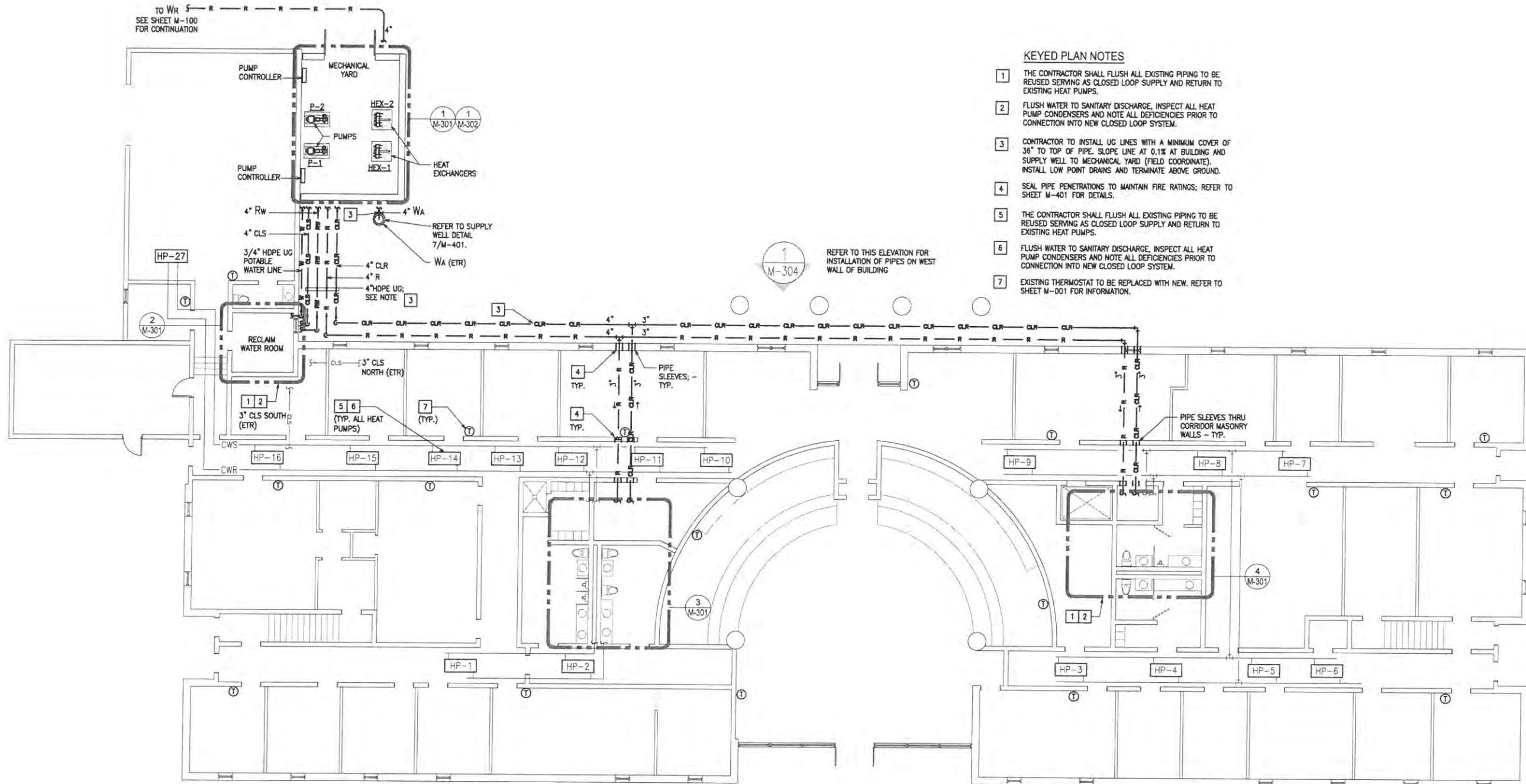
1ST FLOOR PLAN - NEW  
WORK

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

M-101  
SHEET NUMBER

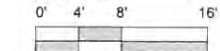
KEYED PLAN NOTES

- 1 THE CONTRACTOR SHALL FLUSH ALL EXISTING PIPING TO BE REUSED SERVING AS CLOSED LOOP SUPPLY AND RETURN TO EXISTING HEAT PUMPS.
- 2 FLUSH WATER TO SANITARY DISCHARGE, INSPECT ALL HEAT PUMP CONDENSERS AND NOTE ALL DEFICIENCIES PRIOR TO CONNECTION INTO NEW CLOSED LOOP SYSTEM.
- 3 CONTRACTOR TO INSTALL UG LINES WITH A MINIMUM COVER OF 36" TO TOP OF PIPE. SLOPE LINE AT 0.1% AT BUILDING AND SUPPLY WELL TO MECHANICAL YARD (FIELD COORDINATE). INSTALL LOW POINT DRAINS AND TERMINATE ABOVE GROUND.
- 4 SEAL PIPE PENETRATIONS TO MAINTAIN FIRE RATINGS; REFER TO SHEET M-401 FOR DETAILS.
- 5 THE CONTRACTOR SHALL FLUSH ALL EXISTING PIPING TO BE REUSED SERVING AS CLOSED LOOP SUPPLY AND RETURN TO EXISTING HEAT PUMPS.
- 6 FLUSH WATER TO SANITARY DISCHARGE, INSPECT ALL HEAT PUMP CONDENSERS AND NOTE ALL DEFICIENCIES PRIOR TO CONNECTION INTO NEW CLOSED LOOP SYSTEM.
- 7 EXISTING THERMOSTAT TO BE REPLACED WITH NEW. REFER TO SHEET M-001 FOR INFORMATION.



1ST FLOOR PLAN - NEW WORK

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



GRAPHIC SCALE



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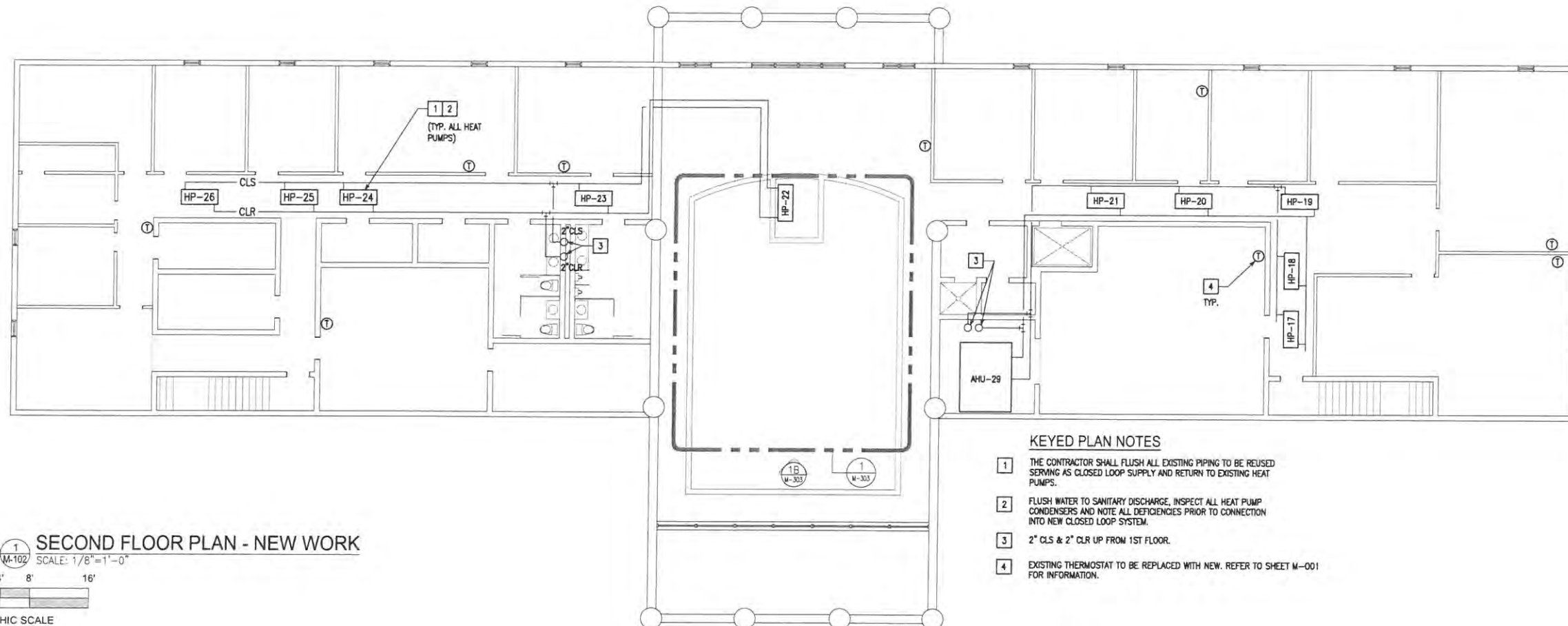
100% CD - 08-17-17

PROJECT NUMBER | STATUS | ISSUE DATE

2ND FLOOR PLAN - NEW  
WORK

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

M-201  
SHEET NUMBER

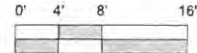


KEYED PLAN NOTES

- 1 THE CONTRACTOR SHALL FLUSH ALL EXISTING PIPING TO BE REUSED SERVING AS CLOSED LOOP SUPPLY AND RETURN TO EXISTING HEAT PUMPS.
- 2 FLUSH WATER TO SANITARY DISCHARGE, INSPECT ALL HEAT PUMP CONDENSERS AND NOTE ALL DEFICIENCIES PRIOR TO CONNECTION INTO NEW CLOSED LOOP SYSTEM.
- 3 2" CLS & 2" CLR UP FROM 1ST FLOOR.
- 4 EXISTING THERMOSTAT TO BE REPLACED WITH NEW. REFER TO SHEET M-001 FOR INFORMATION.

SECOND FLOOR PLAN - NEW WORK

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



GRAPHIC SCALE





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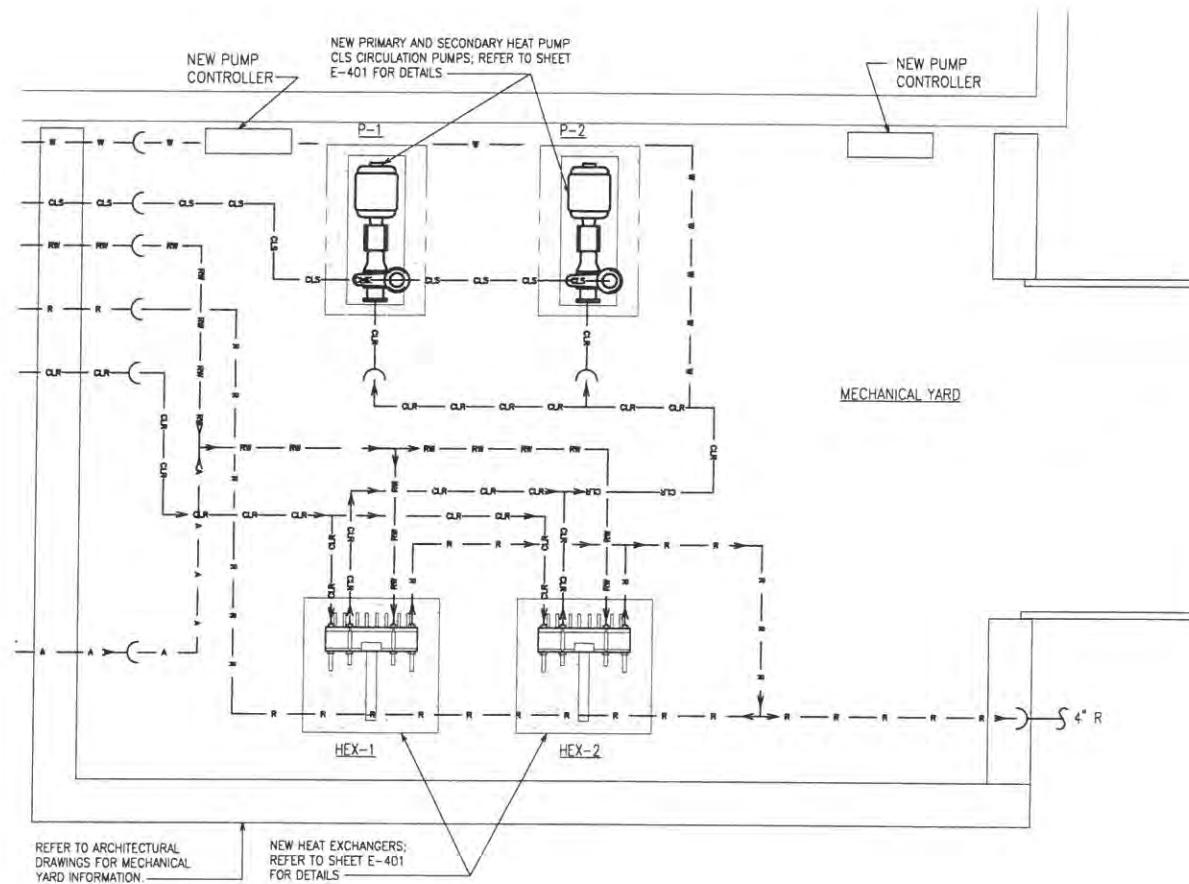
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0' 1' 2' 4' **1 MECHANICAL YARD LAYOUT**  
SCALE: 1/2"=1'-0"  
GRAPHIC SCALE



GREGORY A. JOHNSON  
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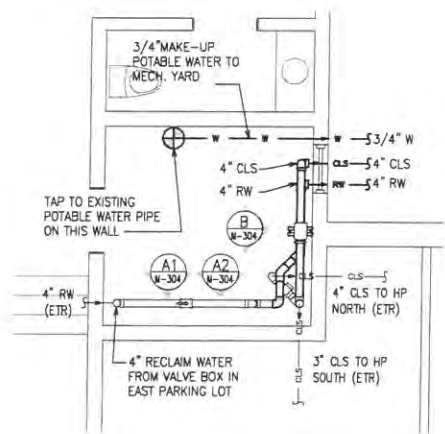
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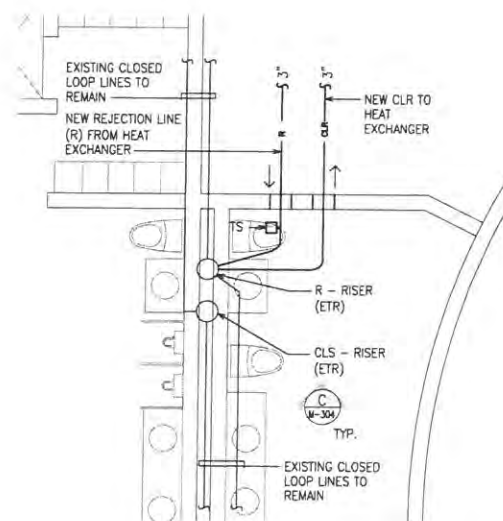
ENLARGED PLANS - NEW WORK

SCALE: AS SHOWN

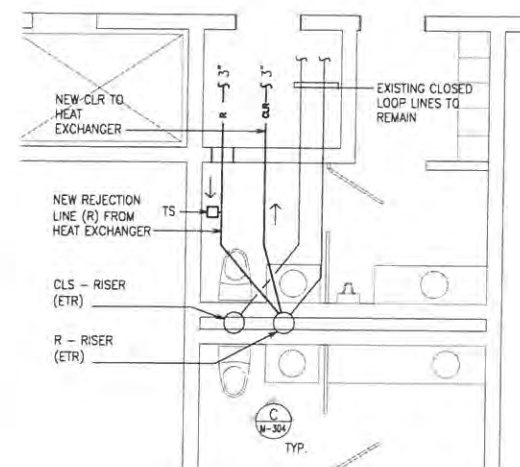
**M-301**  
57  
**SHEET NUMBER**



**2 RECLAIM WATER ROOM**  
SCALE: 1/4"=1'-0"  
GRAPHIC SCALE



**3 PIPING CONNECTION (SOUTH)**  
SCALE: 1/4"=1'-0"  
GRAPHIC SCALE



**4 PIPING CONNECTION (NORTH)**  
SCALE: 1/4"=1'-0"  
GRAPHIC SCALE



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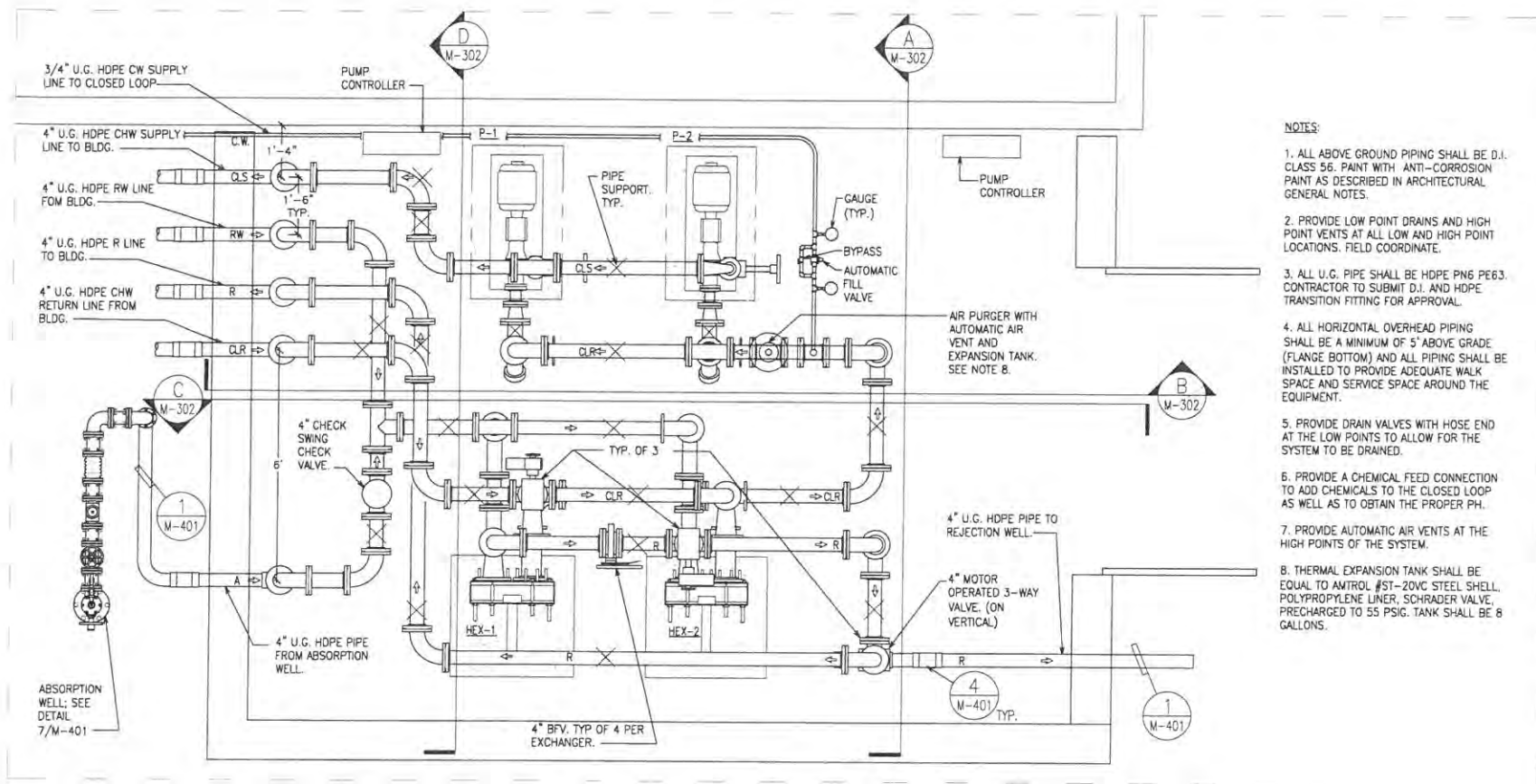
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PROJECT NUMBER | STATUS | ISSUE DATE  
MECHANICAL YARD -  
ENLARGED PLANS - NEW  
WORK

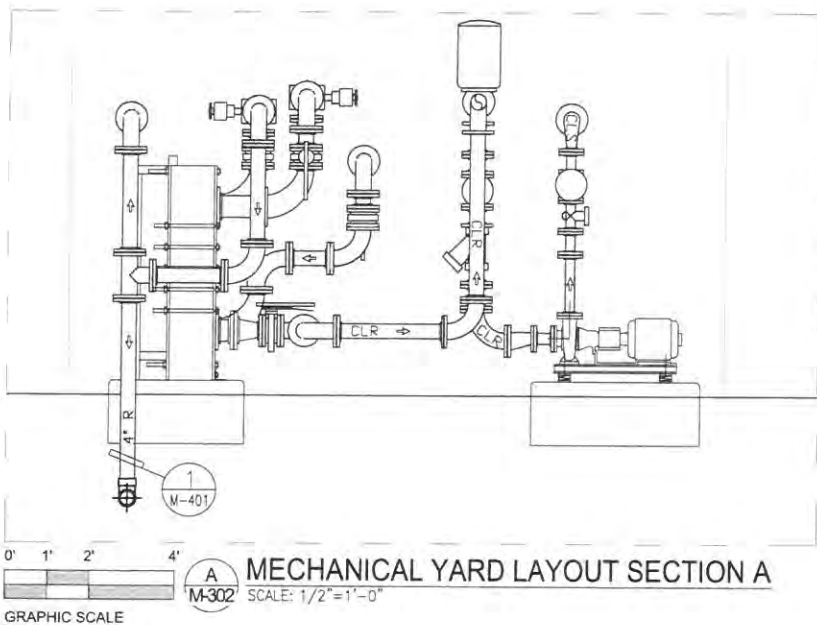
SCALE: AS SHOWN

**M-302**  
SHEET NUMBER

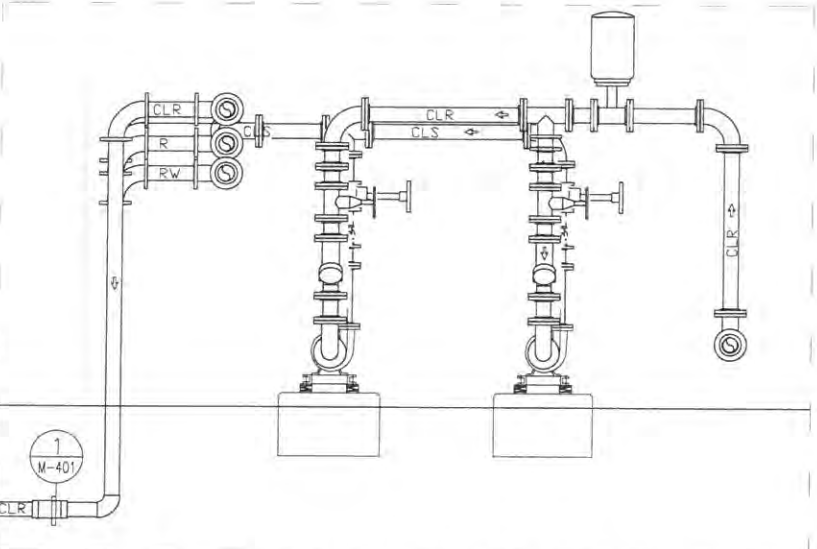


- NOTES:
1. ALL ABOVE GROUND PIPING SHALL BE D.I. CLASS 56. PAINT WITH ANTI-CORROSION PAINT AS DESCRIBED IN ARCHITECTURAL GENERAL NOTES.
  2. PROVIDE LOW POINT DRAINS AND HIGH POINT VENTS AT ALL LOW AND HIGH POINT LOCATIONS. FIELD COORDINATE.
  3. ALL U.G. PIPE SHALL BE HDPE P63. CONTRACTOR TO SUBMIT D.I. AND HDPE TRANSITION FITTING FOR APPROVAL.
  4. ALL HORIZONTAL OVERHEAD PIPING SHALL BE A MINIMUM OF 5' ABOVE GRADE (FLANGE BOTTOM) AND ALL PIPING SHALL BE INSTALLED TO PROVIDE ADEQUATE WALK SPACE AND SERVICE SPACE AROUND THE EQUIPMENT.
  5. PROVIDE DRAIN VALVES WITH HOSE END AT THE LOW POINTS TO ALLOW FOR THE SYSTEM TO BE DRAINED.
  6. PROVIDE A CHEMICAL FEED CONNECTION TO ADD CHEMICALS TO THE CLOSED LOOP AS WELL AS TO OBTAIN THE PROPER PH.
  7. PROVIDE AUTOMATIC AIR VENTS AT THE HIGH POINTS OF THE SYSTEM.
  8. THERMAL EXPANSION TANK SHALL BE EQUAL TO AMTROL #ST-20VC STEEL SHELL, POLYPROPYLENE LINER, SCHRADER VALVE, PRECHARGED TO 55 PSIG. TANK SHALL BE 8 GALLONS.

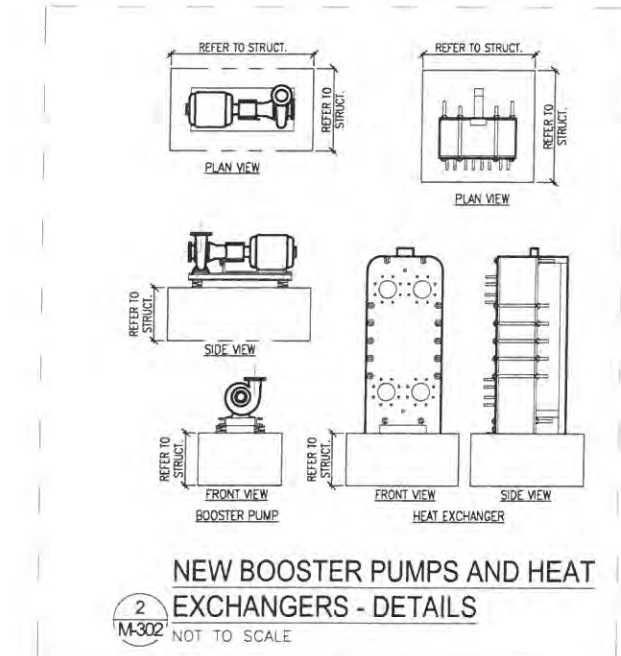
MECHANICAL YARD LAYOUT  
SCALE: 1/2"=1'-0"  
GRAPHIC SCALE



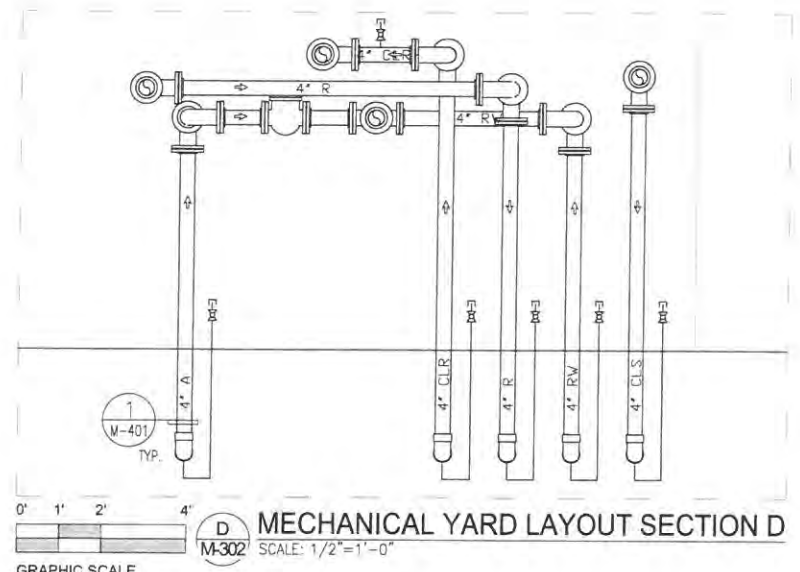
MECHANICAL YARD LAYOUT SECTION A  
SCALE: 1/2"=1'-0"  
GRAPHIC SCALE



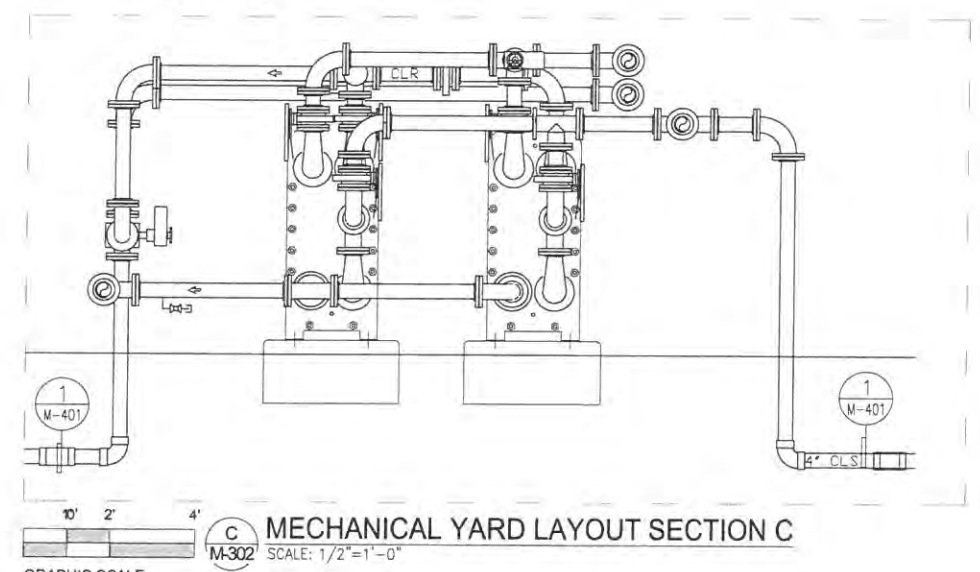
MECHANICAL YARD LAYOUT SECTION B  
SCALE: 1/2"=1'-0"  
GRAPHIC SCALE



NEW BOOSTER PUMPS AND HEAT EXCHANGERS - DETAILS  
NOT TO SCALE



MECHANICAL YARD LAYOUT SECTION D  
SCALE: 1/2"=1'-0"  
GRAPHIC SCALE



MECHANICAL YARD LAYOUT SECTION C  
SCALE: 1/2"=1'-0"  
GRAPHIC SCALE



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ARCHITECT OF RECORD

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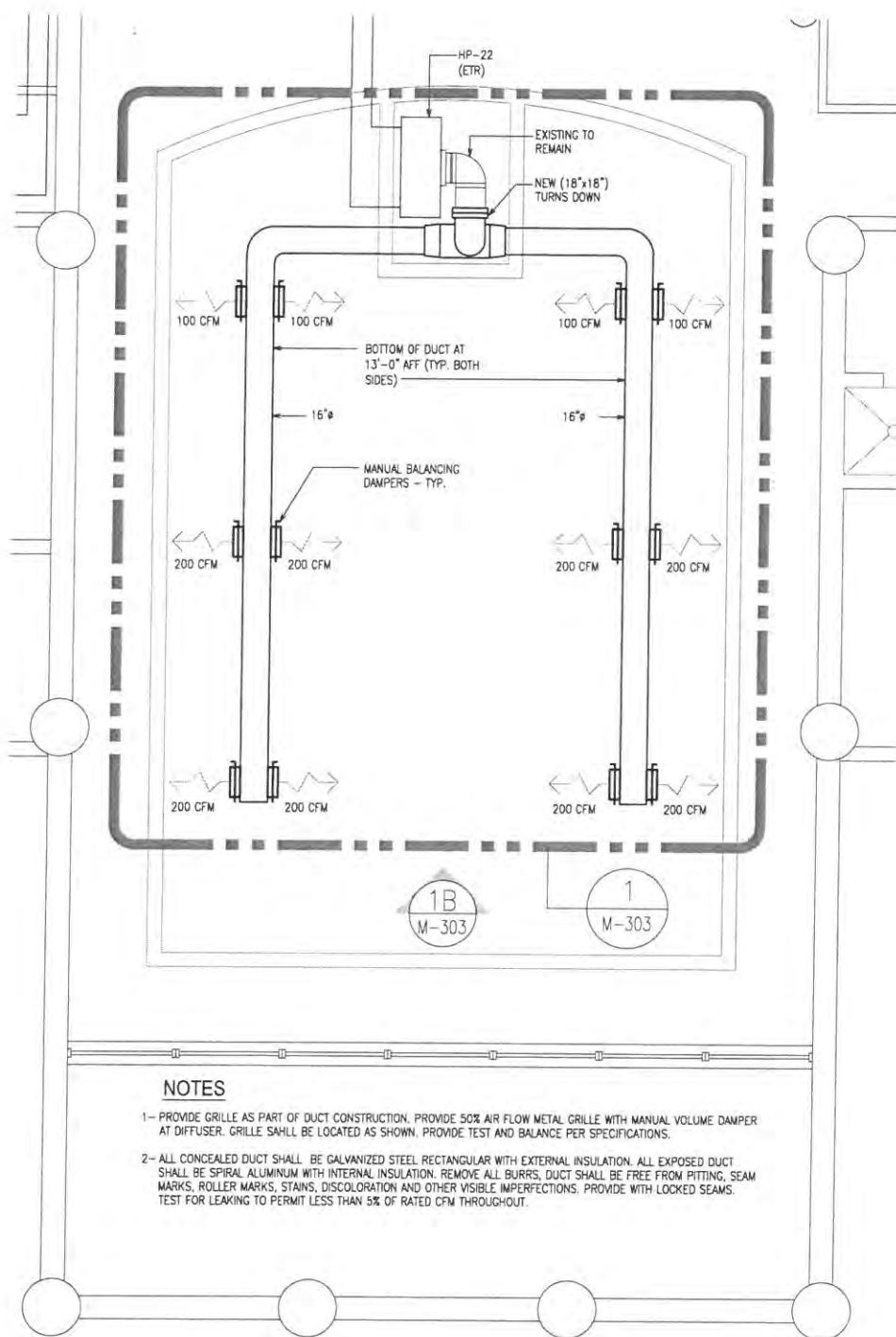
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PROJECT NUMBER | STATUS | ISSUE DATE

ELEVATION VIEWS &  
ENLARGED PLANS

SCALE: AS SHOWN

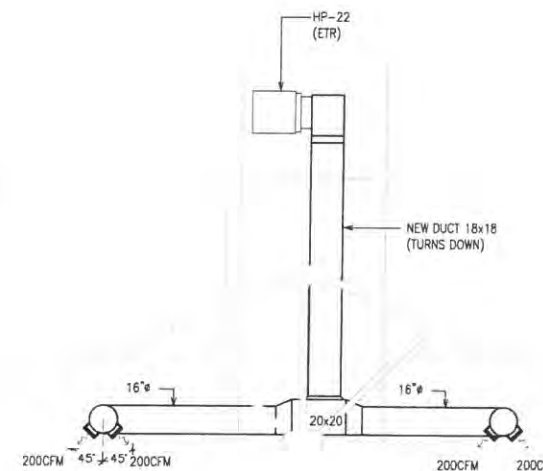
**M-303**  
SHEET NUMBER



NOTES

- 1- PROVIDE GRILLE AS PART OF DUCT CONSTRUCTION. PROVIDE 50% AIR FLOW METAL GRILLE WITH MANUAL VOLUME DAMPER AT DIFFUSER. GRILLE SHALL BE LOCATED AS SHOWN. PROVIDE TEST AND BALANCE PER SPECIFICATIONS.
- 2- ALL CONCEALED DUCT SHALL BE GALVANIZED STEEL RECTANGULAR WITH EXTERNAL INSULATION. ALL EXPOSED DUCT SHALL BE SPIRAL ALUMINUM WITH INTERNAL INSULATION. REMOVE ALL BURRS. DUCT SHALL BE FREE FROM PITTING, SEAM MARKS, ROLLER MARKS, STAINS, DISCOLORATION AND OTHER VISIBLE IMPERFECTIONS. PROVIDE WITH LOCKED SEAMS. TEST FOR LEAKING TO PERMIT LESS THAN 5% OF RATED CFM THROUGHOUT.

1 M-303 SUPPLY DUCT AT HP-22 - PLAN VIEW  
SCALE: 1/4"=1'-0"  
GRAPHIC SCALE



1A M-303 ELEVATION VIEW - SUPPLY DUCT AT HP-22  
SCALE: 1/4"=1'-0"  
GRAPHIC SCALE



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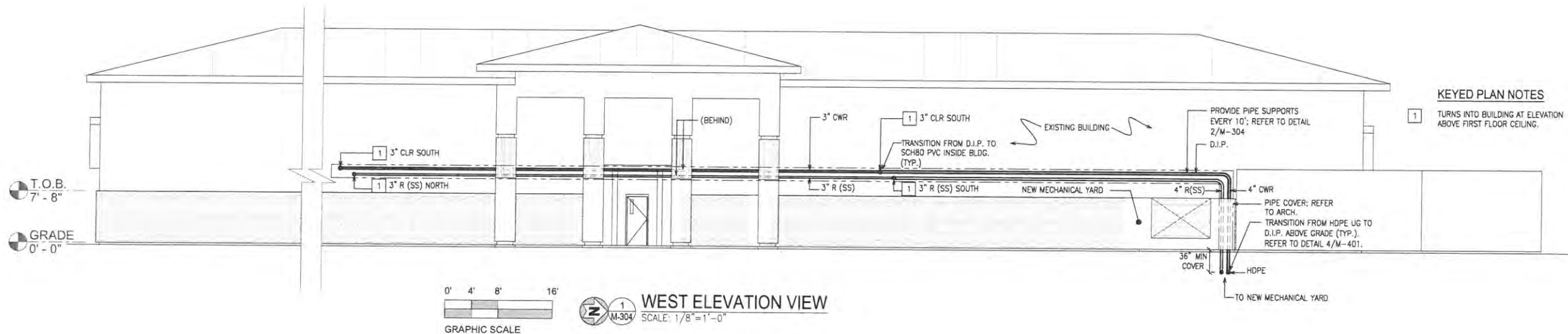
PROJECT NUMBER | STATUS | ISSUE DATE

ELEVATION VIEWS

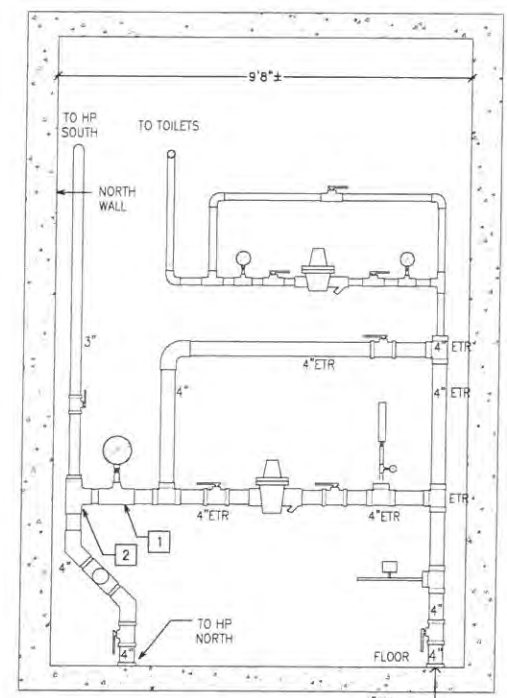
SCALE: AS SHOWN

M-304  
60  
SHEET NUMBER

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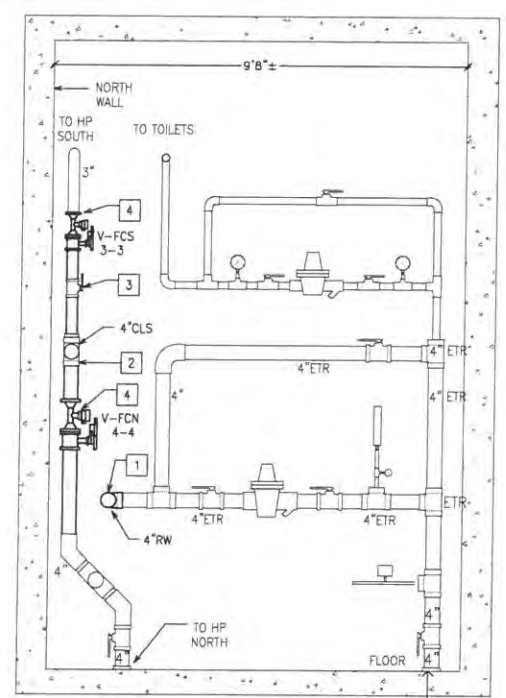


WEST ELEVATION VIEW  
SCALE: 1/8"=1'-0"  
GRAPHIC SCALE



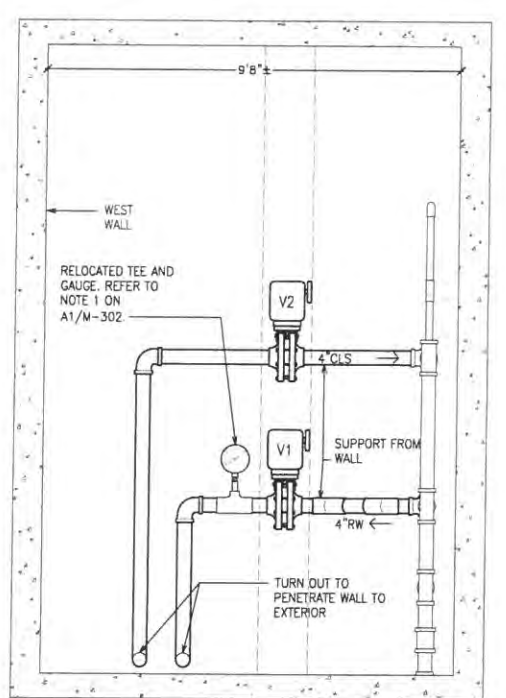
A1  
M-304  
RECLAIM ROOM EAST  
ELEVATION - EXISTING  
NOT TO SCALE

- KEYED PLAN NOTES
- REMOVE EXISTING TEE AND GAUGE; RELOCATE TO NEW PIPE AS SHOWN ON A2/M-302.
  - RELOCATE AND ROTATE EXISTING TEE 45 DEGREES FOR CONNECTION OF NEW 4" CLS PIPE; REFER TO A2/M-302.
  - RELOCATE EXISTING VALVE AND PROVIDE NEW PIPING (TO MATCH EXISTING) FOR ADDITION OF NEW VALVES AS SHOWN ON A2/M-302.

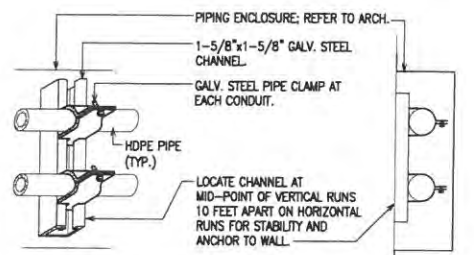


A2  
M-304  
RECLAIM ROOM EAST  
ELEVATION - NEW WORK  
NOT TO SCALE

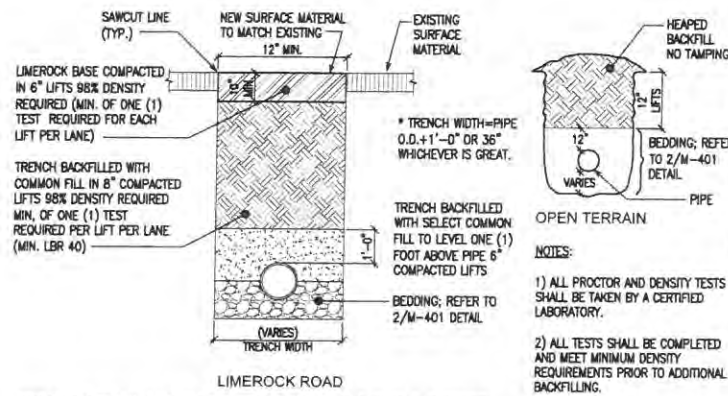
- KEYED PLAN NOTES
- PROVIDE NEW ELBOW FOR CONNECTION OF NEW RW PIPE.
  - RELOCATED/ROTATED EXISTING TEE FOR CONNECTION OF NEW 4" CLS PIPE.
  - RELOCATED EXISTING VALVE.
  - NEW VALVE; REFER TO CONTROL DIAGRAM ON SHEET M-003.



B  
M-304  
RECLAIM ROOM NORTH ELEVATION  
NOT TO SCALE

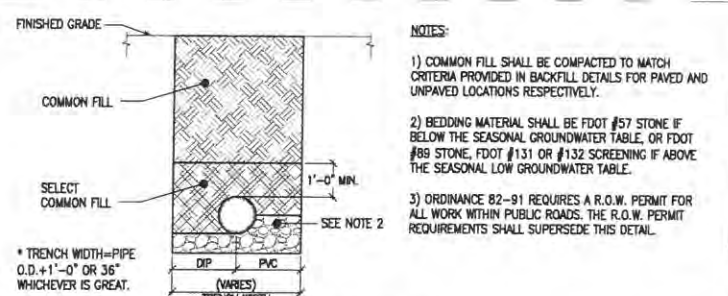


2  
M-304  
PIPE SUPPORT DETAIL FOR  
WALL MOUNTED PIPING  
NOT TO SCALE



\*\*\*\*\* CONTRACTOR SHALL UTILIZE BEST METHODS AND PRACTICES TO CONTROL GROUND WATER DURING ENTIRE EXCAVATION, INSTALLATION, BACKFILL AND COMPACTION. INSTALLATION OF PIPELINE IN WET AND/OR FLOODED TRENCH IS NOT ACCEPTABLE. PROPER BEDDING AND COMPACTION CAN NOT BE ACCOMPLISHED IN WET AND/OR FLOODED TRENCH.

**1 DIRECT BURIED PIPING DETAIL**  
M-401 NOT TO SCALE



\*\*\*\*\* CONTRACTOR SHALL UTILIZE BEST METHODS AND PRACTICES TO CONTROL GROUND WATER DURING ENTIRE EXCAVATION, INSTALLATION, BACKFILL AND COMPACTION. INSTALLATION OF PIPELINE IN WET AND/OR FLOODED TRENCH IS NOT ACCEPTABLE. PROPER BEDDING AND COMPACTION CAN NOT BE ACCOMPLISHED IN WET AND/OR FLOODED TRENCH.

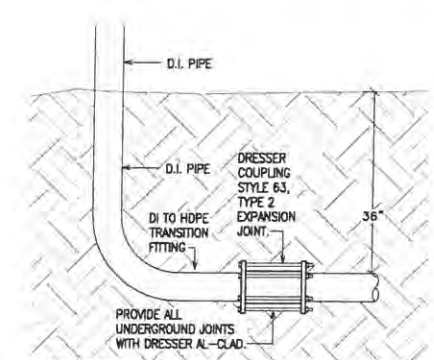
\*\*\*\*\* INSTALLATION OF ANY WATER, WASTEWATER, OR RECLAIM WATER LINE REQUIRED TO PASS UNDER OR TRENCHING CAUSING UNDERMINING OF ANY EXISTING CONCRETE CURB, GUTTER, OR SIDEWALK, TUNNELING UNDER IS NOT ALLOWED. ANY AFFECTED CONCRETE CURB, GUTTER, OR SIDEWALK SHALL BE CLEANLY REMOVED (ALL SECTIONS AFFECTED, 5 FT MINIMUM), FULL BACKFILL AND PROPER COMPACTION PERFORMED, CONCRETE REPLACED REQUIRING A MINIMUM OF 5 FT BETWEEN EXPANSION JOINTS.

**2 PIPE BEDDING & BACKFILL DETAIL**  
M-401 NOT TO SCALE

MINIMUM HANGER SIZES FOR ROUND DUCT				
DIAMETER	MAXIMUM SPACING	WIRE DIAMETER	ROD	STRAP
10" DN	12'	ONE 12 GA	1/4"	1" x 22 GA
11-16"	12'	TWO 12 GA OR ONE 8 GA	1/4"	1" x 22 GA
19-24"	12'	TWO 10 GA	1/4"	1" x 22 GA
25-36"	12'	TWO 8 GA	3/8"	1" x 20 GA
37-50"	12'	TWO 3/8"	TWO 1" x 20 GA	
51-60"	12'	TWO 3/8"	TWO 1" x 18 GA	
61-84"	12'	TWO 3/8"	TWO 1" x 16 GA	

NOTE:  
1. STRAPS ARE GALVANIZED STEEL; RODS ARE UNCOATED OR GALVANIZED STEEL; WIRE IS BLACK ANNEALED, BRIGHT BASIC OR GALVANIZED STEEL. ALL ARE ALTERNATIVES

**3 MIN. HANGER SIZES FOR ROUND DUCT**  
M-401 NOT TO SCALE



NOTE: PROVIDE DRESSER TYPE JOINTS ON ALL NEW UNDERGROUND PIPING RUNS EXCEEDING 50' IN LENGTH AND AT A 100' INTERVALS.

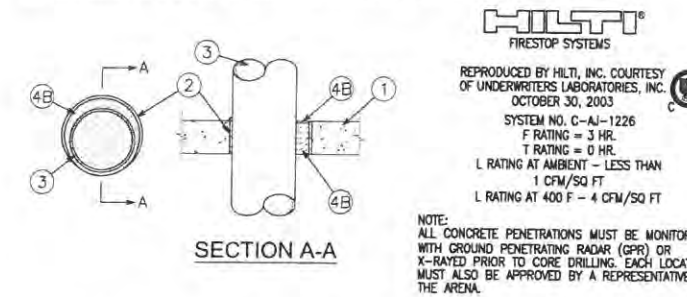
**4 D.I. - HDPE PIPE TRANSITION DETAIL**  
M-401 SCALE: 1"=1'-0"

GRAPHIC SCALE City of Naples FL

**CONCRETE PENETRATION FIRESTOP NOTES:**

- CONCRETE PENETRATION FIRESTOP NOTES:**
- FLOOR OR WALL ASSEMBLY --- MIN 4-1/2 IN. THICK REINFORCED LIGHTWEIGHT OR NORMAL WEIGHT (100-150 PCF) CONCRETE WALL MAY ALSO BE CONSTRUCTED OF ANY UL CLASSIFIED CONCRETE BLOCKS. MAX DIAM OF OPENING IS 32 IN.
  - METALLIC SLEEVE --- (OPTIONAL) NOM 32 IN. DIAM (OR SMALLER) SCHEDULE 40 (OR HEAVIER) STEEL SLEEVE CAST OR GROUDED INTO FLOOR OR WALL ASSEMBLY, FLUSH WITH FLOOR OR WALL SURFACES OR EXTENDING A MAX OF 3 IN. ABOVE FLOOR OR BEYOND BOTH SURFACES OF WALL.
  - THROUGH-PENETRANT --- ONE METALLIC PIPE, TUBE OR CONDUIT TO BE INSTALLED EITHER CONCENTRICALLY OR ECCENTRICALLY WITHIN THE FIRESTOP SYSTEM. THE ANNULAR SPACE BETWEEN PENETRANT AND PERIPHERY OF OPENING SHALL BE MIN 0 IN. (POINT CONTACT) TO MAX 1-7/8 IN. PENETRANT MAY BE INSTALLED WITH CONTINUOUS POINT CONTACT. PENETRANT TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF FLOOR OR WALL ASSEMBLY. THE FOLLOWING TYPES AND SIZES OF METALLIC PENETRANTS MAY BE USED:
    - STEEL PIPE --- NOM 30 IN. DIAM (OR SMALLER) SCHEDULE 10 (OR HEAVIER) STEEL PIPE.
    - IRON PIPE --- NOM 30 IN. DIAM (OR SMALLER) CAST OR DUCTILE IRON PIPE.
    - COPPER PIPE --- NOM 6 IN. DIAM (OR SMALLER) REGULAR (OR HEAVIER) COPPER PIPE.
    - COPPER TUBING --- NOM 6 IN. DIAM (OR SMALLER) TYPE L (OR HEAVIER) COPPER TUBING.
    - CONDUIT --- NOM 6 IN. DIAM (OR SMALLER) STEEL CONDUIT.
    - CONDUIT --- NOM 4 IN. DIAM (OR SMALLER) STEEL ELECTRICAL METALLIC TUBING (EMT).
  - FIRESTOP SYSTEM --- THE FIRESTOP SYSTEM SHALL CONSIST OF THE FOLLOWING:
    - PACKING MATERIAL --- MIN 4 IN. THICKNESS OF MIN 4 PCF MINERAL WOOL BATT INSULATION FIRMLY PACKED INTO OPENING AS A PERMANENT FORM. PACKING MATERIAL TO BE RECESSED FROM TOP SURFACE OF FLOOR OR SLEEVE OR FROM BOTH SURFACES OF WALL OR SLEEVE AS REQUIRED TO ACCOMMODATE THE REQUIRED THICKNESS OF FILL MATERIAL.
    - FILL, VOID OR CAVITY MATERIAL --- SEALANT --- MIN 1/4 IN. THICKNESS OF FILL MATERIAL APPLIED WITHIN THE ANNULUS, FLUSH WITH TOP SURFACE OF FLOOR OR SLEEVE OR WITH BOTH SURFACES OF WALL OR SLEEVE. AT THE POINT OR CONTINUOUS CONTACT LOCATIONS BETWEEN PENETRANT AND CONCRETE OR SLEEVE, A MIN 1/4 IN. DIAM BEAD OF FILL MATERIAL SHALL BE APPLIED AT THE CONCRETE OR SLEEVE/ PIPE PENETRANT INTERFACE ON THE TOP SURFACE OF FLOOR AND ON BOTH SURFACES OF WALL.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC --- FS-ONE SEALANT \*BEARING THE UL CLASSIFICATION MARK

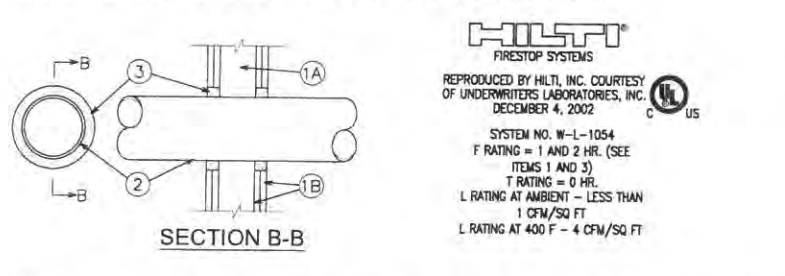


**5 CONCRETE PENETRATION FIRESTOP DETAIL**  
M-401 NOT TO SCALE

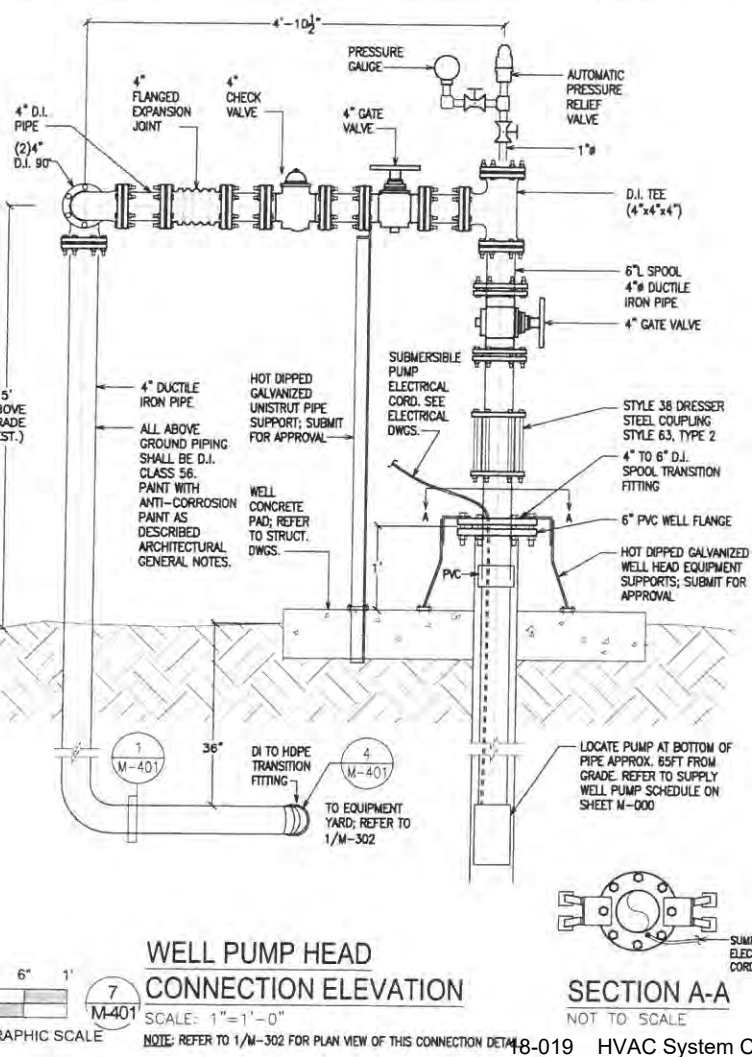
**STUD WALL / GYPSUM BOARD FIRESTOP NOTES:**

- STUD WALL / GYPSUM BOARD FIRESTOP NOTES:**
- WALL ASSEMBLY --- THE 1 OR 2 HR FIRE-RATED GYPSUM WALLBOARD/STUD WALL ASSEMBLY SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER SPECIFIED IN THE INDIVIDUAL U300 OR U400 SERIES WALL AND PARTITION DESIGNS IN THE UL FIRE RESISTANCE DIRECTORY AND SHALL INCLUDE THE FOLLOWING CONSTRUCTION FEATURES:
    - STUDS --- WALL FRAMING MAY CONSIST OF EITHER WOOD STUDS OR STEEL CHANNEL STUDS. WOOD STUDS TO CONSIST OF NOM 2 BY 4 IN. LUMBER SPACED 16 IN. OC. STEEL STUDS TO BE MIN 2-1/2 IN. WIDE AND SPACED MAX 24 IN. OC. WHEN STEEL STUDS ARE USED AND THE DIAM OF OPENING EXCEEDS THE WIDTH OF STUD CAVITY, THE OPENING SHALL BE FRAMED ON ALL SIDES USING LENGTHS OF STEEL STUD INSTALLED BETWEEN THE VERTICAL STUDS AND SCREW-ATTACHED TO THE STEEL STUDS AT EACH END. THE FRAMED OPENING IN THE WALL SHALL BE 4 TO 6 IN. WIDER AND 4 TO 6 IN. HIGHER THAN THE DIAM OF THE PENETRATING ITEM SUCH THAT, WHEN THE PENETRATING ITEM IS INSTALLED IN THE OPENING, A 2 TO 3 IN. CLEARANCE IS PRESENT BETWEEN THE PENETRATING ITEM AND THE FRAMING ON ALL FOUR SIDES.
    - GYPSUM BOARD --- 5/8 IN. THICK, 4 FT WIDE WITH SQUARE OR TAPERED EDGES. THE GYPSUM BOARD TYPE, THICKNESS, NUMBER OF LAYERS, FASTENER TYPE AND SHEET ORIENTATION SHALL BE AS SPECIFIED IN THE INDIVIDUAL U300 OR U400 SERIES DESIGN IN THE UL FIRE RESISTANCE DIRECTORY. MAX DIAM. OF OPENING IS 32-1/4 IN. FOR STEEL STUD WALLS. MAX DIAM. OF OPENING IS 14-1/2 IN. FOR WOOD STUD WALLS. THE F RATING OF THE FIRESTOP SYSTEM IS EQUAL TO THE FIRE RATING OF THE WALL ASSEMBLY.
  - THROUGH-PENETRANTS --- ONE METALLIC PIPE, CONDUIT OR TUBING TO BE INSTALLED EITHER CONCENTRICALLY OR ECCENTRICALLY WITHIN THE FIRESTOP SYSTEM. THE ANNULAR SPACE SHALL BE MIN 0 IN. TO MAX 2-1/4 IN. PIPE MAY BE INSTALLED WITH CONTINUOUS POINT CONTACT, PIPE, CONDUIT OR TUBING MAY BE INSTALLED AT AN ANGLE NOT GREATER THAN 45 DEGREES FROM PERPENDICULAR. PIPE, CONDUIT OR TUBING TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF WALL ASSEMBLY. THE FOLLOWING TYPES AND SIZES OF METALLIC PIPES, CONDUITS OR TUBING MAY BE USED:
    - STEEL PIPE --- NOM 30 IN. DIAM (OR SMALLER) SCHEDULE 10 (OR HEAVIER) STEEL PIPE.
    - IRON PIPE --- NOM 30 IN. DIAM (OR SMALLER) CAST OR DUCTILE IRON PIPE.
    - CONDUIT --- NOM 4 IN. DIAM (OR SMALLER) STEEL ELECTRICAL METALLIC TUBING OR 6 IN. DIAM STEEL CONDUIT.
    - COPPER TUBING --- NOM 6 IN. DIAM (OR SMALLER) TYPE L (OR HEAVIER) COPPER TUBING.
    - COPPER PIPE --- NOM 6 IN. DIAM (OR SMALLER) REGULAR (OR HEAVIER) COPPER PIPE.
  - FILL, VOID OR CAVITY MATERIAL --- SEALANT --- MIN 5/8 IN. THICKNESS OF FILL MATERIAL APPLIED WITHIN THE ANNULUS, FLUSH WITH BOTH SURFACES OF WALL. AT THE POINT OR CONTINUOUS CONTACT LOCATIONS BETWEEN PIPE AND WALL, A MIN 1/2 IN. DIAM BEAD OF FILL MATERIAL SHALL BE APPLIED AT THE PIPE WALL INTERFACE ON BOTH SURFACES OF WALL.

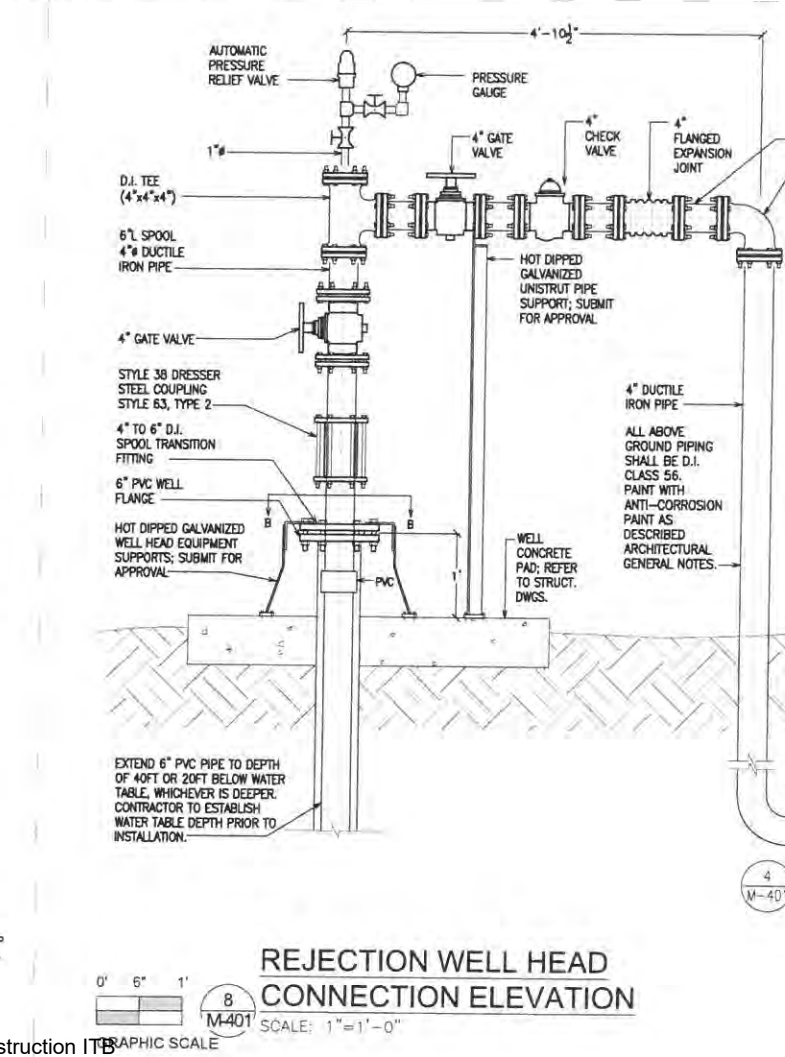
HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC --- FS-ONE SEALANT \*BEARING THE UL CLASSIFICATION MARK



**6 STUD WALL / GYPSUM BOARD FIRESTOP DETAIL**  
M-401 NOT TO SCALE



**7 WELL PUMP HEAD CONNECTION ELEVATION**  
M-401 SCALE: 1"=1'-0"



**8 REJECTION WELL HEAD CONNECTION ELEVATION**  
M-401 SCALE: 1"=1'-0"

**amec foster wheeler**

5845 NW 158th Street  
Miami Lakes, FL 33014 USA  
P+1(305) 826-5588  
F+1(305) 826-1799  
www.amec.com

**ARCHITECT OF RECORD**

**REVISION SCHEDULE**

No.	DESCRIPTION	DATE
A	50% SUBMITTAL	4/18/17
B	90% Review Set	5/24/17
D	Permit Set	8/17/17

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**AW Solutions**

300 CROWN OAK CENTRE DRIVE  
LAKELAND, FL 37350  
TEL: 407.260.0231  
FAX: 407.260.0749

**PROFESSIONAL ENGINEER**

REGISTRY LICENSE  
No 57783  
STATE OF FLORIDA  
PROFESSIONAL ENGINEER

**GREGORY A. JOHNSON**  
PE-57783

**PROJECT TEAM**

**DESIGNER**  
GJ

**BIM / DRAWINGS BY:**  
GP

**CHECKED BY:**  
GJ

**Community Development Bldg. Renovations**

295 Riverside Circle  
Naples, FL 34102

6788-16-2867  
100% CD - 08-17-17  
PROJECT NUMBER | STATUS | ISSUE DATE

**DETAILS**

SCALE: NOT TO SCALE

**M-401**  
SHEET NUMBER

S:\MS\17002\_AMC\_CDD Remediation MEP\CD\M-401.dwg Aug 31, 2017 - 6:14pm GILBERT

# MECHANICAL SPECIFICATIONS

1. ALL WORK SHALL COMPLY WITH THE LATEST ADOPTED STATE AND LOCAL CODES, AS WELL AS FEDERAL, STATE, AND MUNICIPAL REGULATIONS.
2. DRAWINGS ARE DIAGRAMMATIC, CONTAINING INFORMATION TO A DEGREE OF DETAIL CONSISTENT WITH THEIR SCALE AND ADEQUATE TO CONVEY THE DESIGN INTENT.
3. DIMENSIONS, WHERE SHOWN, ARE FOR REFERENCE. EQUIPMENT AND MATERIAL SHOWN ON DRAWINGS, ARE BASED ON MANUFACTURER'S PUBLISHED DATA, AND ARE, IN THE DESIGNER'S PROFESSIONAL OPINION, REPRESENTATIVE OF TYPICAL SIZES. ALL EQUIPMENT AND MATERIAL PROVIDED SHALL FIT WITHIN THE SPACE PROVIDED.
4. ALL EQUIPMENT AND SERVICEABLE DEVICES AS PROVIDED BY THE CONTRACTOR SHALL BE INSTALLED WITH ACCESS AND CLEARANCE FOR MAINTENANCE. COORDINATE WITH THE GENERAL CONTRACTOR AND OTHER TRADES TO PROVIDE THIS ACCESS AND CLEARANCE.
5. IF EQUIPMENT AND MATERIAL, OTHER THAN THAT SCHEDULED OR SPECIFIED, IS APPROVED AND PROVIDED, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE AND PROVIDE REVISED UTILITIES AND SERVICE CONNECTIONS. THIS INCLUDES BUT IS NOT LIMITED TO REVISED POWER, CONTROLS, HYDRAUNICS, WASTE DRAINS, FLUES, AND VENT REQUIREMENTS.
6. PROVIDE AND DOCUMENT CORRESPONDENCE TO THE GENERAL CONTRACTOR AND ALL TRADES, REQUIREMENTS FOR INSTALLATION, CHASES, OPENINGS, AND UTILITY SERVICE CONNECTIONS. THIS INCLUDES SUPPORTING DEVICES, POINT LOADS, ACCESS OPENINGS, SLEEVES AND CUT-OUTS.
7. PROVIDE STARTERS FOR ELECTRICAL EQUIPMENT UNLESS SPECIFICALLY IDENTIFIED ON MECH DWGS AS BEING PROVIDED BY THE ELECTRICAL CONTRACTOR. PROVIDE ALL INTERNAL OVER CURRENT PROTECTION DEVICES AND INTERNAL TRANSFORMERS FOR PACKAGED EQUIPMENT.
8. PROVIDE APPROVED SLEEVES AND SEALS AT ALL WALL, CEILING, ROOF, AND FLOOR PENETRATIONS.
9. ACCESS DOORS AND/OR PANELS SHALL BE PROVIDED AT ALL MAINTENANCE AND SERVICE LOCATIONS. UNLESS A SIZE IS SPECIFICALLY NOTED, PANELS SHALL BE SIZED TO SERVICE EQUIPMENT. DOORS AND PANELS SHALL HAVE THE SAME FIRE RATING AS THE WALL IN WHICH THEY ARE INSTALLED. COORDINATE ACCESS PANEL SIZE AND LOCATION WITH THE G.C.
10. RECTANGULAR DUCT SHALL BE GALVANIZED SHEET STEEL PER SMACNA "HVAC DUCT CONSTRUCTION STANDARDS - METAL". FLEXIBLE METAL DUCT SHALL BE METAL WITH LINER AND INSULATED PER FBC. SUPPORT HORIZONTAL DUCTWORK WITH 1" WIDE STRAP HANGERS EVERY 6'-0" AND WITHIN 24 INCHES OF EACH ELBOW AND WITHIN 48 INCHES OF EACH BRANCH INTERSECTION. INSTALL DUCTS PARALLEL TO BUILDING LINES. ALL EXPOSED ROUND DUCTWORK SHALL BE SPIRAL TYPE.
11. ALL UNDERGROUND PIPING SHALL BE IDENTIFIED WITH A SUITABLE MARKER, TAG, OR SIGN AT 12" ABOVE LINE.
12. INSULATION AND VAPOR BARRIER SHALL BE PROVIDED ON ALL DUCT SYSTEMS AND EQUIPMENT SUBJECT TO HEAT LOSS, HEAT GAIN, CONDENSATION, OR CONSTITUTING A POTENTIAL BURN HAZARD.
13. INSULATION SHALL BE FIRMLY SECURED TO THE DUCT WITH ENDS SEALED TO MAINTAIN THE INTEGRITY OF THE VAPOR BARRIER. INSULATION SHALL NOT BE CRUSHED OR COMPRESSED AT HANGERS OR THROUGH INTERFERENCE WITH EQUIPMENT INSTALLED BY OTHER TRADES. ALL EXTERIOR DUCTS SHALL BE INSULATED AND MADE WATERTIGHT.
14. WHERE SPECIFICALLY CALLED OUT, INSTALL DUCTWORK AND PIPING AS TIGHT AS POSSIBLE TO THE BUILDING STRUCTURE.
15. DUCTWORK SIZES ARE AIR-STREAM DIMENSIONS.
16. EXCEPT AS SHOWN OTHERWISE, ALL DUCTWORK, FITTINGS, SUPPORT, AND ACCESSORIES SHALL BE FABRICATED AND INSTALLED IN ACCORDANCE WITH SMACNA AND NFPA STANDARDS.
17. ALL CLOSED LOOP PIPING AND DUCT SYSTEMS SHALL BE TESTED, BALANCED, AND ADJUSTED BY THE MECHANICAL CONTRACTOR.
  - A. TEST AND BALANCE SHALL BE PROVIDED BY THIS CONTRACTOR THROUGH A CONTRACT WITH AN INDEPENDENT TEST AND BALANCE CONTRACTOR. FINAL PAYMENT OF HVAC CONTRACT AMOUNT SHALL BE WITHHELD UNTIL THE TEST AND BALANCE IS COMPLETE.
    1. BALANCING FOR AIR AND WATER SHALL BE BY ACTUAL FLOW MEASUREMENTS. METHOD OF BALANCING BY TEMPERATURE DIFFERENCE IS NOT ACCEPTABLE.
  - B. THIS CONTRACTOR SHALL PREPARE SYSTEM FOR BALANCING AS FOLLOWS:
    1. MECHANICALLY CHECK FANS, BLOWERS, CONDENSING UNIT AND AIR HANDLING EQUIPMENT AND MAKE OPERABLE AS PER DESIGN CONDITIONS. SET RUNNING AMPS BELOW F.L.A.
    2. SET SPLITTERS, VOLUME DAMPERS, FIRE DAMPERS AND VANES IN THEIR NEUTRAL POSITIONS.
    3. INSTALL GRILLES, DIFFUSERS, ETC. WITH VOLUME CONTROL DAMPER BLADES IN THEIR NEUTRAL POSITIONS.
    4. MECHANICALLY CHECK CONTROLS AND MAKE OPERABLE AS PER DESIGN CONDITIONS.
18. ALL DUCTWORK SHALL BE SEALED WITH MASTIC COATING AND EXTERNALLY INSULATED EXCEPT SPIRAL DUCT.
19. ALL SQUARE ELBOWS SHALL HAVE TURNING VANES. 20. DUCT CONNECTION TO EQUIPMENT SHALL BE FABRICATED AFTER EQUIPMENT HAS BEEN SET IN PLACE AND DIMENSIONS VERIFIED.
21. NOT USED.
22. IT WILL BE THE MECHANICAL CONTRACTOR'S RESPONSIBILITY TO ROUTE ALL DUCTWORK, PIPING, AND LOCATE THE EQUIPMENT SHOWN ON THE DRAWINGS. ALL INTERFERENCES DUE TO ROUTING OF THE DUCTWORK, PIPING, OR EQUIPMENT WILL BE THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR. VERIFY ALL DIMENSIONS PRIOR TO FABRICATION, ERECTION OR CONSTRUCTION OF DUCTWORK. DRAWINGS MAY NOT REFLECT ACTUAL FIELD INSTALLATION.
23. NOT USED.
24. THE INSIDE OF ALL DUCTWORK VISIBLE THROUGH A GRILL OR DIFFUSER SHALL BE PAINTED FLAT BLACK.
25. WARRANTY:
  - A. FURNISH (1) YEAR SERVICE AND GUARANTEE ON ALL CONTROLS, DUCTWORK,

26. NOT USED.
27. MECHANICAL SUBMITTALS:
  - A. SUBMITTALS: SUBMIT SHOP DRAWINGS AND OTHER INFORMATION NECESSARY FOR THE ENGINEER TO MAKE COMPLETE EVALUATION OF THE MATERIALS, ACCESSORIES, AND METHODS PROPOSED FOR THE WORK. ALL SUBMITTALS SHALL BE ELECTRONIC, NO HARD COPIES. ASSEMBLE ALL REQUIRED SUBMITTALS ON A SINGLE FLASH DRIVE STORAGE DEVICE. AT A MINIMUM INCLUDE: HEAT EXCHANGER, PUMPS, HEAT PUMP CONTROLS, THERMOSTATS, ALL VALVES AND SENSORS, D.I. PIPE, PVC PIPE AND WELL PUMP AND CONTROLS.
28. RECORD DRAWINGS:
 

THE CONTRACTOR SHALL MAINTAIN AT THE SITE A CLEAN UNDAMAGED SET OF BLUE- OR BLACK-LINE WHITE PRINTS OF THE CONTRACT DRAWINGS. THIS RECORD SET OF DRAWINGS SHALL BE MARKED TO SHOW THE ACTUAL INSTALLATION, AND WHERE THE ACTUAL INSTALLATION VARIES SUBSTANTIALLY FROM THE WORK AS ORIGINALLY SHOWN, MARK WHICHEVER DRAWINGS ARE MOST CAPABLE OF SHOWING CONDITIONS FULLY AND ACCURATELY. GIVE PARTICULAR ATTENTION TO CONCEALED ELEMENTS THAT WOULD BE DIFFICULT TO MEASURE AND RECORD AT A LATER DATE. MARK RECORD DRAWINGS WITH RED ERASABLE PENCIL; USE OTHER COLORS TO DISTINGUISH BETWEEN VARIATIONS IN SEPARATE CATEGORIES OF THE WORK.
29. CLOSEOUT SUBMITTALS:
  - A. CLOSEOUT DOCUMENTS SHALL INCLUDE, CERTIFICATE OF OCCUPANCY, ALL WARRANTIES, USERS MANUAL, WRITTEN MAINTENANCE INSTRUCTIONS FOR ALL MATERIAL AND EQUIPMENT, AND RECORD DOCUMENTS ("AS-BUILT"), SUBMITTALS AND CHANGE ORDERS. ALL SUBMITTALS SHALL BE ELECTRONIC. NO HARD COPIES. ASSEMBLE ALL REQUIRED SUBMITTALS ON A SINGLE FLASH DRIVE STORAGE DEVICE
  - B. CONTRACTOR SHALL SUBMIT ONE ELECTRONIC COPY OF O&M MANUALS FOR THE FOLLOWING ITEMS: HEAT EXCHANGERS, PUMPS, HEAT PUMP CONTROLS, VALVES, THERMOSTATS, OPERATORS AND SENSORS

30. CLEANING:
  - A. AFTER COMPLETING SYSTEM INSTALLATION, INCLUDING OUTLET FITTINGS AND DEVICES, INSPECT THE COMPLETE SYSTEM AND VACUUM ALL DUCTS TO REMOVE DUST AND DEBRIS, BEFORE FINAL ACCEPTANCE.

## 31. GASKETED PLATE HEAT EXCHANGER SPECIFICATION

**XYLEM INC. PLATE & FRAME SPECIFICATION WITH AHRI STANDARD 400**

- I. DESIGN
  - A. PREFERENCE SHOULD BE GIVEN TO SINGLE PASS DESIGNS WITH ALL CONNECTIONS LOCATED ON THE FRAME PLATE (FIXED HEAD) TO ALLOW FOR REMOVAL OF PLATES AND INSPECTION WITHOUT DISMANTLING THE PROCESS PIPING.
  - B. FOR SINGLE PASS UNITS, ALL CONNECTIONS SHOULD BE LOCATED ON THE FRAME PLATE (FIXED HEAD), ALLOWING THE PRESSURE PLATE (MOVABLE HEAD) TO SLIDE BACK AND HAVE PLATES ADDED, REMOVED, OR REPLACED FROM THE PLATE PACK WITHOUT DISTURBING THE CONNECTIONS OR ASSOCIATED PIPING.
  - C. THE DESIGN SHOULD ALLOW FOR THE REMOVAL OF ANY PLATE IN THE PLATE PACK WITHOUT REQUIRING THE REMOVAL OF ANY OTHER PLATES.
  - D. THE UNIT SHALL BE PROVIDED WITH AN ALUMINUM SPLASH SHIELD COVERING THE SIDES AND TOP OF THE PLATE PACK. THE BOTTOM SHOULD BE LEFT OPEN FOR LEAK DETECTION.
  - E. THE UNIT SHALL BE DESIGNED, TESTED, AND U STAMPED IN ACCORDANCE WITH ASME SECTION VIII DIVISION 1 AND REGISTERED WITH THE NATIONAL BOARD. A U-1 DATA REPORT TO BE FURNISHED UPON REQUEST.
  - F. MANUFACTURER MUST BE CERTIFIED AND REGISTERED WITH ISO 9001:2008. A CERTIFICATE OF REGISTRATION SHALL BE SUPPLIED UPON REQUEST.
  - G. UNIT MUST BE FACTORY PRESSURE TESTED WITH ASME U STAMP APPLIED ON NAMEPLATE PRIOR TO LEAVING THE FACTORY.

- II. FRAME
  - A. THE FRAME AND PRESSURE PLATES SHALL BE CARBON STEEL SA 516 GRADE 70.
  - B. THE FRAME AND PRESSURE PLATES SHALL BE OF SUFFICIENT THICKNESS TO MEET THE ASME DESIGN PRESSURE WITHOUT THE USE OF STIFFENERS OR OTHER TYPE OF REINFORCEMENT.
  - C. CARBON STEEL FRAME COMPONENTS, EXCEPT HARDWARE, SHALL BE PAINTED WITH GRAY MACRO EPOXY PAINT TO A MINIMUM OF 4 MILS DRY FILM THICKNESS.
  - D. CARBON STEEL FRAME AND PRESSURE PLATES SHALL BE STEEL GRT BLASTED TO SSPC-SP6/NACE 3 (COMMERCIAL BLAST CLEANING) WITH SURFACE PROFILE OF 2 MILS ON EITHER FACE. ALL SURFACES AND OPENINGS MUST HAVE A RECOATABLE EPOXY PRIMER APPLIED WITHIN 8 HOURS OF BLAST OR BEFORE FLASH RUSTING OCCURS.
  - E. FRAME PLATES SHALL HAVE INTEGRAL LIFTING EYES IN THE UPPER CORNERS. BOLTED OR WELDED ON LIFTING LUGS NOT ALLOWED.
  - F. UNITS WITH STUDDED PORT CONNECTIONS SHALL HAVE UNLINED OR ALLOY LINED STUDDED PORTS TO MATE WITH A RAISED FACE OR FLAT FACED ANSI FLANGE WHERE 150# ANSI FLANGES ARE ACCEPTABLE. RUBBER LINERS ARE NOT ALLOWED.
  - G. UNITS WITH NPT CONNECTIONS, EXCEPT 1" PORT SIZES, SHALL HAVE THE FRAME PLATE TAPPED WITH CARBON STEEL FEMALE NPT CONNECTIONS OR, IF ALLOY MATERIAL IS REQUIRED, EXTENDED MALE NPT NOZZLES.
  - H. UNITS WITH 1" PORTS SHALL HAVE CARBON STEEL OR 316 STAINLESS STEEL FEMALE TAPPED NPT OR ALLOY MATERIAL MALE NPT CONNECTIONS.
  - I. FOR UNITS WITH STUDDED PORT TYPE CONNECTIONS, THE STUDS AROUND THE PORTS MUST BE PROVIDED BY THE MANUFACTURER.
  - J. UNITS WITH CONNECTIONS GREATER THAN 3" REQUIRE THAT THE THERMAL PLATES BE SUPPORTED BY THE TOP CARRY BAR. THE BOTTOM GUIDE BAR SHALL ONLY ASSIST IN PROPERLY ALIGNING THE PLATES.
  - K. THE DESIGN FOR UNITS WITH 2.5" CONNECTIONS OR SMALLER SHALL ALLOW THE PLATES TO BE SUPPORTED BY THE BOTTOM GUIDE BAR AND THE TOP CARRY BAR SHALL HELP PROPERLY ALIGN THE PLATES.
  - L. THE CARRY AND GUIDE BAR FOR 2" PORT MODELS SHALL BE STAINLESS STEEL. FOR MODELS WITH 2.5" PORTS AND GREATER, THE THERMAL PLATE CONTACT SURFACES OF THE CARRY AND GUIDE BAR SHALL BE STAINLESS STEEL. FOR UNITS WITH 1" CONNECTIONS, THE CARRY AND GUIDE BARS SHALL BE ZINC PLATED CARBON STEEL.
  - M. FOR EASE OF MOVEMENT DURING ASSEMBLY AND MAINTENANCE, THE MOVABLE PRESSURE PLATE SHALL BE SUPPORTED BY A ROLLER ASSEMBLY OVER THE CARRY BAR FOR 4" PORTED MODELS GREATER THAN 90" IN HEIGHT AND FOR ALL 6" AND LARGER PORTED MODELS. FOR 4" PORTED MODELS LESS THAN 90" IN HEIGHT, A GLIDE CLIP MADE OF ULTRA HIGH MOLECULAR WEIGHT POLYETHYLENE SHALL BE USED ON THE MOVABLE PRESSURE PLATE.
  - N. UNITS SHALL A MINIMUM OF TWO MOUNTING FEET AT THE FRAME PLATE AND ONE AT THE SUPPORT COLUMN, IF A SUPPORT COLUMN IS USED IN THE DESIGN.
  - O. FOR UNITS WITH 300 PSIG DESIGN PRESSURE OR LESS, EXCLUDING "WIDE GAP" DESIGNS, FRAMES MUST BE DESIGNED TO WITHSTAND FULL TEST PRESSURE IN ONE CIRCUIT WITH ZERO PRESSURE IN THE OPPOSITE CIRCUIT.
  - P. THE NOMINAL CONNECTION SIZE SHALL MATCH THE NOMINAL THERMAL PLATE PORT HOLE DIAMETER.

- III. HARDWARE
  - A. ALL BOLTING, INCLUDING TIGHTENING BOLTS, SHALL BE CARBON STEEL SA193 GRADE B7 AND GALVANIZED VIA ELECTROPLATING OF ZINC COATING.
  - B. ALL NUTS SHALL BE CARBON STEEL SA194 GRADE 2H AND GALVANIZED VIA ELECTROPLATING OF ZINC COATING.
  - C. MOUNTING FEET SHALL BE ZINC PLATED CARBON STEEL.
  - D. THE TIGHTENING BOLT ASSEMBLIES ON UNITS WITH 3" AND GREATER CONNECTIONS SHALL INCLUDE LOCK WASHERS AT THE MOVABLE PRESSURE PLATE SUCH THAT THE UNIT CAN BE OPENED AND CLOSED WITH ONE WRENCH FROM THE FRONT OF THE UNIT.
  - E. ALL THE TIGHTENING BOLT ASSEMBLIES ON UNITS WITH 3" AND GREATER CONNECTIONS SHALL INCLUDE BEARING WASHERS AT THE FIXED FRAME PLATE TO REDUCE FRICTION, BEARING ASSEMBLIES ONLY ON SOME OF THE BOLTS IS NOT ALLOWED.
  - F. THE NUTS ON THE TIGHTENING BOLT ASSEMBLIES ON UNITS WITH 3" AND GREATER CONNECTIONS SHALL BE PEENED ON, NOT WELDED, AT THE FRAME PLATE.

- IV. PLATES
  - A. PLATES SHALL BE PRESSED IN A ONE-STEP STAMPING PROCESS, EXCEPT FOR PLATES 132" AND GREATER IN LENGTH, WHERE MULTI STEP PRESSING IS ALLOWED.
  - B. PLATES SHALL USE AN INTEGRAL ROLLED EDGE HANGING SYSTEM TO PROVIDE A RIGID HANGER DEVICE BETWEEN THE PLATE AND CARRY BAR AND GUIDE BAR. WELDED ON HANGING BRACKETS OR STIFFENERS ARE NOT ACCEPTABLE.
  - C. THE PLATE PACK SHALL USE A POSITIVE PLATE TO PLATE ALIGNMENT SYSTEM TO ENSURE PROPER PLATE TO GASKET SEALS THROUGHOUT THE PLATE PACK. THE POSITIVE ALIGNMENT SYSTEM SHALL EITHER BE A GASKET LUG WHICH FITS WITHIN A PLATE RECESS ON THE PRECEDING PLATE (TONGUE IN GROOVE) TO ALIGN SUCCESSIVE PLATES OR AN EXTENDED ROLLED EDGE HANGER WHICH NESTS SUCCESSIVE PLATES THROUGH DIRECT CONTACT AROUND THE ENTIRE PLATE HANGER. PLATE DESIGNS WHICH ONLY OFFER ALIGNMENT THROUGH CONTACT WITH THE CARRY AND GUIDE BAR ARE UNACCEPTABLE.
  - D. PLATES SHALL HAVE AN ENCLOSING GROOVE FOR THE ENTIRE GASKET DESIGNED TO CONTAIN THE GASKET WHILE ALLOWING FOR THERMAL EXPANSION.
  - E. PLATES SHALL BE PERMANENTLY MARKED TO INDICATE PLATE MATERIAL AND THICKNESS.
  - F. DOUBLE WALL PLATES SHALL HAVE AN AIR GAP WITH A LEAK DETECTION PATH.
  - G. STAINLESS STEEL DOUBLE WALL PLATES SHALL BE PRESSED AT THE SAME TIME TO ENSURE A CLOSE FIT WITH MINIMAL LOSS OF HEAT TRANSFER.
  - H. FOR UNITS WITH 300 PSIG DESIGN PRESSURE OR LESS, EXCLUDING "WIDE GAP" DESIGNS, THERMAL PLATES MUST BE DESIGNED TO WITHSTAND FULL TEST PRESSURE IN ONE CIRCUIT WITH

- ZERO PRESSURE IN THE OPPOSITE CIRCUIT.
- V. GASKETS
    - A. ALL GASKETS FOR SINGLE PASS DESIGNS, EXCEPT THE GASKET ON THE FIRST PLATE, SHALL BE IDENTICAL.
    - B. THE GASKETS SHALL BE A ONE-PIECE CONSTRUCTION WITH A DOUBLE GASKET BARRIER AT THE PORT REGION. THE AREA ISOLATED BY THE DOUBLE GASKET SHALL BE VENTED TO THE ATMOSPHERE, SO THAT A GASKET FAILURE IS DETECTED BY LEAKAGE TO THE EXTERIOR PRIOR TO ANY POSSIBLE CROSS CONTAMINATION.
    - C. GASKETS SHALL HAVE TAPERED SIDES TO ASSURE POSITIVE SEATING OF THE COMPRESSED GASKET AND ASSIST IN ALIGNING THE THERMAL PLATES DURING COMPRESSION.
    - D. WHEN AVAILABLE, GLUE-FREE GASKETS ARE PREFERRED TO GLUED-ON GASKETS. GLUE-FREE GASKET ATTACHMENT METHODS WHICH BREAK DURING GASKET REMOVAL OR PLATE MAINTENANCE, THUS DESTROYING THE GASKET, ARE NOT ALLOWED.
    - E. CARE SHOULD BE TAKEN IN THE SELECTION OF GASKET MATERIALS TO INSURE COMPATIBILITY WITH THE FLUIDS AND OPERATING TEMPERATURES.
  - VI. THERMAL/HYDRAULIC DESIGN AND CERTIFICATION
    - A. THE MANUFACTURER SHALL PROVIDE WRITTEN GUARANTEE TO THE ACCURACY OF THE HEAT EXCHANGER THERMAL DESIGN.
    - B. THE MANUFACTURER SHALL BE CERTIFIED WITH THE AIR-CONDITIONING, HEATING AND REFRIGERATION INSTITUTE'S LIQUID TO LIQUID HEAT EXCHANGER CERTIFICATION PROGRAM, AHRI STANDARD 400, FOR THE MODEL BEING SUPPLIED.
      1. FOR UNITS WITHIN THE SCOPE OF THE PROGRAM: THIS HEAT EXCHANGER IS CERTIFIED BY THE AHRI LIQUID TO LIQUID HEAT EXCHANGER CERTIFICATION PROGRAM BASED ON AHRI STANDARD 400. AHRI CERTIFIED UNITS ARE SUBJECT TO RIGOROUS TESTING, HAVE PERFORMANCE RATINGS INDEPENDENTLY MEASURED AND ARE THIRD PARTY VERIFIED. CERTIFIED UNITS MAY BE FOUND IN THE AHRI DIRECTORY AT WWW.AHRI.DIRECTORY.ORG.
      2. FOR UNITS AT OPERATING CONDITIONS OUTSIDE THE SCOPE OF THE PROGRAM: THE OPERATING CONDITIONS ARE OUTSIDE OF THE SCOPE OF AHRI STANDARD 400 LIQUID TO LIQUID CERTIFICATION PROGRAM OF 2000 GPM AND/OR 24,000,000 BTU/HR. MODEL IS AN AHRI STANDARD 400 CERTIFIED MODEL.
    - C. IN ACCORDANCE WITH AHRI STANDARD 400, THE MANUFACTURERS OUTPUT/SPECIFICATION SHEET SHALL HAVE THE FOLLOWING INFORMATION:
      1. MODEL NUMBER;
      2. VOLUMETRIC FLOW RATE;
      3. INLET TEMPERATURES ON BOTH CIRCUITS;
      4. OUTLET TEMPERATURES ON BOTH CIRCUITS;
      5. PRESSURE DROPS ON BOTH CIRCUITS;
      6. SURFACE MARGIN (ALSO KNOWN AS EXCESS SURFACE AREA);
      7. HEAT DUTY (ALSO KNOWN AS HEAT LOAD);
      8. OVERALL HEAT TRANSFER COEFFICIENT;
      9. HEAT TRANSFER AREA;
      10. NUMBER OF PLATES;
      11. CHANNEL ARRANGEMENTS ON BOTH CIRCUITS;
      12. NUMBER OF PASSES;
      13. PLATE MATERIAL AND THICKNESS;
    - D. SHOULD THE HEAT EXCHANGER NOT PERFORM TO THE SPECIFIED CONDITIONS AS DEFINED IN AHRI STANDARD 400, THE MANUFACTURER IS RESPONSIBLE TO REPLACE OR REPAIR THE EXCHANGER TO ACHIEVE THE STATED PERFORMANCE.
    - E. IF THE MANUFACTURER IS NOT CERTIFIED WITH THE AIR-CONDITIONING, HEATING AND REFRIGERATION INSTITUTE'S LIQUID TO LIQUID HEAT EXCHANGER CERTIFICATION PROGRAM, AHRI STANDARD 400, A WITNESSED FACTORY PERFORMANCE TEST MUST BE COMPLETED PER THE TESTING SPECIFICATION OF AHRI STANDARD 400.



### ARCHITECT OF RECORD

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0	Permit Set	8/17/17



GREGORY A. JOHNSON  
PE-57783

**PROJECT TEAM**  
DESIGNER  
GJ  
BIM / DRAWINGS BY:  
GP  
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Community Development Bldg. Renovations  
295 Riverside Circle  
Naples, FL 34102

6788-16-2867  
100% CD - 08-17-17  
PROJECT NUMBER | STATUS | ISSUE DATE  
**MECHANICAL SPECIFICATIONS**  
SCALE: -

**M-601**  
62  
**SHEET NUMBER**

## DEMOLITION GENERAL NOTES

- THIS CONTRACTOR SHALL DISCONNECT AND REMOVE ALL ELECTRICAL SUPPLY EQUIPMENT AND CONDUCTORS SERVING EQUIPMENT DESIGNATED HEREIN TO BE REMOVED. THIS CONTRACTOR SHALL DISCONNECT AND RELOCATE ALL WIRING TO LIGHTING TO MATCH THE NEW LOCATIONS SHOWN ON THE CEILING PLANS. ALL EXISTING LIGHTING CONTROLS SHALL BE SUSTAINED.
- NO EQUIPMENT REMOVED SHALL BE REUSED, EXCEPT AS SPECIFICALLY DIRECTED ON THE DRAWINGS OR ELSEWHERE HEREIN. EXCEPT FOR CONDUIT, CONDUCTORS AND MISCELLANEOUS HARDWARE, ALL ELECTRICAL EQUIPMENT SHALL REMAIN THE PROPERTY OF THE OWNER AND SHALL BE STORED ON THE SITE FOR REMOVAL PER THE OWNER'S DIRECTION. ABANDONED OR REMOVED CIRCUITS SHALL BE DISCONNECTED AT THEIR OVERCURRENT DEVICE. THE CONDUCTORS REMOVED AND THE CIRCUIT SPACE MARKED SPARE ON THE APPLICABLE DIRECTORY USING ADHESIVE BACKED CORRECTION TAPE, EXCEPT WHERE SAID DEVICE/EQUIPMENT TO BE REMOVED IS PART OF A BRANCH CIRCUIT THAT ALSO SERVES DEVICES/EQUIPMENT THAT ARE TO REMAIN IN PLACE. IN THE LATTER CASE, THIS CONTRACTOR SHALL REMOVE ALL BRANCH CIRCUIT CONDUCTORS AND CONDUIT BACK TO THE FIRST DEVICE CONNECTION OR JUNCTION BOX SERVING EQUIPMENT TO REMAIN. UPON COMPLETION OF THIS REMOVAL, THE CONTRACTOR SHALL TEST THE CIRCUIT TO ENSURE THAT THE DEVICES/EQUIPMENT BRANCH CIRCUIT INTEGRITY IS SUSTAINED FOR EQUIPMENT/DEVICES TO REMAIN.
- ANY EXISTING CIRCUITS OR EQUIPMENT NOT SHOWN ON THE DRAWINGS AND WHICH ARE LOGICALLY EXPECTED TO BE CONTINUED IN SERVICE AND WHICH MAY BE INTERRUPTED OR DISTURBED DURING CONSTRUCTION, SHALL BE RECONNECTED IN AN APPROVED MANNER. IN ADDITION, ANY EXISTING CIRCUIT OR EQUIPMENT WHICH MAY REQUIRE RELOCATION OR REROUTING AS A RESULT OF CONSTRUCTION, SHALL BE CONSIDERED A PART OF THE WORK OF THIS SECTION AND SHALL BE DONE BY THIS CONTRACTOR WITH NO ADDITIONAL COMPENSATION.
- OUTLET BOXES BEING ABANDONED IN EXISTING WALLS, THAT HAVE WIRING REMOVED, IN REMODELED AREAS SHALL HAVE ITS OPENING PATCHED TO MATCH EXISTING WALL FINISH. BLANK COVERS ARE NOT ACCEPTABLE.
- EXISTING CONDUIT AND WIRING IN THE REMODEL AREA THAT IS NOT BEING REMOVED, BUT WHICH WILL BE IN CONFLICT WITH NEW WORK BEING INSTALLED, SHALL BE REROUTED AS REQUIRED.
- THIS CONTRACTOR SHALL PROVIDE REQUIRED ADDITIONAL SUPPORT FOR EXISTING CONDUIT IN REMODEL AREA THAT IS NOT BEING REMOVED AND IS NOT PROPERLY SUPPORTED IN ACCORDANCE WITH N.E.C. REQUIREMENTS.
- PRIOR TO DEMOLITION OR ALTERATION OF STRUCTURES, THE FOLLOWING SHALL BE ACCOMPLISHED:
  - COORDINATE SEQUENCING WITH OWNER AND OTHER CONTRACTORS.
  - SURVEY AND RECORD CONDITION OF EXISTING FACILITIES TO REMAIN IN PLACE THAT MAY BE AFFECTED BY DEMOLITION OPERATIONS. AFTER DEMOLITION OPERATIONS ARE COMPLETED, SURVEY CONDITIONS AGAIN AND RESTORE EXISTING FACILITIES TO THEIR PREDEMOLITION CONDITION, AT NO ADDITIONAL COST TO OWNER.
  - SALVAGE EQUIPMENT SCHEDULED FOR REUSE IN NEW WORK OR SCHEDULED TO BE DELIVERED TO OWNER'S STORAGE FACILITY.

## BID NOTE

PRIOR TO SUBMITTING A BID FOR THIS WORK THE CONTRACTOR SHALL VISIT THE SITE TO DETERMINE THE COST IMPACT OF EXISTING CONDITIONS ON THE SCOPE OF WORK HEREIN. THE BID SHALL INCLUDE ANY COST ASSOCIATED WITH AN EXISTING CONDITION THAT IS MODIFIED, OR AFFECTED BY THE WORK IN THESE DOCUMENTS. FAILURE TO VISIT THE SITE OR DETERMINE THESE COSTS PRIOR TO BID SHALL NOT ABSOLVE THE CONTRACTOR OF THIS RESPONSIBILITY.

## SUBMITTALS

CONTRACTOR SUBMITTALS SHALL BE MADE IN COMPLIANCE WITH THE FOLLOWING STATEMENT:

IT IS HEREBY CERTIFIED THAT THE MATERIAL/EQUIPMENT PRESENTED IN THIS SUBMITTAL/SHOP DRAWING/CATALOG CUT SHEET, ETC. HAS BEEN REVIEWED AND IS APPROVED FOR USE ON THIS PROJECT BY THIS CONTRACTOR AS BEING IN CONFORMANCE TO THE DESIGN AS SHOWN ON THE CONTRACT DOCUMENTS AND CAN BE INSTALLED IN THE ALLOCATED SPACES, IS OF THE CORRECT ELECTRICAL CHARACTERISTICS AND IS SUBMITTED FOR REVIEW AND APPROVAL BY THE ARCHITECT/ENGINEER.

THE SUBMITTAL WILL BE SIGNED AND DATED BY AN AUTHORIZED AGENT OF THIS CONTRACTOR.

## SHEET INDEX

SHEET	DESCRIPTION
E-000	SYMBOL LEGEND, SCHEDULES & GENERAL NOTES
E-101	1ST FLOOR POWER PLAN - NEW WORK
E-301	ENLARGED PLANS
E-302	ENLARGED PLANS
E-401	ELECTRICAL DETAILS
E-501	ELECTRICAL ONE LINE DIAGRAM AND PANEL SCHEDULES
E-601	ELECTRICAL SPECIFICATIONS

## ELECTRICAL SYMBOL LEGEND

NOT ALL SYMBOLS ARE USED IN THIS CONTRACT.

SYMBOL	DESCRIPTION
	SURFACE MOUNTED DISTRIBUTION PANEL
	FLUSH MOUNTED DISTRIBUTION PANEL
	JUNCTION BOX PER N.E.C.
	WIRING AND RACEWAY EXPOSED
	WIRING AND RACEWAY CONCEALED IN/OR UNDER FLOOR OR UNDERGROUND
	INDICATES CONDUIT TURNED DOWN TO FLOOR BELOW
	INDICATES CONDUIT TURNED UP TO FLOOR ABOVE
	HOMERUN - PANEL DESIGNATION AND CIRCUIT NUMBER
	SINGLE POLE SWITCH - 20A - 120/277V - MOUNT 40" A.F.F.
	SINGLE POLE SWITCH - 20A - 120/277V - MOUNT 40" A.F.F. "D" STANDS FOR DIMMER
	THREE-WAY SWITCH - 20A - 120/277V - MOUNT 40" A.F.F.
	MANUAL MOTOR STARTER - SINGLE PHASE WITH OVERLOADS
	SINGLE POLE SWITCH WITH INTEGRAL TIMER, 20A - 120/277V - MOUNT 40" A.F.F.
	SINGLE POLE SWITCH WITH WP COVER, 20A - 120/277V - MOUNT 40" A.F.F.
	SINGLE POLE SWITCH, "o" DENOTES FIXTURES CONTROLLED
	SINGLE POLE SWITCH, SURFACE MOUNTED
	115 OR 277 VOLT MOTOR AS NOTED ON PLANS
	NON-FUSIBLE HEAVY DUTY DISCONNECT SWITCH - BY DIVISION 16
	FUSED HEAVY DUTY DISCONNECT SWITCH - BY DIVISION 16
	STANDARD CONVENIENCE OUTLET - WP NEMA 5-20R DUPLEX - "GFI" DENOTES GROUND FAULT RECEPTACLE
	SPECIAL POWER OUTLET, NEMA DESIGNATION AS SHOWN ON PLANS
	TWO STANDARD CONVENIENCE OUTLETS IN A 2-GANG BOX - NEMA 5-20R DUPLEX - COMMON COVER PLATE - MOUNT 18" A.F.F.
	SURFACE MOUNTED STANDARD CONVENIENCE OUTLET
	SURFACE MOUNTED SPECIAL POWER OUTLET
	GROUNDING FOR SERVICE OR SEPARATELY DERIVED SYSTEM, PER N.E.C.
	INDICATED CONDUIT STUBBED OUT INTO SPACE - PROVIDE CONDUIT BUSHING
	EXPLOSION-PROOF CONDUIT SEAL PER N.E.C.
	INDICATES ELECTRICAL CONNECTION BY ELECTRICAL CONTRACTOR TO EQUIPMENT PROVIDED AND INSTALLED BY OTHERS
	IONIZATION TYPE CEILING MOUNTED SMOKE DETECTOR.
	ESTIMATED LOCATION OF NEW SYSTEM CONNECTION TO EXISTING SYSTEM. CONTRACTOR SHALL LOCATE ACTUAL POINT TO CONNECT TO EXISTING SYSTEM AND PROVIDE ANY REQUIRED ADJUSTMENTS. EXISTING SYSTEM IDENTIFIED BY SUBSCRIPT.
	2x2 RECESSED LIGHT FIXTURE - LETTER INDICATES FIXTURE TYPE

## GENERAL NOTES

- ALL WORK PERFORMED SHALL BE DONE BY A LICENSED ELECTRICAL CONTRACTOR AND IN A FIRST CLASS WORKMANLIKE MANNER. SAID CONTRACTOR SHALL MEET ALL REQUIREMENTS SET FORTH BY ANY LOCAL ORDINANCE AND/OR GOVERNING AUTHORITIES.
- ENTIRE INSTALLATION SHALL BE IN ACCORDANCE WITH THE FLORIDA BUILDING CODE, NATIONAL ELECTRICAL CODE, LATEST EDITION AND THE LATEST EDITIONS OF ALL LOCAL CODES, RULES, AND ORDINANCES HAVING JURISDICTION.
- IT SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO PROVIDE ALL LABOR, MATERIALS, AND SUPERVISION NECESSARY TO ACCOMPLISH THE WORK SHOWN AND/OR NOTED ON THE DRAWINGS.
- ALL REQUIRED INSURANCE SHALL BE PROVIDED FOR PROTECTION AGAINST PUBLIC LIABILITY AND PROPERTY DAMAGE FOR THE DURATION OF THE WORK.
- ELECTRICAL CONTRACTOR SHALL VISIT THE JOB SITE PRIOR TO BID AND VERIFY ALL CONDITIONS, LOCATIONS, DIMENSIONS AND COUNTS AS SHOWN AND/OR NOTED ON THE DRAWINGS. THIS SHALL INCLUDE ANY AND ALL FABRICATIONS REQUIRED PRIOR TO INSTALLATION.
- IT SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR FOR THE ADVANCED ORDERING OF LONG LEAD ITEMS SO AS NOT TO INTERFERE WITH THE PRODUCTION OF OTHER TRADES RESULTING IN ANY DOWN OR LAG TIME.
- CONTRACTOR SHALL GUARANTEE ALL MATERIALS AND WORKMANSHIP FREE FROM DEFECTS FOR A PERIOD OF NOT LESS THAN (1) YEAR FROM DATE OF ACCEPTANCE, UNLESS INDICATED OR SPECIFIED OTHERWISE.
- CORRECTION OF ANY DEFECTS SHALL BE COMPLETED WITHOUT ADDITIONAL CHARGE AND SHALL INCLUDE REPLACEMENT OR REPAIR OF ANY OTHER PHASE OF THE INSTALLATION WHICH MAY HAVE BEEN DAMAGED THEREBY.
- THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE TO REPAIR TO ORIGINAL CONDITIONS ANY AND ALL DAMAGES TO BUILDING SURFACES, EQUIPMENT AND FURNISHINGS CAUSED DURING PERFORMANCE OF WORK.
- ELECTRICAL CONTRACTOR SHALL NOT SCALE DRAWINGS. CONTRACTOR SHALL FIELD COORDINATE EXACT LOCATIONS OF ALL EQUIPMENT UNLESS NOTED OTHERWISE.
- ALL ELECTRICAL EQUIPMENT, DEVICES, WIRE, ETC., SHALL BE LISTED FOR THE INTENDED USE, WITH UNDERWRITER'S LABORATORIES, INC. (UL) WHERE STANDARDS HAVE BEEN ESTABLISHED BY UL AS A MINIMUM. ALL EQUIPMENT SHALL MEET APPLICABLE STANDARDS FOR THE TYPE OF EQUIPMENT AND INTENDED USE OF THE FOLLOWING:
  - AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI).
  - AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM).
  - NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION (NEMA).

NOTE: THESE STANDARDS ARE SUBORDINATE TO CODES AND STANDARDS SET BY UL.
- IT IS NOT THE INTENT OF THESE PLANS AND/OR SPECIFICATIONS TO SHOW EVERY DETAIL OF CONSTRUCTION. THE ELECTRICAL CONTRACTOR SHALL BE EXPECTED TO PROVIDE ALL ITEMS AND EQUIPMENT NECESSARY FOR A COMPLETE AND FULLY FUNCTIONAL ELECTRICAL SYSTEM.
- ALL CONDUIT RUNS ARE SHOWN DIAGRAMMATICALLY. EXACT ROUTING SHALL BE DETERMINED IN THE FIELD, UNLESS OTHERWISE NOTED. THE ELECTRICAL CONTRACTOR SHALL PROVIDE AND INSTALL THE PROPER NUMBER OF CONDUCTORS IN ALL RACEWAYS AS REQUIRED TO ACCOMPLISH THE PROPER FUNCTIONING OF THE DEVICE OR EQUIPMENT AS SHOWN.
- THE ELECTRICAL CONTRACTOR SHALL KEEP ALL AREAS IN WHICH WORK IS BEING PERFORMED, FREE FROM DEBRIS AT ALL TIMES AND SAID AREAS SHALL BE LEFT BROOM CLEAN AT THE END OF EACH WORKING DAY.
- CONTRACTOR SHALL PAY FOR ALL PERMITS, FEES, INSPECTIONS, AND TESTING.
- NOT USED.
- COORDINATE ALL ELECTRICAL SITE WORK WITH GENERAL CONTRACTOR PRIOR TO INSTALLATION.
- ALL CONDUCTORS SHALL BE IN CONDUITS. ALL CONDUITS SHALL BE RIGID GALVANIZED STEEL (RGS) EXCEPT THAT:
  - POLYVINYL CHLORIDE (PVC) CONDUITS MAY BE USED IN CONCRETE SLABS AND UNDERGROUND PROVIDED ELBOWS AND RISERS ARE RGS.
  - ELECTRICAL METALLIC TUBING (EMT) MAY BE USED IN OR ON WALLS OR CEILING WHERE NOT SUBJECT TO MECHANICAL DAMAGE, DAMP CONDITIONS OR CORROSIVE CONDITIONS.
  - LIQUID-TIGHT FLEXIBLE CONDUIT WHERE REQUIRED.
  - THE USE OF AC OR MC CABLES SHALL BE PROHIBITED.

ALL CONDUITS IN HAZARDOUS AREAS (PER NEC) SHALL MEET THE REQUIREMENTS OF NEC CHAPTER 5.
- FOR UNDERGROUND ELECTRICAL CONDUITS, PROVIDE PULL BOXES, SUCH THAT NO SINGLE CONDUIT RUN HAS BENDS IN EXCESS OF 360. PULL BOXES SHALL BE H20 TRAFFIC LOAD RATED SIZED PER NEC, SUITABLE AND APPROVED FOR THE INTENDED USE. WHERE UNDERGROUND CONDUITS ARE NOT EXPOSED TO MECHANICAL DAMAGE OR ARE NOT UNDER PAVED AREAS, THEY MAY BE SCHEDULE 40 PVC, BUT ALL CONDUIT RISERS SHALL BE RGS. RGS CONDUITS SHALL EXTEND A MINIMUM OF 18" BELOW GRADE.
- APPLY BITUMASTIC COATING TO ALL METALLIC CONDUITS (TRANSITIONS) IN SLABS OR UNDERGROUND.
- ALL CONDUCTORS SHALL BE COPPER U.O.N., TYPE THHN / THWN INSULATION, RATED 75°C WET/DRY EXCEPT WHERE OTHERWISE REQUIRED BY U.L. OR CODES UNLESS OTHERWISE NOTED. MINIMUM WIRE SIZE SHALL BE #10 AWG EXCLUDING CONTROL WIRING.
- ALL ELECTRICAL EQUIPMENT SHALL BE RAIN/TIGHT WHERE EXPOSED TO THE WEATHER. ALL FLEX CONDUITS CONNECTED TO SUCH EQUIPMENT SHALL BE LIQUID-TIGHT.
- OUTLET BOXES SHALL BE CAST ALLOY WITH THREADED HUBS AND SPECIAL ENCLOSURE FOR OTHER CLASSIFIED AREAS.
- FURNISH AND INSTALL DISCONNECT SWITCHES AND WIRING FOR AIR CONDITIONING EQUIPMENT PER MANUFACTURER RECOMMENDATIONS. ELECTRICAL CONTRACTOR SHALL VERIFY CIRCUIT PROTECTIVE DEVICE RATING FOR EQUIPMENT PROVIDED.
- DISCONNECT SWITCHES SHALL BE SIZED PER NEC TO ACCOMMODATE EQUIPMENT SERVED, INCLUDING REQUIRED FUSES, U.O.N. DISCONNECT SWITCHES SHALL BE HORSEPOWER RATED, HEAVY-DUTY TYPE.
- FUSES SHALL BE CURRENT LIMITING, PER U.L., RATED 600 VOLTS, UNLESS OTHERWISE NOTED.
  - NONTIME DELAY FUSES IN MAIN SWITCHES AND SWITCHES FEEDING PANELS.
  - TIME DELAY FUSES FOR MOTOR AND A/C CIRCUITS.
- CIRCUIT BREAKERS SHALL BE BOLT-ON U.O.I., INVERSE TIME-TYPE (THERMAL-MAGNETIC). TWO AND THREE-POLE CIRCUIT BREAKERS SHALL HAVE COMMON TRIP. ALL PANELBOARDS SHALL HAVE COPPER BUS.
- ALL CONNECTIONS TO GROUND RODS & BUILDING STEEL SHALL BE MADE WITH UL APPROVED WELDED CONNECTIONS, UNLESS OTHERWISE NOTED.
- PROVIDE TEMPORARY ELECTRICAL SERVICE FOR USE BY ALL TRADES DURING CONSTRUCTION AND REMOVE SAME AT COMPLETION OF PROJECT.
- THE ELECTRICAL CONTRACTOR SHALL FURNISH A COMPLETE SET OF AS-BUILT DRAWINGS, SHOWING ALL CHANGES AND DEVIATIONS TO THE ARCHITECT/ENGINEER PRIOR TO COMPLETION OF THE PROJECT.
- PREPARE AND AFFIX A TYPEWRITTEN DIRECTORY TO THE INSIDE COVER OF EACH PANELBOARD INDICATING LOADS SERVED BY EACH CIRCUIT.
- ALL GROUND RODS TO BE COPPER CLAD STEEL WITH EXOTHERMIC WELDED CONNECTIONS.
- ALL EQUIPMENT AND MATERIAL SUBSTITUTIONS MUST BE APPROVED A MINIMUM OF 8 BUSINESS DAYS PRIOR TO BID DATE.



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## ARCHITECT OF RECORD

## REVISION SCHEDULE

No.	DESCRIPTION	DATE
A	50% SUBMITTAL	4/18/17
B	90% Review Set	5/24/17
0	Permit Set	8/17/17



300 CROWN OAK CENTRE DRIVE,  
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## PROJECT TEAM

### DESIGNER

GJ

### BIM / DRAWINGS BY:

GP

### CHECKED BY:

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Community  
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295 Riverside Circle  
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6788-16-2867  
100% CD - 08-17-17

PROJECT NUMBER | STATUS | ISSUE DATE  
SYMBOL LEGEND,  
SCHEDULES & GENERAL  
NOTES

SCALE: NTS

E-000  
SHEET NUMBER



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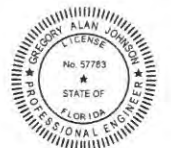
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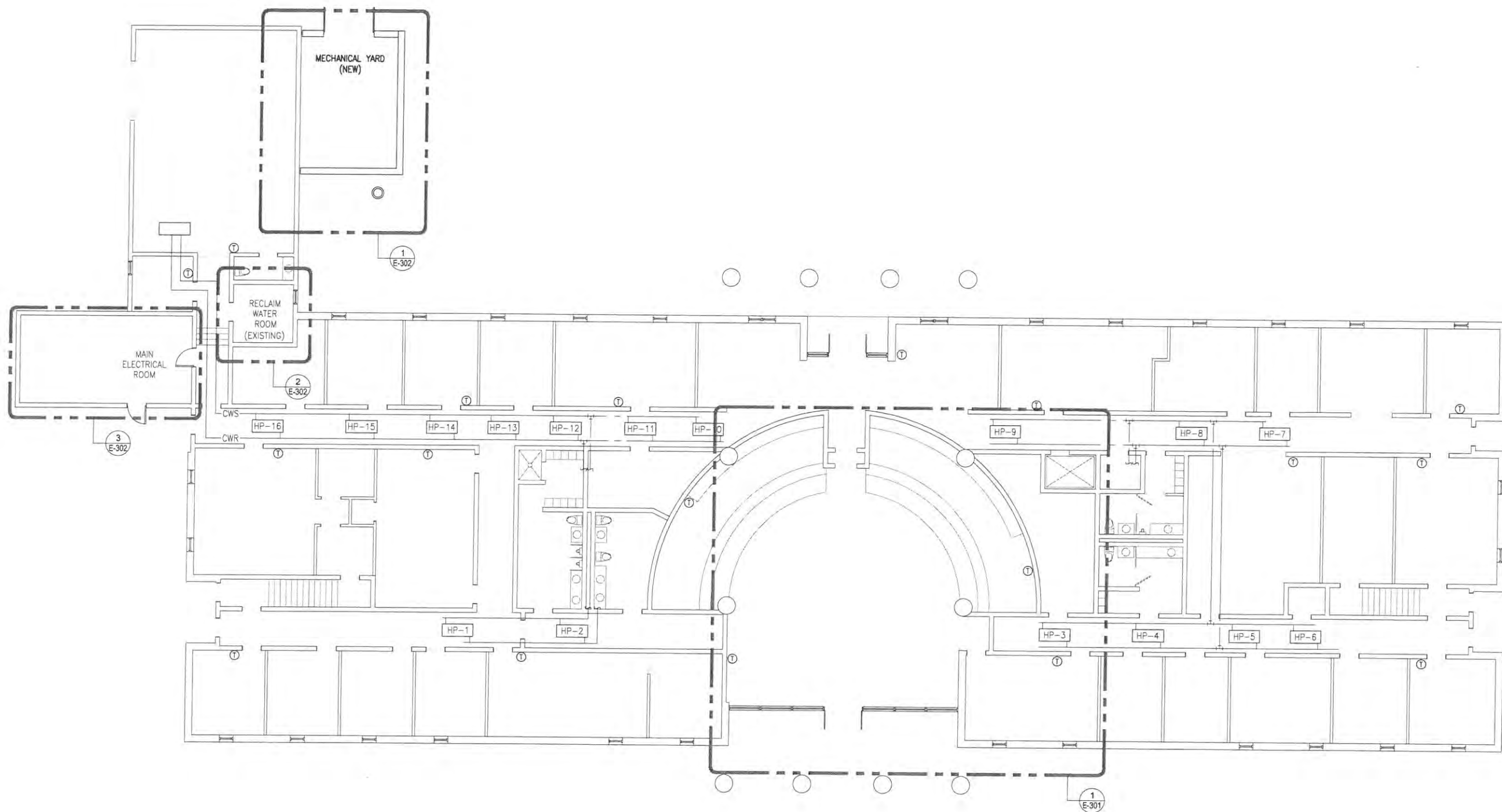
100% CD - 08-17-17

PROJECT NUMBER | STATUS | ISSUE DATE

1ST FLOOR POWER - NEW  
WORK

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

E-101  
SHEET NUMBER







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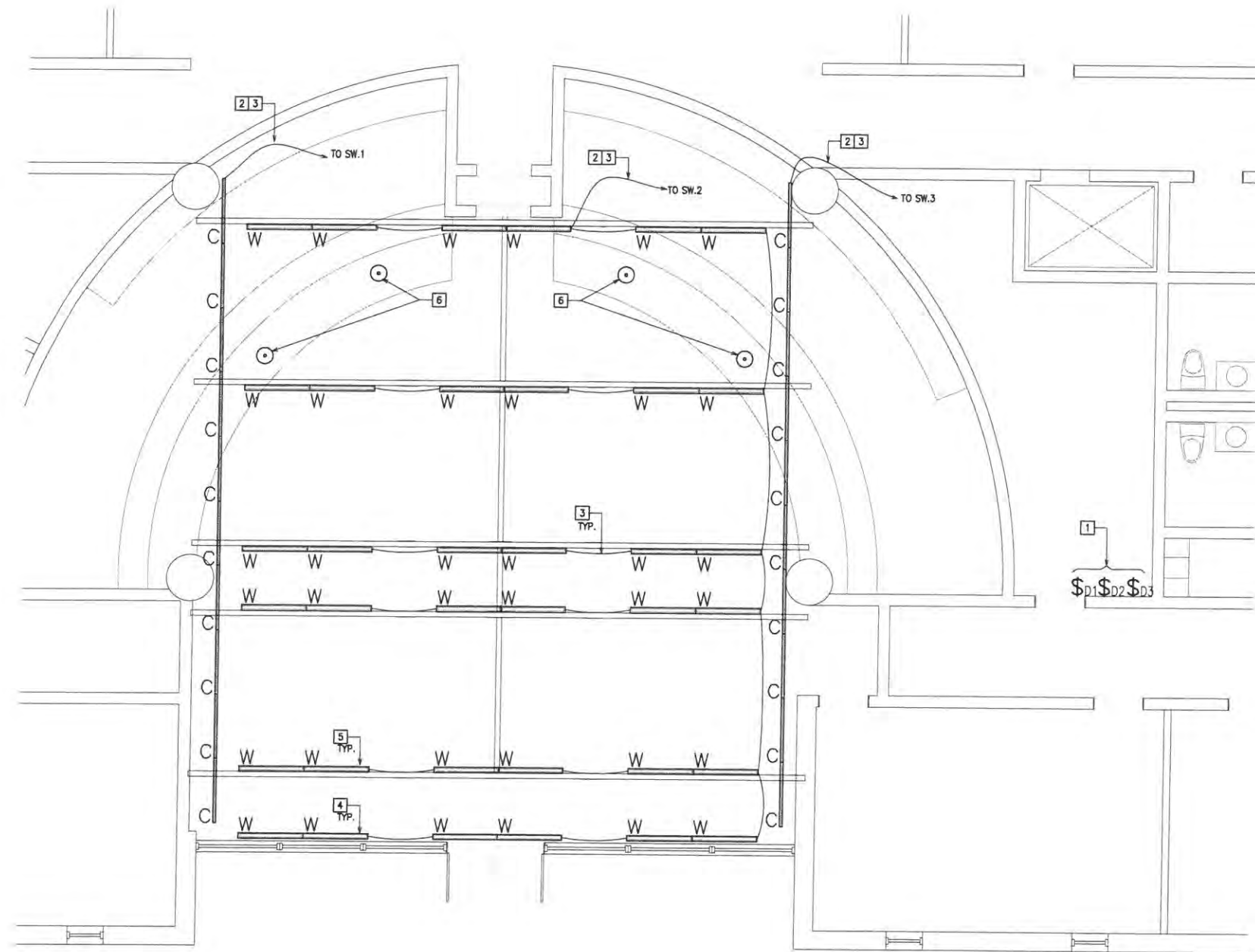
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KEYED PLAN NOTES

- 1 EXISTING LOBBY LIGHTING SWITCHES AND CONTROL TO BE REMOVED. REUSE EXISTING POWER & CONTROL WIRING FOR NEW LIGHTS. PROVIDE NEW LED COMPATIBLE DIMMER SWITCHES. PROVIDE NEW WALL BOXES TO ACCOMMODATE NEW DIMMERS.
- 2 RE-CONFIGURE SWITCHING AS SHOWN.
- 3 RUN ALL NEW RACEWAYS CONCEALED IN WALLS, DROP CEILING, ATOP OF TRUSS OR COVES.
- 4 WALL MOUNTED. 12' AFF TO BOTTOM.
- 5 MOUNTED ON THE TRUSS BEAM SIDE (AS PER MANUFACTURER'S REQUIREMENTS), 12' AFF TO BOTTOM.
- 6 REMOVE EXISTING PENDANT LOBBY LIGHTS. REUSE CIRCUIT FOR NEW LIGHTS. REMOVE EXISTING CEILING BOXES AND REMOVE CONDUIT & WIRING FROM DROP CEILING. REPLACE CEILING TILE TO MATCH EXISTING.

NOTE:

EXISTING EGRESS EMERGENCY LIGHTS ARE EXISTING TO REMAIN AND UNALTERED BY THIS WORK.



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PROJECT TEAM

DESIGNER

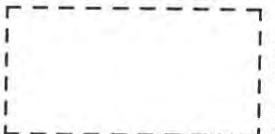
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Development  
Bldg. Renovations

295 Riverside Circle  
Naples, FL 34102

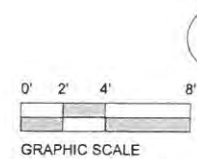
6788-16-2867  
100% CD - 08-17-17

PROJECT NUMBER | STATUS | ISSUE DATE

ENLARGED PLANS

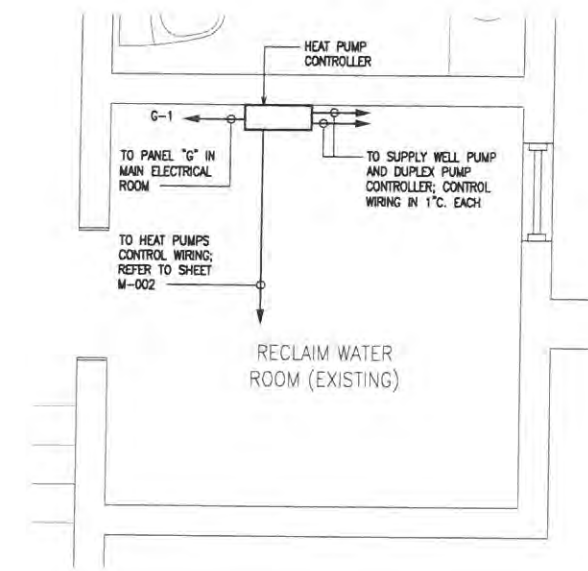
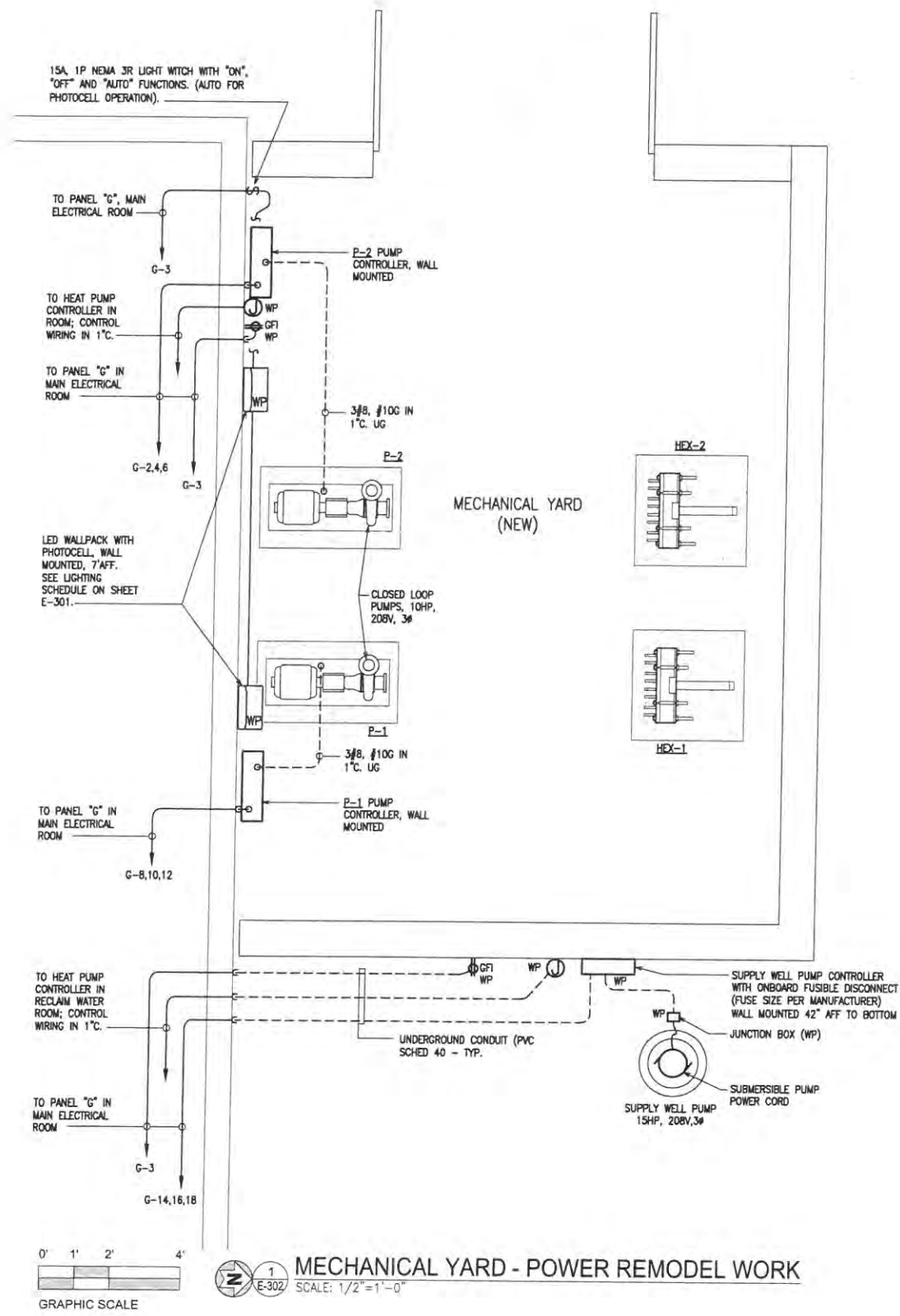
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E-301  
65  
SHEET NUMBER



LOBBY LIGHTING DEMO & REMODEL WORK  
SCALE: 1/4"=1'-0"

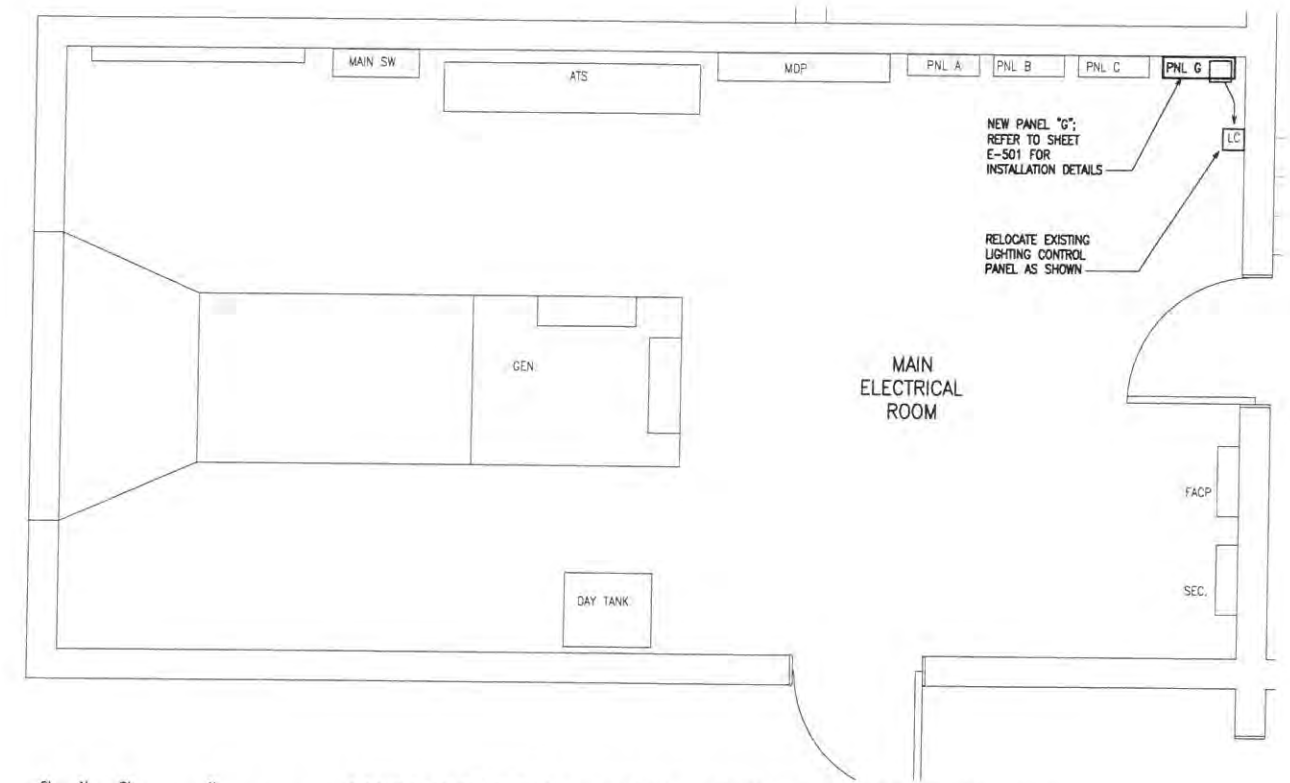
LIGHTING FIXTURE SCHEDULE										
TYPE	DESCRIPTION	MANUF.	CATALOG NUMBER	WATTS	LAMP	COLOR	VOLTS	MOUNTING	REMARKS	
C	AL COVE ECO	ACCLAIM LIGHTING	ACE120DADU	15	LED	3500	120	COVE		
W	WALL DIRECT LED	BEAM4LED	BBWLED 500 80 35 50 4 W 120 DP 1	17.2	LED	3500	120	WALL MOUNTED	MOUNT ON THE SIDE OF TRUSS BEAM	
WP	WALL PACK LED	HE WILLIAMS	WP1-L44/850 SF PC 120 WG	48	LED	5000	120	WALL MOUNTED	WITH PHOTOCELL (MECHANICAL YARD)	



RECLAIM WATER ROOM - POWER REMODEL WORK

SCALE: 1/2" = 1'-0"

GRAPHIC SCALE



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ARCHITECT OF RECORD

REVISION SCHEDULE

No.	DESCRIPTION	DATE
A	50% SUBMITTAL	4/18/17
B	90% Review Set	5/24/17
0	Permit Set	8/17/17



300 CROWN OAK CENTRE DRIVE,  
LONGWOOD, FL 32750  
TEL: 407.260.0231  
FAX: 407.260.0749



GREGORY A. JOHNSON  
PE-57783

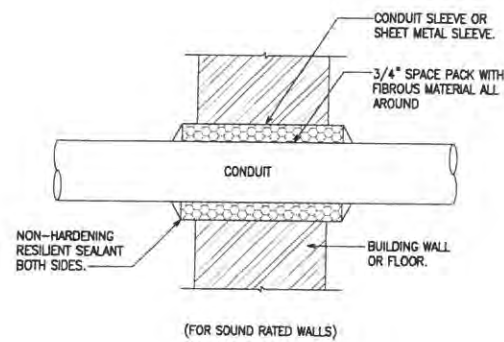
PROJECT TEAM  
DESIGNER  
GJ  
BIM / DRAWINGS BY:  
GP  
CHECKED BY:  
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Community Development Bldg. Renovations  
295 Riverside Circle  
Naples, FL 34102

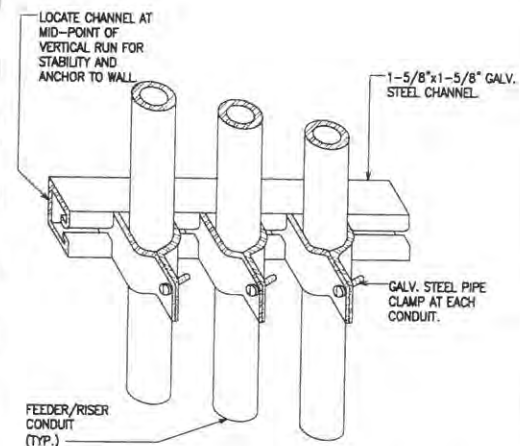
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ENLARGED PLANS  
SCALE: AS SHOWN

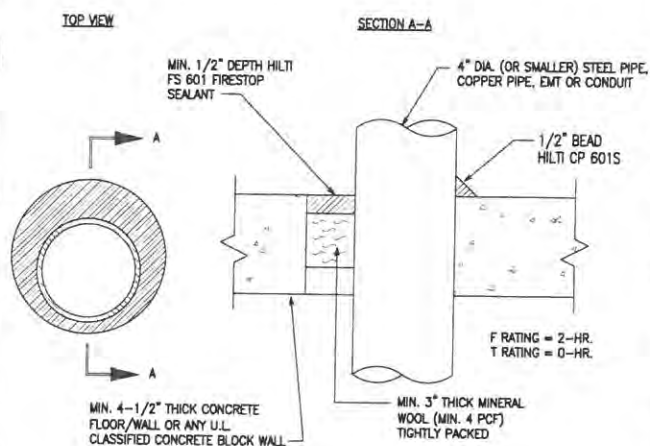
E-302 66  
SHEET NUMBER



1 CONDUIT WALL PENETRATION  
E-401 NOT TO SCALE



2 WALL CONDUIT SUPPORT DETAIL  
E-401 NOT TO SCALE



3 METAL PIPE THROUGH CONCRETE FLOOR/WALL OF BLOCK WALL  
E-401 NOT TO SCALE

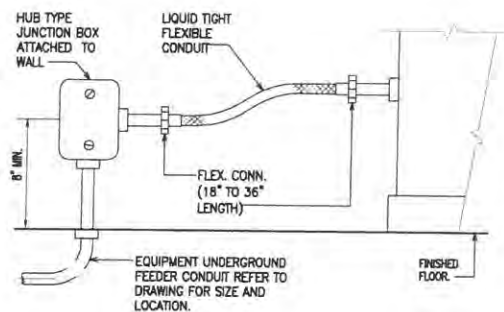
INSTALLATION INSTRUCTIONS FOR UL No. CA11149

STEP 1 - PREPARATION: ALL SURFACES MUST BE CLEAN, SOUND, DRY AND FROST FREE PRIOR TO APPLICATION OF MATERIALS.

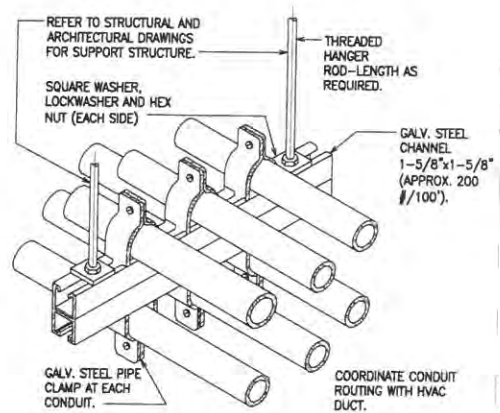
STEP 2 - BACKING MATERIAL: PACK MINERAL WOOL TIGHTLY AROUND THE PENETRATING ITEM TO THE DEPTH SHOWN IN THE DRAWINGS, AND RECESS IT BELOW THE TOP SURFACE OF THE FLOOR (OR BOTH SURFACES OF A WALL) TO ALLOW PROPER SPACE FOR THE FIRESTOP MATERIAL.

STEP 3 - FIRESTOP SEALANT: APPLY THE FIRESTOP SEALANT OVER THE BACKING MATERIAL TO THE DEPTH SHOWN. IF THE PIPE IS OFFSET TO ONE SIDE, APPLY A 1/2" BEAD OF FIRESTOP SEALANT AROUND ITS CIRCUMFERENCE WHERE IT CONTACTS THE WALL OR FLOOR. WALL PENETRATIONS REQUIRE FIRESTOP SEALANT ON BOTH SIDES. LEAVE COMPLETED SEAL UNDISTURBED FOR 48 HOURS.

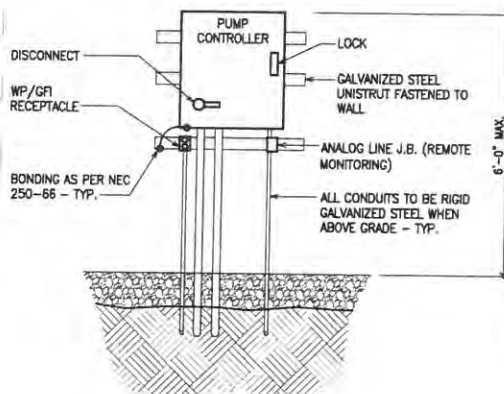
- NOTES:
1. MAXIMUM DIAMETER OF OPENING = 6".
  2. ANNULAR SPACE = MIN. 0" (POINT CONTACT), MAX. 2".
  3. WALLS REQUIRE 1/2" OF SEALANT FLUSH WITH BOTH SIDES.



4 MOTOR CONNECTION DETAIL  
E-401 NOT TO SCALE



5 CEILING CONDUIT SUPPORT DETAIL  
E-401 NOT TO SCALE



6 PANEL SUPPORT DETAIL  
E-401 NOT TO SCALE



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PE-57783

PROJECT TEAM

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CHECKED BY:

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Community  
Development  
Bldg. Renovations  
295 Riverside Circle  
Naples, FL 34102

6788-16-2867  
100% CD - 08-17-17

PROJECT NUMBER | STATUS | ISSUE DATE

ELECTRICAL DETAILS

SCALE: MTS

E-401 67  
SHEET NUMBER



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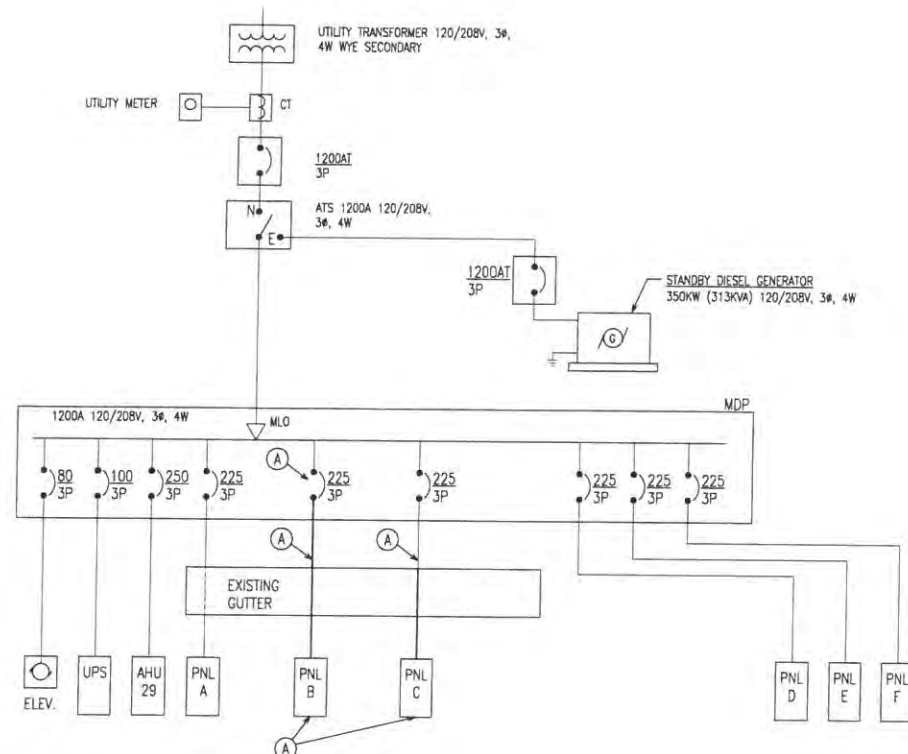
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6788-16-2867  
100% CD - 08-17-17

PROJECT NUMBER | STATUS | ISSUE DATE  
ELECTRICAL ONE LINE  
DIAGRAM AND PANEL  
SCHEDULES

SCALE: NTS

E-501  
68  
SHEET NUMBER

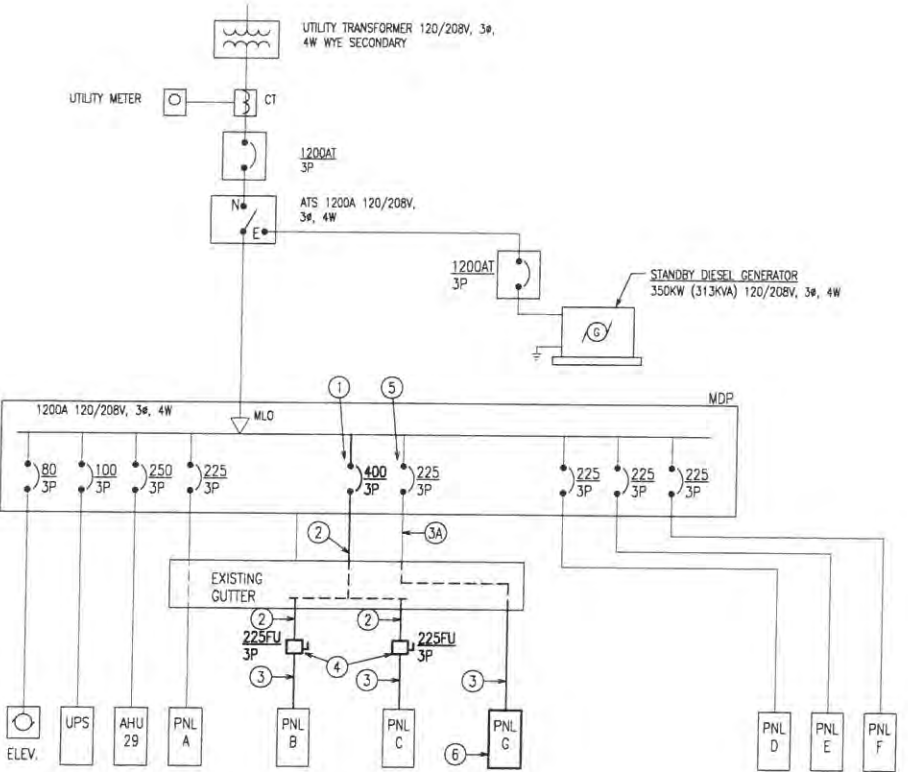


POWER RISER KEYNOTES:

- (A) DISCONNECT EXISTING PANELS (B & C) AND REMOVE EXISTING BREAKER FOR PANEL "A". CONDUIT AND WIRING (CONDUITS BETWEEN PANEL MDP AND GUTTER TO REMAIN).

ONE LINE DIAGRAM DEMOLITION WORK

NOTE: ALL IS EXISTING TO REMAIN UNLESS OTHERWISE INDICATED.



POWER RISER KEYNOTES:

- (1) PROVIDE NEW BREAKER.
- (2) PROVIDE NEW FEEDER: 4-500KCM, #3G, 3-1/2".
- (3) PROVIDE NEW FEEDER: 4-4/0, #4G, 2-1/2".
- (3A) PROVIDE NEW FEEDER: 4-4/0, #4G, 2-1/2". (REUSE EXISTING CONDUIT BETWEEN PANEL MDP AND GUTTER).
- (4) PROVIDE NEW FUSIBLE SWITCHES.
- (5) REUSE EXISTING CIRCUIT BREAKER TO FEED NEW PANEL "G".
- (6) NEW PANEL "G".

ONE LINE DIAGRAM NEW WORK

NOTE: ALL IS EXISTING TO REMAIN UNLESS OTHERWISE INDICATED.

LOCATION: MAIN ELECTRICAL ROOM		PANEL FED FROM: MDP (EXISTING)		PROJECT: 17002 CDB MEP MODIFICATIONS													
MANUFAC:	CUTLER HAMMER	UTIL. CO.	UTIL. CO.	AICNEMA:	1												
MODEL:	EXISTING	VOLTS	208 / 120	AIC:	GRND FAULT: YES												
MTG:	WALL	Ph	3	W	4												
CONN #	LOAD	Ph	N	G	C	BKR	A	B	C	BKR	Ph	N	G	C	LOAD	#	CONN VA
8000 1	PANEL "A"	EXISTING TO REMAIN	225			100				EXISTING TO REMAIN					PANEL "UPS"	2	7000
8000 3																4	7000
8000 5																6	7000
8000 7	PANEL "B"	EXISTING TO REMAIN	225			80				EXISTING TO REMAIN				PANEL "ELEV"	8	5000	
8000 9															10	5000	
8000 11															12	5000	
8000 13	PANEL "C"	EXISTING TO REMAIN	225			250				EXISTING TO REMAIN				AHU 29	14	12000	
8000 15															16	12000	
8000 17															18	12000	
8000 19															20	0	
8000 21	PANEL "D"	EXISTING TO REMAIN	225												22	0	
8000 23															24	0	
8000 25															26	0	
8000 27	PANEL "E"	EXISTING TO REMAIN	225												28	0	
8000 29															30	0	
8000 31															32	0	
8000 33	PANEL "F"	EXISTING TO REMAIN	225												34	0	
8000 35															36	0	
0 37															38	0	
0 39															40	0	
0 41															42	0	
48000	SUBTOTAL Ph A															24000	
48000	SUBTOTAL Ph B															24000	
48000	SUBTOTAL Ph C															24000	

LOCATION: MAIN ELECTRICAL ROOM		PANEL FED FROM: MDP (RE-WORKED)		PROJECT: 17002 CDB MEP MODIFICATIONS													
MANUFAC:	CUTLER HAMMER	UTIL. CO.	UTIL. CO.	AICNEMA:	1												
MODEL:	EXISTING	VOLTS	208 / 120	AIC:	GRND FAULT: YES												
MTG:	WALL	Ph	3	W	4												
CONN #	LOAD	Ph	N	G	C	BKR	A	B	C	BKR	Ph	N	G	C	LOAD	#	CONN VA
8000 1	PANEL "A"	EXISTING TO REMAIN	225			100				EXISTING TO REMAIN					PANEL "UPS"	2	7000
8000 3																4	7000
8000 5																6	7000
16000 7	PANELS "B" & "C"	EXISTING TO REMAIN	500	500	3	3-1/2	400			EXISTING TO REMAIN				PANEL "ELEV"	8	5000	
16000 9	(GUTTER) (NOTE 1)														10	5000	
16000 11															12	5000	
13426 12															14	12000	
13298 15	PANEL "G" (NOTE 2)	EXISTING TO REMAIN	4/0	4/0	4	2-1/2	225			EXISTING TO REMAIN				AHU 29	16	12000	
13038 17															18	12000	
8000 19															20	0	
8000 21	PANEL "D"	EXISTING TO REMAIN	225												22	0	
8000 23															24	0	
8000 25															26	0	
8000 27	PANEL "E"	EXISTING TO REMAIN	225												28	0	
8000 29															30	0	
8000 31															32	0	
8000 33	PANEL "F"	EXISTING TO REMAIN	225												34	0	
8000 35															36	0	
0 37															38	0	
0 39															40	0	
0 41															42	0	
61436	SUBTOTAL Ph A															24000	
61296	SUBTOTAL Ph B															24000	
61036	SUBTOTAL Ph C															24000	

LOCATION: MAIN ELECTRICAL ROOM		PANEL FED FROM: G (new)		PROJECT: 17002 CDB MEP MODIFICATIONS													
MANUFAC:	-	UTIL. CO.	UTIL. CO.	AICNEMA:	1												
MODEL:	WALL	VOLTS	208 / 120	AIC:	GRND FAULT: NO												
MTG:		Ph	3	W	4												
CONN #	LOAD	Ph	N	G	C	BKR	A	B	C	BKR	Ph	N	G	C	LOAD	#	CONN VA
500 1	H.P. CONTROLLER	12	12	12	3/4	28									P-1 PUMP CONTROLLER	2	3696
360 3	RCPT (MECH YARD)	12	12	12	3/4	28									(SEE NOTE 2)	4	3696
190 5	LIG (MECH YARD)	12	12	12	3/4	28										6	3696
0 7	SPACE															8	3696
0 9	SPACE															10	3696
0 11	SPACE															12	3696
0 13	SPACE															14	3696
0 15	SPACE															16	3696
0 17	SPACE															18	3696
0 19	SPACE															20	0
0 21	SPACE															22	0
0 23	SPACE															24	0
0 25	SPACE															26	0
0 27	SPACE															28	0
0 29	SPACE															30	0
0 31	SPACE															32	0
0 33	SPACE															34	0
0 35	SPACE															36	0
0 37	SPACE															38	0
0 39	SPACE															40	0
0 41	SPACE															42	0
500	SUBTOTAL Ph A															12936	
360	SUBTOTAL Ph B															12936	
100	SUBTOTAL Ph C															12936	

LOAD	CONNECTED	DF	DEMAND	VA ph A	VA ph B	VA ph C	TOTAL
LIGHTING	960	125	1200				13,436
A/C	38808	100	38808				13,296
HEATING	0	100	0				13,036
NON-VENT MOTORS	0	100	0				40
VENTILATION	0	100	0				
KITCHEN #EQ =	0	100	0				
RECEPTACLES	0	100	0				
MISCELLANEOUS	0	100	0				
FUTURE	0	100	0				
TOTAL	39768		40008				(VA)
	110		111				(AMPS)

**ELECTRICAL SPECIFICATIONS**

SECTION 16000 - ELECTRICAL

**GENERAL:**

1. SCOPE: ELECTRICAL WORK MAY INCLUDE BUT IS NOT LIMITED TO THE FOLLOWING SYSTEMS:

POWER DISTRIBUTION  
LIGHTING

2. QUALITY ASSURANCE: THE COMPLETE ELECTRICAL INSTALLATION SHALL COMPLY WITH THE CURRENT EFFECTIVE EDITION OF THE FOLLOWING CODES:

- NFPA 70 - NATIONAL ELECTRICAL CODE
- NFPA 110 - EMERGENCY & STANDBY POWER SYSTEMS
- NFPA 72 - INSTALLATION, MAINTENANCE AND USE OF PROTECTIVE SIGNALING SYSTEM
- NFPA 90A - INSTALLATION OF AIR CONDITIONING SYSTEMS
- NFPA 101 - LIFE SAFETY CODE
- 2014 FLORIDA BUILDING CODE

3. SUBMITTALS: SUBMIT SHOP DRAWINGS AND OTHER INFORMATION NECESSARY FOR THE ARCHITECT TO MAKE COMPLETE EVALUATION OF THE MATERIALS, ACCESSORIES, AND METHODS PROPOSED FOR THE WORK. SHOP DRAWINGS SHALL BE FOR THE FOLLOWING: LIGHT FIXTURES AND ALARM SYSTEMS.

ARCHITECTURAL AND/OR ENGINEERING EXPENSES THAT ARE INCURRED DUE TO REVISIONS OR SUBSTITUTIONS REQUESTED BY THE CONTRACTOR SHALL BE PAID FOR BY THAT CONTRACTOR.

**PRODUCTS:**

4. ALL MATERIAL SHALL BE NEW AND SHALL BE LISTED BY UNDERWRITERS LABORATORIES.

5. CONDUITS SHALL BE 3/4" MINIMUM SIZE, RIGID GALVANIZED STEEL, INTERMEDIATE METAL CONDUIT, LIQUID TIGHT FLEXIBLE CONDUIT, ELECTRICAL METALLIC TUBING, FLEXIBLE METAL CONDUIT, METAL CLAD CABLE OR RIGID NON METALLIC CONDUIT, AND SHALL BE SIZED AND APPLIED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE. CONDUIT FITTINGS SHALL BE ALL PLATED STEEL, THREADED OR COMPRESSION TYPE.

6. OUTLET AND JUNCTION BOXES SHALL BE 4" SQUARE MINIMUM SIZE, GALVANIZED, STAMPED STEEL, EXCEPT AS NOTED. OUTLET BOXES SHALL BE EQUIPPED WITH PLASTER RINGS OF APPROPRIATE DEPTH TO FINISH FLUSH WITH FINISHED WALL. MULTIGANG BOXES SHALL BE OF SINGLE PIECE CONSTRUCTION. OUTLET BOXES IN CONCRETE OR MASONRY WALLS SHALL BE MASONRY TYPE. OUTLET BOXES FOR EXPOSED EXTERIOR WALLS SHALL BE WEATHERPROOF WITH THREADED CONDUIT HUBS.

7. WIRES AND CABLES SHALL BE COPPER CONDUCTORS AND HAVE APPROVED INSULATION FOR THE SPACES WHERE THEY ARE TO BE USED AND SHALL CONFORM TO THE LATEST REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE. THE MINIMUM TEMPERATURE RATING SHALL BE 75°C, TYPE THHN/THWN.

8. NO WIRE SMALLER THAN #12 SHALL BE USED FOR LIGHTING, DUPLEX, AND MOTOR CIRCUITS. ALL WIRE #10 GAUGE AND SMALLER MAY BE SOLID OR STRANDED CONDUCTOR. FOR SIZE #8 AND LARGER STRANDED CABLE SHALL BE USED. ALL WIRES AND CABLES SHALL BE INSTALLED IN CONDUIT UNLESS OTHERWISE NOTED. "IDEAL WIRE LUBE" OR EQUAL SHALL BE USED AS A LUBRICANT. WHERE THE DISTANCE FROM THE PANEL BOARD TO THE LAST OUTLET ON ANY 120V CIRCUIT EXCEEDS 50', THE BRANCH CIRCUIT WIRE FROM THE FIRST OUTLET BEYOND 50' FROM THE PANEL BOARD SHALL NOT BE SMALLER THAN #10 AWG.

9. WIRING DEVICES SHALL BE THREE-WIRE, SPECIFICATION GRADE, 20 AMPERE MINIMUM, DUAL VOLTAGE SWITCHES, DUPLEX RECEPTACLES AND GROUND-FAULT CIRCUIT INTERRUPTING RECEPTACLES. PROVIDE 302 SATIN STAINLESS STEEL PLATES FOR FINISHED AREAS. PROVIDED GASTED WEATHERPROOF COVERPLATES FOR EXTERIOR AREAS. SWITCHES AND PLATES FOR ALUMINUM MULLIONS SHALL BE "THINLINE". COVER PLATES SHALL BE INSTALLED ON ALL SWITCHES, DUPLEX RECEPTACLES, TELEPHONE AND OTHER OUTLETS. DEVICES SHALL BE MANUFACTURED BY HUBBELL, BRYANT ELECTRIC COMPANY, LEWTON OR P & S COMPANY.

10. SAFETY SWITCHES SHALL BE GENERAL DUTY, QUICK-MAKE, QUICK-BREAK, TYPES OF THE SIZE AND FUSE AMPACITY AS DENOTED ON THE DRAWINGS. PROVIDE GROUND BUS, SOLID NEUTRAL, CLASS RK-5 DUAL ELEMENT, TIME DELAY FUSES, AND NEMA RELATED ENCLOSURE.

11. ALL GROUNDING SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE, AND AS REQUIRED BY THE DRAWINGS.

12. BRANCH CIRCUIT BREAKERS SHALL BE OF INDIVIDUAL UNIT CONSTRUCTION COMPLETE WITH QUICK-MAKE, QUICK-BREAK MECHANISM; THERMAL MAGNETIC TRIP; AMBIENT COMPENSATION; AND SHALL BE INTERCHANGEABLE IN THE PANELBOARD ASSEMBLY IN RATINGS FROM 15 TO 100 AMPERES WITHOUT NECESSITATING BUS, LINK OR ASSEMBLY REARRANGEMENT. CIRCUIT BREAKERS SHALL HAVE SUITABLE SCREW TYPE LINE TERMINALS SO THAT THEY WILL BE HELD IN POSITIVE CONTACT WITH THEIR RESPECTIVE LINKS OR BUSSES.

13. LAMPS AND LIGHTING FIXTURES SHALL BE AS DESCRIBED IN LIGHT FIXTURES SCHEDULE ON THE DRAWINGS.

**INSTALLATION:**

14. ALL CIRCUIT WIRING SHALL BE INSTALLED IN CONDUIT. IN GENERAL, CONCEAL CONDUIT IN CEILINGS AND WALLS, ROUTE AT THE CEILING AND FEED DOWN TO OUTLETS ON THE WALLS. IN MECHANICAL AREAS OF THE BUILDING, CONDUIT SHALL BE EXPOSED AND ROUTED ON SURFACE OF THE CEILING AND/OR WALLS AS HIGH AS POSSIBLE AND ROUTED SO AS TO NOT INTERFERE WITH OTHER TRADES.

15. RGS CONDUIT SHALL BE USED IN ALL AREAS SUBJECTED TO PHYSICAL DAMAGE. FLEX CONDUIT SHALL BE USED FOR ALL CONNECTIONS TO EQUIPMENT SUBJECT TO VIBRATION. EMT MAY BE INSTALLED ONLY IN CONCEALED INTERIOR SPACES ABOVE CEILINGS, OR IN WALLS. SCHEDULE 40 PVC WITH A GROUND WIRE MAY BE USED IN THE FLOOR SLABS OR EXTERIOR BELOW GRADE. NO EXPOSED PVC WILL BE ALLOWED.

16. BEFORE INSTALLING OUTLETS, THE ELECTRICAL CONTRACTOR SHALL CONFER WITH THE ARCHITECT TO DETERMINE IF THE OUTLETS ARE TO BE INSTALLED AT HEIGHTS OTHER THAN THOSE GIVEN HEREIN.

17. FURNISH AND INSTALL ANY MISCELLANEOUS METAL OR WOOD SUPPORTS, FASTENERS, MOUNTS, HANGERS, SIDE BRACES, ETC., WHICH MAY BE REQUIRED TO SECURELY ANCHOR AND SUPPORT ELECTRICAL EQUIPMENT FURNISHED UNDER THIS CONTRACT.

18. MAKE PROVISION AND PROVIDE POWER WIRING INCLUDING FINAL EQUIPMENT CONNECTION TO ALL EQUIPMENT FURNISHED AND INSTALLED BY OTHERS. VERIFY THE EXACT REQUIREMENT OF EQUIPMENT BEFORE INSTALLATION OF ELECTRICAL WORK.

19. ALL REQUIRED BUILDING PERMIT FOR THE ELECTRICAL PORTION OF THE WORK SHALL BE INCLUDED. A FINAL INSPECTION BY THE OWNER, ARCHITECT, ENGINEER, AND ALL INVOLVED AGENCIES WILL BE CONDUCTED UPON COMPLETION OF THE WORK TO DETERMINE ACCEPTABILITY OF THE WORK. IN ADDITION, AN INSPECTION BY THE ELECTRICAL INSPECTOR AND CERTIFICATE OF APPROVAL WILL BE REQUIRED PRIOR TO FINAL PAYMENT FOR THE WORK. ALL FEES FOR BUILDING PERMITS AND ELECTRICAL INSPECTIONS SHALL BE INCLUDED.

END OF SECTION 16000

CONTRACTOR SHALL REVIEW ARCHITECTURAL LIFE SAFETY DRAWINGS FOR FIRE RATED PARTITIONS AND PROVIDE U.L. LISTED FIRE RATED ASSEMBLIES FOR PENETRATIONS.



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**DESIGNER**

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**BIM / DRAWINGS BY:**

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ELECTRICAL  
SPECIFICATIONS

SCALE: N.T.S

**E-601**  
69  
**SHEET NUMBER**

# CITY OF NAPLES

## COMMUNITY DEVELOPMENT LOBBY RENOVATION



**PROJECT NUMBER**  
16B25

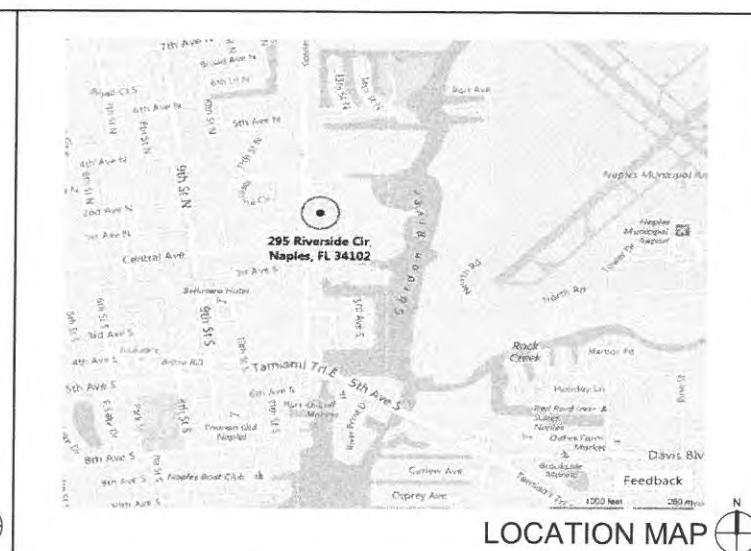
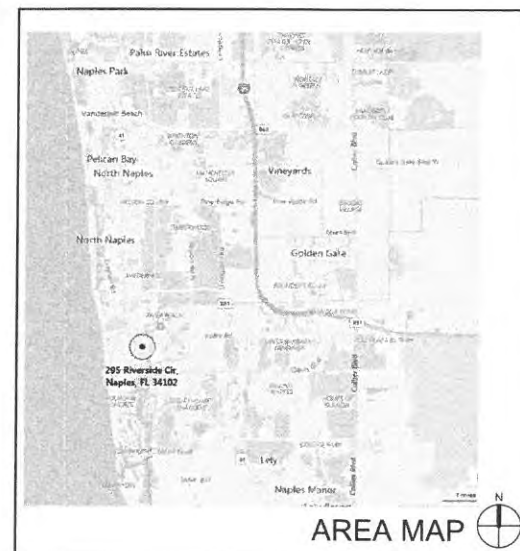
**PREPARED FOR**

CITY OF NAPLES  
BUILDING DEPARTMENT  
295 RIVERSIDE CIRCLE  
NAPLES, FL 34102

**MAYOR**  
Bill Barnett

**VICE MAYOR**  
Linda Penniman

**COUNCIL**  
Reg Buxton  
Doug Finlay  
Michelle McLeod  
Sam Saad III  
Ellen Seigel



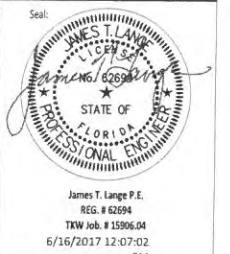
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- S2 SECTION & DETAILS

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Project:  
**COMMUNITY DEVELOPMENT LOBBY RENOVATION**

Owner:  
CITY OF NAPLES  
295 Riverside Circle,  
Naples, FL 34102

No.	Date	Description

Project Phase:	CD
Project Issued:	03/31/2017
Drawn By:	BKL
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Sheet Title:	COVER SHEET

Sheet No.  
**CS**







# CITY OF NAPLES

## COMMUNITY DEVELOPMENT LOBBY RENOVATION



**PROJECT NUMBER**  
16B25

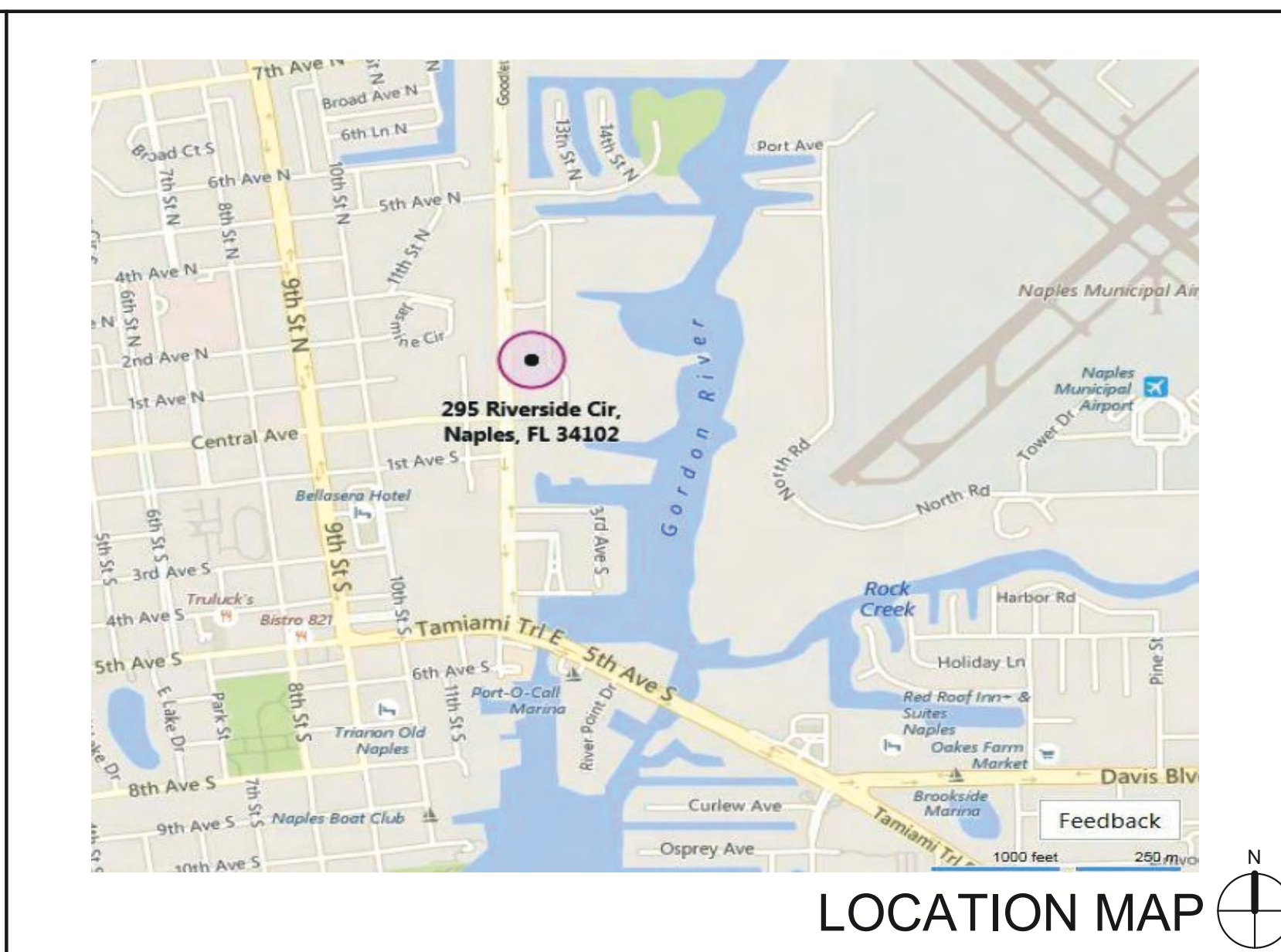
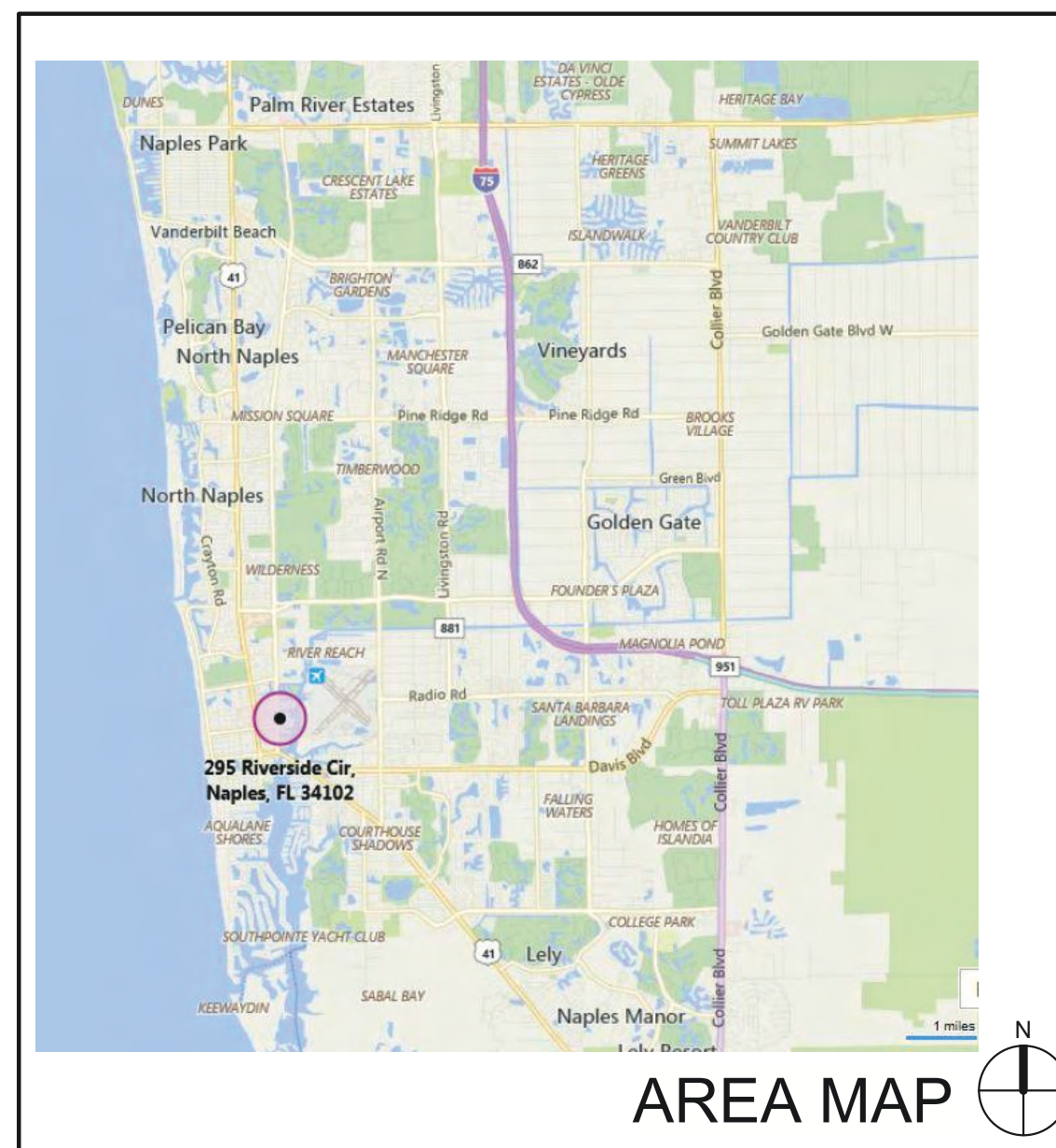
**PREPARED FOR**

CITY OF NAPLES  
BUILDING DEPARTMENT  
295 RIVERSIDE CIRCLE  
NAPLES, FL 34102

**MAYOR**  
Bill Barnett

**VICE MAYOR**  
Linda Penman

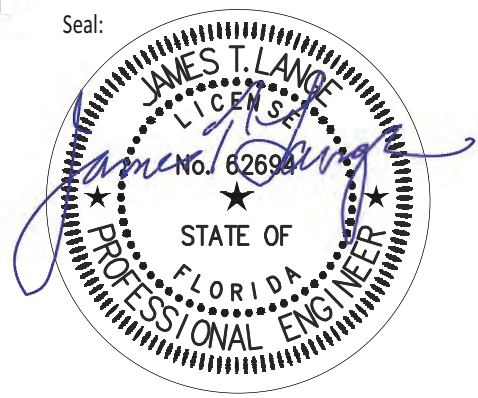
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Project:  
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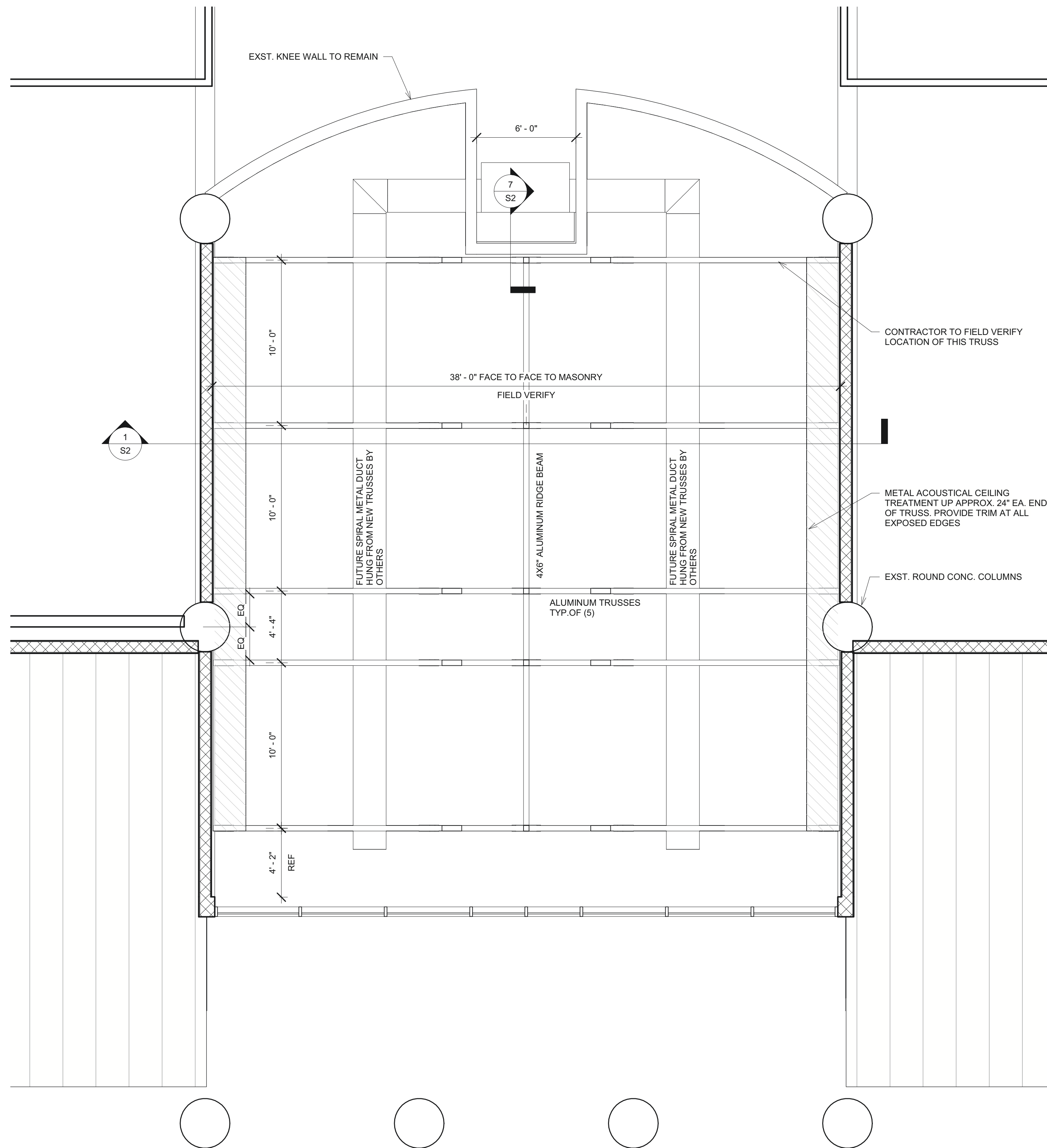
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1 INTERIOR TRUSS PLAN  
1/4" = 1'-0"

**GENERAL STRUCTURAL NOTES**

- GENERAL:** DETAILS AND SECTIONS SHOWN ON THE DRAWINGS ARE TYPICAL AND APPLY TO SIMILAR SITUATIONS ELSEWHERE. ADAPT REQUIREMENTS OF DETAILS, SECTIONS, PLANS, AND NOTES AT LOCATIONS WHERE CONDITIONS ARE SIMILAR.
- CODE REQUIREMENTS:** FLORIDA BUILDING CODE 5TH EDITION (2014).
- TEMPORARY CONDITIONS:** PROVIDE ADEQUATE BRACING, SHORING, AND OTHER TEMPORARY SUPPORTS AS REQUIRED TO SAFELY COMPLETE THE WORK. THE STRUCTURE SHOWN ON THE DRAWINGS HAS BEEN DESIGNED FOR STABILITY UNDER FINAL CONFIGURATION ONLY.
- EXISTING CONDITIONS:** THE CONTRACTOR SHALL VERIFY EXISTING CONDITIONS, DIMENSIONS AND ELEVATIONS AND NOTIFY THE OWNER AND ENGINEER OF ANY SIGNIFICANT DISCREPANCIES FROM CONDITIONS SHOWN ON THE DRAWINGS.
- EXISTING STRUCTURE:** INFORMATION SHOWN FOR THE EXISTING STRUCTURE WAS TAKEN FROM DRAWINGS TITLED "DEVELOPMENT SERVICES", BY W. L. OVERSTREET, DATED 5/1/2000. WORK SHOWN ON THESE PLANS ASSUMES THAT THE ORIGINAL CONSTRUCTION WAS PERFORMED IN ACCORDANCE WITH THESE DRAWINGS INCLUDING DIMENSIONS, ELEVATIONS, MEMBER SIZES, MATERIALS, DETAILS, ETC. THE CONTRACTOR SHALL VERIFY THE CONDITIONS RELATING TO THE EXISTING STRUCTURE AND NOTIFY THE OWNER AND ENGINEER OF ANY DISCREPANCIES OR CONFLICTS.
- DESIGN CRITERIA:** IN ADDITION TO DEAD LOADS, THE FOLLOWING LOADS WERE USED:  
CEILING PANELS: 20 PSF ON TOTAL AREA  
WIND: 5 PSF INTERIOR PRESSURE
- SUBMITTALS:** FOUR SETS OF SHOP DRAWINGS SHALL BE SUBMITTED PRIOR TO FABRICATION AND CONSTRUCTION REGARDING STRUCTURAL STEEL, ALUMINUM TRUSSES, AND METAL ACCOUSTICAL CEILING PANELS. IF THE SHOP DRAWINGS DIFFER FROM OR ADD TO THE DESIGN OF THE STRUCTURAL DRAWINGS, THEY SHALL BEAR THE SEAL AND SIGNATURE OF A STRUCTURAL ENGINEER REGISTERED IN THE STATE OF FLORIDA. ANY CHANGES TO THE STRUCTURAL DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER AND ARE SUBJECT TO THE REVIEW AND ACCEPTANCE BY THE OWNER AND ENGINEER. SHOP DRAWINGS WILL BE REVIEWED FOR GENERAL COMPLIANCE WITH THE DESIGN INTENT OF THE CONTRACT DOCUMENTS ONLY. THE CONTRACTOR SHALL VERIFY COMPLIANCE WITH THE CONTRACT DOCUMENTS AS TO QUANTITY, LENGTH, ELEVATIONS, DIMENSIONS, ETC.
- MECHANICAL ANCHORS:** MECHANICAL ANCHORS SHALL HAVE A CURRENT ICC-ES EVALUATION REPORT INDICATING CONFORMANCE WITH CURRENT APPLICABLE ICC-ES ACCEPTANCE CRITERIA. MECHANICAL ANCHORS SHALL BE SCREW TYPE (EXPANSION ANCHORS ARE NOT PERMITTED). SCREW TYPE ANCHORS SHALL BE LENGTH AND SIZE INDICATED. ACCEPTABLE ANCHORS IN CONCRETE ARE SIMPSON TITEN HD, HILTI KWIK HUS-EZ AND POWERS WEDGE BOLT+. ANCHORS SHALL BE 316 STAINLESS STEEL.
- ADHESIVE ANCHORS:** ADHESIVE ANCHORS SHALL HAVE A CURRENT ICC-ES EVALUATION REPORT INDICATING CONFORMANCE WITH CURRENT APPLICABLE ICC-ES ACCEPTANCE CRITERIA. ADHESIVE SHALL BE INSTALLED IN DRY HOLES AND HAVE PERFORMANCE DATA FOR INSTALLATION IN WATER-SATURATED HOLES. ACCEPTABLE ADHESIVES IN CONCRETE ARE SIMPSON AT-XP, HILTI HIT-HY 200 AND POWERS AC100+ GOLD. THREADED RODS SHALL BE 316 STAINLESS STEEL WITH MATCHING NUTS AND WASHERS. INSTALLATION SHALL BE IN CONFORMANCE WITH MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS. INSTALLATION SHALL ALSO INCLUDE BRUSHING AND CLEANING OF DRILLED HOLES WITH COMPRESSED AIR. INSTALLERS SHALL BE TRAINED BY THE MANUFACTURER'S REPRESENTATIVE. EMBEDMENT SHALL BE AS INDICATED ON THE STRUCTURAL DRAWINGS.

IDENTIFY POSITION OF REINFORCING STEEL AND OTHER EMBEDDED ITEMS PRIOR TO DRILLING HOLES FOR ANCHORS. EXERCISE CARE WHEN DRILLING TO AVOID DAMAGING EXISTING REINFORCING OR EMBEDDED ITEMS. IMMEDIATELY NOTIFY THE OWNER AND ENGINEER FOR DIRECTION IF REINFORCING STEEL OR OTHER EMBEDDED ITEMS ARE ENCOUNTERED DURING DRILLING.

IDENTIFYING THE LOCATION OF EXISTING REINFORCING STEEL SHALL BE BY VISUAL OBSERVATION, SOUNDING, PROBABLE LOCATIONS, AND USE OF A BAR FINDER. X-RAY IS NOT REQUIRED.

- STRUCTURAL STEEL:** STRUCTURAL STEEL SHAPES AND PLATES SHALL BE 316 STAINLESS STEEL. BOLTS AND THREADED ROD SHALL BE 316 STAINLESS STEEL WITH MATCHING NUTS AND WASHERS. WELDING SHALL CONFORM TO THE AWS CODES AND SHALL BE 3/16" MINIMUM. WELDING SHALL BE BY AWS CERTIFIED WELDERS. PREQUALIFIED WELDING PROCEDURES ARE TO BE USED. ALL BOLTED CONNECTIONS SHALL CONSIST OF MINIMUM TWO 3/4"-DIAMETER BOLTS. ALL STAINLESS STEEL BRACKETS AND ASSEMBLIES ARE TO REMAIN NATURAL (NO PAINT).
- STRUCTURAL ALUMINUM:** ALUMINUM TUBULAR TRUSSES ARE DESIGNED IN ACCORDANCE WITH SPECIFICATIONS FOR ALUMINUM STRUCTURES PUBLISHED BY THE ALUMINUM ASSOCIATION. ROLLED, EXTRUDED AND TUBULAR MEMBERS SHALL BE ALLOY AND TEMPER 6016-T6. CONNECTIONS ARE DESIGNED TO BE SHOP WELDED AND FIELD BOLTED. WELDING SHALL CONFORM TO THE AMERICAN WELDING SOCIETY AWS D1.2 - STRUCTURAL WELDING CODE. ALUMINUM, BOLTS, NUTS, AND WASHERS SHALL BE AISI 316 STAINLESS STEEL WITH A MINIMUM TWO 3/4"-DIAMETER BOLTS PER CONNECTION.

ALL ALUMINUM COMPONENTS, INCLUDING BUT NOT LIMITED TO TRUSSES AND GUSSET PLATES, SHALL BE PRIMED AND PAINTED. OWNER WILL SELECT A COLOR FROM THE MANUFACTURER'S STANDARD COLOR CHART.

TRUSSES ARE TO BE PAINTED IN THE SHOP AND PROTECTED FROM DAMAGE DURING SHIPMENT AND INSTALLATION. IF DAMAGED DURING SHIPMENT OR INSTALLATION, THE CONTRACTOR SHALL REPAIR THE DAMAGE USING APPROPRIATE METHODS.

ALUMINUM TRUSSES SHALL BE PRE-ASSEMBLED IN THE FABRICATOR'S SHOP FOR INSPECTION BY THE OWNER AND ENGINEER PRIOR TO DISASSEMBLY AND DELIVERY TO THE SITE.

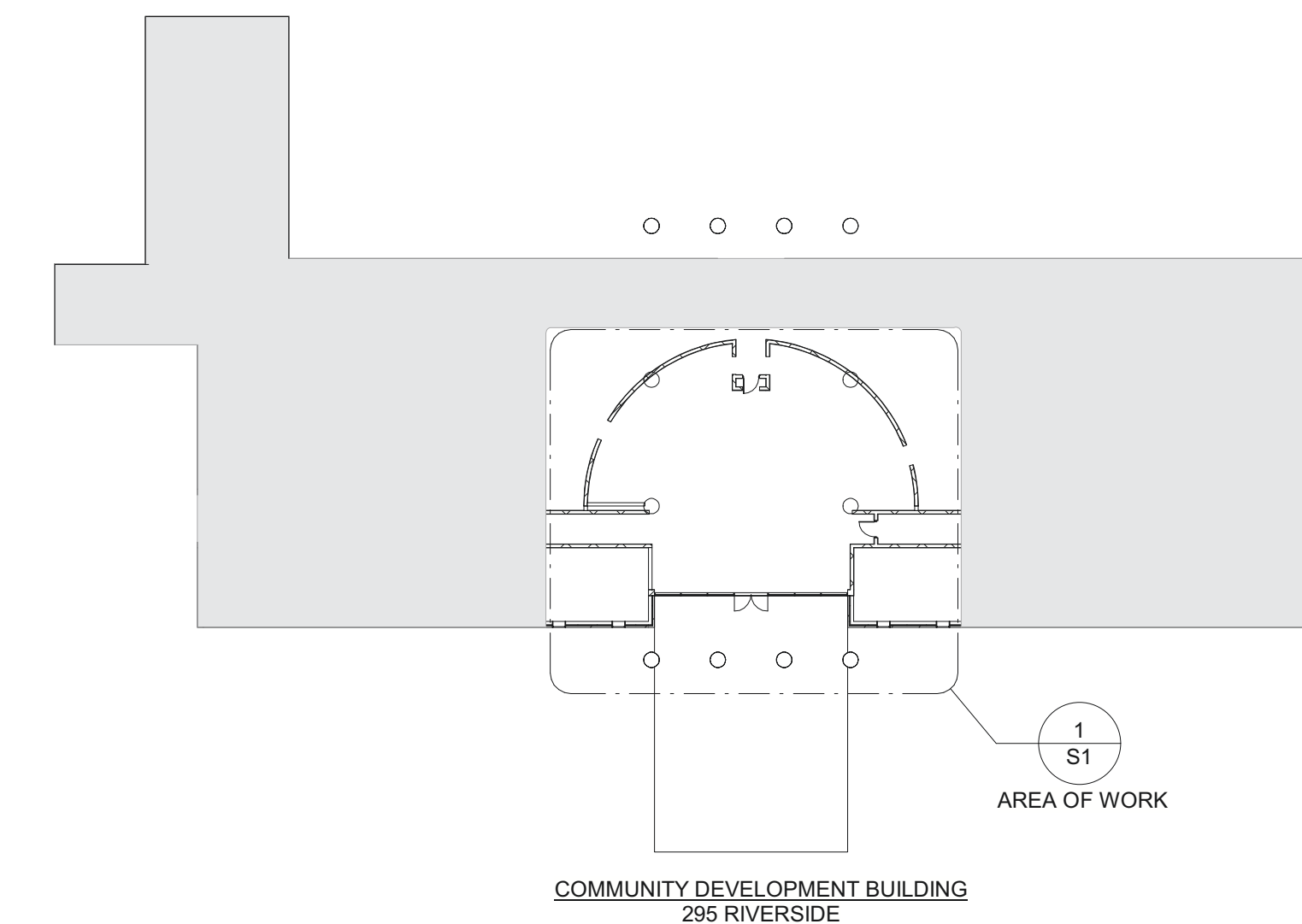
- METAL ACCOUSTICAL CEILING:** METAL ACCOUSTICAL CEILING PANELS SHALL BE COLD-FORMED STEEL GALVANIZED AND PAINTED WITH A PROFILE CAPABLE OF SPANNING 10 FT (TWO SPAN MINIMUM) AT 20 PSF LOAD WITH DEFLECTION LESS THAN L/240. ATTACHMENTS, CLOSURES, ETC. SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. DECK ATTACHMENTS AT TRANSVERSE AND PERIMETER SUPPORTS SHALL BE MECHANICALLY FASTENED AND MUST NOT BE VISIBLE FROM THE UNDERSIDE. SIDE LAP CONNECTIONS SHALL BE ACCOMPLISHED BY HIDDEN MECHANICAL FASTENERS OR CRIMPING THE DECK EDGES. OWNER WILL SELECT A SHADE OF WHITE PAINT COLOR FROM A STANDARD COLOR CHART.

THE BASIS OF DESIGN FOR THE METAL ACCOUSTICAL CEILING PANELS IS 2 1/2" x 20-GAGE TORIS A (ACOUSTIC) CEILING PANELS MANUFACTURED BY EPIC METALS, RANKIN, PA. SIMILAR PANELS MEETING THE PERFORMANCE REQUIREMENTS MAY BE SUBMITTED AS AN ALTERNATE, BUT ARE SUBJECT TO APPROVAL BY THE OWNER AND ENGINEER AND MUST MEET SIMILAR PRODUCT AND INSTALLATION REQUIREMENTS.

- POST-INSTALLATION:** DAMAGED GALVANIZING, POWDER COATING, AND PAINT MUST BE FIELD REPAIRED USING APPROPRIATE METHODS AND IS THE RESPONSIBILITY OF THE CONTRACTOR.

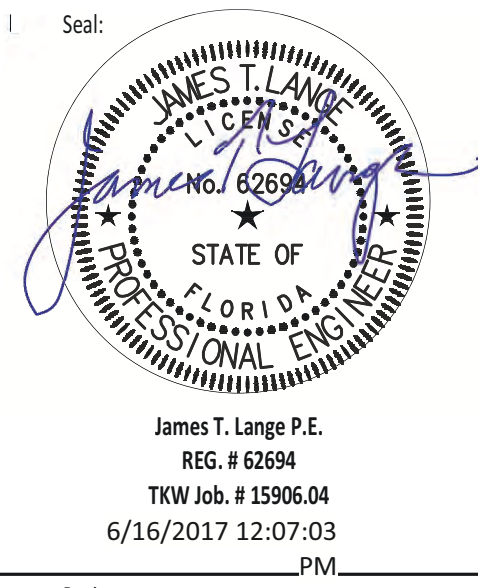
**GENERAL CONDITIONS**

- ALL ON-SITE WORK IS TO BE PERFORMED AND COMPLETED BETWEEN 5PM FRIDAY AND 7AM MONDAY. IF MORE THAN ONE WEEKEND IS REQUIRED TO COMPLETE THE WORK, CONTRACTOR SHALL COORDINATE WITH OWNER FOR LOCATIONS FOR MATERIAL STORAGE.
- FRONT ENTRANCE AND LOBBY FURNITURE AND EQUIPMENT MAY NEED TO BE TEMPORARILY RELOCATED DURING THE WORK. COORDINATE RELOCATION WITH OWNER. ALL FURNITURE AND EQUIPMENT THAT IS RELOCATED MUST BE REINSTALLED BY 7AM MONDAY MORNING.
- COVER AND PROTECT FROM DAMAGE ALL FURNITURE AND EQUIPMENT THAT IS NOT TEMPORARILY RELOCATED.
- COVER AND PROTECT EXISTING TILE FLOOR WITH MINIMUM 1/2" PLYWOOD.



2 KEY PLAN  
1/32" = 1'-0"

Consultants:



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1	6/16/17	OWNER REQUESTED CHANGES

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**S1**

